

Sappi is steadfast in its commitment to climate action, driving sustainable innovation and reducing environmental impacts as we transition toward a low-carbon future.

This report is prepared in alignment with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). Its purpose is to provide transparency into our approach to managing climate-related risks and opportunities, reflecting our commitment to sustainable growth and long-term resilience.

By adopting the TCFD framework, we aim to enhance stakeholder confidence through clear disclosures on how climate considerations are integrated into our governance, strategy, risk management and performance metrics. This report outlines our efforts to adapt to a low-carbon economy, mitigate environmental impacts, and seize opportunities arising from the global transition to a sustainable future.

	Disclosure location	Further information links
Governance		
(a) Describe the board's oversight of climate-related risks and opportunities.	pages  87 – 88	Corporate governance pages  154 – 174
(b) Describe managements roles in assessing and managing climate-related risks and opportunities.	pages  87 – 88	Corporate governance pages  154 – 174
Strategy		
(a) Describe the climate-related risks and opportunities the organisation has identified over the short, medium and long term.	pages  96 – 105	Our strategy and performance pages  10 – 19
(b) Describe the impact of climate-related risks and opportunities on the organisation's business, strategy and financial reporting.	pages  89 – 105	Our strategy and performance pages  10 – 19
(c) Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios including a 2°C or lower scenario.	pages  89 – 98	Our strategy and performance pages  10 – 19
Risk management		
(a) Describe the organisation's processes for identifying and assessing climate-related risks.	pages  96 – 97	Risk management pages  44 – 51 Separate Risk Report on www.sappi.com/annual-reports 
(b) Describe the organisation's processes for managing climate-related risks.	pages  96 – 97	Risk management pages  44 – 51 Separate Risk Report on www.sappi.com/annual-reports 
(c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the overall risk management.	pages  96 – 97	Risk management pages  44 – 51 Separate Risk Report on www.sappi.com/annual-reports 
Metrics and targets		
(a) Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.	pages  106 – 107	2024 Sappi Group Sustainability Report www.sappi.com/2024GSDR 
(b) Disclose Scope 1, Scope 2 and if appropriate Scope 3 GHG emissions and related risks.	page  107	2024 Sappi Group Sustainability Report www.sappi.com/2024GSDR 
(c) Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.	page  106	2024 Sappi Group Sustainability Report www.sappi.com/2024GSDR 

Governance

In order to unlock the power of renewable resources to benefit people, communities and the planet, we need to do so from a foundation of trust. This foundation is reinforced by our robust sustainability governance framework summarised below.

Sappi Sustainability Governance Framework

Sappi board						
Committees	Social, Ethics, Transformation and Sustainability (SETS) Committee	Other board committees		Executive Management Committee (EXCO)	Group Sustainable Development Council (GSDC)	Regional Sustainability Councils
		Audit and Risk	Remuneration and Compensation			
	Chaired by an independent Non-executive Director	Chaired by an independent Non-executive Director	Chaired by an independent Non-executive Director	Chaired by the group CEO	Chaired by the Group Head: Sustainability and Investor Relations	Chaired by regional CEOs and sustainability leads
Purpose	Oversees the group's sustainability strategy, commitments, policies performance	Oversees the group's corporate financial reporting, internal control systems, risk management and relationship with the external auditor	Ensures that incentives drive the appropriate behaviours that deliver our strategy	Management responsibility for execution of sustainability strategy and policies guided by the SETS Committee	Provides expert insights and support to the business on sustainable development matters	Oversees the integration of sustainable development into the operations
Responsibility	Responsible for the governance of matters related to sustainable development including: environment, climate change, biodiversity, product stewardship, labour, human rights, diversity and transformation and ethics. Ensures alignment to best practice and disclosure standards	Oversees the group's corporate financial reporting. Oversees the risk management process including sustainability risks. Monitors effectiveness of internal control systems including hotline reporting platform	Aligns remuneration to performance against key sustainability targets and focus areas	Prioritises capital allocation and ensures business unit line management holds primary responsibility and accountability for sustainability performance	Keeps abreast of best practice and regulatory compliance requirements. Develops sustainability-related strategy and policies for the group	Develops action plans aligned with strategy and policies and monitors progress towards sustainability targets and commitments. Ensures integration of sustainability requirements into operational systems and processes
	 Oversight		 Accountable		 Advisory	 Execution

TCFD report continued

The **SETS Committee** has an independent role with accountability to the **Sappi Limited board** and comprises a majority of independent non-executive members, whose duties are delegated to them by the board in compliance with a board-approved terms of reference. The role of the SETS Committee is to assist the board with the oversight of sustainability matters within the company, including climate-related issues, and to provide guidance to management's work in respect of its duties. The SETS Committee provides oversight on the group's sustainable development strategies, policies, objectives and targets and public disclosures. The committee addresses issues relating to environmental impact and climate change, corporate social investment, ethical conduct, diversity, transformation and empowerment and ongoing sustainability initiatives. The responsibilities include monitoring the company's ESG activities, having regard to any relevant legislation, other legal requirements and prevailing codes of best practice.

The SETS Committee meets three times per year and the Chair of the committee reports back to the board after every meeting. Progress against our **Thrive** sustainability targets is an integral component of the SETS Committee agenda and is reviewed twice per year. Each of the three regions and Sappi Forests presents a detailed report on progress against regional **Thrive** targets as well as feedback on key initiatives, action plans and challenges relating to sustainability and climate-related matters. Additionally, a detailed climate report is presented to the SETS Committee annually outlining the company's progress according to the TCFD framework.

Audit and Risk Committee (ARC) provides additional governance oversight on climate-related matters. The ARC oversees the group's corporate financial reporting and annual planning process, and the group's internal controls and risk assessment process, which includes sustainability and specifically climate-related risks. The committee also provides oversight of external assurance of key sustainability metrics, which include GHG emissions.

The **Remuneration and Compensation Committee** is responsible for ensuring that incentive schemes drive the appropriate behaviours that deliver our sustainability strategy, including the alignment of remuneration to performance against our key **Thrive** sustainability commitments and targets.

The **Executive Management Committee (EXCO)**, chaired by the group CEO, is accountable for delivery of the sustainability strategy and responsible for ensuring that the strategic objectives and goals of the organisation are achieved. The committee is responsible for ensuring that capital allocation is aligned with business and sustainability objectives and prioritised appropriately to ensure timely delivery against our public commitments. The EXCO regularly reviews progress against our sustainability and climate commitments and targets. In addition, sustainability matters of a strategic nature, including those relating to climate change, are reviewed and discussed by the EXCO prior to submission to the SETS Committee. This allows the EXCO to provide their strategic input and ensures that there is complete management alignment on sustainability matters.

The **GSDC** reviews key global and regional trends and developments and makes recommendations on strategy and policy that are fed through to the EXCO, the SETS Committee and ultimately, to the Sappi Limited board of directors. The Group Head of Sustainability and Investor Relations and the Group Head Technology are responsible for coordinating actions related to the group's climate change-related risks and opportunities and providing reports to the EXCO to enable it to discharge its responsibility.

The GSDC meets quarterly and reviews progress against **Thrive** sustainability targets at each meeting. Additionally, other climate-related topics such as regulatory changes and trends, sustainable procurement, SBTi, TCFD, TNFD and forestry related issues are discussed at the majority of the meetings. All climate change-related matters of strategic importance are raised by the Group Head of Sustainability and Investor Relations at EXCO meetings for input and guidance. Additionally, the progress against our science-based decarbonisation targets, regional climate transition action plans and capital allocation are reviewed in detail by EXCO annually with the annual budget-setting programme.

The group's **Regional Sustainability Councils (RSCs)**, in Europe, North America and South Africa, are responsible for establishing and implementing our on-the-ground sustainability strategy and action plans. Their work is overseen and reviewed by the GSDC.

Strategy

Sustainability forms the foundation of our **Thrive** strategy and is fully integrated into our operations where the primary focus is on the sustainable management of our operations, increasing efficiency and maximising value from our sustainable natural resources.

As we look to the future, it is clear we have an obligation to play a role beyond making and selling. Policy measures to enable the transition to low-carbon economies, with a general goal for net-zero emissions of GHG by 2050 are being rolled out globally. The private sector has a key role to play in this just transition and in line with this obligation, we have set 2030 science-based decarbonisation targets.

The core principles of Sappi's climate strategy are aligned with the overarching **Thrive** strategy as outlined below. Furthermore, detailed strategic objectives and actions aligned with our climate transition plan are disclosed on page 92.

Sappi's climate strategy

	Grow our business 	Sustain our financial health 	Drive operational excellence 	Enhance trust 
What it means	Committing to core business segments while investing in innovation, growth opportunities and ongoing customer relationships.	Reducing and managing our debt, growing EBITDA, maximising product value, optimising processes globally and strategically disposing of non-core assets.	Strengthening our safety first culture and reducing resource use while enhancing efficiency and making smart data investments.	Improving our understanding of, and proactively partnering with, customers and communities, driving sustainability solutions, and meeting the changing needs of every employee at Sappi.
Climate relevancy	Purposeful innovation and collaboration to provide low-carbon, biobased solutions and accelerate climate action.	Optimise allocation of capital for profitable growth while ensuring that it reduces our impact on climate change and positions us competitively for a low-carbon future.	Continual focus on reducing our own and value chain emissions; protecting biodiversity and promoting the responsible use of scarce water resources.	Being a transparent, proactive and responsible company and partner with a long-term, solutions-oriented approach to address climate change mitigation, adaptation and resilience. Playing our part to ensure a socially inclusive just transition.

Sappi recognises the **interconnections between climate, forests, water and biodiversity** and adopts a holistic approach to managing these interdependencies. Guided by our Prosperity, People, Planet framework and the six capitals model, we use a double materiality approach to evaluate both financial and environmental impacts. By integrating tools such as ISO 14001, lifecycle assessments, WWF water risk tool and forestry certification processes, Sappi systematically assesses and addresses environmental risks, ensuring sustainability considerations are embedded in operations, decision making and strategic planning. This approach enhances the management of trade-offs and links environmental challenges to both business performance and positive environmental outcomes.

We have developed a **climate transition plan and decarbonisation capital allocation strategy** to achieve our 2030 science-based decarbonisation targets and have also committed to using our influence to encourage our major suppliers to set their own science-based targets (SBTs). We acknowledge that the decarbonisation of our South African assets will be more challenging than in our other operating regions due to the nature of the energy landscape, which is heavily dependent on coal, an abundant resource in the country.

The South African climate challenge

South Africa faces significant climate adaptation and mitigation challenges due to a combination of geographical, socioeconomic and developmental factors. Geographically, the country is highly vulnerable to extreme weather events such as droughts, heatwaves and floods, which are expected to intensify with global warming. Its reliance on climate-sensitive sectors like agriculture, water and biodiversity further heightens this vulnerability. Socioeconomic challenges, including high levels of poverty, inequality and unemployment, leave many communities without the resources needed to adapt to climate change effectively. Inadequate infrastructure, limited access to essential services and the prevalence of informal settlements exacerbate the impacts of climate shocks. On the mitigation front, South Africa's heavy dependence on a coal-based economy complicates efforts to reduce emissions and transition to renewable energy systems. These interconnected challenges underscore the country's heightened exposure to climate change and the urgency of coordinated adaptation and mitigation efforts, both of which require significant financial investments.

We therefore highlight South Africa's reliance on international financial support and collaborative solutions to address the country's systemic barriers to climate adaptation and mitigation to ensure a just and equitably transition.

South Africa's climate transition plan aims to balance climate action with sustainable development and economic growth, targeting a low-carbon economy by 2050. It emphasises reducing emissions, enhancing climate resilience and expanding renewable energy, with natural gas specifically identified as a transitional fuel. The draft Integrated Resources Plan (IRP 2023)¹, the country's mitigation blueprint, does not currently address its primary energy security and emissions abatement objective and does not provide any analysis to show how this might be achieved in the short term. The 2023 draft's estimate of renewables in the power system by 2030 is significantly reduced from the 2019 plan and likely to be well below the levels required to achieve a 1.5°C-compatible pathway and specifically includes a shift from coal to gas as a key abatement action. The Presidential Climate Commission², has highlighted that the plan lacks sufficient detail and has recommended that further analysis of scenarios is critical and greater transparency is required, including publishing cost impacts of the proposed energy mix and disclosing the assumptions and results of the modelling analyses. The Just Energy Transition Implementation Plan (JET)³ estimates a financing need of US\$98 billion over five years to drive a sustainable and equitable transition in South Africa, highlighting the significant financial burden of the transition. While

South Africa's transition plan in principle aligns with the Paris Agreement's 1.5°C goal, it requires ambitious targets, accelerated renewable energy adoption and significant international investment to fully meet this commitment.

Implications of South Africa's climate challenge for Sappi

Sappi Southern Africa (SSA) relies significantly on coal-based power, with Eskom (South Africa's national energy provider) supplying 50% of our energy needs in 2024. SSA accounted for 80% of the Sappi group Scope 2 emissions in FY2024, up from 43% in 2019, reflecting the region's high contribution to the group's Scope 2 emissions. The uncertainty surrounding South Africa's (and Eskom's) energy transition, specifically the absence of a transition plan that is fully aligned with the country's climate commitments and the significant financial burden of the transition, pose significant risks to the country achieving a 1.5°C-aligned decarbonisation by 2030 and net zero by 2050.

Although Sappi's 2030 climate transition plan includes direct investments in renewable energy generation in South Africa as well as renewable energy procurement from independent providers, we remain partially reliant on Eskom to fulfil our power requirements. Eskom has publicly stated that their transition plans include investments in natural gas as a transitional fuel⁴. As a result, Sappi is unable to commit to eliminating all spending on fossil fuel expansion due to this dependency.

Sappi acknowledges the critical need for a just energy transition in South Africa and is committed to collaborating with business leaders, communities and government stakeholders to advocate for equitable solutions. As an active member of the National Business Initiative (NBI), Sappi participates in advancing decarbonisation and addressing socioeconomic challenges, participating as a 'CEO champion' for key initiatives such as 'The Just Transition and Climate Pathways Study for South Africa: Decarbonising the Agriculture, Forestry and Land Use Sector'⁵ and the JET Skilling for Employment Programme (JET SEP)⁶.

Sappi fully supports the principles of the Paris Agreement and recognises the importance of decarbonising to achieve net zero by 2050. However, achieving this goal within the South African context presents unique challenges. South Africa's reliance on coal-based power and the considerable social implication of the transition means that significant progress on decarbonisation requires systemic changes well beyond the capacity of individual companies.

¹ www.gov.za/sites/default/files/gcis_document/202401/49974gon4238.pdf

² www.pcccommissionflo.imgix.net/uploads/images/PCC-Response-to-Draft-IRP2023.pdf

³ www.stateofthenation.gov.za/assets/downloads/JET%20Implementation%20Plan%202023-2027.pdf

⁴ www.eskom.co.za/wp-content/uploads/2021/10/JET-Factsheet13Oct2021.pdf

⁵ www.nbi.org.za/wp-content/uploads/2023/09/NBI-Chapter-5-Decarbonising-the-AFOLU-Sector.pdf

⁶ www.nbi.org.za/wp-content/uploads/2024/10/Powering-Futures-The-Green-Skilling-Opportunity_Digital-Upload.pdf

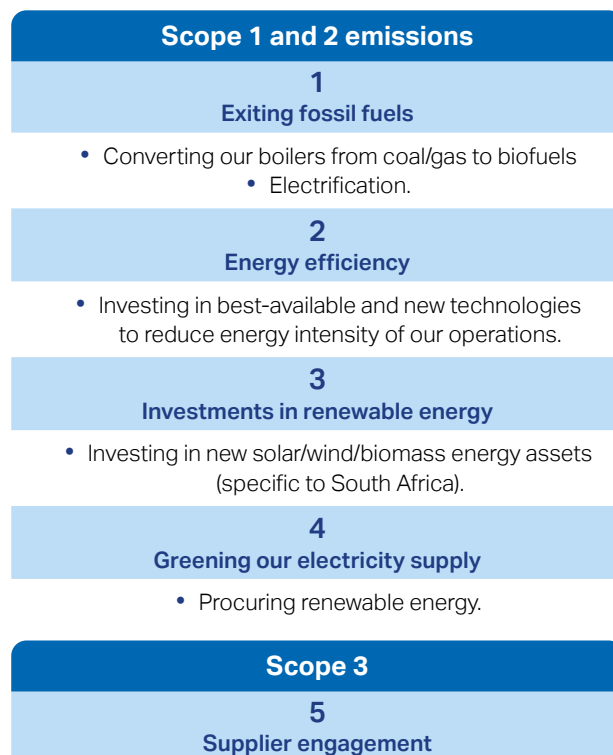
For Sappi to reach net zero by 2050, we currently assume that substantial direct investment would be needed to abate a significant portion of our Scope 2 emissions in South Africa. While we are fully committed to advancing our decarbonisation efforts, we believe that addressing Scope 2 emissions primarily falls within the remit of the national energy sector, given its critical role in transitioning the country's power infrastructure. The uncertainty surrounding South Africa's energy transition, coupled with the potential additional burden for Sappi to directly address Scope 2 emissions, poses a significant barrier for us in setting a net-zero target at this time. Nevertheless, we remain committed to making meaningful progress on our decarbonisation journey and contributing to a socially inclusive just transition.

Key assumptions and dependencies within Sappi's 2030 climate transition plan

- **Sustainable forestry management practices:** The plan depends on continued availability of sustainably sourced woodfibre through responsible forestry management, crucial for climate change mitigation and adaptation. It depends on the sustainable management of Sappi's forests and woodfibre supply chains to ensure long-term supply, ecological balance and zero deforestation
- **Regulatory support:** The plan relies on favourable government policies that promote emissions reductions and renewable energy investments, especially in South Africa, where the energy landscape is heavily reliant on coal. Successful implementation hinges on the decarbonisation of Eskom, the national energy provider, alongside adequate investments in renewable infrastructure such as grid transmission
- **Adaptation to climate risks:** The plan depends on Sappi's ability to manage and adapt to climate-related risks, such as extreme weather to maintain operational resilience. The plan is dependent on the ability of Sappi's tree breeding programme to develop genetic enhancements that enhance our plantation forest resilience through genetic adaptations to the climate change induced environmental stressors that are anticipated
- **Technological innovation:** The plan assumes ongoing advancements in technologies for energy efficiency and emissions management to improve performance within operations
- **Market demand for sustainable products:** The plan assumes growing market demand for sustainable products, driven by consumer preferences for eco-friendly options, which will be key for growth in packaging, speciality papers, dissolving wood pulp and biomaterials
- **Collaboration with stakeholders:** The plan depends on collaboration with stakeholders, including customers, suppliers and local communities, to achieve transition goals and ensure a just energy transition, particularly given the social impacts of the transition from coal in South Africa.

Sappi's key decarbonisation levers

In the short and medium term, Sappi's decarbonisation strategy focuses on abatement investments to continuously reduce emissions from high emitting assets and reduce energy intensity using best-available technology. In the longer term, Sappi will evaluate emerging technologies and collaborate with strategic partners to understand feasibility and cost of new technologies that will reduce hard-to-abate emissions.



Residual emissions

Our short and medium-term focus is on direct abatement of emissions from our operations and value chain. We acknowledge that as we approach 2050, we are likely to have residual emissions that cannot feasibly be eliminated. We will consider neutralising these emissions through credible solutions.

Forestry emissions and removals

Climate impacts on our own plantations, our operations and our products are considered within our transition plan using a double materiality impact approach. This holistic approach considers both the financial impact and environmental and social impact of carbon emissions and removals across our own operations and value chain with land-based (forest) emissions and removals being a key component of our climate impact. Forests form an integral component of Sappi's transition plan due to the critical role they plan in carbon sequestration, absorbing large amounts of CO₂ from the atmosphere and helping to mitigate climate change. Sustainably managed forests ensure a renewable supply of woodfibre for our operations while maintaining biodiversity and ecosystem health, which are essential for resilience against climate impacts. Additionally, by preventing deforestation and promoting sustainable forest management (SFM) practices, we can reduce emissions linked to land-use changes, contributing to global climate goals.

The SBTi requires all organisations with land-based emissions to set a **Forestry Land and Agriculture (FLAG) SBT**. Currently there is no globally accepted standard methodology for land-use carbon accounting. The GHG protocol is developing a carbon accounting guidance for land sector emissions and removals – Land Sector and Removals Guidance (LSRG GHG P). This methodology will likely become the standard for forest carbon accounting and will be utilised within the SBTi FLAG emission reduction target-setting process once it is finalised. Sappi has been actively involved in the LSRG technical working groups and was one of the forestry companies that piloted the first version of the guidance. Unfortunately, the finalisation of the LSRG protocol is taking much longer than planned due to stakeholder misalignment on key forest accounting methodologies, which still remain unresolved. Once the protocol is finalised, we will evaluate the FLAG target-setting process and implications for our SBTi targets.

Key elements of Sappi's climate transition plan

Account and disclosure	Mitigate and decarbonise	Value and integrate
Objective We will be transparent in our accounting and disclosure of carbon impacts, risks and opportunities. ↓	Objective We will reduce our own and value-chain emissions in line with science-based decarbonisation pathways towards net zero. ↓	Objective We will value and integrate carbon into business processes. ↓
Key actions • Use GHG accounting standards to create a full account of carbon footprint • Disclose emissions, reduction targets and strategic actions • Externally assure emissions • Use quantitative and qualitative scenario analysis of transition and physical impacts to identify and disclose climate-related risks and opportunities aligned with the TCFD framework.	Key actions • Set science-based decarbonisation targets for Scope 1, 2 and 3 • Set energy efficiency/renewable energy targets • Align our decarbonisation trajectory where appropriate with market and regulatory expectations • Engage with suppliers and customers to mitigate value-chain emissions and establish a feedback mechanism for determining the success of engagements • Evaluate and implement emerging decarbonisation technologies, where appropriate.	Key actions • Utilise an internal price of carbon in capital allocation decision-making processes • Prioritise capex and opex aligned to the transition to a 1.5-degree world • Invest in innovation/R&D for own mitigation and new product development for a low-carbon, circular economy • Identify/develop a taxonomy to classify products as low carbon • Leverage public and climate finance to augment mitigation actions • Integrate decarbonisation considerations into R&D and procurement business processes and decisions and establish a mechanism for monitoring progress and compliance.

Aligning our external engagement activities

Sappi's external stakeholder engagements on climate issues are guided by Sappi's policies including our Code of Ethics, group sustainability charter and various environmental policies (climate, water stewardship and woodfibre) and SDG commitments. In terms of climate, Sappi engagement activities are further guided by our support of the Paris Agreement, our SBTi commitments and the priority targets we have established in alignment with climate-relevant UN SDGs, including SDG7: Renewable and Clean Energy and SDG13: Climate Action.

Sappi ensures alignment on policy and legislative matters affecting sustainability, including climate and nature, through collaboration among senior leaders, regional CEOs, and sustainability teams. These topics are regularly reviewed at regional and global Sustainable Development Councils, as well as in key committee meetings, to determine appropriate actions consistent with Sappi's overarching climate and nature strategy.

Sappi engages both directly with regulators on climate policy through formal processes and indirectly through trade associations or other intermediary organisations.

Sustainability linked finance framework

Sappi's international revolving credit facility (RCF) of €515 million, which matures in 2027, is linked to the group's Sustainable Financing Framework. The RCF is structured with a margin adjustment mechanism, linked to progress in achieving the framework KPIs. The framework defines four material sustainability KPIs and provides a basis for future KPI-linked credit and capital market activities of the group. The KPIs focus on specific GHG (Scope 1 and 2) emissions; certified fibre supplied to Sappi mills, solid waste-to-landfill and the safety of our employees. This is an important strategic step for Sappi and supports our long-term vision to be a sustainable business and demonstrates that we are committed to delivering our ambitious sustainability strategy.

Advocate

Objective

We will advocate that the Forest and Forest Products Sector's contribution towards achieving net zero is recognised and valued.



Key actions

- Engage with regulatory bodies and trade associations to advocate for policies consistent with achieving net zero by 2050
- Secure recognition of carbon benefits derived from forests and woodfibre-based products
- Engage and participate in GHG carbon accounting working groups to advocate for development/implementation protocols consistent with achieving net zero by 2050.

Innovate and collaborate

Objective

We will partner to develop solutions and accelerate climate action.



Key actions

- Collaborate with peers, suppliers, customers, governments, civil society and employees to support decarbonisation efforts
- Identify consortia and multi-stakeholder alliances to promote best practice sharing and collective climate action
- Collaborate with value chains to develop carbon-neutral offerings
- Create shared value with our communities to improve livelihoods and ensure long-term resilience.

Build resilience

Objective

We will address and adapt to climate change impacts.



Key actions

- Develop and invest in adaptation technologies to ensure the continued sustainability of our forestry assets in South Africa
- Promote biobased circular economy principles and leverage our forestry assets and know-how to support the development of rural community agroforestry
- Address short and long-term physical and transitional climate risks identified through TCFD processes to build resilience
- Play our part as a socially responsible business to ensure a just transition
- Protect and improve biodiversity in our forestry landholding and reduce use of water in our operations located in water-stressed regions
- Collaborate with landscape-level stakeholders to promote nature-positive action.

Climate scenario modelling

There are many uncertainties around the potential physical and transitional impacts of climate change, and we therefore continue to enhance the quality of our scenario modelling to further understand these impacts.

Sappi uses climate modelling to assess physical risks and also considers transitional risks, such as evolving regulations, to identify interconnections and dependencies.

This scenario analysis has enhanced Sappi's ability to identify and manage environmental risks and opportunities, spanning both transitional and physical factors.

Sappi adopts an integrated approach to climate scenario modelling which has been conducted for our own manufacturing and forest operations. The objective of the scenario modelling is to evaluate a broad range of risks across all climate eventualities, enhance our understanding of the particular climate-related risks at each operational site and integrating these into our risk management and mitigation processes.

In terms of **physical climate risks**, we have utilised S&P Consulting to assist us with climate scenario modelling of our own manufacturing and forest operations. Climate hazard indicators, water stress, floods, heatwaves, cold waves, hurricanes, wildfires and sea level rise, were evaluated under three different Representative Concentration Pathway (RCP) scenarios using the S&P Global Trucost dataset. The baseline year was 2020, with scenarios to 2030 and 2050.

- RCP 2.5 – a low climate change scenario, involving aggressive mitigation actions to halve emissions by 2050
- RCP 4.5 – a moderate climate change scenario involving strong mitigation actions to reduce emissions to half of current levels by 2080
- RCP 8.5 – a high climate change scenario representing continuation of business as usual with emissions at current rates.

The outcome of the scenario modelling for our manufacturing operations is that Sappi faces moderate risk, with the greatest exposure to water stress and cold wave.

The results were as follows:

- (a) Our exposure to wildfire (with the exception of our plantations), is low across all scenarios
- (b) Cold wave risk exposure is generally low on average and declines over time in the transition from the low to high climate scenario
- (c) Heatwave exposure is generally low for all sites, with the sites having the highest exposure in Italy, South Africa and the USA. However, the risk rises for all sites over time and the various scenarios
- (d) Across all scenarios used, water stress exposure is low moderate over time, however risks for specific sites could rise sharply by 2050. Under RCP 4.5, two mills could expect high levels of water stress by 2050, while seven could experience moderate water stress within the same time period. These mills are in Belgium, Germany, Italy, South Africa and the Netherlands
- (e) Flood risks are low across all sites, declining over time for RCP 2.6 and RCP 4.5
- (f) Across all scenarios, sea level rise and hurricane risks are very low for all sites.

With water security highlighted as a potential climate risk to our operations we have also conducted additional water risk analysis using the **World Wildlife Fund (WWF) water risk tool** to determine if our mills are located in areas classified as water stressed. Further water scarcity scenario analysis was performed using the **WWF water risk filter (WRF)** to assess risks at our production sites for 2030 and 2050. The assumptions for this scenario are built around three different pathways: optimistic, current and pessimistic. These pathways reflect a combination of climate projections from the IPCC AR5 (RCP) and socioeconomic scenarios from IIASA (SSP). The optimistic scenario assumes rapid adoption of water-saving technologies by 2030. It is also assumed that strict water conservation policies will need to be in place. Regional economic conditions and local factors may affect water availability, which may not be fully represented in the scenario results. The WRF scenario models have limitations due to certain assumptions in climate and socioeconomic projections.

The risk classification is based on the WWF thresholds where a water scarcity rating of 3.4 – 4.2 is classified as high risk and 4.2 – 5 as very high risk. In FY2024, our results using the recently updated WWF water risk tool indicated that none of our operations fall into these categories.

Outputs of the water risk scenario analysis are supplemented with local knowledge and practical experience. Where water availability risk within our direct operations is determined to be material, we implement specific integrated water management plans to mitigate risk and allocate capital for water reduction initiatives. Where water security risks are identified within our catchment areas, Sappi actively seeks opportunities for landscape-level collaboration. For example, we are partnering with WWF on a water stewardship programme to enhance water security in the uMkhomazi catchment area, which supplies our Saiccor Mill. Sappi firmly believes that addressing future water needs requires coordinated, multi-stakeholder collaboration across the landscape.

In terms of **climate scenario modelling for our forestry operations**, it was identified that the S&P Trucost data set was not sufficiently downscaled for local South African conditions. We therefore supplemented the work of S&P global by collaborating with the Global Change Institute at the University of the Witwatersrand in Johannesburg and other industry members to identify six representative climate change models and downscaled these to local conditions at a finer resolution for years between 1960 and 2100. The data was processed to various beneficial data products to inform on a range of factors, including drought, heat and fire risk. Sappi further processed the forecast climate data in-house by algebraically adjusting the basic weather forecasts to a year 2000 baseline. The modelling highlighted significant chronic and acute climate change impacts including rising temperatures, changes in precipitation patterns and drought. These environmental impacts were used to assess risks for our forestry operations which included forest ecosystem vulnerabilities like wildfires, drought resilience, and biodiversity threats (eg pests and diseases).

A number of material forest-related physical climate risks have been identified through this process. The financial impact and mitigation strategies are disclosed in the section of the report on risks and opportunities. Sappi has already anticipated the potential significant impact of climate change on our forestry operations for many years now. Adaptation strategies are complicated by the fact that forestry crops are long-lived, with rotation periods of 10 years for eucalypts and 20 years for pines and it typically takes more than 20 years to develop a new hybrid tree variety. Accordingly, our adaptation strategy has evolved to focus more intensely on tree improvement research to breed trees for drought resistance and match tree species to the unique water qualities of plantation sites.

In terms of **climate transition risk**, we have conducted scenarios involving nationally determined contributions (NDCs) and their associated timeframes. Each country in which we have manufacturing operations, as well as the EU region, has submitted NDCs to the United Nations Framework Convention on Climate Change (UNFCCC). Various scenarios within the parameters of key regulatory developments were also assessed against the backdrop of climate issues (for example: our own decarbonisation plans and possible carbon taxes to drive behavioural change; reputational impact if site emissions reduction plans do not align with the relevant NDC and market expectations). In FY2025 we will expand our scenario analysis for transitional risk through a further collaboration with S&P Global. The analysis will focus on carbon policy risk for our operations and carbon market risk for top suppliers and customers.

To address potential transitional risks in terms of carbon taxes we have implemented an internal carbon price (ICP) within the capital evaluation process to ensure that the impact of carbon for all large capital investments is understood. The ICP is embedded in our cost calculations as a financial indicator and allows for carbon abatement projects to be compared across regions to determine the most overall cost-effective abatement capital allocation strategy.

Risks and opportunities

Sappi has a well-established risk management process within a formal governance structure. The risk evaluation process is run annually, with comprehensive discussions which include climate change (led by regional risk managers) with each mill and central function.

In addition, we incorporate historical experiences as identified by mill and forestry management teams in light of current, short and medium-term predictions. This is supplemented by our environmental and legal teams' knowledge of emerging regulations and other transitional concerns. This risk approach is supplemented by ongoing review of downstream industry dynamics, particularly risks and opportunities related to single-use plastics, lightweighting of products and the transition to a low-carbon economy. This work is captured by regular meetings with our customers together with our global R&D teams.

Once risks have been identified by the working groups, they go through the review process of our risk governance structure. We have identified seven material physical risks associated with our South African plantations, mill operations and supply chains and one material transition risk. In terms of opportunities, we have identified two transitional opportunities and two operational opportunities. We define our timeframes for assessment on page 99.

Climate change risks and opportunities are fully integrated into Sappi's strategy and organisational processes, with climate change recognised as a principal strategic risk. These factors are routinely considered in our strategic planning, financial decision making, capital allocation and operational management. Given the energy-intensive nature of our industry and our reliance on woodfibre and water – both affected by climate change – we are committed to addressing these risks and contributing to the climate solution.

Sappi aligns with climate science and has invested significantly in R&D for decarbonisation, focusing on increasing pulp backward integration, renewable energy opportunities, and exploring new technologies for deep decarbonisation. Our Future Energy Technologies & Decarbonisation cluster is exploring advancements in renewable power, pulping, papermaking and carbon capture.

Achieving our science-based decarbonisation targets is central to future-proofing the business, and we view decarbonisation investments as essential for reducing costs, fostering innovation, and enhancing resilience. With a clear climate transition roadmap, Sappi is committed to meeting its 2030 targets and encouraging suppliers to set their own SBTs. The capital expenditure between FY2021 – FY2030 required to achieve the targets is estimated to be in the region of US\$60 – US\$70 million per annum.

Climate change is having a significant impact on our woodfibre supply. In both Europe and Southern Africa, the changing climate is impacting the health and resilience of the forests and plantations from which we source woodfibre. Increased drought, floods, wind, pest and disease outbreaks and wildfires are all accelerating forestry risks and could potentially significantly increase our wood costs.

Temperatures over the South African interior are projected to rise at about 1.5 to 2 times the global rate, with significant implications for our plantations. In addition to hotter, drier conditions, we expect shifting seasons with later summer rainfall, which will make our planting season shorter. We also anticipate that weather will become more extreme and that drought and floods, as well as wind, snow and hail will intensify. In response, we have developed climate smart forest management practices. Our Sappi Forests' scientists have developed a high level of expertise in assessing the impact of climate change on our plantations in South Africa. Their knowledge is supplemented by our strong partnership with the Global Change Institute at the University of the Witwatersrand (Wits) in Johannesburg. Recognising that there is a lack of data and expertise within South Africa for climate modelling, we launched the Sappi Chair in Climate Change and Plantation Sustainability at the University of the Witwatersrand in Johannesburg. The Research Chair will identify critical research needs and develop research outputs related to climate change and will also develop capacity in South Africa to manipulate and interpret climate modelling data.

R&D of genetically improved planting stock has been conducted at Sappi's Shaw Research Centre in Howick for over 25 years. Tree improvement is aimed at increasing pulp yield produced per hectare by testing various species and hybrids across Sappi's diverse landholdings. Besides growth improvements, trees are bred for superior wood properties and resistance to biotic and abiotic threats including frost, drought, pests and diseases. A broad genetic base, acquired over 25 years and a skilled breeding team exploiting new technologies are some of the assets of the programme. Nursery technologies research improve propagation techniques of elite genotypes. Land management and Pest and Disease Programmes conduct research on stress detection, climate change predictions, site classification to improve site-genotype matching, risk mapping, nutritional research, site resilience, biological control measures, national pest and disease surveys etc. In addition to these initiatives and programmes, we also maintain a solid base of permanent sample and long-term soil monitoring plots, with the plot coordinates stored on our GIS database. These help us to monitor climate change based on geology, temperature zone and water availability. This enables us to keep track of forest litter, soil physical and chemical properties, allowing for early detection of site changes.

In terms of climate-related opportunities, we recognise that our sector is uniquely positioned to produce circular and low-carbon products, which can offer consumers alternatives to fossil-based products. There is a significant opportunity for Sappi to accelerate the transition to the circular biobased economy our planet demands.

Through our continued focus on innovating packaging and speciality papers solutions, we remain committed to partnerships with customers, who are increasingly focused on the social and environmental credentials of our products. We are committed to embracing the circular economy using sustainable materials based on certified woodfibre and replacing fossil-based chemistry and to working on new technologies that support transformation in Sappi and across our value chain partners to reduce GHG emissions. There is significant potential to expand and unlock revenue streams with our paper-based packaging solutions to replace petroleum-based packaging in many sectors including the food and beverage, cosmetics, pharmaceuticals and electronics industries.

The majority of dissolving wood pulp (DWP) is consumed in the textile industry where pulp is converted through the value chain to yarn and ultimately textiles providing soft, breathable fabrics (eg viscose and lyocell) which hold colour well and drape beautifully. The global textile fibre industry is facing unprecedented sustainability challenges. Issues such as a rising population, climate change, water scarcity, land use (food versus fibre), deforestation and loss of biodiversity, plastic waste and marine pollution have combined to question the long-term credentials of the industry and its attempts to create a sustainable circular economy. Textile fibres derived from natural cellulose (dissolving wood pulp) are therefore gaining interest and have been the fastest growing textile fibre over the last 10 years. With increasing concerns about microplastic pollution in the oceans, petroleum-based textile fibres will continue to come under pressure and cotton cannot expand its area any further, meaning cellulosic fibres remain at an advantage and their market share will continue to expand. Lyocell represents the next generation of cellulose textile fibres. With its sustainable DWP raw material, reduced chemical processing and closed-loop systems, lyocell continues to be the most sustainable wood-based cellulosic fibre and is the fastest growing textile fibre group. Sappi is uniquely positioned as the world's largest non-integrated DWP producer and largest supplier to the lyocell sector to benefit from the growth in cellulosic textiles.

Traditionally the papermaking process has only used approximately half of the raw wood material to manufacture pulp and paper products. The balance of the wood raw material is used to generate energy to power the mill or to sell into the electricity grid. Sappi is, however, developing new processes and biomaterials which extract more value from each tree and supports our business strategy to move into new and adjacent markets. Sappi's innovative technology enables us to derive speciality biobased chemicals from the parts of the tree which are not used for pulp and paper making. These high-performance products often displace non-sustainable petroleum-based alternatives. There is significant opportunity to unlock further revenue streams through commercialisation of these biomaterials.

Our innovation programme is fully aligned with our **Thrive** strategy. The focus of the projects, which are global and based on the OneSappi approach, has shifted to emphasise sustainability, together with a focus on our segments with significant growth opportunity ie, packaging and speciality papers, dissolving wood pulp and biomaterials.

Our commitments to zero deforestation and wood sourcing from sustainably managed, healthy working forests with a high level of forestry certification enables us to offer products to our customers around the world that carry no risk of deforestation or forest degradation. Deforestation negatively impacts ecosystem services and climate. It also increases the transmission risk of zoonotic diseases. In addition to helping to respond to climate change and protect soils and water, forests hold more than three quarters of the world's terrestrial biodiversity. This means that deforestation has serious negative impacts on biodiversity and climate change.

Trees and forests play an integral role in the global carbon cycle. Through sequestering carbon dioxide from the atmosphere and storing it in forest biomass and soils, forests store vast amounts of carbon and release oxygen back into the atmosphere. Recent studies point to the further contribution that trees and forests could deliver to mitigate climate change if afforestation, reforestation, and restoration efforts were scaled up substantially. Managing forests for wood production can help to maximise their contribution to carbon sequestration. Forest management practices which rely on scientific knowledge of silvicultural best practices applicable in respective vegetation zones, promote growth and carbon sequestration. In our plantations in South Africa and in the managed forests from which we source wood raw material, the cycle of regeneration, growing, thinning and harvesting is actively managed to enhance biodiversity, resilience, and maintain functional ecological condition.

The pulp and paper industry provides dependable markets for responsibly grown woodfibre, thereby incentivising long-term forest management. This assurance of financial returns enables and encourages landowners to manage their forestlands as working forests, instead of selling the land for development or converting it to non-forest uses. Furthermore, the pulp and paper industry typically utilises different species and/or smaller diameter trees or portions of trees that are not desirable in the solid wood industry. By providing this market and revenue stream, the industry is supporting necessary holistic forest stand-improvement activities that are essential for maintaining and restoring forest health, species and age-class balance, wildlife habitat and biodiversity, wildfire mitigation and hazardous fuels reduction, watershed protection, soil conservation and carbon sequestration. By ensuring forests and plantations are sustainably managed through high levels of certification and prioritising traceability, we can help to combat climate change and enhance the ecosystems services that contribute to greater levels of economic and environmental wellbeing. Our opportunity is to invest in and promote healthy forests both for our benefit and the myriad of benefits they deliver to the planet.

Sappi's climate-related physical risks

Risk		Description
Physical risks	South African plantation losses	Acute physical More frequent, longer-lasting and more severe droughts are anticipated over the Southern African region due to climate change. As the planet continues to warm, rainfall reductions over the summer rainfall region are expected to become more pronounced, and the rising temperature drives evaporation. Accordingly, the 'water balance' is more strongly negative than the decline in rainfall alone. Levels of global warming of 2°C or higher are associated with substantial increases in risk in the summer rainfall parts of Southern Africa where Sappi's plantations are situated. When several dry years follow directly on one another, the impact on plant production is extremely negative.
		Chronic physical Mean annual temperatures are expected to increase by between 3°C and 7°C. This increase in temperature in association with small changes in rainfall as well as potential changes in interannual rainfall patterns that will extend the annual dry period in the summer rainfall region, will increase plant heat stress and will have a negative impact on tree growth. In addition, extension of the dry season or changes to rainfall seasonality could negatively impact re-establishment plantings by extending the area that is temporarily unplanted.
		Higher temperatures and changing climatic conditions may increase vulnerability to pests and diseases . Given that temperature is the most important environmental factor affecting insect behaviour, distribution, development and reproduction, the general impact of increased temperature on insect pests might result in: increased reproduction and flight duration; expansion of geographic range (naturally or through severe weather such as storms and strong wind); increased survival rates of overwintering populations; increased risk of introduction of invasive insect species; increased evidence of insect-transmitted plant disease due to range expansion and rapid reproduction of insect vectors and reduced effectiveness of biological control agents and natural enemies. Thus, the additional temperature and water stress are likely to increase pest and disease-related growth losses. Stricter rules regarding use of pesticides by government and certification bodies will make it more difficult and expensive to control pest and disease outbreaks, as well as invasive plants.

Timeframe:Short term **1 – 2 years**, medium term **3 – 5 years**, long term **5 – 30 years**

	Time frame	Financial impact (pa)	Mitigation	Financial cost of mitigation (pa)
	Long term	US\$5 million to US\$20 million	R&D of genetically improved planting stock has been conducted at Sappi's Shaw Research Centre in Howick for over 25 years. Tree improvement is aimed at increasing pulp yield produced per hectare by testing various species and hybrids across Sappi's diverse landholdings. Besides growth improvements, trees are bred for superior wood properties and resistance to biotic and abiotic threats including frost, drought, pests and diseases. A broad genetic base acquired over 25 years and a skilled breeding team exploring new technologies are some of the assets of the programme. Nursery technologies research improve propagation techniques of elite genotypes.	US\$3 million to US\$5 million The combined direct annual R&D expenditure per annum of the Sappi Nursery Technologies, land management, pest and diseases and tree breeding programmes.
	Medium to long term	US\$5 million to US\$10 million		
	Medium to long term	US\$3 million to US\$13 million	Land management and pest and disease programmes conduct research on stress detection, climate change predictions, site classification to improve site-genotype matching, risk mapping, nutritional research, site resilience, biological control measures and national pest and disease surveys.	

Sappi's climate-related physical risks continued

Risk		Description
Physical risks	South African plantation losses	Fire remains a high risk to our plantations and is exacerbated by periods of drought.
	Interruptions to mill operations and supply chains	Acute physical Increased severity and frequency of extreme weather events may result in damage to our infrastructure and that of our supply chain partners. Extreme weather events could be flooding, hail or frost/snow. Chronic physical More frequent, longer lasting and more severe droughts are anticipated over the Southern African region due to climate change. As the planet continues to warm, rainfall reductions in the summer rainfall region are expected to become more pronounced and the rising temperature drives rising evaporation. Levels of global warming of 2°C or higher are associated with substantial increases in drought risk in the summer rainfall parts of Southern Africa where Sappi's operations are situated. When several dry years follow directly on each other, the impact on available groundwater in the water river basins that serve our operations could be severely impacted. Our pulp and paper operations are water-intensive and any reduction in water availability could result in extended water shortages, which could disrupt our operations.

Timeframe:Short term **1 – 2 years**, medium term **3 – 5 years**, long term **5 – 30 years**

	Time frame	Financial impact (pa)	Mitigation	Financial cost of mitigation (pa)
	Short to long term	US\$18 million to US\$130 million	Sappi Forests has a comprehensive risk management system, which comprises risk assessments, monthly compliance checks, management procedures, standards and general backup information. Fuel load maps are prepared for all districts to assess in the management of fuel loads and identification of major risks. When re-planting, Sappi is increasingly making use of mulchers as a more expensive but lower-risk alternative to burning of harvest residue. Regular weeding helps reduce fuel loads. Each plantation/ district has a weather monitoring station that is strategically placed to keep track of the Fire Danger Index (FDI). The FDI data is reported automatically using a cell phone or the camera detection data network to a central database (Vital Fire Weather – VFW), which sends alerts via SMS and email. When the FDI reaches a pre-determined level, all aerial and ground firefighting resources are strategically located, all airstrips are manned and detection centres are instructed to activate aircraft immediately should a fire be detected within or near plantations.	US\$15 million to US\$20 million (Insurance and fire protection costs per annum).
	Medium term	US\$10 million to US\$50 million	Sappi has comprehensive insurance coverage in place, which covers both our assets and business interruption.	US\$35 million to US\$45 million
	Medium to long term	US\$10 million to US\$50 million	Sappi has water management plans for each operation in South Africa, which focus on implementing water-efficiency projects and implementing closed-loop and water-recycling initiatives to reduce water intensity of our operations. We also engage local authorities, other industrial users and local communities within critical water basins to identify solutions and enhance water stewardship.	US\$1 million to US\$3 million (Estimated SSA capex for water efficiency).

Sappi's climate-related transition risks

Risk		Description
Transition risk	GHG regulatory changes and changing downstream requirements for low-carbon products	Sappi's European operations fall under the EU Emissions Trading System. As EU Emissions Trading System allowances decrease over time and if our decarbonisation efforts do not keep pace with the required trajectory, there is potential that some operations may have deficits, which will require purchasing of ETs. Similarly, SSA's operations are subject to carbon taxes which are anticipated to increase steadily over time. Currently, there are no carbon tax regulations in North America, but this could change over time. Many of our downstream markets are positioning their value proposition on a low-carbon footprint with science-based decarbonisation commitments, including net zero by 2050, gaining momentum. This will apply pressure on our business to decarbonise to support these commitments within our value chains. As legislation and customer preferences shift to low-carbon impact, achieving our science-based decarbonisation trajectory will be a key enabler for future-proofing our business as we focus our growth strategy on circular, nature-based solutions for a low-carbon economy. Not being able to realise our decarbonisation strategy through improved energy efficiency and the use of renewable energy represents a significant reputational and financial risk.

Timeframe:Short term **1 – 2 years**, medium term **3 – 5 years**, long term **5 – 30 years**

	Time frame	Financial impact (pa)	Mitigation	Financial cost of mitigation (pa)
	Medium to long term	US\$20 million to US\$180 million	We have developed a climate transition roadmap and capital allocation strategy to achieve our 2030 targets and we have also committed to using our influence to encourage our major suppliers to set their own SBTs. We acknowledge that the decarbonisation of our South African assets will be more challenging than in our other operating regions. Our mills in this report are all reliant on coal-based power for a significant proportion of their energy requirements. The South African energy landscape is heavily dependent on coal, which is an abundant resource in the country. Accordingly, our decarbonisation roadmap for the region assumes that we will have to invest in our own renewable energy assets. We are actively investigating opportunities for investment in solar, wind and biomass power assets and will furthermore continue to collaborate and explore opportunities for purchasing renewable energy from independent power producers. Within the context of South Africa's national dependency on coal and high levels of unemployment and social inequality, we recognise that a just transition is critical for South Africa. We will therefore use our influence to collaborate with other business leaders, communities and government stakeholders to advocate for a just transition where no one is left behind.	US\$60 million to US\$70 million (Estimated SBTi capital requirement per annum).

Sappi's climate-related opportunities

	Opportunity	Description
Transition opportunity	Changing consumer behaviour and preference for renewable, circular, low-carbon products	The global demand for sustainable packaging solutions is prompting increasing investment and collaboration to develop innovative solutions to cater to changing customer preferences. Paper-based packaging being renewable and circular emerges as an excellent substitute for less eco-friendly options. By capitalising on our sustainable packaging solutions, we aim to address the growing demand for a wider range of paper-based packaging products. Likewise, the surge in demand for sustainable textile fibres opens up possibilities for our dissolving wood pulp business. Our prominent role in supplying pulp to the lyocell fibre market positions us favourably, given the improved environmental impact of lyocell fibres, which are expected to double in market share over the next five years.
	Beneficiation of wood byproducts	Furfural is an important biobased platform chemical which is used in a wide variety of applications including foundry resins, solvents and crop protection products. In many cases, biobased furfural replaces products which would otherwise be made from fossil fuels. Sappi has developed innovative technology for the production of furfural using the hemicellulose co-product of our DWP operations. By using this co-product, we are able to maximise the portion of the tree used to make renewable value-added products. The Sappi technology is fully integrated with the pulp production technology, enabling a significant reduction in the carbon footprint of furfural production.
Operational opportunity	Reduced operating costs through energy efficiency and use of renewable energy	The pulp and paper manufacturing processes require a substantial amount of energy, contributing significantly to our GHG emissions. In numerous regions where our operations are situated, renewable fuel sources like biomass prove to be more cost-effective than traditional fossil fuels such as coal and gas. Furthermore, there is an expectation that renewable power, available for purchase, will progressively become more economical than power derived from fossil fuels over the medium to long term. By improving the efficiency of our energy plants and manufacturing operations and fostering adaptability to employ diverse fuel sources, we have the opportunity to potential to achieve cost savings.
	Increased resilience of plantations to impacts of climate change	Sappi's tree improvement programmes are aimed at increasing pulp yield produced per hectare by testing various species and hybrids across Sappi's diverse landholdings. As well as growth improvements, trees are bred for superior wood properties and resistance to biotic and abiotic threats including frost, drought, pests and diseases. Available water is the main driver of tree growth in South African industrial plantations. Thus, through tree breeding, breeders are developing genotypes that produce more wood with less water. The Eucalyptus genotypes that are currently planted, such as Eucalyptus (E.) dunnii, E. grandis x E. nitens hybrids and E. grandis x E. urophylla, have much higher water use efficiency (WUE) than pure E. grandis that was planted in the past.

Note: Cost to realise the transitional opportunities for packaging papers and biomaterials is focused exclusively on two specific projects (conversion and expansion of Somerset Mill PM2 and furfural at Saiccor Mill), which are the two most advanced and likely to reach commercialisation opportunities in the current portfolio. R&D initiatives are ongoing in this space and opportunities will be added as they emerge.

	Time frame	Financial impact	How we realise the opportunity	Financial cost to realise opportunity
	Short to long term	US\$100 million to US\$200 million	To meet the growing demand for packaging papers, we have initiated a capital project at Somerset Mill to convert PM2 from coated woodfree graphic papers to solid bleached sulphate (SBS) board. The machine capacity will also be increased during the conversion from 235,000 tpa to 470,000 tpa. The project is expected to be completed in early 2025.	US\$418 million Total capex for PM2.
	Medium to long term	US\$20 million to US\$30 million	Sappi has invested in a pilot plant at Saiccor Mill, which has successfully demonstrated the technology for furfural production and testing of product with customers, and is progressing well. A class 10 capex estimate for a full-scale plant with the capacity to produce 25,000 tpa is being explored.	US\$60 million Total capex estimate for 25,000 tpa plant.
	Short to long term	US\$20 million to US\$50 million	Based on our corporate commitment to reduce emissions and meet our SBTi targets, together with increasing market and regulatory pressure to reduce the carbon footprint of our products, we have implemented a comprehensive capital investment programme to reduce GHG emissions. Projects focus on energy efficiency and fuel switching to allow replacement of fossil fuels in our boilers with biomass and renewable energy projects. Many of these projects improve the efficiency of our manufacturing operations and allow for significant savings through fuel and power arbitrage opportunities.	US\$60 million to US\$70 million (Estimated SBTi capital requirement per annum).
	Medium to long term	US\$2 million to US\$10 million	Sappi realises the benefits of its tree breeding programme by systematically integrating genetically improved trees into operational planting programmes. Advanced vegetative propagation protocols amplify the production of superior genotypes, ensuring plantation consistency and quality. The financial impact of these initiatives is significant. Sappi estimates an advantage of 0.5% – 2% of the standing value of its tree plantations in South Africa which translates to a benefit ranging from US\$2.6 million (0.5%) to US\$10.4 million (2%), representing a competitive edge over industry peers. By enhancing fibre yields and plantation quality, Sappi ensures a measurable and sustained financial return from its tree breeding programmes, strengthening its competitive position in the forestry sector.	US\$3 million to US\$5 million The combined direct annual R&D expenditure per annum of the Sappi Nursery Technologies, land management, pest and diseases and tree breeding programmes.

Metrics and targets

We use a variety of metrics to measure the current and potential impact of our climate change-related risks and opportunities including metrics related to GHG emissions, water use, forestry certification and biodiversity.

Direct GHG emissions are from our energy plants through combustion of fuels to generate the power required for our manufacturing operations (Scope 1). We also purchase power from the grid (Scope 2) and have indirect GHG emissions throughout the value chain, mainly as a result of our purchase of raw materials, fuel and transportation, which make up the majority of our Scope 3 emissions. We are acting across all three Scopes and working closely with our partners to reduce GHG emissions for our business and our value chain. In 2022, our 2030 science-based decarbonisation targets, including a Scope 3 advocacy target, were approved by the SBTi. We remain committed to zero deforestation in our woodfibre supply chains and to maintaining carbon sinks in forestry through implementation of best forest management and silviculture practices.

Given the strategic importance of sustainability, the group's Executive Directors' remuneration is linked to their contribution to the overall success of our **Thrive** strategy. Specifically, a portion of the personal objectives of Executive Directors within the short-term management incentive scheme (MIS) is directly linked to climate change through emission reduction, forestry certification and waste-to-landfill performance targets. Additionally, from FY2024 10% of the long-term incentive (performance share plan (PSP)) is linked to performance against our SBTi targets.

For further details on our remuneration policy, see our **Remuneration report** on page 176.

Our performance against our planet targets, which have an impact on climate change, is shown below.

FY2024 group performance against 2025 climate targets

	FY2024 snapshot of Thrive (2025) and SBTi targets	Sappi KPI	
Planet targets	 Clean water and sanitation	Specific process water usage (SSA)	
	 Renewable and clean energy	Share of renewable energy	
		Specific energy intensity	
	 Responsible consumption and production	Specific landfilled solid waste	
	 Climate action	Specific GHG emission	
	 Life on land	Share of certified fibre	
SBTi targets		Biodiversity (SSA)	
	 Climate action	Scope 1 and 2	
		Scope 3 engagement	

For more details on performance against planet targets, see our 2024 Sappi Group Sustainability Report at www.sappi.com/2024GSDR

Global targets for FY2024 for specific total energy and specific GHG emissions were not achieved. The primary reason for the poor performance against our targets is the market-related production curtailment that was required during the year which significantly reduced the efficiency of our operations. However, the share of renewable and clean energy target was achieved. The waste-to-landfill target was achieved for FY2024 and exceeded the FY2025 goal. Specific water usage is an SSA-specific target. The target was not achieved due to incidences of unstable operating conditions and product quality challenges which required additional water usage as well as lower production volumes than planned for FY2024. The global certified fibre target >75% was exceeded. In terms of our biodiversity improvement target for our own forest operations, a cumulative improvement of 21% has been achieved from the 2020 baseline condition, well in excess of our target.

Read more on Sappi's material issues relating to climate change, sustainable forestry, water stewardship, resource efficiency and minimising waste and biodiversity in our 2024 Sappi Group Sustainability Report www.sappi.com/2024GSDR .

Science-based targets

The FY2024 Scope 1 and 2 emission intensity of 0.82 t CO₂e/adt was 18% above our SBTi trajectory due to ongoing market-related production curtailments and the associated negative impacts on energy efficiency. However, we achieved a substantial reduction of 13% versus the previous year. The improvement was due to excellent emissions reductions in Europe and overall improved capacity utilisation and operational efficiencies compared to the prior year.

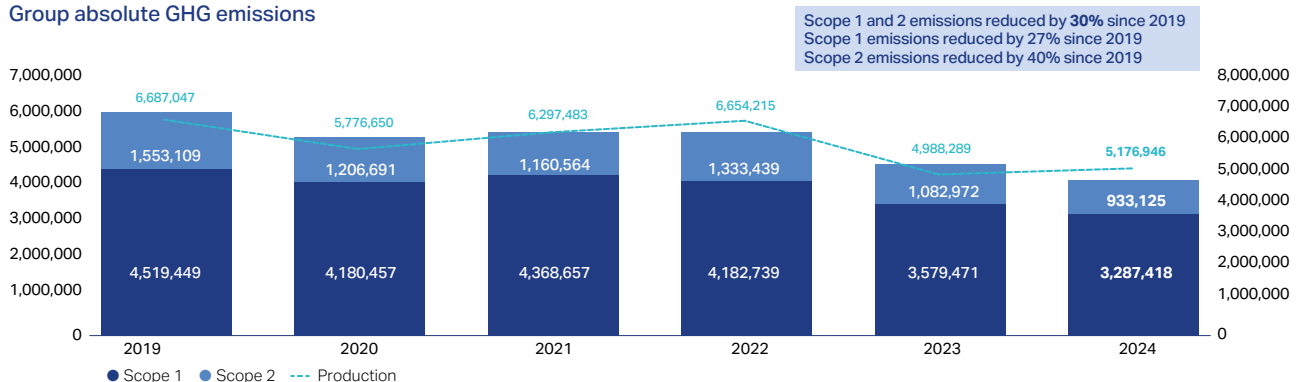
FY2024 GHG emissions data and five-year trend

	GRI reference	Unit	2020	2021	2022	2023	2024
Scope 1	305-1a	t CO ₂ e/annum	4,180,457	4,368,657	4,182,739	3,579,471	3,287,876
	305-4	kg CO ₂ e/adt	723.7	693.7	628.6	717.6	635.1
Scope 1 emissions from							
CO ₂	305-1b	t CO ₂ e/annum	3,762,801	3,960,852	3,774,529	3,171,556	2,871,056
CH ₄		t CO ₂ e/annum	363,439.4	354,323.3	354,772.1	355,536.5	363,279.8
N ₂ O		t CO ₂ e/annum	54,216.4	53,481.9	53,437.6	52,379.1	53,539.8
Biogenic emissions	305-3c	t CO ₂ e/annum	6,803,390	6,621,873	6,877,140	6,728,999	6,845,659
Scope 2	305-2a	t CO ₂ e/annum	1,206,691	1,160,564	1,133,439	1,082,972	929,692
	305-4	kg CO ₂ e/adt	208.9	184.3	200.4	217.1	179.6
		t CO ₂ e/annum	5,387,148	5,529,222	5,516,178	4,662,444	4,217,568.4
Scope 1 and 2 GHG emissions	305-4	t CO ₂ e/adt	932.6	878.0	829.0	934.7	814.7
		t CO ₂ e/US\$ million	1,146.70	1,031.40	741.7	810.7	772.7
Scope 3	305-3a	t CO ₂ e/annum	3,330,897	3,476,733	3,750,363	3,445,407	3,741,168
	305-4	kg CO ₂ e/adt	576.6	552.1	563.6	690.7	722.7

Production curtailments continue to impact emission intensity since production is the denominator in the calculation. Sappi's absolute emissions have reduced by 30% since 2019 and benefited in 2024 from the closures of Stockstadt and Lanaken Mills. The majority of the sales volumes from the two closed mills were transferred to Gratkorn and Ehingen Mills which have lower emission intensity, thereby positively reducing both the absolute emissions and emission intensity of the European region.

Group absolute GHG emissions six-year trend

Group absolute GHG emissions



Although the FY2024 emission intensity remains above our SBTi target trajectory, this is to a large extent due to the production curtailments and the impact on operational efficiencies. The key abatement capital projects that have been completed in the last few years are demonstrating significant emission reductions.

In terms of the abatement projects, we achieved significant reductions in Scope 1 emission intensity in FY2024 from the four main projects listed below.

- 1 Kirkniemi Mill Scope 1 emission intensity reduced by 85% from the 2019 baseline driven primarily by the conversion of the coal fired boiler to biomass.
- 2 Gratkorn Mill Scope 1 emission intensity reduced by 34% from the 2019 baseline due to the conversion of the coal fired boiler to natural gas/biomass. Intensity will reduce even further as the final phase of the project to handle biomass is completed and the boiler converts fully to biomass.
- 3 Maastricht Mill Scope 1 emission intensity reduced by 16% from the 2019 baseline as e-boiler benefits were realised.
- 4 Saiccor Mill Scope 1 emission intensity reduced by 55% from the 2019 baseline due to the sustainability investments included in the recent expansion project.

In terms of our engagement target for Scope 3 to have 44% of our suppliers by spend with SBTs by 2026. Globally we achieved 25% with each region achieving the following: SEU 28%, SNA 22%, SSA 25%. Unfortunately, delays in SBTi finalising their guidance for the chemical sector has prevented a number of our suppliers setting SBTs. We anticipate that more of our chemical suppliers will join SBTi in FY2025 after the guidelines are published for the sector.

In 2024 we have intensified our supplier engagement by sending out questionnaires to all our Tier 1 suppliers to collect primary Scope 3 emissions data. This is a necessary step to more accurately measure and monitor our Scope 3 emissions. Engaging also leads to informing suppliers of the importance of climate change and reducing environmental impact. We are still developing our process for further engagement and increasing spend with suppliers who have demonstrated good performance in terms of compliance with our Supplier Code of Conduct, having SBTs, having a good performance on EcoVadis and supplying primary emission factors for their products.

Limited assurance

In 2023 we engaged KPMG to perform limited assurance on the following planet variables:

- Scope 1 and 2 GHG emissions
- Solid waste-to-landfill
- Certified fibre
- Water usage (SSA only).

Conclusion

A number of physical and transitional risks and opportunities have been identified related to climate change and we continue to monitor developments with respect to legislation, markets, technology and disclosure requirements. Further climate-related scenario analysis for transitional impacts will be undertaken in FY2025. Risks, opportunities and financial impacts will continue to be refined.

We believe that we have the right strategy to address the risks and opportunities arising from climate change and will continuously enhance our scenario modelling to expand our thinking and ensure that our strategy and transition plan remains resilient.