

Welcome to your CDP Climate Change Questionnaire 2021

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

Headquartered in Johannesburg, South Africa, Sappi Limited has approximately 13,000 employees; manufacturing facilities on three continents, in ten countries, ten operations in Europe, four operations in North America, five operations in South Africa and customers in over 150 countries worldwide. Sappi works closely with customers to provide relevant and sustainable dissolving pulp, paper (speciality, packaging and graphic), paper pulp and biomaterial solutions and related services. Our commitment to sustainability is embedded in our Thrive25 purpose statement: *Sappi exists to build a thriving world by unlocking the power of renewable resources to benefit people, communities and the planet.* Assets total USD5,4 billion and in FY2020, sales amounted to USD4,609 million. Production capacity includes: 5.7 million tons of paper; 2.4 million tons of paper pulp; 1.4 million tons of dissolving pulp. In FY2020, in terms of total group sales by value, Sappi Europe accounted for USD2,430 million, Sappi North America for USD1,439 million and Sappi Southern Africa for USD1,003 million. We take an integrated approach to value creation through six streams:

- Forests: Sappi's Forest Stewardship Council™ (FSC™-N003159) and Programme for the Endorsement of Forest Certification (PEFC/01-44-43) -certified tree plantations in South Africa give the company a high-quality woodfibre base. We own and lease approximately 394,000 hectares of which 135,000 hectares are maintained to conserve the natural habitat and biodiversity found there.
- Manufacturing excellence: We focus on enhancing machine efficiencies, digitising our processes to make the smart factory a reality, reducing variable costs through new practices in logistics and procurement, as well as implementing go-to-market strategies, which lower the cost of serving our customers and increase customer satisfaction.
- Dissolving pulp: Sappi's dissolving pulp products are used worldwide by converters to create viscose fibre for fashionable clothing and textiles, pharmaceutical products, as well as a wide range of consumer and household products.
- Packaging and speciality papers: These are used in the manufacture of products such as soup sachets, luxury carry bags, cosmetic and confectionery packaging, boxes for agricultural products for export, tissue wadding for household tissue products and casting and release papers used by suppliers to the fashion, textiles, automobile and household industries.

- Graphic papers: The group's market-leading range of coated and uncoated graphic paper products are used by printers in the production of books, brochures, magazines, catalogues, direct mail, newspapers and many other print applications.
- Bioproducts: We are unlocking the chemistry of trees and meeting the challenges of a carbon-constrained world by establishing a strong position in adjacent businesses including: nanocellulose, sugars and furfural, lignosulphonates, biocomposites and bio-energy. Extracting more value from each tree is at the core of our core business model.

At Sappi, we take a holistic view of value creation which is not only about delivering returns to our shareholders, but also about maximising the value of every resource along our value chain to ensure these returns are sustainable. Through this lifecycle approach that harnesses the power of the circular economy, we strive to minimise our negative impacts and increase our positive impacts on People and the Planet. We then measure our value creation in terms of our defined targets. These include enhancing energy self-sufficiency, improving energy-use efficiency and decreasing our reliance on fossil fuels, thereby reducing our carbon footprint. We use significant amounts of energy in our manufacturing process. However, our use of renewable (and nuclear) energy in FY20 as a percentage of total energy was 54.4%, of which 68.3% was own black liquor. In many of our mills, we operate combined heat and power plants which generate electricity as well as heat, which is used at the paper machines. Such efficiencies mean our CHP units are twice as energy efficient as conventional power plants. We have co-generation power plants at 14 of our mills. We generate emissions primarily through manufacturing and the transport of our products. Our high use of energy is balanced by the high levels of renewable energy generated on site and used as previously described. We took extensive steps to increase renewable energy usage in 2020 by developing detailed regional decarbonisation plans. This was in line with our commitment, in June 2020, to set science-based targets through the Science Based Targets initiative (SBTi). Our Thrive25 strategy identifies global forces including climate change to which we are responding by creating responsibly sourced and sustainable solutions as viable alternatives to fossil-based products. Our aim is to transform the future with innovative, bio-based, and renewable materials.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Reporting year	October 1, 2019	September 30, 2020	Yes	3 years

C0.3

(C0.3) Select the countries/areas for which you will be supplying data.

Austria
 Belgium
 Canada
 Finland
 Germany
 Italy
 Netherlands
 South Africa
 United Kingdom of Great Britain and Northern Ireland
 United States of America

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

USD

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Operational control

C-AC0.6/C-FB0.6/C-PF0.6

(C-AC0.6/C-FB0.6/C-PF0.6) Are emissions from agricultural/forestry, processing/manufacturing, distribution activities or emissions from the consumption of your products – whether in your direct operations or in other parts of your value chain – relevant to your current CDP climate change disclosure?

	Relevance
Agriculture/Forestry	Both own land and elsewhere in the value chain [Agriculture/Forestry only]
Processing/Manufacturing	Both direct operations and elsewhere in the value chain [Processing/manufacturing/Distribution only]
Distribution	Both direct operations and elsewhere in the value chain [Processing/manufacturing/Distribution only]
Consumption	Yes [Consumption only]

C-AC0.7/C-FB0.7/C-PF0.7

(C-AC0.7/C-FB0.7/C-PF0.7) Which agricultural commodity(ies) that your organization produces and/or sources are the most significant to your business by revenue? Select up to five.

Agricultural commodity

Timber

% of revenue dependent on this agricultural commodity

More than 80%

Produced or sourced

Both

Please explain

Responsibly sourced, renewable woodfibre is a key input. Some revenue is derived from energy sales, but this energy derives from the pulping of woodfibre, meaning that our business is entirely dependent on timber. The wood and pulp needed for products is either grown by Sappi, produced within Sappi or bought from accredited suppliers. Sappi sells almost as much pulp as it buys. To calculate this figure, we have considered all our own pulp sales and purchases, as well as the revenue from timber-derived products.

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Other, please specify Board-level committee	The Sappi Board of Directors, together with the Audit and Risk Committee and the Social, Ethics, Transformation and Sustainability (SETS) Committee have responsibility for forests-related issues. The Sappi CEO, to whom the regional CEOS report, is a member of the Board and of the SETS Committee. The SETS committee monitors compliance with Sappi's Thrive25 strategy, applicable legal and regulatory requirements, Group Climate Change Policy, the Group Sustainability Charter and the Task force on Climate-related Financial Disclosure (TCFD). The committee reviews and assesses strategic and operational risks and opportunities and their impact on operations and strategy. The Audit and Risk and SETS committees also have responsibility for climate-related issues within the context of Sappi's environmental management approach of producing more with less — an approach that has obvious economic benefits and which serves to

	<p>further climate and circularity goals. It involves reducing our use of fossil energy and the associated greenhouse gas emissions across the full life cycle of our products. It also necessitates using less water and improving effluent quality, mitigating our impact on biodiversity and promoting sustainable forestry through internationally accredited, independent forest certification and environmental management systems. The latter include ISO 14001, ISO 9001, ISO 50001 (SEU and SSA) and EMAS (SEU). Enhancing energy self-sufficiency, improving energy-use efficiency and decreasing our reliance on fossil fuels in line with science-based targets, thereby reducing our carbon footprint, are key strategic goals.</p> <p>The chairman of the SETS committee who has ultimate responsibility for climate change issues has served as the President of the International Union for the Conservation of Nature; Chairman of the UN Commission for Sustainable Development; Chairman of WWF(SA) and currently serves as the deputy chair of the South African President's climate change commission.</p>
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C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – some meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures,	<p>The Social, Ethics, Transformation and Sustainability (SETS) committee has an independent role with accountability to the Board and is comprised of a majority of independent non-executive members, whose duties are delegated to them by the board of directors in compliance with a board-approved terms of reference. The role of the SETS Committee, together with the Audit and Risk Committee, is to assist the Board with the oversight of sustainability issues within the company and to provide guidance to management's work in respect of its duties. Given that Sappi's business is almost entirely dependent on woodfibre, a natural resource which is impacted by climate change, climate change-related issues are scheduled at all meetings. The SETS committee regularly reviews our energy usage in our manufacturing process and our performance against targets, including energy and emissions.</p> <p>Their responsibilities also include monitoring the company's activities with regard to any relevant</p>

	<p>acquisitions and divestitures</p> <p>Monitoring and overseeing progress against goals and targets for addressing climate-related issues</p>	<p>climate-related legislation, other legal requirements and prevailing codes of best practice. The Committee receives regular updates on progress towards energy and emissions goals. Such issues also form part of the function of the Regional Sustainability Councils (RSC) in North America, Europe and South Africa. These RSCs feed into the Global Sustainability Council which in turn reports to the SETS Committee.</p> <p>The SETS Committee convened three times in FY20. The reporting structure is as follows: Regional Sustainable Councils (RSCs), in Europe, North America and South Africa, are responsible for establishing and implementing on-the-ground strategy regarding climate change issues. The RSCs report to the Group Sustainable Development Council (GSDC) which is chaired by the GM Group Sustainability & Research & Development: Dissolving Pulp. The GSDC reviews key trends and developments together with strategy and implementation and makes recommendations which are fed through to the SETS committee and ultimately, to the Sappi Limited board.</p> <p>In FY2020, amongst other things, in relation to climate change the SETS Committee reviewed the progress on developing a group-wide approach to the TCFD; provided oversight of the development of science-based targets for the Sappi group. The Committee also considered trade-offs between financial and natural capitals relating to the use of coal versus other renewable energy fuels for our manufacturing requirements.</p>
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C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Other C-Suite Officer, please specify Group Head Technology	Both assessing and managing climate-related risks and opportunities	Quarterly

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

The Group Head Technology reports directly to the CEO, sits on the Social, Ethics, Transformation and Sustainability (SETS) committee and is an executive member of Sappi Limited. Responsibility has been allocated to this individual because of their expertise in engineering, research, manufacturing and project execution as well as operational and risk management. This individual is responsible for overseeing:

- Research and development, including climate-change related research, such as the group's tree improvement research which focuses on improving the sustainable supply of woodfibre
- Research related to the reduction of greenhouse gas (GHG) emissions and energy as well as more efficient water usage—particularly important in South Africa, where climate change is putting pressure on freshwater resources
- Capital projects where climate-related issues such as energy efficiency, decreased energy usage and a reduction in GHGs are always a consideration
- The work of the E4 'cluster', a global team tasked with ensuring consistency and accuracy of environmental metrics.
- The work of the 1.5 Future Energy Technologies & Decarbonisation cluster, tasked with exploring and developing novel technologies for fuel shift and deep decarbonisation in terms of Scope 1 & 2 emissions, with a particular emphasis on energy; pulping; papermaking and bleaching.

Sappi has manufacturing operations in three regions: Europe, North America and South Africa. The issues and regulations relating to climate change differ considerably across these regions. In each region, climate change related issues are monitored by the Regional Sustainability Councils (RSCs), managed by the regional Chief Executive Officers and fed through to the Group Sustainable Development Council (GSDC) which is chaired by the GM Sustainability and Research and Development: Dissolving Pulp, and ultimately to the Social Ethics Transformation and Sustainability (SETS) Board Committee.

Should a group response to climate-related issues/ challenges be required, this would be formulated by the GSDC chaired by the GM: Sustainability; with direction given by the Group Head Technology, the SETS Committee and overall responsibility allocated by the Sappi Limited Board. In addition, the Global Risk Manager, who reports to the Chief Financial Officer and Group Head of Technology present key risks on at least an annual basis to the Sappi Global-Executive Committee for review, The Group Technology Management Team, the Group Risk Management Teams and the various clusters meet on average every three months to monitor and action specific business needs which may include subjects related to climate change initiatives. The process described above brings together manufacturing and technical expertise, current and future trends and developments, current and potential risks to give an overarching monitoring process for climate-related issues.

With the adoption of the TCFD framework we now rely on the regional operational risk leads to assess our mill assets for climate related risks and opportunities in alignment with the TCFD framework. These leads report up to the Group Head of Technology and work closely with the Global Risk Manager.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	Our compensation packages are designed to attract, retain and motivate executives and all employees to deliver on performance goals and strategy. Sappi's Thrive25 strategy emphasises the importance of sustainability, including climate change. Examples of personal objectives for executives under the 2020 management incentive scheme include the roll out of the Thrive25 strategy, Sappi's annual sustainability targets and new products taken into commercialisation in alignment with Thrive25.

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Corporate executive team	Monetary reward	Emissions reduction target Energy reduction target	Remuneration comprises fixed and variable components (these components are shown in the 2020 annual integrated report on page 145). The variable components are linked to predetermined and measurable performance and results criteria, and maximum levels have been set for their payment. Sustainability targets, including climate and forestry-related issues, form part of the overall business plan for Sappi Limited and globally. The outcomes of the Management Incentive Scheme in relation to all the sustainability targets are contained in the performance objectives of each mill and the personal objectives of all senior management. The personal objectives of the Group Exco are disclosed in the

			Annual Remuneration report. The payable amounts of incentives are linked to the executive's position and achievement of annually set business and individual targets.
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C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	1	2	In line with immediate risks and opportunities
Medium-term	3	5	In line with management accounting's five-year financial forecast plan and with our Thrive25 strategy, launched in 2020
Long-term	5	30	This timeline is consistent with the SBTi and takes into account the nature of our mill operations and capital investments for long life assets; Sappi Forests' research planning horizons in response to climate change, as well as the EU's plans for carbon neutrality by 2050.

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

EBITDA (earnings before interest, taxes, depreciation, and amortization) is considered a key indicator of the underlying profit performance of the group, reflecting both revenues and costs and aligning closely with our strategic goals of achieving cost advantages and growth. We define substantive strategic or financial impacts as those that in aggregate total 20-25% of EBITDA, which, in FY20, was US\$378 million. This definition applies to risks both within our direct operations and within our supply chain.

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered

Direct operations

Upstream

Downstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

Annually

Time horizon(s) covered

Short-term

Medium-term

Long-term

Description of process

In following the TCFD framework we have a prioritized process that focuses on our assets, i.e., our direct operations - mills and South African plantations. We have immediate control of these assets and these are also where we have our greatest potential risk/reward. Upstream raw materials, timber and water, follow in priority with the caveat that the availability of water is integral to the operation of our mills.

Sappi has a well-established risk management process within a formal governance structure. For climate-related risks and opportunities we have leveraged this process. In addition, we have developed a unique approach where 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 teams' knowledge of emerging regulations and other transitional concerns.

For the long-term time horizon, we have engaged with consultancies and/or academic institutions who have provided us with predictions for the climate variables most applicable to our operations. For transitional risks and opportunities, we again rely on our regional environmental managers as well as the Group Sustainability Council for guidance.

In some instances, where a mill is experiencing more immediate risks as well as long term concerns, we have engaged external consultants to conduct a more detailed assessment as is the case at our Saiccor Mill in South Africa regarding water security. Similarly, we are pursuing a much more granular approach to our plantation assets in South Africa.

This risk approach is supplemented by ongoing review of industry dynamics, particularly risks and opportunities related to single use plastics 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 the risks have been identified by the working groups they go through the review process of our risk governance structure. This begins with the Group Head Technology, the GM: Sustainability and the Global Risk Manager who review the work of the regional risk management leads to develop a consolidated view. A recommendation is then made to the two Board committees, the Social, Ethics, Transformation and Sustainability (SETS) Committee and the Audit and Risk Committee, that share responsibilities associated with climate related risks. These committees are responsible for overseeing Sappi's combined assurance framework, which also aims to optimise assurance coverage obtained from management, internal assurance providers and external assurance providers (globally: ISO 14 001, 9 0001 and forest certification; Europe and South Africa: ISO 50 0001, Europe: EMAS), on the risk areas affecting the group, including climate change. The Chair of the SETS Committee then presents the findings to the Board for approval.

This risk approach is supplemented by ongoing review of industry dynamics, particularly risks and opportunities related to single use plastics and the transition to a low-carbon economy.

C2.2a

(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Sappi is exposed to a number of laws and regulations across a wide range of jurisdictions and in three different regions, North America, Europe and South Africa. A legal compliance programme designed to increase awareness of, and compliance with, applicable legislation is in place. The Group Compliance Officer reports twice per annum to the Group Audit and Risk Committee. Our aim is to minimise our impact on the environment. The principles of ISO 14000, FSC™, SFI®, PEFC™ and other recognised programmes are well entrenched across the group. We have also made significant investments in operational and maintenance activities to reduce air emissions, waste water discharges and waste generation. We closely monitor the potential for changes in pollution control laws, including GHG emission requirements, and take action in our operations accordingly. We invest

		<p>to maintain compliance with applicable laws and cooperate across regions to apply best practices in sustainability. Regulation is also monitored by the regional risk and sustainability managers and also by the group risk manager. Developments regarding current regulation such as environmental regulation in each region are regularly presented at management and EXCO meetings, at the quarterly Regional Sustainable Development Council and Group Sustainable Development Council meetings and fed through the Social Ethics Transformation and Sustainability Committee and ultimately, to the board.</p>
Emerging regulation	Relevant, sometimes included	<p>Regarding transitional risks and opportunities, governments around the world are focusing on mitigating carbon emissions through various programs such as carbon trading and taxes – already in place in some regions in which we operate (South Africa and Europe) to actual mandates eliminating the use of coal for example. These emerging regulations present both risks and opportunities for our business.</p> <p>The potential impacts of emerging regulation on direct operations (mills) such as the European Union's commitment to climate neutrality by 2050 are monitored by the regional risk and sustainability managers, the group risk manager and regional and group legal departments. Sappi's regional sustainability and risk managers monitor current and developing transition risks (including reputational and market risks) in each region. We engage with policy development processes to support outcomes that are ambitious but also feasible to implement. We are managing these risks by investing in carbon reduction in our capital projects. In addition, we have established decarbonisation plans for all mills in all regions and have committed to science-based targets in line with the Science-Based Targets initiative.</p> <p>In terms of both plantations and mills, we liaise with industry associations to remain informed about emerging regulation and, if necessary, participate in formulating a strategic response. Other regulations, for example, related to single use plastics and extended producer responsibility, are also monitored.</p> <p>Developments regarding emerging regulation are presented at the quarterly Regional Sustainable Development Council and Group Sustainable Development Council meetings and fed through the Social Ethics Transformation and Sustainability Committee and ultimately, to the board.</p>

Technology	Relevant, sometimes included	<p>Technology is a core pillar of competitive advantage in our industry and represents a risk if we do not make relevant, ongoing technology investments. Our R&D spend in 2020 was US\$39 million, representing 0.74% of sales, which is within the range of similar industries.</p> <p>In terms of plantations, as we experience the impacts of a changing climate on our woodfibre sources, so we are intensifying our focus on climate research. Our world-leading tree improvement programmes which focus, amongst other things, on mitigating the impacts of climate change, are a core pillar of our competitive advantage.</p> <p>In terms of mills and markets Sappi is committed to developing new processes and biomaterials which extract more value from each tree and support our business strategy to move into new and adjacent markets where woodfibre can replace carbon intensive products.</p> <p>Under the umbrella of the 1.5 Future Energy Technologies & Decarbonisation cluster, we are exploring technologies for fuel shift and deep decarbonisation in terms of Scope 1 & 2 emissions, with a particular emphasis on energy; pulping; papermaking and bleaching.</p> <p>In addition, we are leveraging technology to provide customers with products which have enhanced environmental credentials as per the following example: Packaging for the food industry that meets stringent health and safety standards and is also recyclable is a long-standing challenge. Sappi has been working with leading consumer brand owners to develop and supply renewable paper-based packaging solutions by understanding and supporting the goals of making their packaging recyclable without compromising on food protection and shelf life. One example of this is the new Sappi Guard range of products. These innovative papers for flexible packaging come with integrated barriers against oxygen, water vapour, grease, aroma and mineral oil. Thanks to the integrated barriers, there is no need to apply special coatings or laminations. The work was enabled by Sappi's 2017 acquisition of barrier film technology company Rockwell Solutions.</p>
Legal	Relevant, sometimes included	<p>Legal aspects such as our compliance with the US Lacey Act, EU Timber Regulation, Australian Illegal Logging Prohibition Regulation, and other legal requirements are monitored by the investor relations, legal and strategy departments. So too, is potential litigation about the carbon neutrality of biomass being litigated which could adversely impact on our GHG reduction goals.</p>

Market	Relevant, sometimes included	<p>In today's competitive marketplace, loss of markets is an ongoing risk that is monitored by the sustainability and risk managers, as well as by the sales teams. However, it is mitigated by the fact that consumers are looking for products with lower carbon footprint and sound environmental credentials like those we have on offer. Ongoing legislative edicts and consumer concern about fossil fuel-based products mean that companies are rethinking their packaging needs. Governments, retailers and brand owners all over the world are seeking paper-based packaging solutions for their products, and eco-conscious consumers and shoppers are pressuring brand owners for more biodegradable, recyclable and compostable packaging, all reflecting a more circular economy. Against this backdrop, we continued to develop our packaging paper solutions with integrated functionality. All high-barrier papers from Sappi ensure that the product quality of foods and other goods is preserved. They feature barriers against oxygen, water vapour, grease and mineral oil as well as outstanding print results, a wide range of finishing options, complete recyclability and integrated heat sealability. In FY20 Sappi Rockwell Solutions launched a new r-PET lidding film to give our customers a greater choice of options to meet their own sustainability goals.</p> <p>This makes Sappi Rockwell one of only two suppliers in this industry to provide recycled peelable coatings. In Europe in FY20, we collaborated with a machine manufacturer on a project for a well-known cereal manufacturer that switched its fully automated production to paper-based, sealable barrier pouches. Two further application projects focused on confectionery and snacks are already in the development stage. The project has given us and our collaboration partner a strong position to successfully implement paper-based packaging solutions for future customer demands.</p>
Reputation	Relevant, sometimes included	<p>Deforestation is a significant reputational risk as many consumers erroneously equate deforestation with pulp and paper companies. We neither harvest nor buy woodfibre which originates from tropical natural forests and our wood sourcing causes zero deforestation. Our commitment to zero deforestation means: knowing the origin of woodfibre; ensuring that suppliers implement practices to promptly regenerate forests post-harvest, which is required under the global forest certification standards that Sappi is committed to upholding; implementing our Supplier Code of Conduct to assess supply chain, ethical and legal risks and not sourcing from suppliers associated with deforestation.</p>

		<p>Responsible sourcing is an important aspect of our reputation and is maintained by the fact that globally, 73% of fibre supplied to our mills is certified. The balance is procured from known and controlled sources. In South Africa, 100% of Sappi's owned and leased plantations are FSC certified for Forest Management (and after year-end, are now PEFC-certified). In South Africa and North America, Sappi works with landowners to increase certification. In Europe, Sappi benefits from fairly high coverage of forest certification and works to maintain and expand this through our sourcing practices and by collaborating with the forest certification systems especially PEFC International.</p> <p>We have also worked to expand sustainable forestry practices and certification: SNA works closely with a variety of programmes dedicated to providing logger education and continuous education, including SFI State Implementation Committees, Maine Forest Products Council, Maine Tree Foundation, and numerous academic programmes (providing financial and in-kind support). In South Africa, we recognised that we needed to obtain certification over and above the FSC Group Scheme certification, based on the difficulty of getting small growers certified and on customers' requests for PEFC labelled products. PEFC endorses national certification schemes, which meant South Africa had to develop a new certification scheme including a forest management standard. This is now known as the Sustainable African Forest Assurance Scheme (SAFAS). In South Africa we have also established a group forest certification scheme for small- and medium-sized growers. We pay growers in the scheme a premium for certified timber.</p>
Acute physical	Relevant, sometimes included	<p>Plantation risk (direct operations) are monitored by the regional and sustainability managers and by Sappi Forests' planning and research division. Acute physical risks in the form of fire are present in South Africa. Sappi Forests has a comprehensive Risk Management System which comprises risk assessments, monthly compliance checks, management procedures, standards and general back-up information. Prior to each fire season, fire competitions and simulated fire training are conducted at each plantation. Assessments are conducted on all role players, which will highlight any shortcomings. Mitigation takes place to rectify non-conformances that are identified, and the information gathered is used to ensure that all role-players receive the correct training. Fuel load maps are prepared for all districts to assist in the management of fuel loads and identification of major risks. When re-planting, this often involves the prescribed burning of harvest residue, but Sappi Forests is increasingly making use of mulchers as a more expensive but lower risk alternative. Regular weeding helps</p>

		<p>reduce fuel loads. Integrated weed management planning is done for all plantations. The assessment of fuel load status, the age and genus of the crop provides the forester and Incident Commander with a tool to calculate the damage potential at a compartment level. This facilitates an average risk rating per block or cluster of blocks which allows for strategic planning. This enables the forester to focus their resources at the right places. Part of this exercise is to produce risk rating maps at compartment level to enable foresters to plan fire protection systems and execute fire response activities. 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) where the data of different landowners are consolidated. Vital Fire Weather then sends alerts via SMS and e-mail. When the Fire Danger Index (FDI) goes beyond the Yellow class (reaches Orange) all aerial and ground firefighting resources are placed in strategic positions, all airstrips are manned and detection centres are instructed to activate aircraft immediately should a fire be detected within or near our plantations.</p>
Chronic physical	Relevant, always included	<p>In South Africa, there is the potential for our mills to be impacted by low availability of water. We monitor the situation on an ongoing basis. Woodfibre is a versatile, renewable, natural resource in high demand from many sectors. This market demand is a risk in that it can at times lead to local competition and short supply especially when production has been reduced due to climate change-induced events such as fire, insect or disease. Accordingly, availability is assessed as part of an ongoing risk management process. In Europe, we mitigate fibre supply risk through procuring wood through well-established wood sourcing companies (proNARO GmbH in Germany, Sapin S.A in Belgium, Papierholz Austria GmbH in Austria, Metsä Forest in Finland) all of which operate on the ground with an established pool of forest owners and wood suppliers. In North America, our operations do not currently face material risks associated with climate change.</p> <p>A preliminary climate change investigation conducted by Sappi Forests' scientists indicated that climate change is likely to be more significant in Southern Africa compared to the world average. Accordingly, chronic physical risks are a key risk mitigation focus. Health of growing stock is measured through continuous evaluation of trees by growth rate, age, utilisation efficiency, annual measurement programme using a pre-harvest measurement of 20 000 hectares per annum (8%), as well as an airborne laser scan of an entire plantation conducted every second year and using trends and drivers, e.g. permanent sample plot programmes (PSP) and actual versus planned yields per compartment.</p>

		<p>Research and development play a significant role in tree growth and improved supply chain efficiency. Conventional breeding methods are no longer viable as change is rapid, breeding cycles are too long and species variation is not sufficient to respond to future threats.</p> <p>Molecular technology and biotechnology tools are used to ensure forest sustainability and precision agriculture. Other methods include hybrid varieties where desired traits of two species are combined to increase adaptability to marginal areas; and mulching not burning, as mulched areas hold more soil water and have a positive impact on growth.</p>
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C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Upstream

Risk type & Primary climate-related risk driver

Acute physical

Other, please specify

Water stress

Primary potential financial impact

Decreased revenues due to reduced production capacity

Company-specific description

South Africa is one of the driest countries in the world and is faced with increasing water stress due to climate change and soaring demand from expanding populations and urbanisation. Sappi has recognised water as a significant risk for industry. Specific risks relate to declining water availability and quality, escalating water and wastewater tariffs and changing regulations and that can only be mitigated by water conservation. To understand risks, opportunities and investment needs, Sappi employed the services of an external consultant to develop a water risk forecasting model to guide strategic direction for one of its higher water demand dissolving pulp mills. Scenario analysis, as

recommended by the Task Force on Climate related Financial Disclosure (TCFD) was used to develop the model. Consequently, the TCFD dashboard reports on the financial implications of climate change for the set of scenarios in the short, medium and long term. All four RCP projections have been incorporated into the model however data exists for RCP 4.5 and 6.0 based on locally available climate modelling information, that will need to be updated. There are placeholders for the other two projections. The model predicts that more ambitious water reduction goals are required to match future projections of water availability in the catchment. The study also revealed the need for a technology redesign to reduce water consumption and to meet pulp quality requirements.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)**Potential financial impact figure – minimum (currency)**

37,800,000

Potential financial impact figure – maximum (currency)

75,800,000

Explanation of financial impact figure

The range given here assumes a decrease of 10-20% in EBITDA because of production disturbance. Sappi's EBITDA in FY2020 was US\$378 million (excluding special items).

Cost of response to risk

2,268,000,000,000

Description of response and explanation of cost calculation

2050 cumulative loss due to water availability, water operating cost, cumulative market loss.

Comment

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Market

Other, please specify

Inability to achieve targets

Primary potential financial impact

Decreased revenues due to reduced demand for products and services

Company-specific description

In June 2020, we committed to setting science-based 2030 emission reduction targets through the Science Based Targets initiative (SBTi). The validation process for our 2030 SBTi target is currently ongoing. As an early supporter of the Paris Agreement, our overarching aim in terms of science-based targets is to fully contribute to SDG13, to ensure a more sustainable future for all and limit the increase in the global average temperature to well-below 2°C and pursue efforts to limit warming to 1.5°C. Through heightening our focus and ambition on climate action, we look to increase our contribution to building a resilient, thriving world. Within the context of Sappi's 2025 sustainability targets, we have established a global specific greenhouse gas (GHG) emissions target of 17% reduction in combined specific Scope 1 & 2 emissions under the United Nations Sustainable Development Goal (SDG) 13: Climate Action. The global target is supported by targets specific to each region underpinned by our efforts to align with the recommendations of the TCFD. While science-based targets are an opportunity for Sappi, they are also a risk, should we not manage to achieve them.

Time horizon

Medium-term

Likelihood

Unlikely

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

15,000,000

Potential financial impact figure – maximum (currency)

447,000,000

Explanation of financial impact figure

The Tax Policy and Climate Change IMF/OECD Report for the G20 Finance Ministers and Central Bank Governors issued in April 2021, states: “While the level of increased policy action needed varies from country to country, depending upon their level of ambition, energy mixes, and different starting points, reaching the emissions abatement objectives defined in NDCs requires measures equivalent to carbon price increases of USD 25-75/tCO₂ or more by 2030 in many G20 countries.” The financial impact figure assumes that we don’t manage to decrease combined Scope 1 and 2 emissions from the 2019 base and takes into account the global tax of US\$25 - US\$75 per ton of CO₂ that the IMF is recommending should be implemented by 2030.

Cost of response to risk

603,000,000

Description of response and explanation of cost calculation

The minimum impact figure is based on the IMF’s lower figure of US\$25 per tCO₂e, the maximum on the IMF’s higher figure of US\$75 per tCO₂e. The cost of response to risk relates to the highest end of the decarbonisation plans for each region.

Comment

While we have to consider the possibility of not being able to implement science based targets due to unforeseen constraints in terms of operating and capital costs, we do not consider this to be likely.

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Upstream

Risk type & Primary climate-related risk driver

Acute physical
Increased likelihood and severity of wildfires

Primary potential financial impact

Decreased revenues due to reduced production capacity

Company-specific description

In South Africa Sappi owns and leases 394,000 hectares of land. Climate change exacerbates the likelihood of forest fires which in turn have the potential to impact the sustainability of this fibre base

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

17,600,000

Potential financial impact figure – maximum (currency)

126,400,000

Explanation of financial impact figure

The minimum figure (which is also the cost of response) represents insurance: US\$961,000 and fire protection costs: US\$16.7 million. The maximum figure is based on an estimated loss of 841,000 white wet tons of timber and represents the replacement value of these tons over and above insurance cover.

Cost of response to risk

17,600,000

Description of response and explanation of cost calculation

Insurance costs were US\$961,000 and firefighting costs for the year were US\$16.7 million in FY2020.

Comment

Identifier

Risk 4

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Chronic physical

Rising mean temperatures

Primary potential financial impact

Decreased revenues due to reduced production capacity

Company-specific description

In South Africa, drought and pest infestations have been exacerbated by climate change. Sappi continually monitors and reviews forest best practices in the light of changing environmental factors, thus helping to mitigate any increased threat from water shortages or drought. Our mitigation activities in this area include: maintaining wide genetic variability in planting material – this enables Sappi to breed trees for a wide range of conditions and the rate of change in conditions is probably slow enough for the company to respond in the breeding programme; measuring permanent sample plots measured annually (eucalypts) or bi-annually (pines) to determine the effect of drought on current annual increment as an input to long-term planning; implementing extensive planting of more drought-tolerant eucalypt hybrids; engaging in research and collaboration with industry and tertiary institutions to develop bio-control measures and breed genetically more resistant planting stock.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

2,705,500

Potential financial impact figure – maximum (currency)

44,100,000

Explanation of financial impact figure

The minimum amount assumes that despite forest research efforts to adapt and mitigate climate change annual growth reduce by 1.4%, the maximum assumes we lose 10% of our growth. The fair value of our plantations is estimated at US\$441 million (less the estimated costs of delivery, including harvesting and transport costs). The maximum

figure given here represents 10% of the fair value.

Cost of response to risk

3,500,000

Description of response and explanation of cost calculation

The cost given here is the cost of the R&D programme for Sappi Forests in South Africa. Research and development of genetically improved planting stock has been conducted at Sappi's Shaw Research Centre in Howick, South Africa 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. 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. A broad genetic base, acquired over 25 years and a skilled breeding team exploiting new technologies are some of the assets of the programme. Sappi is changing harvest residue management by reducing areas where harvest residue is burnt and using mechanical mulching of the residue. This provides soil organic matter, nutrients, improves soil texture, water holding capacity and protects the soil from erosion and degradation.

Comment

Together with other forestry companies in South Africa and financial support from the Department of Science and Technology Forest Sector Innovation Fund, Sappi has initiated a project with the Global Change Institute (GCI) at the University of the Witwatersrand. Phase 1: 2020: Generation of raster climate surfaces for the entire forestry domain of South Africa, at 8 km resolution, with monthly time resolution, for the years 2020, 2030, 2040 to 2100. The variables would include up to 20 important bioclimatic indicators. Phase 2: 2021 onward: A second iteration of the variables generated for the one-year product, refining the indicators or making them more specific for species or issues; and/or including more ensemble members or scenarios to broaden the robustness of the evaluation; and/or 1 km data for selected parts of the country.

Identifier

Risk 5

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Chronic physical

Other, please specify

Reduction in water availability

Primary potential financial impact

Increased direct costs

Company-specific description

In South Africa, Sappi owns and leases 394,000 hectares of land. More frequent, longer lasting and more severe droughts are anticipated over the Southern African region. As the planet continues to warm, rainfall reductions over the summer rainfall region are expected to become more pronounced, and the rising temperature drives rising evaporation. Accordingly, the 'water balance' is more strongly negative than the decline in rainfall alone. The hydrological cycle acts as an 'amplifier' of climate change. A 10% climatic drying results in about a 30% reduction in river flow (and conversely, an increase in wetness leads to a disproportionate increase in river flow). 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. When several dry years (multi-season droughts) follow directly on one another, the impact on plant production is extremely negative. Droughts destroy natural assets such as vegetation and pastures which are critical for livestock production. Poor precipitation results in crop failures which is particularly severe in southern Africa where most agricultural activity relies on rain.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Cost of response to risk

420,000

Description of response and explanation of cost calculation

In South Africa, Sappi replants 21 000 ha annually between October to March (summer rainfall period). Future climate modelling predicts reduced rainfall in October and in November (2050 onwards). Thus, it is assumed that at 2030, one months' planting area (3 500ha) might have to be watered twice every month, at 2050 the area might increase to 5 250 ha and by 2080 it could be 7000 ha. At a productivity of 1.8 man-days per hectare for water application and a cost of US\$32 per man day, the additional expense of re-watering could be US\$420 000 in 2030, increasing to US\$840 000 in 2080

Comment

In South Africa, Sappi is currently 67% self-sufficient in woodfibre. Any decrease in this level of self-sufficiency would result in higher input costs to the mills and reduced EBITDA.

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Opp1

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Shift in consumer preferences

Primary potential financial impact

Other, please specify

Development of new products and services

Company-specific description

Under a regional-specific Thrive25 target, SEU aims to deliver a 25% specific greenhouse gas reduction by 2025. Our Thrive25 strategy has also identified packaging and specialities as a core growth area. The largest production site within Sappi Europe, Gratkorn Mill manufactures high quality coated woodfree paper for the global printing and writing market. Ongoing investments have kept the site technologically ahead, with its facilities housing one of the largest and most advanced coated fine paper production lines in the world. The complete modernisation of boiler 11 at Gratkorn Mill in Austria

will see a shift from a coal boiler to a multi-fuel boiler in two phases with the goal to finally use only sustainable and renewable fuels. By reducing fossil fuel emissions, we will be able to offer products with a lower carbon footprint.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Cost to realize opportunity

35,500,000

Strategy to realize opportunity and explanation of cost calculation

The complete modernisation of boiler 11 at Gratkorn Mill in Austria will see a shift from a coal boiler to a multi-fuel boiler in two phases with the goal to finally use only sustainable and renewable fuels. The rebuild will enable the mill to reduce CO2 emissions by 30%. In addition, the chosen technology for the project will additionally allow us to sharply reduce dust and nitrous oxide (NOx) emissions. In 2020, the mill delivered 3,200 MWh of thermal energy to the community. If the local users burned this with conventional gas instead, it would emit 600 tons of carbon into the atmosphere. The rebuild is expected to be complete in late 2021.

Comment

SEU has recently started producing label papers at Gratkorn Mill, positioning us well to expand our ability to meet the needs of the rapidly expanding packaging market.

Identifier

Opp2

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Shift in consumer preferences

Primary potential financial impact

Increased revenues through access to new and emerging markets

Company-specific description

Under our Thrive 25 strategy, one of Sappi's key drivers is to grow dissolving pulp (DP) capacity and establish the Verve brand as the industry reference point. This is based on our belief that as global textile demand grows, driven by population growth, fashion and rising wealth in developing economies, the need to develop more climate-friendly solutions, derived from renewable materials that are not fossil-fuel based, will drive increasing market share for viscose, which is derived from dissolving pulp. Hawkins Wright [Hawkins Wright: The outlook for dissolving pulp: Demand, supply, costs and prices, September 2020] expects global textile markets to have recovered fully by 2022. This is partly due to the fact that while demand for office and formal wear remains subdued, many retailers are reporting strong demand growth for casual clothing and leisure wear, items that typically comprise a higher proportion of wood-based textile fibre than in the office wear segment. In addition, the Single-Use Plastics Directive (SUPD), which aims to combat environmental problems caused by single-use plastic products, presents an opportunity for Sappi to capture part of the 500 000 tons of petroleum based fibres that are used globally each year to produce wipes. Our 110,000 tpa Vulindlela expansion project at Saiccor Mill highlights our confidence in the DP market.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

23,200,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The single figure estimate is based on the Hawkins Wright assumption and is aligned with our previously stated view that the DP market will grow by 6 % per annum and based on 6% EBITDA of US\$387 million in FY20.

Cost to realize opportunity

475,000,000

Strategy to realize opportunity and explanation of cost calculation

This figure represents the total cost of the Vulindlela expansion at our Saiccor dissolving pulp mill in South Africa. Vulindlela's significant environmental benefits include:

- Coal consumption reducing by more than 130,000 tpa, which means fossil carbon emissions will be approximately half
- Gaseous emissions decreasing by about 40%
- Water consumption reducing by around 5%
- Water use efficiency increasing by approximately 17%
- Energy efficiency improving by around 10% and renewable-energy use increasing by about 20%
- Waste to landfill reducing by about 50%.

Comment

In FY 2020, we were forced to declare force majeure on the Vulindlela expansion project, at Saiccor Mill, because of the Covid-19-related lockdown. The project is now expected to be completed towards the end of 2021.

Identifier

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Primary potential financial impact

Other, please specify

Reduced exposure to future fossil fuel price increases

Company-specific description

The South African government's Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) aims to secure electrical energy from the private sector via renewable energy sources to add to the national grid. In 2019, Sappi and consortium partners began construction of a 25 MW biomass energy plant at Ngodwana Mill in Mpumalanga province, known as Ngodwana Energy.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

1,680,000

Potential financial impact figure – maximum (currency)

15,000,000

Explanation of financial impact figure

The financial range assumes the displacement of 200 000 tons of fossil CO₂ for Ngodwana Energy. The minimum figure represents the South African government's carbon tax of US\$8.40 per ton of CO₂, the maximum figure represents the global tax of US\$75 per ton of CO₂ that the IMF is recommending should be implemented by 2030 to limit the planet's warming to 2 degrees Celsius

Cost to realize opportunity

Strategy to realize opportunity and explanation of cost calculation

The opportunity cost is confidential

Comment

Sappi's consortium partners in the project are KC Africa and African Rainbow Energy and Power. Sappi will have a 30% stake in the facility, which is expected to contribute to the national grid from late 2021. The project will use biomass recovered from surrounding plantations and screened waste material from the mill production process. The power plant will burn up to 35 tons per hour of biomass in a boiler to generate steam and drive a turbine to generate electricity which will be fed into the national grid. With this project, Sappi has become one of only a few companies in South Africa to embark on a biomass energy project. Sappi's consortium partners in the project are KC Africa and African Rainbow Energy and Power. The project will use biomass recovered from surrounding plantations and screened waste material from the mill production process. The power plant will burn up to 35 tons per hour of biomass in a boiler to generate steam and drive a turbine to generate electricity which will be fed into the national grid. With this project, Sappi has become one of only a few companies in South Africa to embark on a biomass energy project.

Identifier

Opp5

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Markets

Primary climate-related opportunity driver

Access to new markets

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Sappi has a significant advantage in that our products are based on renewable woodfibre grown in sustainably managed forests and plantations which play an important role in carbon sequestration. Accordingly, we can offer environmentally conscious consumers packaging and speciality papers that are part of the climate change solution. To meet customer needs for renewable paper-based packaging, we comprehensively rebuilt Paper Machine 1 (PM1) at our Somerset Mill in Skowhegan, Maine. In 2018, we completed the 16-month project, launching a broad range of high-

quality paperboard products

Time horizon

Medium-term

Likelihood

Very likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

16,000,000

Potential financial impact figure – maximum (currency)

27,000,000

Explanation of financial impact figure

Estimates are that the increasing need for more sustainable and environmentally friendly packaging solutions will lead to demand growth of 4.2%, globally by 2025 (<https://www.marketsandmarkets.com/Market-Reports/industrial-packaging-market-10341323.html>).

The minimum figure represents the potential financial impact per annum based on our expectation that demand will grow by 4.2% per annum, based on 4.2% of Sappi's group EBITDA of US\$387 million in 2020. The maximum figure represents growth in our own packaging and specialties business of 7% in FY20 and 7% of EBITDA. What must be taken into account here is the impact of the Covid-19 pandemic which negatively impacted EBITDA in FY20 (EBITDA in FY19 was US\$687 million).

Cost to realize opportunity

165,000,000

Strategy to realize opportunity and explanation of cost calculation

The investment established a strong platform for growth in paperboard packaging, allowing Sappi to bring new, innovative paper-based packaging solutions to the market. The US\$165, 000, 000 rebuild increased annual production capacity by 180 metric tons.

The soundness of this strategy was highlighted in FY20 when packaging and specialties volumes in Sappi North America grew 88% year-on-year, with strong growth in both the coated one side and paperboard packaging products, the latter doubling

sales volumes over the year.

Comment

C3. Business Strategy

C3.1

(C3.1) Have climate-related risks and opportunities influenced your organization's strategy and/or financial planning?

Yes, and we have developed a low-carbon transition plan

C3.1a

(C3.1a) Is your organization's low-carbon transition plan a scheduled resolution item at Annual General Meetings (AGMs)?

	Is your low-carbon transition plan a scheduled resolution item at AGMs?	Comment
Row 1	No, but we intend it to become a scheduled resolution item within the next two years	

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

Yes, qualitative and quantitative

C3.2a

(C3.2a) Provide details of your organization's use of climate-related scenario analysis.

Climate-related scenarios and models applied	Details
RCP 2.6 RCP 4.5 RCP 8.5 Nationally determined contributions (NDCs)	We have used climate-related scenario analysis at Saiccor Mill. We retained an independent consultant who used publicly available models. This work builds on earlier flood risk assessment work conducted in 2010 and again in 2017. We used Representative Concentration Pathways (RCPs) 2.6, 4.5 and 8.5. For the middle of the road projection RCP 6.0, we intend to upgrade the water model with the work being done by the Global Change Institute (GCI) at the University of the Witwatersrand (described in the following paragraph) when it is complete. The scenario planning process used at Saiccor Mill could be replicated at our other mills in South Africa. For our mills in SNA and SEU we will be using climate data to assess physical risk consistent with RCP8.5 values. For our two primary upstream considerations, water and woodfibre sources in both North

	<p>America and Europe we will be relying on available government and academic reports that generally use a combination of RCP values. The second climate scenario project is with other industry members and the GCI in South Africa. Phase 1: 2020: Generation of raster climate surfaces for the entire forestry domain of South Africa, at 8 km resolution, with monthly time resolution, for the years 2020, 2030 and 2040 to 2100. Phase 2: 2021 onward: A second iteration of the variables generated for the one-year product, refining the indicators and making them more specific for species or issues; and/or including more ensemble members or scenarios to broaden the robustness of the evaluation; and/ or 1 km data for selected parts of the country. Our plantations and Saiccor Mill have been prioritised because South Africa is already experiencing climate-related physical and transitional risks whereas the risk in North America and Europe is not as profound. The overarching time horizons for our assessments to ensure a more consistent approach in all three regions are short: 1-2 years; medium: 3-5 years (2025); and long 5-30 years (2050), consistent with our five-year goal setting process as well as our commitment to the SBTi.</p> <p>We have also retained the services of an independent consulting firm to provide a consistent approach to the long-term time horizon out to 2050 for physical climate risk for our mills. The same consulting firm is assessing our plantation assets, for physical climate risk. This work is being supported with South Africa climate data from the University of Witwatersrand (WITS). We will also be using the WITS data for the South African mill assessments. The next phase will be assessing risk for the forest supply chain in North America, Europe and South Africa. Based on the recent experiences with supply chain interruption due to the climatic events in Texas in FY21, we will also establish an approach for other key raw materials within the supply chain. For physical climate risks, due to the longevity of our assets we are inclined to take a more conservative view and develop a response/strategy around an RCP of 8.5.</p> <p>For transitional risks and opportunities, we are focusing on scenarios consistent with both the Paris Agreement and a science based target well below 2 degrees as we are supportive of the Paris Agreement and have committed to targets under the Science Based Target initiative.</p>
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C3.3

(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence

Products and services	Yes	<p>Our Thrive 2025 business strategy was significantly influenced by our new sustainability goals which included alignment with specific UN SDGs, including UNS DG 13, Climate Action, UNSDG 7 Affordable and Clean Energy. Our business continues to be shaped by societal pressures driven by concerns for resource scarcity and growing concern for natural capital; the move towards a circular economy. To thrive as a business, we need to embrace the future and respond to these global forces. We see significant opportunities in consumer preferences for renewable products with a lower carbon footprint from sustainably managed forests and the 'paper-for-plastic' movement.</p> <p>As an example, Symbio, our bio-composite cellulose fibre, has been chosen as feedstock for the development of lightweight biocomposite materials, for the European Life Biocompo project. The project, which includes leading vehicle and automotive parts manufacturers, aims to reduce vehicle carbon emissions by 8% through the replacement of conventional mineral fillers with biobased fibres, promote the use of more sustainable resources and demonstrate these technologies at industrial scale. Symbio is also being successfully used in kitchen and homeware products, bringing natural content to daily use items.</p> <p>To cite yet another example, to capitalise growing demand for renewable paperbased packaging, we comprehensively rebuilt Paper Machine 1 (PM1) at our Somerset Mill. The upgrade, completed in 2018, established a strong platform for growth in paperboard packaging, allowing Sappi to bring new, innovative paper-based packaging solutions to the market. The rebuild increased annual production capacity at the mill to almost one million tons per year, depending on mix.</p>
Supply chain and/or value chain	Yes	<p>a) Brand owners want to understand their climate related sourcing risks and opportunities for wood based fibres. Being able to trace their materials to origin is vital for an understanding of steps needed to mitigate their impact on climate, biodiversity and communities. Sappi's sustainable forestry management practices and evolved wood traceability programmes have created several opportunities to differentiate the Verve (dissolving pulp) brand. Through participation in a customer- led blockchain 22 brand owners are able to trace their garments to forests of origin in a</p>

		<p>sector where only 5% of brand owners are able to trace to origin. In addition, Sappi has been able to help brand owners understand their impacts and opportunities for biodiversity improvement as an advisory partner to the Textile Biodiversity Module Development.</p> <p>b) Deforestation is chiefly caused by the conversion of forest land to agriculture and livestock areas. Research suggests that it is a significant cause of climate change, second only to burning fossil fuels. Against this backdrop, certification is one of our key strategic focus areas. Forest certification systems with third-party verified forest management and chain-of-custody processes ensure that responsible forest management practices are implemented in the forest and that woodfibre from certified forests can be identified throughout the supply chain. One of our Thrive25 sustainability goals is to maintain or improve the percentage of certified fibre supplied to our mills at above 75%. In FY20, globally this stood at approximately 73%. We utilise the following leading global certification systems: The Forest Stewardship Council™ (FSC™) programme; the Programme for the Endorsement of Forest Certification™ (PEFC™); and the Sustainable Forestry Initiative® (SFI®) program, and other PEFC-endorsed systems. Sappi requires rigorous tracing practices and documentation of the origin of all woodfibre. Suppliers must provide evidence that all woodfibre is sourced from controlled, non-controversial sources in accordance with the FSC Controlled Wood Standard, as well as PEFC (and SFI in the United States) risk-based due diligence systems. We neither harvest nor buy woodfibre which originates from tropical natural forests and our wood sourcing causes zero deforestation.</p>
Investment in R&D	Yes	<p>To meet circularity goals in the textile value chain, there is a significant focus on developing a secondary raw material market, from post- industrial and post- consumer waste. This can only be accomplished through collective action disruption innovation and through the development of enabling policies, like those been developed as part the EU Green Deal. Sappi R&D efforts in this space involves various strategic partnerships. In FY20, we invested US\$39 million in R&D, which represents 0.74% of revenue – within the range of similar industries. A large portion of R&D spend was allocated to initiatives aimed at progressing our tree improvement programmes (higher yields with higher resistance to disease and pests and new nursery techniques) and lowering our carbon footprint – for example</p>

		pulp backward integration which brings green energy opportunities aligned with our strategy; energy swaps and energy change opportunities balanced with economics Our overarching aim is for both Sappi and our customers to become more resilient to climate change impacts and to work in alignment with SDG13: Climate action.
Operations	Yes	<p>Innovation is one of the four key pillars of our Thrive25 sustainability strategy and is based on:</p> <ol style="list-style-type: none"> 1) Using technology to contribute to a thriving world through reliable and relevant solutions 2) Promoting shared value through our commitment to the circular economy 3) Investing in innovation and R&D in order to develop new processes and biomaterials which extract more value from each tree 4) Increasing the sustainability of our products through circular design and adjacent markets informs our approach to operations. <p>Manufacturing products from renewable resources is the core of Sappi's business and central to our commitment to the circular economy. Through R&D, practical innovation and new product development, we continually create new products, solutions and value from natural resources. Our global Thrive25 targets aim to launch 25 new products with defined sustainability benefits by 2025 and reduce specific landfilled solid waste by 14% over the same period.</p>

C3.4

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Capital expenditures	Climate change is a key risk for people and the planet and it is essential that the world transitions to a low-carbon economy. Accordingly, in June 2020 Sappi Limited committed to set a 2030 science-based emission reduction target through the Science Based Targets initiative (SBTi). This commitment highlights our increased strategic focus on unlocking the power of renewable resources and aligns our decarbonisation pathway with climate science. We made the commitment at a time when we were closing out our 2020 sustainability targets and establishing new Thrive25 targets, including a global specific combined Scope 1 and 2

		<p>CO2 reduction target. In line with our decarbonisation pathway, we have identified key projects to realise our 2025 GHG emission reduction targets and will continue to allocate capex to achieve this goal and future ones. In Europe, for example, we have identified capex needs within our five-year budget plan for major boiler projects at various mills, as well as smaller energy efficiency, CO2 and green electricity procurement. These investments will be reviewed within our annual and five-year budgeting processes.</p> <p>When relevant, the R&D stage gate and the major capex approval process justification and feasibility studies include an assessment of performance towards our emissions reduction targets and sustainability impacts</p> <p>Aligning with the SBTi targets holds tremendous opportunities in the form of contributing to climate mitigation efforts, strengthened brand reputation, enhanced investor confidence and internal innovation, resilience against future regulation and bottom line savings: Realising these targets will ensure our operations remain lean and efficient and will build resilience in a world where resources – particularly those derived from fossil fuels, will become increasingly scarce and expensive.</p>
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C3.4a

(C3.4a) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).

Teams from all regions and product segments spent a year building our 2020-2025 strategy, known internally as Thrive25. The focus is to drive for growth, but be flexible to respond to global challenges, including climate change, resource scarcity and the need to move towards a circular economy. Having closed out our 2020 sustainability targets, we set new 2025 targets. Under the United Nations Sustainable Development Goal (SDG) 13: Climate Action, one of our 2025 targets establishes, for the first time, a global specific greenhouse gas (GHG) emissions target of 17% reduction in combined Scope 1 & 2 emissions.

By region this translates to:

- Europe: 25% reduction from FY19 baseline
- South Africa: 20% reduction from FY19 baseline
- North America: 5% reduction from FY19 baseline

While these are not yet formalised science-based targets, they will start us on an ambitious emissions reduction trajectory. Climate change is already affecting every country on every continent through changing seasons and weather patterns, rising sea levels, and more extreme weather events. As an early supporter of the Paris Agreement, our overarching aim in terms of

science-based targets is to realise the goals of SDG13, to ensure a more sustainable future for all and limit the increase in the global average temperature to well-below 2°C or 1.5°C. We are working with the SBTi on validating our science-based targets. This will give us precision for our longer-term 2030 and 2050 targets, will help our customers on their sustainability journeys, and is an important milestone of our own.

The global drive for decarbonisation is manifested in each region where we operate. It includes developments such as the European Green Deal, the American Energy Innovation Act and, in South Africa, the government's procurement programme for renewable energy and the carbon tax that was implemented in 2019. In alignment with our commitment to the SBTi, in each region we have established a detailed decarbonisation roadmap.

Our regional roadmap for Europe lays out ambitious initiatives to reduce emissions and maximise material and resource use in our mills across Europe. It reflects over 80 projects, which will be prioritised and implemented throughout the 2021-2025 period. Our three main priorities in this region over this period are:

- Our most significant potential impact in emission reductions lies in exiting coal in the three mills that still partially use this fuel. We plan to implement projects that enable the shift to using carbon neutral biomass or natural gas. An example of this is our planned upgrade to Boiler 11 at Gratkorn Mill in Austria. This involves a shift from a coal boiler to a multi-fuel boiler in two phases with the goal to finally use only sustainable and renewable fuels.
- We've committed to procure more green electricity from the grid where it is available. This will reduce our Scope 2 emissions, especially at our three mills in Germany.
- All mills will embark on 'eco-effective' projects to improve energy efficiency and reduce emissions on an ongoing basis, investing in state-of-the-art technology and processes.

In North America we have made good progress on decarbonising our four mills already. Our newly acquired Matane Mill in Canada uses nearly 100% renewable energy. Our other three mills operate at a very high renewable capacity presently, approximately 80% in 2020 and by the end of 2021 we will no longer be using coal at any location. In the short term, we will continue to focus on energy efficiency projects. Longer term we will have opportunities to upgrade equipment due to retirements, such as a power boiler at Cloquet. Other opportunities include reducing:

- Scope 1 emissions from our Somerset Mill by reducing and/or eliminating tyre-derived fuel (TDF). By burning TDF we keep waste tyres from the region going to the landfill. Unfortunately, the global warming potential is high and therefore it is an opportunity to address the climate challenge but creates a new challenge for the region on how to manage waste tyres.
- Scope 1 emissions from our mill site landfills. Our new waste reduction goal will help but we still account for previously landfilled waste that decomposes in the landfill and presently those emissions are not captured. Due to the high global warming potential of landfill gas, primarily methane, there is a significant opportunity to reduce emissions by capturing and reusing or incinerating the landfill gases.
- Scope 2 emissions with new energy contracts for renewable power as both countries in which we operate in are committed to 'greening' the power grid. We will continue to access other technologies that allow for the electrification of our operations in anticipation of a future greener grid, as will modifying our lime kilns to burn renewable fuels.

In South Africa we have prioritised:

- Reducing fossil energy (mainly coal and heavy fuel oil). As an example, our Vulindlela expansion project at Saiccor Mill will significantly reduce fossil

Scope 1 emissions and the work being done on a hybrid fuel rod project at Tugela Mill will also partially displace fossil energy. • Potentially installing solar photovoltaics on three mill sites – while the payback is six years, the environmental return on investment is significant. • Promoting our use of renewable energy - Ngodwana Energy, the biomass project under the Renewable Energy Independent Power Producers' Programme (REIPP) programme in which we have a 30% stake, will be improving the renewable energy % on the national electricity grid. • Implementing energy efficiency projects at all our mills. To accelerate progress, our roadmap will be adapted as new ideas are developed and new insights and technologies become available.

In keeping with our focus on circular economy principles, we are working to increase our use of renewable energy and eliminate waste through superior product and process design. As an example, we are increasingly beneficiating waste. This not only helps to mitigate environmental impact, but also, as with reducing purchased energy use, it brings down costs and can generate additional revenue. The least desirable method of solid waste disposal from an environmental perspective is landfill. Organic waste emits methane, a greenhouse gas with 28 times the global warming potential of CO₂ while inorganic waste can leach, resulting in soil, surface and/ or groundwater pollution. Over five years, globally, we have reduced specific waste to landfill by 7.3%. During this period, the amount of solid waste combusted for heat use increased by 5.5% and the percentage of beneficially used waste by 10.9%, with the quantity of waste beneficiated standing at 75.3%

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

Intensity target

C4.1b

(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

Target reference number

Int 1

Year target was set

2015

Target coverage

Country/region

Scope(s) (or Scope 3 category)

Scope 1+2 (market-based)

Intensity metric

Metric tons CO₂e per metric ton of product

Base year

2014

Intensity figure in base year (metric tons CO₂e per unit of activity)

0.651

% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure

37

Target year

2020

Targeted reduction from base year (%)

5

Intensity figure in target year (metric tons CO₂e per unit of activity) [auto-calculated]

0.61845

% change anticipated in absolute Scope 1+2 emissions

-9

% change anticipated in absolute Scope 3 emissions

0

Intensity figure in reporting year (metric tons CO₂e per unit of activity)

0.738

% of target achieved [auto-calculated]

-267.2811059908

Target status in reporting year

Expired

Is this a science-based target?

No, but we anticipate setting one in the next 2 years

Target ambition

Please explain (including target coverage)

This is a regional target for Sappi Europe. This intensity target is a 5% reduction from base year 2014 to 2020, for Scope 1 + Scope 2 emissions in units of CO₂e/adt (air dry tons of saleable production).

Target reference number

Int 2

Year target was set

2019

Target coverage

Country/region

Scope(s) (or Scope 3 category)

Scope 1+2 (market-based)

Intensity metric

Metric tons CO₂e per metric ton of product

Base year

2014

Intensity figure in base year (metric tons CO₂e per unit of activity)

1.975

% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure

51.8

Target year

2020

Targeted reduction from base year (%)

10

Intensity figure in target year (metric tons CO₂e per unit of activity) [auto-calculated]

1.7775

% change anticipated in absolute Scope 1+2 emissions

-12

% change anticipated in absolute Scope 3 emissions

0

Intensity figure in reporting year (metric tons CO₂e per unit of activity)

1.749

% of target achieved [auto-calculated]

114.4303797468

Target status in reporting year

Expired

Is this a science-based target?

No, but we anticipate setting one in the next 2 years

Target ambition

Please explain (including target coverage)

This is a regional target for Sappi Southern Africa. This intensity target is a 10% reduction from base year 2014 to 2020, for Scope 1 + Scope 2 emissions in units of CO₂e/adt (air dried tons of saleable production).

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?

Target(s) to increase low-carbon energy consumption or production

Target(s) to reduce methane emissions

Other climate-related target(s)

C4.2a

(C4.2a) Provide details of your target(s) to increase low-carbon energy consumption or production.

Target reference number

Low 1

Year target was set

2015

Target coverage

Country/region

Target type: absolute or intensity

Intensity

Target type: energy carrier

All energy carriers

Target type: activity

Consumption

Target type: energy source

Low-carbon energy source(s)

Metric (target numerator if reporting an intensity target)

MWh

Target denominator (intensity targets only)

metric ton of product

Base year

2014

Figure or percentage in base year

5.342

Target year

2020

Figure or percentage in target year

4.889

Figure or percentage in reporting year

4.961

% of target achieved [auto-calculated]

84.1059602649

Target status in reporting year

Is this target part of an emissions target?

Emissions reduction target Reference number: Int2.

Yes, this target is part of an emissions target as it directly relates to Scope 1 and 2 emissions. The burning of fossil fuel sources leads to Scope 1 and 2 emissions. A target of reducing specific purchased fossil energy directly relates to a reduction of emissions.

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

This regional target is based on Sappi's financial year which is 1 October of the previous year to 30 September of the next year. Purchased fossil energy in GJ in Sappi Southern Africa per metric ton of air-dry saleable production which includes pulp, paper and dissolving wood pulp. (units of GJ/adt). This regional target is to reduce specific purchased fossil energy by 10% by 2020, with base year 2014. Purchased fossil energy directly relates to emissions in Scope 1 and Scope 2 categories. The burning of fossil fuel sources leads to Scope 1 and 2 emissions. The target has been converted to MWh for CDP input

Target reference number

Low 2

Year target was set

2015

Target coverage

Company-wide

Target type: absolute or intensity

Intensity

Target type: energy carrier

All energy carriers

Target type: activity

Consumption

Target type: energy source

Low-carbon energy source(s)

Metric (target numerator if reporting an intensity target)

MWh

Target denominator (intensity targets only)

metric ton of product

Base year

2014

Figure or percentage in base year

6.266

Target year

2020

Figure or percentage in target year

5.952

Figure or percentage in reporting year

6.586

% of target achieved [auto-calculated]

-101.9108280255

Target status in reporting year

Expired

Is this target part of an emissions target?

Yes, this target is part of an emissions target as it directly relates to Scope 1 and 2 emissions. The total energy calculation includes fossil fuel sources. The burning of fossil fuel sources leads to Scope 1 and 2 emissions. A target of reducing energy usage or increasing energy efficiency directly relates to a reduction of emissions.

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

This company wide target is based on Sappi's financial year which is 1 October of the previous year to 30 September of the next year. Total energy usage in GJ in Sappi Global per metric ton of air dry saleable production which includes pulp, paper and

dissolving wood pulp. (units of GJ/adt). The target is to reduce total energy usage by 5% by 2020, with base year 2014. Total energy relates to emissions in Scope 1 and Scope 2 categories as the fuel sources included in the total energy calculation includes fossil fuels which emits greenhouse gasses. The target has been converted to MWh for CDP input.

Target reference number

Low 3

Year target was set

2015

Target coverage

Country/region

Target type: absolute or intensity

Intensity

Target type: energy carrier

All energy carriers

Target type: activity

Consumption

Target type: energy source

Low-carbon energy source(s)

Metric (target numerator if reporting an intensity target)

MWh

Target denominator (intensity targets only)

metric ton of product

Base year

2014

Figure or percentage in base year

4.526

Target year

2020

Figure or percentage in target year

4.3

Figure or percentage in reporting year

4.701

% of target achieved [auto-calculated]

-77.4336283186

Target status in reporting year

Expired

Is this target part of an emissions target?

Emissions reduction target Reference number: Int1.

Yes, this target is part of an emissions target as it directly relates to Scope 1 and 2 emissions. The total energy calculation includes fossil fuel sources. the burning of fossil fuel sources leads to Scope 1 and 2 emissions. A target of reducing energy usage or increasing energy efficiency directly relates to a reduction of emissions.

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

This regional target is based on Sappi's financial year which is 1 October of the previous year to 30 September of the next year. Total energy usage in GJ in Sappi Europe per metric ton of air dry saleable production which includes pulp and paper. (units of GJ/adt). The target is to reduce total energy usage by 5% by 2020, with base year 2014. Total energy relates to emissions in Scope 1 and Scope 2 categories as the fuel sources included in the total energy calculation includes fossil fuels which emits greenhouse gasses. The target has been converted to MWh for CDP input.

Target reference number

Low 4

Year target was set

2015

Target coverage

Country/region

Target type: absolute or intensity

Intensity

Target type: energy carrier

All energy carriers

Target type: activity

Consumption

Target type: energy source

Low-carbon energy source(s)

Metric (target numerator if reporting an intensity target)

MWh

Target denominator (intensity targets only)

metric ton of product

Base year

2014

Figure or percentage in base year

7.149

Target year

2020

Figure or percentage in target year

6.792

Figure or percentage in reporting year

7.27

% of target achieved [auto-calculated]

-33.893557423

Target status in reporting year

Expired

Is this target part of an emissions target?

Yes, this target is part of an emissions target as it directly relates to Scope 1 and 2 emissions. The total energy calculation includes fossil fuel sources. the burning of fossil fuel sources leads to Scope 1 and 2 emissions. A target of reducing energy usage or increasing energy efficiency directly relates to a reduction of emissions

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

This regional target is based on Sappi's financial year which is 1 October of the previous year to 30 September of the next year. Total energy usage in GJ in Sappi North America per metric ton of air dry saleable production which includes pulp, paper and dissolving wood pulp. (units of GJ/adt). The target is to reduce total energy usage by 5% by 2020, with base year 2014. Total energy relates to emissions in Scope 1 and Scope 2 categories as the fuel sources included in the total energy calculation includes fossil fuels which emits greenhouse gasses. The target has been converted to MWh for CDP input.

Target reference number

Low 5

Year target was set

2015

Target coverage

Country/region

Target type: absolute or intensity

Intensity

Target type: energy carrier

All energy carriers

Target type: activity

Consumption

Target type: energy source

Low-carbon energy source(s)

Metric (target numerator if reporting an intensity target)

MWh

Target denominator (intensity targets only)

metric ton of product

Base year

2014

Figure or percentage in base year

9.045

Target year

2020

Figure or percentage in target year

8.593

Figure or percentage in reporting year

9.183

% of target achieved [auto-calculated]

-30.5309734513

Target status in reporting year

Expired

Is this target part of an emissions target?

Emissions reduction target Reference number: Int2.

Yes, this target is part of an emissions target as it directly relates to Scope 1 and 2 emissions. The total energy calculation includes fossil fuel sources. the burning of fossil fuel sources leads to Scope 1 and 2 emissions. A target of reducing energy usage or increasing energy efficiency directly relates to a reduction of emissions.

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

This regional target is based on Sappi's financial year which is 1 October of the previous year to 30 September of the next year. Total energy usage in GJ in Sappi Southern Africa per metric ton of air dry saleable production which includes pulp, paper and dissolving wood pulp. (units of GJ/adt). The target is to reduce total energy usage by 5% by 2020, with base year 2014. Total energy relates to emissions in Scope 1 and Scope 2 categories as the fuel sources included in the total energy calculation includes fossil fuels which emits greenhouse gasses. The target has been converted to MWh for CDP input.

C4.2b

(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.

Target reference number

Oth 1

Year target was set

2015

Target coverage

Country/region

Target type: absolute or intensity

Intensity

Target type: category & Metric (target numerator if reporting an intensity target)

Waste management
metric tons of waste generated

Target denominator (intensity targets only)

metric ton of product

Base year

2014

Figure or percentage in base year

0.18

Target year

2020

Figure or percentage in target year

0.149

Figure or percentage in reporting year

0.137

% of target achieved [auto-calculated]

138.7096774194

Target status in reporting year

Achieved

Is this target part of an emissions target?

Emissions target Reference number: Int 2.

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

This regional target is based on Sappi's financial year which is 1 October of the previous year to 30 September of the next year. Total metric tons of landfilled waste in Sappi Southern Africa per metric ton of air dry saleable production which includes pulp, paper and dissolving wood pulp. (units of GJ/adt). The target is to reduce total landfilled waste by 10% by 2020. This target relates to Scope 1 emissions as owned landfill emissions are included in Scope 1 missions. The IPCC landfill emissions method is used to determine the emissions from landfilled waste.

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO₂e savings.

	Number of initiatives	Total estimated annual CO ₂ e savings in metric tonnes CO ₂ e (only for rows marked *)
Under investigation	80	
To be implemented*	21	303,390
Implementation commenced*	2	406
Implemented*	22	681,985
Not to be implemented	0	

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative category & Initiative type

Energy efficiency in production processes
Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

9

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

54,000

Investment required (unit currency – as specified in C0.4)

0

Payback period

No payback

Estimated lifetime of the initiative

Ongoing

Comment

At Alfeld Mill in SEU, Scope 1 emissions reduced by 9 metric tons of CO2e due to operational efficiency projects.
Reduction in coating colour losses on paper production Line 2.

Initiative category & Initiative type

Energy efficiency in production processes
Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

7

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

12,000

Investment required (unit currency – as specified in C0.4)

4,400

Payback period

<1 year

Estimated lifetime of the initiative

Ongoing

Comment

At Alfeld Mill in SEU, Scope 1 emissions reduced by 7 metric tons of CO₂e due to operational efficiency projects.

Recording of coating colour losses in paper production process.

Initiative category & Initiative type

Energy efficiency in production processes

Process optimization

Estimated annual CO₂e savings (metric tonnes CO₂e)

192

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

22,000

Investment required (unit currency – as specified in C0.4)

0

Payback period

No payback

Estimated lifetime of the initiative

Ongoing

Comment

At Alfeld Mill in SEU, Scope 1 emissions reduced by 192 metric tons of CO₂e due to operational efficiency projects.

Energy reduction at the thin liquor tank.

Initiative category & Initiative type

Energy efficiency in production processes

Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

213

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

23,000

Investment required (unit currency – as specified in C0.4)

0

Payback period

No payback

Estimated lifetime of the initiative

Ongoing

Comment

At Ehingen Mill in SEU, Scope 2 emissions reduced by 213 metric tons of CO2e due to operational efficiency projects.

Switched off the 2nd screen in the white-water loop in paper production line.

Initiative category & Initiative type

Energy efficiency in production processes

Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

507

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

96,000

Investment required (unit currency – as specified in C0.4)

0

Payback period

No payback

Estimated lifetime of the initiative

Ongoing

Comment

At Ehingen Mill in SEU, Scope 2 emissions reduced by 507 metric tons of CO₂e due to operational efficiency projects.
Electricity savings because of technical optimised refining of increased amounts of own pulp.

Initiative category & Initiative type

Energy efficiency in buildings
Lighting

Estimated annual CO₂e savings (metric tonnes CO₂e)

24

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

12,600

Investment required (unit currency – as specified in C0.4)

0

Payback period

No payback

Estimated lifetime of the initiative

Ongoing

Comment

At Ehingen Mill in SEU, Scope 2 emissions reduced by 24 metric tons of CO₂e due to converting exterior lighting to LED.

Initiative category & Initiative type

Energy efficiency in production processes
Process optimization

Estimated annual CO₂e savings (metric tonnes CO₂e)

356

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

36,700

Investment required (unit currency – as specified in C0.4)

17,000

Payback period

<1 year

Estimated lifetime of the initiative

Ongoing

Comment

At Ehingen Mill in SEU, Scope 2 emissions reduced by 356 metric tons of CO₂e due to operational efficiency projects.

Reduction of compressed air consumption.

Initiative category & Initiative type

Energy efficiency in production processes

Process optimization

Estimated annual CO₂e savings (metric tonnes CO₂e)

29,000

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

2,600,000

Investment required (unit currency – as specified in C0.4)

0

Payback period

No payback

Estimated lifetime of the initiative

Ongoing

Comment

At Gratkorn Mill in SEU, Scope 1 emissions reduced by 29,000 metric tons of CO₂e due to operational efficiency projects. Capricorn steam reduction.

Initiative category & Initiative type

Energy efficiency in production processes
Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

123

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

87,000

Investment required (unit currency – as specified in C0.4)

0

Payback period

No payback

Estimated lifetime of the initiative

Ongoing

Comment

At Kirkniemi Mill in SEU, Scope 2 emissions reduced by 123 metric tons of CO2e due to operational efficiency projects.
Sealing water circuit extension.

Initiative category & Initiative type

Energy efficiency in production processes
Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

213

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

46,000

Investment required (unit currency – as specified in C0.4)

0

Payback period

No payback

Estimated lifetime of the initiative

Ongoing

Comment

At Kirkniemi Mill in SEU, Scope 2 emissions reduced by 213 metric tons of CO₂e due to operational efficiency projects.

PM3 air removal surface level optimisation

Initiative category & Initiative type

Energy efficiency in production processes

Process optimization

Estimated annual CO₂e savings (metric tonnes CO₂e)

1,751

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

307,000

Investment required (unit currency – as specified in C0.4)

565,000

Payback period

Estimated lifetime of the initiative

Ongoing

Comment

At Maastricht Mill in SEU, Scope 1 emissions reduced by 1751 metric tons of CO₂e due to operational efficiency projects.

Flash vessel project.

Initiative category & Initiative type

Energy efficiency in production processes

Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

120

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

90,000

Investment required (unit currency – as specified in C0.4)

62,000

Payback period

<1 year

Estimated lifetime of the initiative

Ongoing

Comment

At Maastricht Mill in SEU, Scope 2 emissions reduced by 120 metric tons of CO2e due to operational efficiency projects.
Optimisation of water usage.

Initiative category & Initiative type

Energy efficiency in production processes
Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

62

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

12,000

Investment required (unit currency – as specified in C0.4)

0

Payback period

No payback

Estimated lifetime of the initiative

Ongoing

Comment

At Stockstadt Mill in SEU, Scope 2 emissions reduced by 62 metric tons of CO₂e due to operational efficiency projects.

PL1_New drive for headbox pump.

Initiative category & Initiative type

Energy efficiency in production processes

Process optimization

Estimated annual CO₂e savings (metric tonnes CO₂e)

11,479

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

1,200,000

Investment required (unit currency – as specified in C0.4)

678,000

Payback period

<1 year

Estimated lifetime of the initiative

Ongoing

Comment

At Stockstadt Mill in SEU, Scope 1 emissions reduced by 11,470 metric tons of CO₂e due to operational efficiency projects.

Heat recovery filtrate HC press pulp mill.

Initiative category & Initiative type

Energy efficiency in production processes

Process optimization

Estimated annual CO₂e savings (metric tonnes CO₂e)

274

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

92,000

Investment required (unit currency – as specified in C0.4)

0

Payback period

No payback

Estimated lifetime of the initiative

Ongoing

Comment

At Stockstadt Mill in SEU, Scope 2 emissions reduced by 274 metric tons of CO₂e due to operational efficiency projects.

Operation of the optimised compressors.

Initiative category & Initiative type

Energy efficiency in production processes

Process optimization

Estimated annual CO₂e savings (metric tonnes CO₂e)

12

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

1,700

Investment required (unit currency – as specified in C0.4)

0

Payback period

No payback

Estimated lifetime of the initiative

Ongoing

Comment

At Stockstadt Mill in SEU, Scope 2 emissions reduced by 12 metric tons of CO₂e due to operational efficiency projects.
Energy savings LED clarifier.

Initiative category & Initiative type

Energy efficiency in production processes
Process optimization

Estimated annual CO₂e savings (metric tonnes CO₂e)

13

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

1,800

Investment required (unit currency – as specified in C0.4)

0

Payback period

No payback

Estimated lifetime of the initiative

Ongoing

Comment

At Stockstadt Mill in SEU, Scope 2 emissions reduced by 13 metric tons of CO₂e due to operational efficiency projects.
Optimised operation hall cooling system.

Initiative category & Initiative type

Energy efficiency in production processes
Waste heat recovery

Estimated annual CO₂e savings (metric tonnes CO₂e)

200

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

170,000

Investment required (unit currency – as specified in C0.4)

50,000

Payback period

<1 year

Estimated lifetime of the initiative

3-5 years

Comment

At Somerset Mill in SNA, Scope 1 emissions decreased by 200 metric tons of CO₂e due to operational efficiency projects.

Somerset improved evaporator economy via process & control changes. This project has internal costs only, manpower and controls.

Initiative category & Initiative type

Energy efficiency in production processes

Waste heat recovery

Estimated annual CO₂e savings (metric tonnes CO₂e)

118

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

100,000

Investment required (unit currency – as specified in C0.4)

0

Payback period

<1 year

Estimated lifetime of the initiative

3-5 years

Comment

At Somerset mill in SNA, Scope 1 emissions decreased by 200 metric tons of CO₂e due to operational efficiency projects.

Increased mill steam condensate return. This project has internal costs only and is a

Lean Six Sigma Project.

Initiative category & Initiative type

Energy efficiency in production processes
Waste heat recovery

Estimated annual CO₂e savings (metric tonnes CO₂e)

1,208

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

398,000

Investment required (unit currency – as specified in C0.4)

1,200,000

Payback period

1-3 years

Estimated lifetime of the initiative

16-20 years

Comment

At Somerset mill in SNA, Scope 1 emissions decreased by 200 metric tons of CO₂e due to operational efficiency projects.
Phase II – replace 2nd digester liquor heat exchanger & recover condensate.

Initiative category & Initiative type

Energy efficiency in production processes
Process optimization

Estimated annual CO₂e savings (metric tonnes CO₂e)

1,286

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

527,000

Investment required (unit currency – as specified in C0.4)

0

Payback period

No payback

Estimated lifetime of the initiative

Ongoing

Comment

At Cloquet Mill in SNA, Scope 1 and 2 emissions decreased by 1,286 metric tons of CO₂e due to multiple process optimisation projects implemented to increase energy efficiency. These projects include purchased power savings, energy savings and steam reduction.

Initiative category & Initiative type

Energy efficiency in production processes
Process optimization

Estimated annual CO₂e savings (metric tonnes CO₂e)

1,116

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

200,000

Investment required (unit currency – as specified in C0.4)

0

Payback period

No payback

Estimated lifetime of the initiative

Ongoing

Comment

At Cloquet Mill in SNA, Scope 1 emissions decreased by 1,116 metric tons of CO₂e. Energy savings due to less deadload in the liquor cycle.

Initiative category & Initiative type

Low-carbon energy consumption

Liquid biofuels

Estimated annual CO2e savings (metric tonnes CO2e)

349,136

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

3,167,153

Investment required (unit currency – as specified in C0.4)

0

Payback period

No payback

Estimated lifetime of the initiative

Ongoing

Comment

In SSA, there are multiple projects driving a reduction in coal combustion by increasing renewable energy consumption. Scope 1 emissions decreased by 349,136 metric tons of CO2e in FY20 compared to the previous year due to an increase in the percentage of renewable energy consumption.

Initiative category & Initiative type

Waste reduction and material circularity

Waste reduction

Estimated annual CO2e savings (metric tonnes CO2e)

8,035

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

72,888

Investment required (unit currency – as specified in C0.4)

0

Payback period

No payback

Estimated lifetime of the initiative

Ongoing

Comment

In SSA, there are multiple projects driving a reduction in waste to landfill. Scope 1 emissions decreased by 8,035 metric tons of CO₂e in FY20 compared to the previous year due to a reduction in landfilled waste.

Initiative category & Initiative type

Energy efficiency in production processes

Process optimization

Estimated annual CO₂e savings (metric tonnes CO₂e)

134

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

30,000

Investment required (unit currency – as specified in C0.4)

0

Payback period

No payback

Estimated lifetime of the initiative

Ongoing

Comment

At Cloquet mill in SNA, Scope 1 emissions decreased by 134 metric tons of CO₂e. Decreasing digester steam on some products without negative consequences.

Initiative category & Initiative type

Energy efficiency in production processes

Process optimization

Estimated annual CO₂e savings (metric tonnes CO₂e)

132

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

523,000

Investment required (unit currency – as specified in C0.4)

400,000

Payback period

1-3 years

Estimated lifetime of the initiative

Ongoing

Comment

At Maastricht Mill in SEU, Scope 1 emissions reduced by 132 metric tons CO₂e due to operational efficiency projects.

Initiative category & Initiative type

Energy efficiency in production processes

Process optimization

Estimated annual CO₂e savings (metric tonnes CO₂e)

168

Scope(s)

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

523,000

Investment required (unit currency – as specified in C0.4)

400,000

Payback period

1-3 years

Estimated lifetime of the initiative

Ongoing

Comment

At Maastricht Mill in SEU, Scope 2 emissions reduced by 168 CO₂e metric tons due to operational efficiency projects.

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Compliance with regulatory requirements/standards	In addition to internal and regulatory standards, Sappi mitigates climate change-related risk by using external benchmarks to monitor environmental performance and ensure compliance with best practice. In terms of energy, for example, Sappi uses best practice energy consumptions indicated by the Technical Association of Pulp and Paper Industries (TAPPI) in the United States of American and the Pulp and Paper Technical Association of Canada (PAPTAC). The Swedish Kretsloppsanpassad Massafabrik (KAM) organisation has indicated what the best practice energy consumption for an entire mill should be for various mill types. Key performance indices include the following: Specific purchased power; Specific purchased fuel; Specific total power consumed; Specific total fuel consumed; Percentage power generated from renewable fuel; Percentage energy used originating from renewable fuel; Percentage of waste that can be combusted for heat gain compared with that which can potentially be combusted for heat gain. While performance against these parameters is not externally audited, a dedicated energy and emissions specialist monitors the accuracy, reliability and consistency of the data provided by the operations. Targets are monitored on a quarterly basis. Sappi's production processes and products are strictly regulated by legislation and external standards.
Dedicated budget for energy efficiency	Sappi has committed to follow Science based targets and implement projects that would support the initiative to keep global warming to WB2D. Our annual budget includes energy efficiency projects as well as a 5-year capital plan with large projects focused on significant CO2 reduction. These decarbonisation projects include transitioning to low carbon energy generation as well as upgrading of certain plants which allow for fuel switching from fossil to biogenic.
Employee engagement	<p>Sappi North America (SNA) has a Sustainability Ambassador programme that helps to support communications, training and education on environmental issues including energy savings and greenhouse gas reductions. SNA's online GHG calculator helps allay concerns about carbon. It enables our salesforce and customers to calculate the carbon savings achieved by buying graphic and packaging products from SNA. It also provides indisputable evidence of the superior carbon footprint of SNA's products when compared with the competition.</p> <p>Sappi Europe engages all employees through its Sappi Performance Engine and Eco-Effectiveness approach which involves all employees</p>

	<p>in continuous improvement activities.</p> <p>Sappi SA engages with and raises awareness of issues aligned to the UN SDGs through its annual corporate citizenship report.</p>
Financial optimization calculations	Profit Improvement Plans (PIPs) are managed at mill level by each section. These are smaller scale improvements/projects which require no or very little capital spend and can be implemented in a short period of time. In the last couple of years, the focus in all regions has been on energy efficiency, energy self-sufficiency as well as water savings. We have established energy platforms in each region tasked with sharing knowledge on how to improve efficiency and drive the energy strategy at each region.
Internal incentives/recognition programs	Sustainability targets, including climate-related issues, form part of the overall business plan for Sappi Limited and globally. The outcomes of the Management Incentive Scheme in relation to all the sustainability targets are contained in the performance objectives of each mill and the personal objectives of all senior management.
Partnering with governments on technology development	In 2018, SSA reached financial close with the Department of Energy to build a renewable energy plant at Ngodwana Mill in Mpumalanga province. The project, involves Sappi and consortium partners KC Africa and African Rainbow Energy and Power building a 25 MW biomass energy unit at the mill, under the South African government's Renewable Energy Independent Power Producer Programme (REIPPP). Sappi has a 30% stake in the project, construction of which was delayed in FY20 because of the Covid-19 pandemic, but which is now moving forward.
Other	In North America, Sappi has utilised PINCH technology and Lean Six Sigma techniques to optimize energy usage in the mills. Several investments in boiler technology, such as over-fire air modifications and allowance for higher utilisation of bio-fuels in boilers have been made.

C-AC4.4/C-FB4.4/C-PF4.4

(C-AC4.4/C-FB4.4/C-PF4.4) Do you implement agriculture or forest management practices on your own land with a climate change mitigation and/or adaption benefit?

Yes

C-AC4.4a/C-FB4.4a/C-PF4.4a

(C-AC4.4a/C-FB4.4a/C-PF4.4a) Specify the agricultural or forest management practice(s) implemented on your own land with climate change mitigation and/or adaptation benefits and provide a corresponding emissions figure, if known.

Management practice reference number

MP1

Management practice

Low tillage and residue management

Description of management practice

In South Africa, we own and lease 394,000 hectares of plantations. Here, plantation residue – bark, foliage, branches – is generated during the harvesting process. Burning of post-harvest residue (slash) is a common practice, as it reduces fuel load and the risk of wildfire. It also facilitates pre-planting, planting and post-planting activities. However, burning reduces the content of soil organic matter (SOM). Burning can also increase the risk of soil erosion. Studies on nutrition of trees have shown that nutrient loss during burning followed by wind erosion is a concern with sensitive soils. Although we still practice burning, because of the benefits we have observed, mulching is being rolled out to more of our plantations each year. The area mulched increased from 3,496 ha in 2019 to 4,304 ha in 2020.

Primary climate change-related benefit

Increase carbon sink (mitigation)

Estimated CO₂e savings (metric tons CO₂e)

26,623

Please explain

The non-CO₂ emissions as a result of harvest residue burning has been estimated at 6.08 tons CO₂e ha⁻¹ burnt. However, the harvest residue decomposition of mulched areas (assuming 142 tons of dry matter ABG + BGB prior to harvesting and 53 tons dry matter remaining above ground as harvest residue per hectare) will emit direct N₂O emissions of 3.73 tons CO₂e ha⁻¹. The remaining harvest residue after burning proportion (1- 0.62) will also emit N₂O emissions of 1.42 tons CO₂e ha⁻¹. Thus, burning will result in a total of 7.5 tons CO₂e ha⁻¹ emissions and no-burn in 3.73 CO₂e ha⁻¹. The difference of 3.8 tons CO₂e ha⁻¹ between these values was used to estimate total avoided non-CO₂e emissions associated with the annual mulched area of 4,304 ha [Technical correction 2020 included N₂O emissions from decomposition. This resulted in a smaller value than reported in 2019]. To calculate the net avoided emissions associated with mulching the fossil fuel emission was deducted from the avoided emissions. In 2020 the avoided non-CO₂e emissions of 16,222 tons CO₂e far outweighed the 1 249 t CO₂e of fossil fuel emissions associated with the mulching of residue.

If the assumption is made that mulching improves tree growth by 5% (less than half of increase observed by Crous 2016 across four trials), the additional carbon sequestration

can be calculated as 11,650 t CO₂e/year.

Management practice reference number

MP2

Management practice

Fire control

Description of management practice

Sappi is annually increasing its expenditure on fire prevention and control to limit fire related losses. The CPI adjusted fire protection cost has increased by 30% from 2009 to 2019.

Primary climate change-related benefit

Emission reductions (mitigation)

Estimated CO₂e savings (metric tons CO₂e)

330,964

Please explain

Each hectare not destroyed by wildfire saves on average 157.5 t CO₂e (direct CO₂) emissions and 3.7 t CO₂e (non-CO₂) = total of 161.1 tCO₂e ha⁻¹. Very difficult to calculate what percentage of land holdings could have been destroyed by fire without current level of control. Sappi average loss of 0.8% is less than the average of 1.9% SA industry loss. Thus, Sappi could have lost 4914 ha per annum based on the industry norm. Thus, the avoided emissions over 2,054 ha less burnt is estimated at 330,964 tCO₂e per year.

Management practice reference number

MP3

Management practice

Selecting species to maximize carbon capture

Description of management practice

Sappi's breeding programme has seen an important shift from planting pure species to more productive, better adapted, and more pest and disease resistant hybrids of both hardwood and softwood trees grown in Sappi's South African plantations. This change in strategy is being driven by the need to respond more rapidly to the combined challenges of increased globalization and changing weather patterns (driven by climate change) that are resulting in significant increases in pest and diseases in the tree crop. The benefit of developing new hybrids is that breeders can additively combine the benefits from two or more species and develop varieties that have improved fibre yield and quality as well as better disease / pest tolerance. Annual round-the-table site-genotype matching meetings are held between planning, land management and

operational personnel to identify the most suitable genotype for each compartment to be established (over a three-year planning horizon).

Primary climate change-related benefit

Increasing resilience to climate change (adaptation)

Estimated CO2e savings (metric tons CO2e)

340,732

Please explain

A reduction in 1% of growth rate will result in the annual decrease in sequestration of 52 430 t CO2e over 258,600 ha area. Although it is almost impossible to estimate how much growth will be lost by selecting sub-optimal genotypes, limited information suggest planting of a second-choice Eucalypt genotype could result in a production decrease of 13% (Crous et al. 2019). Using a conservative estimation of half of this value as only 60% of land is currently planted to Eucalypts, preventing a 6.5% reduction in growth rate will increase sequestration by 340,732 tCO2e (very high uncertainty).

$[5.528 \text{ (tC/ha/year growth rate from Crous 2021)} \times 258\,630 \text{ (ha)} \times 0.01 \text{ (\%)} \times 44/12$
 (conversion from C to CO2) = 52 430 t CO2e/year]

Management practice reference number

MP4

Management practice

Integrated pest management

Description of management practice

Sappi Forests is striving to reduce the use of pesticides through Integrated Pest Management (IPM), which is based on an ecosystem and economic threshold approach. Depending on the impact and threshold level concerned a decision is made to take no action or to take remedial action. If remedial action is required preference is given to non-chemical methods over chemical pesticides. If pesticides are used, preference is given to those with the lowest risk. Fertiliser quantities used in South African plantation forestry are very low compared with other agricultural land uses. It is generally only applied at planting when Eucalyptus trees are planted (Pine trees are not normally fertilised) with the aim of stimulating early seedling growth. The small quantities applied do not alter site nutrition but rather provide limited localised nutrition. This assists with rapid establishment of seedlings and early canopy closure resulting in weed suppression and increased tree growth. Preference is given to LAN based fertilisers to limit volatilization losses associated with Urea based fertilisers. Fertiliser is locally placed next to each tree and covered by soil to limit losses.

Primary climate change-related benefit

Reduced demand for pesticides (adaptation)

Estimated CO2e savings (metric tons CO2e)

86,774

Please explain

Use of urea can result in volatilization losses of up to 80%. These losses can result in a reduction of tree growth and increased use of pesticides. Limited research has shown that the application of fertiliser to Eucalyptus can increase volume production at rotation age by 5% (Crous et al. 2019). Assuming a 3% growth reduction if fertiliser is not applied to 60% of area planted to Eucalyptus can result in a reduced annual sequestration of 94,374 t CO2e compared to emissions of 7,600 t CO2e associated with fertiliser application in 2020. Thus, the avoided emissions are estimated at 86,774 t CO2e (high uncertainty). [52 430 (from MP3 calculation above) x 3 (%) x 0.6 (% of area planted to Eucalyptus)]

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.

Level of aggregation

Company-wide

Description of product/Group of products

The majority of Sappi's products are based on woodfibre, a renewable natural resource grown in sustainably managed forests and plantations which sequester carbon.

Are these low-carbon product(s) or do they enable avoided emissions?

Low-carbon product

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify

Forest Carbon Disclosure

% revenue from low carbon product(s) in the reporting year

100

Comment

The majority of Sappi's products are based on woodfibre, a renewable natural resource grown in sustainably managed forests and plantations which sequester carbon. Trees use water and sunlight to convert CO2 into carbohydrates, through the process of

photosynthesis to provide energy and the building blocks for growth. Carbon removed from the atmosphere is effectively stored in plant material and wood, i.e. trees act as carbon sinks.

Sappi is 45.18% energy self-sufficient and the group's renewable fuel energy usage was 54.44%, of which 68.28% is own black liquor.

In addition, our owned and leased plantations in South Africa maintained FSC certification. The 100% coverage of the FSC, PEFC and SFI® Chain of Custody systems we use ascertains that all the woodfibre we purchase and process is traceable to its origin, and is sourced from legal, controlled, non-controversial sources.

Globally 73% of the woodfibre supplied to our mills was certified with the rest procured from controlled, non-controversial sources.

This is important, as only about 11% of the world's forests are certified to a credible standard and deforestation of tropical rainforests is responsible for generating significant levels of greenhouse gas emissions.[<https://www.worldwildlife.org/threats/deforestation>]

Level of aggregation

Group of products

Description of product/Group of products

Some Sappi mills generate power on site from fossil- or renewable resources for internal consumption. Black liquor (dissolved organic compounds from wood) created during pulp manufacturing, is a biofuel and primary source of renewable fuel for power production.

Are these low-carbon product(s) or do they enable avoided emissions?

Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify

Increased renewable energy usage, increased exported power into the grid and increased power self-sufficiency.

% revenue from low carbon product(s) in the reporting year

100

Comment

In some instances, Somerset and Westbrook Mills (North America), Alfeld, Carmignano,

Condino, Ehingen, Stockstadt, Gratkorn- and Maastricht Mills (Europe) and Ngodwana Mill (South Africa)), excess energy is generated which is sold back into the power grid. This energy is used for district heating in the vicinity of Sappi's plants and for export into the public grid, thereby replacing fossil fuels.

Emissions are avoided by using renewable fuel energy sources instead of fossil fuel sources. In addition, emissions are avoided by power self-sufficiency instead of purchased power from an external power supplier with higher emissions than self-produced power.

C5. Emissions methodology

C5.1

(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start

October 1, 2014

Base year end

September 30, 2015

Base year emissions (metric tons CO₂e)

4,095,142.141

Comment

The base year is Sappi's 2015 financial year.

Scope 2 (location-based)

Base year start

October 1, 2014

Base year end

September 30, 2015

Base year emissions (metric tons CO₂e)

1,593,601.3

Comment

The base year is Sappi's financial year 2015.

Scope 2 (market-based)

Base year start

October 1, 2014

Base year end

September 30, 2015

Base year emissions (metric tons CO₂e)

1,667,942.161

Comment

The base year is Sappi's 2015 financial year.

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

IPCC Guidelines for National Greenhouse Gas Inventories, 2006

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO₂e?

Reporting year

Gross global Scope 1 emissions (metric tons CO₂e)

4,083,122.97

Start date

October 1, 2019

End date

September 30, 2020

Comment

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) guidelines was used to calculate Scope 1 emissions.

The IPCC Fourth Assessment Report was used for GWP factors for all combusted fuel sources.

These Scope 1 emissions were emitted during Sappi's financial year 2020.

Past year 1

Gross global Scope 1 emissions (metric tons CO2e)

4,426,125.031

Start date

October 1, 2018

End date

September 30, 2019

Comment

Past year 2

Gross global Scope 1 emissions (metric tons CO2e)

4,452,592.928

Start date

October 1, 2017

End date

September 30, 2018

Comment

Past year 3

Gross global Scope 1 emissions (metric tons CO2e)

4,326,977.265

Start date

October 1, 2016

End date

September 30, 2017

Comment

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are not reporting a Scope 2, location-based figure

Scope 2, market-based

We are reporting a Scope 2, market-based figure

Comment

Market-based total Scope 2 figure reported. (ten out of nineteen operations report a market-based Scope 2 figure)

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO₂e?

Reporting year

Scope 2, market-based (if applicable)

1,196,188.99

Start date

October 1, 2019

End date

September 30, 2020

Comment

Market-based total Scope 2 figure reported. (ten out of nineteen operations report market-based Scope 2 figure)

Past year 1

Scope 2, market-based (if applicable)

1,539,904.486

Start date

October 1, 2018

End date

September 30, 2019

Comment

Past year 2

Scope 2, market-based (if applicable)

1,545,314.135

Start date

October 1, 2017

End date

September 30, 2018

Comment

Past year 3

Scope 2, market-based (if applicable)

1,583,416.381

Start date

October 1, 2016

End date

September 30, 2017

Comment

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

Yes

C6.4a

(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source

Offices, warehouses, research facilities, nurseries, outside mill premises.

Relevance of Scope 1 emissions from this source

No emissions from this source

Relevance of location-based Scope 2 emissions from this source

Emissions are not relevant

Relevance of market-based Scope 2 emissions from this source (if applicable)

Emissions are not relevant

Explain why this source is excluded

Sappi includes emissions from production facilities. The excluded Scope 2 emissions are not from production facilities, i.e. Scope 1 emissions are not applicable, but the power consumption (Scope 2 emissions) has been evaluated and relative to Sappi's production facilities these emissions are not relevant.

C6.5

(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

1,404,441.8

Emissions calculation methodology

The GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard is used to calculate Scope 3 emissions.

This category includes all upstream emissions from the production of purchased goods purchased in the reporting year.

Sappi uses the hybrid method which is a combination of supplier-specific activity data (where available) and secondary data to fill the gaps.

Purchased products are collected on a mass base from our procurement department, multiplied by the relevant secondary (e.g., industry average) emission factors, or primary emission factor where available. The secondary emission factors are mainly obtained from the Ecolnvent database. Primary emission factors are obtained from pulp suppliers.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0.38

Please explain

N/A

Capital goods

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

31,500

Emissions calculation methodology

The GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard is used to calculate Scope 3 emissions. This category includes all upstream emissions from the production of capital goods purchased by Sappi in the reporting year. Capital goods are final products that have an extended life and are used by Sappi to manufacture product.

The GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting

Standard is used to calculate Scope 3 emissions. This category includes all upstream emissions from the production of capital goods purchased by Sappi in the reporting year. Capital goods are final products that have an extended life and are used by Sappi to manufacture product. This category is only relevant to Sappi if a major or capital project has been implemented during the reporting year. During normal operating years, this category is not material for Sappi. Scope 3 GHG emissions have been determined for capital projects in Sappi SA during Sappi financial year 2018 and 2019. It was estimated that 2020 would have had similar emissions for capital projects category to the previous two years.

DEFRA 2018 conversion factors were used to convert the mass of capital goods to GHG emissions.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Not applicable

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

628,026.29

Emissions calculation methodology

The GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard is used to calculate Scope 3 emissions.

This category includes emissions related to the production of fuels and energy purchased and consumed by Sappi in the reporting year that are not included in scope 1 or scope 2. Sappi includes all purchased fuels (renewable and non-renewable), as well as upstream emissions for purchased electricity including transmission and distribution losses.

DEFRA emission factors are used.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Not applicable

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

1,040,489.45

Emissions calculation methodology

The GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard is used to calculate Scope 3 emissions. This category includes transportation and distribution of products purchased in the reporting year, between a company's tier 1 suppliers and its own operations in vehicles not owned or operated by the reporting entity. The distances between the supplier and Sappi mill are determined for road, rail and marine transport. DEFRA emission factors are used to convert from distances by mode of transport to GHG emissions. Following the GHG Protocol principles, outbound transportation and distribution services that are paid for by Sappi are included in category 4 (upstream transportation and distribution).

Primary emission factors are obtained for outbound transportation services.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

9.65

Please explain

Not applicable

Waste generated in operations

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

81,573.24

Emissions calculation methodology

The GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard is used to calculate Scope 3 emissions. Sappi uses the IPCC Waste Model to determine Scope 3 landfill emissions. Scope 3 landfill emissions is applicable to all mills except Tugela, Ngodwana, Cloquet and Somerset Mills as these mills have their own landfills. The emissions from these owned landfills are accounted for under Scope 1.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Not applicable

Business travel

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

14,044.85

Emissions calculation methodology

The GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard is used to calculate Scope 3 emissions.

This category includes emissions from the transportation of Sappi employees for business related activities in vehicles owned or operated by third parties. Distances, mode of transport and emissions are obtained directly from the service providers.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

16.94

Please explain

Not applicable

Employee commuting

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

12,198.69

Emissions calculation methodology

The GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard is used to calculate Scope 3 emissions. Sappi includes emissions for the transportation of employees between their homes and their worksites. The employee numbers were obtained from HR department. The Average data method was used based on average national data on commuting patterns. To convert from distances to GHG emissions, DEFRA emission factors for the different modes of transport were used.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Not applicable

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

This category includes emissions from the operation of assets that are leased by the reporting company in the reporting year and not already included in scope 1 or scope 2. All operating units where we have operational control are included in scope 1 and 2 whether they are leased or not.

Therefore, this category is not considered relevant for Sappi.

Downstream transportation and distribution

Evaluation status

Not relevant, explanation provided

Please explain

According to the Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard, the Outbound transportation and distribution services that are paid for by the reporting company should be included in Category 4 (Upstream transportation and distribution) because the reporting company purchases a service. The assumption is made that Sappi pays for all outbound transportation, and therefore these emissions are included in Category 4: "Upstream transportation and distribution" category.

Processing of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

2,823,791.47

Emissions calculation methodology

The GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard is used to calculate Scope 3 emissions. Category 10 includes emissions from processing of sold intermediate products by third parties (e.g. manufacturers) subsequent to sale by the reporting company. Intermediate products are products that

require further processing, transformation, or inclusion in another product before use, and therefore result in emissions from processing subsequent to sale by the reporting company and before use by the end consumer. Emissions from processing are allocated to the intermediate product.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

63.31

Please explain

Not applicable

Use of sold products

Evaluation status

Not relevant, explanation provided

Please explain

When a company sells an intermediate product that directly emits GHGs in its use phase, it is required to account for direct use-phase emissions of the intermediate product by the end user (i.e., emissions resulting from: the use of the sold intermediate product that directly consumes fuel or electricity during use; fuels and feedstock; GHG's released during product use). Not considered as a relevant category for Sappi in terms of emissions.

End of life treatment of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

2,632,190.96

Emissions calculation methodology

The GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard is used to calculate Scope 3 emissions.

Category 12 includes emissions from the waste disposal and treatment of products sold by the reporting company (in the reporting year) at the end of their life. This category includes the total expected end-of-life emissions from all products sold in the reporting year. End-of-life treatment methods include landfilling, incineration, and recycling. Calculating emissions from category 12 requires assumptions about the end-of-life treatment methods used by consumers.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Not applicable

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

This category includes emissions from the operation of assets that are owned by Sappi and leased to other entities in the reporting year, not already included in scope 1 or scope 2. This category is applicable to lessors (i.e., companies that receive payments from lessees). Sappi has no downstream leased assets, and therefore this is not considered as a relevant category for Sappi in terms of emissions.

Franchises

Evaluation status

Not relevant, explanation provided

Please explain

This category includes emissions from the operation of franchises not included in scope 1 or scope 2. A franchise is a business operating under a license to sell or distribute another company's goods or services within a certain location. This category is not applicable to Sappi as we do not franchise our business.

Investments

Evaluation status

Not relevant, explanation provided

Please explain

Not applicable. No investments with emissions not already included in Scopes 1 and 2.

Other (upstream)

Evaluation status

Not relevant, explanation provided

Please explain

No other upstream emissions to be considered.

Other (downstream)

Evaluation status

Not relevant, explanation provided

Please explain

No other downstream emissions to be considered.

C-AC6.6/C-FB6.6/C-PF6.6

(C-AC6.6/C-FB6.6/C-PF6.6) Can you break down your Scope 3 emissions by relevant business activity area?

Yes

C-AC6.6a/C-FB6.6a/C-PF6.6a

(C-AC6.6a/C-FB6.6a/C-PF6.6a) Disclose your Scope 3 emissions for each of your relevant business activity areas.

Activity

Processing/Manufacturing

Scope 3 category

Purchased goods and services

Emissions (metric tons CO₂e)

128,493.03

Please explain

Mills use hardwood, softwood, logs and wood chips as raw materials. A standard industry average emission factor is applied to the mass of above- mentioned raw fibre from our wood suppliers used at the mills to determine the Scope 3 emissions and forms part of Category 1: Purchased Goods and Services.

Activity

Distribution

Scope 3 category

Upstream transportation and distribution

Emissions (metric tons CO₂e)

204,344.92

Please explain

The transport of timber logs and chips from our wood suppliers to the mill is determined and forms part of Category 4: Upstream Transportation and Distribution.

C-AC6.8/C-FB6.8/C-PF6.8

(C-AC6.8/C-FB6.8/C-PF6.8) Is biogenic carbon pertaining to your direct operations relevant to your current CDP climate change disclosure?

Yes

C-AC6.8a/C-FB6.8a/C-PF6.8a

(C-AC6.8a/C-FB6.8a/C-PF6.8a) Account for biogenic carbon data pertaining to your direct operations and identify any exclusions.

CO2 emissions from land use management

Emissions (metric tons CO2)

243,966

Methodology

Other, please specify

LIDAR surveys, field measurement, empirical models, region-specific emissions factors, default emissions factors

Please explain

To maintain a National Greenhouse Gas Inventory in order to fulfil reporting obligations under the United Nations Framework Convention on Climate Change, the Department of Environmental Affairs has introduced mandatory reporting. Sappi SA annually calculates GHG emissions for living biomass stocks on Sappi Forests land holdings, starting in 2016.

The stock-difference method (carbon stock change as an annual average difference between estimates at two points in time) was used to calculate 2020 biogenic GHG emissions. The annual carbon stock change was calculated using Equation 2.5 (IPCC 2006, Volume 4, Chapter 2, P2.9) by subtracting the total carbon stocks in 2019 from the stocks in 2020, based on living carbon stocks within each of the more than 15 000 compartments (stands). The methodology was largely based on Tier 1 (default) conversion factors. However, country-specific biomass conversion and expansion factors (Dovey et al 2021) have been used to estimate total above ground biomass from inventory data. Technical corrections were applied to improve calculations for compartments where carbon was lost due to damaging events. Inventory data is based on field measurements and LiDAR measurements with empirical modelling to estimate annual growing stock in compartments that were not enumerated.

The carbon stock change was just calculated for above and below ground biomass. These values exclude the following pools: soil organic carbon, dead organic matter, litter layer. In total, Sappi Forests reported 243,966 tons biogenic CO2 emissions for the 2020 calendar year from own managed forest lands. Were it not for 335,004 tons biogenic CO2 emissions due to natural disasters, there could have been a net removal.

Dovey, S., du Toit, B. and Crous, J., 2021. Tier 2 above-ground biomass expansion functions for South African plantation forests. Southern Forests: a Journal of Forest Science, 83(1), pp.69-78.

CO2 removals from land use management

Emissions (metric tons CO2)

Methodology

Please explain

Sequestration during land use change

Emissions (metric tons CO2)

0

Methodology

Please explain

No afforestation activities

CO2 emissions from biofuel combustion (land machinery)

Emissions (metric tons CO2)

Methodology

Please explain

CO2 emissions from biofuel combustion (processing/manufacturing machinery)

Emissions (metric tons CO2)

Methodology

Please explain

CO2 emissions from biofuel combustion (other)

Emissions (metric tons CO2)

Methodology

Please explain

C-AC6.9/C-FB6.9/C-PF6.9

(C-AC6.9/C-FB6.9/C-PF6.9) Do you collect or calculate greenhouse gas emissions for each commodity reported as significant to your business in C-AC0.7/FB0.7/PF0.7?

Agricultural commodities

Timber

Do you collect or calculate GHG emissions for this commodity?

Yes

Please explain

In the past year an attempt was made to quantify the most important emission sources from Sappi's own forestry operations and to identify data sources that can be used to calculate these emissions on an annual basis in order to supply base data for the different GHG reporting systems. A "cradle-to-gate" system boundary was used, that covered the establishment activities, forest management, fire prevention, harvesting and transport to the mill gate. The emissions reported for this year are not entirely complete and exclude minor emissions such as those from maintenance of vehicles and machinery; transport of materials; emissions related to pesticides, to name a few.

C-AC6.9a/C-FB6.9a/C-PF6.9a

(C-AC6.9a/C-FB6.9a/C-PF6.9a) Report your greenhouse gas emissions figure(s) for your disclosing commodity(ies), explain your methodology, and include any exclusions.

Timber

Reporting emissions by

Unit of production

Emissions (metric tons CO₂e)

0.079824

Denominator: unit of production

Other, please specify

Cubic metres

Change from last reporting year

This is our first year of measurement

Please explain

System boundary: cradle to mill gate. Limited to timber production from own land. Scope 1 emissions reported in C-7.4b were converted to an emission per m³ of timber

produced. Total emission was divided by total timber production. This value excludes emissions from externally sourced timber. Figure for next year will also include pesticide emissions from product usage on own land.

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO₂e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.001145435

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO₂e)

5,279,311.96

Metric denominator

unit total revenue

Metric denominator: Unit total

4,609,000,000

Scope 2 figure used

Market-based

% change from previous year

10.32

Direction of change

Increased

Reason for change

Sappi had a 20% decrease in sales revenue, and only a 11.5% decrease in gross global combined Scope 1 + 2 emissions, therefore the intensity figure increased. There was a reduced product demand and consequently reduction in sales revenue. Curtailment on the machines reduces efficiency of various processes, resulting in higher carbon emissions intensity.

Intensity figure

0.91

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO₂e)

5,279,311.96

Metric denominator

metric ton of product

Metric denominator: Unit total

5,776,650

Scope 2 figure used

Market-based

% change from previous year

2.44

Direction of change

Increased

Reason for change

Sappi had a 16% decrease in saleable production due to Covid-19 impacts, and only a 11.5% decrease in gross global combined Scope 1 + 2 emissions, therefore the intensity figure has increased. There was a reduced product demand and consequently reduction in sales revenue. Curtailment on the machines reduces efficiency of various processes, resulting in higher carbon emissions intensity.

Intensity figure

412.29

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO₂e)

5,279,311.96

Metric denominator

full time equivalent (FTE) employee

Metric denominator: Unit total

12,805

Scope 2 figure used

Market-based

% change from previous year

11.4

Direction of change

Decreased

Reason for change

The number of full-time employees decreased very slightly, but there was an 11.5% decrease in gross global combined Scope 1 + 2 emissions due to the impact of Covid-19 that caused a weaker product demand during FY20. This caused a decrease in the intensity figure of gross global Scope 1 + 2 emissions over full-time employees.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO ₂ e)	GWP Reference
CO ₂	3,767,551.05	IPCC Fifth Assessment Report (AR5 – 100 year)
CH ₄	261,336.62	IPCC Fifth Assessment Report (AR5 – 100 year)
N ₂ O	54,235.3	IPCC Fifth Assessment Report (AR5 – 100 year)

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO ₂ e)
Africa	2,196,999.1
EU15	1,364,194.86
United States of America	479,807.32
Canada	42,121.69

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By business division

By facility

By activity

C7.3a

(C7.3a) Break down your total gross global Scope 1 emissions by business division.

Business division	Scope 1 emissions (metric ton CO ₂ e)
Sappi Southern Africa	2,196,999.1

Sappi Europe	1,364,194.86
Sappi North America	521,929.01

C7.3b

(C7.3b) Break down your total gross global Scope 1 emissions by business facility.

Facility	Scope 1 emissions (metric tons CO ₂ e)	Latitude	Longitude
Ngodwana Mill (SA)	1,261,074.33	-25.57803	30.66549
Saiccor Mill (SA)	441,111.28	-30.18078	30.77091
Stanger Mill (SA)	179,175.63	-29.36743	31.28908
Tugela Mill (SA)	313,624.23	-29.15216	31.40536
Alfeld Mill (Germany)	114,794.39	51.98592	9.82076
Ehingen Mill (Germany)	45,872.93	48.26766	9.72712
Gratkorn Mill (Austria)	400,338.24	47.13333	15.33333
Kirkniemi Mill (Finland)	195,691.74	60.18815	23.94212
Lanaken Mill (Belgium)	98,068.14	50.877	5.6427
Maastricht Mill (Netherlands)	137,325.31	50.85857	5.69457
Stockstadt Mill (Germany)	260,684.87	49.80421	8.46762
Cloquet Mill (Minnesota USA)	178,451.88	46.72288	-92.4384
Somerset Mill (Maine USA)	251,196.66	44.70652	-69.63782
Westbrook Mill (Maine USA)	50,158.78	43.68397	-70.35211
Lomati Mill SA	2,013.61	-25.7726	31.0402
Carmignano (Italy)	59,887.77	45.6311	11.7111
Condino (Italy)	49,473.35	45.8802	10.5934
Rockwell Solutions (UK)	2,058.13	56.4762	-3.05171
Matane Mill (Canada)	42,121.69	48.8334	-67.5567

C7.3c

(C7.3c) Break down your total gross global Scope 1 emissions by business activity.

Activity	Scope 1 emissions (metric tons CO ₂ e)
Stationary Combustion (Fossil Fuel)	3,753,475.24
Stationary Combustion (Renewable Fuel)	59,640.51
Process activities - make-up Chemicals	9,921.44
Mobile combustion	16,407.45
Waste management - Owned landfill emissions	241,599.73
Waste management - wastewater emissions	2,078.59

C-AC7.4/C-FB7.4/C-PF7.4

(C-AC7.4/C-FB7.4/C-PF7.4) Do you include emissions pertaining to your business activity(ies) in your direct operations as part of your global gross Scope 1 figure?

Partially

C-AC7.4a/C-FB7.4a/C-PF7.4a

(C-AC7.4a/C-FB7.4a/C-PF7.4a) Select the form(s) in which you are reporting your agricultural/forestry emissions.

Emissions disaggregated by category (advised by the GHG Protocol)

C-AC7.4b/C-FB7.4b/C-PF7.4b

(C-AC7.4b/C-FB7.4b/C-PF7.4b) Report the Scope 1 emissions pertaining to your business activity(ies) and explain any exclusions. If applicable, disaggregate your agricultural/forestry by GHG emissions category.

Activity

Agriculture/Forestry

Emissions category

Non-mechanical

Emissions (metric tons CO₂e)

187,780

Methodology

Default emissions factor

Please explain

In addition to the default emissions factor, field measurements and purchase records were also used in the calculations. The majority of emissions from own landholdings have been quantified associated with harvest residue burning [non-CO₂: mass of fuel available for combustion was taken as 53 t dm ha⁻¹. At a combustion factor of 0.62 (IPCC, 2019b Table 2.6 (Updated) "Other temperate forests – Post logging slash burn") the biomass burnt was calculated as 32.9 t dm ha⁻¹], natural grassland management (burning) [non-CO₂: 57 940 ha burnt was split into 41 788 ha within the "Grassland" subcategory and 16 152 ha within the "Savanna" subcategory of the "Savanna Grasslands/Pastures (mid/late dry season burns)". Mass of fuel available for burning was obtained from Table 2.4 and emissions factors for each GHG from Table 2.5 (IPCC 2019)], natural disasters [non-CO₂: The quantity of material consumed by the fire over 4142 ha affected was taken from the updated Table 2.4 (IPCC, 2019b) for the category "Other temperate forests – Wildfire" at 19.8 t dm ha⁻¹], nursery heating [CO₂ and non-CO₂: total weight of gas purchases was converted into emissions values based on default emissions by fuel type], fertiliser emissions [non-CO₂: Quantity of different

fertiliser formulations were summarised separately in order to calculate the total tons of nitrogen applied per annum. Direct and indirect N₂O emissions were calculated using IPCC default Tier 1 emissions factors] and harvest residue decomposition [non-CO₂: Tier 1 methodology (Equation 11.1) and default Emission Factor values supplied by IPCC (2019d) was used to calculate N₂O emissions from harvest (crop) residue remaining on site converted to tons of CO₂e emissions]. Pesticide related emissions will be included in the next report.

Activity

Agriculture/Forestry

Emissions category

Land use change

Emissions (metric tons CO₂e)

28,481

Methodology

Default emissions factor

Please explain

Field measurements and Forest Management system records were also used for the calculation in addition to the default emissions factor.

Land-use change occurs where plantation areas next to riverine areas and wetlands are taken out of production (due to legislative and environmental considerations) to restore natural habitat (grasslands) in these areas or secondly for economic reasons, such as poor growth or expensive harvesting on very steep slopes. The calculation of carbon loss associated with land use change from forest land to grassland was based on Tier 1 guidelines provided in Equation 2.15 and 2.16 (IPCC 2006). The biomass before conversion was back-calculated from the 2020 carbon stock calculations in stands of harvestable age. The carbon increase in the year of conversion was calculated as 1.9 t C ha⁻¹. This was based on grassland biomass totals reported in Table 6.4 (IPCC, 2006) and weighted on a proportional basis depending on the ecological zone based on an assumption of achieving maximum biomass after a period of three years. Litter values was based on country-specific data. Carbon stock reduction was converted to CO₂e values. Non-CO₂: Post logging slash burning was calculated using a combustion of 0.62 in "Other temperate forests". Direct N₂O emissions from managed soil was calculated for the areas converted to grassland using Tier 1 methodology (IPCC - Equation 11.1) and default Emission Factor values IPCC (2019).

Activity

Agriculture/Forestry

Emissions category

Mechanical

Emissions (metric tons CO₂e)

129,251

Methodology

Default emissions factor

Please explain

Empirical models and machine hours were also used for the calculation in addition to the default emissions factor. Fossil-fuel related emissions were calculated for the following activities: Residue mulching, mechanical weeding, aerial firefighting and pesticide application, soil preparation (ripping, pitting), semi-mechanical planting, fire break preparation (mowing, grading, mulching), harvesting of timber, transport (short-haul, rail and road), road maintenance and management vehicles. Total quantity of calculated fuel usage was converted into emissions values based on default emissions by fuel type.

C7.5**(C7.5) Break down your total gross global Scope 2 emissions by country/region.**

Country/Region	Scope 2, location-based (metric tons CO ₂ e)	Scope 2, market-based (metric tons CO ₂ e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
Africa	468,169.59	468,169.59	556,877.18	34,039.39
EU15	601,501.12	607,754.54	1,584,577.83	734,072.49
United States of America	73,622.46	120,103.94	300,352.94	141,274.65
Canada	0	160.91	440,429.36	440,429.36

C7.6**(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.**

- By business division
- By facility
- By activity

C7.6a**(C7.6a) Break down your total gross global Scope 2 emissions by business division.**

Business division	Scope 2, location-based (metric tons CO ₂ e)	Scope 2, market-based (metric tons CO ₂ e)
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Sappi Southern Africa	468,169.59	468,169.59
Sappi Europe	601,501.12	607,754.54
Sappi North America	73,622.46	120,264.85

C7.6b

(C7.6b) Break down your total gross global Scope 2 emissions by business facility.

Facility	Scope 2, location-based (metric tons CO ₂ e)	Scope 2, market-based (metric tons CO ₂ e)
Ngodwana Mill (SA)	26,928.39	26,928.39
Saiccor Mill (SA)	182,849.02	182,849.02
Stanger Mill (SA)	111,080.33	111,080.33
Tugela Mill (SA)	139,838.42	139,838.42
Alfeld Mill (Germany)	89,093.68	149,839.37
Ehingen Mill (Germany)	71,949.92	120,819.31
Gratkorn Mill (Austria)	9,898.79	0
Kirkniemi Mill (Finland)	164,496.75	164,496.75
Lanaken Mill (Belgium)	211,046.21	85,356.38
Maastricht Mill (Netherlands)	3,802.73	2,464.34
Stockstadt Mill (Germany)	48,351.11	80,798.78
Cloquet Mill (Minnesota USA)	29,807.97	29,807.97
Somerset Mill (Maine, USA)	43,623.25	89,826.82
Westbrook Mill (Maine, USA)	191.24	469.15
Lomati Mill (South Africa)	7,473.44	7,473.44
Carmignano (Italy)	1,634.82	2,567.5
Condino (Italy)	325.72	510.7
Rockwell (UK)	901.42	901.42
Matane Mill (Canada)	0	160.91

C7.6c

(C7.6c) Break down your total gross global Scope 2 emissions by business activity.

Activity	Scope 2, location-based (metric tons CO ₂ e)	Scope 2, market-based (metric tons CO ₂ e)
Purchased power	1,112,061.92	1,164,957.73
Purchased steam	31,231.26	31,231.26

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Decreased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO ₂ e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption				
Other emissions reduction activities				
Divestment				
Acquisitions				
Mergers				
Change in output	686,717.56	Decreased	11.51	<p>A decrease in saleable production resulted in a 11.51% decrease in gross global Scope 1 + 2 CO₂e emissions (metric tons CO₂e).</p> <p>Globally, Sappi decreased gross emissions by 686717.56 tons CO₂e.</p> <p>Sappi's gross global Scope 1 + 2 emissions in the previous year (FY19) were 5,966,029.52 tons CO₂e.</p> <p>The following calculation was done to</p>

				determine the reduction of emissions: Change in Scope 1 + 2 emissions due to change in output = 686717.56 tons CO2e. Previous year Scope 1 + 2 emissions = 5,966,029.52 tons CO2e $\frac{686717.56}{5,966,029.52} \times 100 = 11.51\%$
Change in methodology				
Change in boundary				
Change in physical operating conditions				
Unidentified				
Other				

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Market-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 5% but less than or equal to 10%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
--	---

Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	Yes
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	18,918,037.44	13,409,892.16	32,327,929.6
Consumption of purchased or acquired electricity		2,724,072.35	158,164.96	2,882,237.31
Consumption of purchased or acquired steam		0	142,131.46	142,131.46
Consumption of self-generated non-fuel renewable energy		76,962.32		76,962.32
Total energy consumption		21,719,072.11	13,710,188.58	35,429,260.68

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes

Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	Yes
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	Yes

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Fuels (excluding feedstocks)

Bitumen

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

67,941.31

MWh fuel consumed for self-generation of electricity

24,533.93

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-cogeneration or self-trigeneration

Emission factor

80.943

Unit

kg CO₂e per GJ

Emissions factor source

2006 IPCC Guidelines for National Greenhouse Gas Inventories. Default Emission Factors for Stationary Combustion in Manufacturing industries, Table 2.3. IPCC Fifth Assessment Report (AR5) for GWP

Comment

2006 IPCC Guidelines for National Greenhouse Gas Inventories. Default Emission Factors for Stationary Combustion in Manufacturing industries, Table 2.3.

IPCC Fifth Assessment Report (AR5) for GWP

Fuels (excluding feedstocks)

Fuel Oil Number 2

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

28,120.62

MWh fuel consumed for self-generation of electricity

10,154.49

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-cogeneration or self-trigeneration

Emission factor

77.643

Unit

kg CO2e per GJ

Emissions factor source

2006 IPCC Guidelines for National Greenhouse Gas Inventories. Default Emission Factors for Stationary Combustion in Manufacturing industries, Table 2.3.

IPCC Fifth Assessment Report (AR5) for GWP

Comment

2006 IPCC Guidelines for National Greenhouse Gas Inventories. Default Emission Factors for Stationary Combustion in Manufacturing industries, Table 2.3.

IPCC Fifth Assessment Report (AR5) for GWP

Fuels (excluding feedstocks)

Fuel Oil Number 6

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

346,915.14

MWh fuel consumed for self-generation of electricity

125,272.69

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-cogeneration or self-trigeneration

Emission factor

77.643

Unit

kg CO2e per GJ

Emissions factor source

2006 IPCC Guidelines for National Greenhouse Gas Inventories. Default Emission Factors for Stationary Combustion in Manufacturing industries, Table 2.3.

IPCC Fifth Assessment Report (AR5) for GWP

Comment

2006 IPCC Guidelines for National Greenhouse Gas Inventories. Default Emission Factors for Stationary Combustion in Manufacturing industries, Table 2.3.

IPCC Fifth Assessment Report (AR5) for GWP

Fuels (excluding feedstocks)

Coal

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

7,264,280.55

MWh fuel consumed for self-generation of electricity

2,623,165.9

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-cogeneration or self-trigeneration

Emission factor

995.2775

Unit

kg CO2e per GJ

Emissions factor source

2006 IPCC Guidelines for National Greenhouse Gas Inventories. Default Emission Factors for Stationary Combustion in Manufacturing industries, Table 2.3.

IPCC Fifth Assessment Report (AR5) for GWP

Comment

2006 IPCC Guidelines for National Greenhouse Gas Inventories. Default Emission Factors for Stationary Combustion in Manufacturing industries, Table 2.3.

IPCC Fifth Assessment Report (AR5) for GWP

Fuels (excluding feedstocks)

Liquid Biofuel

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

4,464.87

MWh fuel consumed for self-generation of electricity

1,612.29

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-cogeneration or self-trigeneration

Emission factor

79.843

Unit

kg CO2e per GJ

Emissions factor source

2006 IPCC Guidelines for National Greenhouse Gas Inventories. Default Emission Factors for Stationary Combustion in Manufacturing industries, Table 2.3.

IPCC Fifth Assessment Report (AR5) for GWP

Comment

2006 IPCC Guidelines for National Greenhouse Gas Inventories. Default Emission Factors for Stationary Combustion in Manufacturing industries, Table 2.3.

IPCC Fifth Assessment Report (AR5) for GWP

Fuels (excluding feedstocks)

Natural Gas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

5,402,711.54

MWh fuel consumed for self-generation of electricity

1,950,944.57

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-cogeneration or self-trigeneration

Emission factor

56.1548

Unit

kg CO2e per GJ

Emissions factor source

2006 IPCC Guidelines for National Greenhouse Gas Inventories. Default Emission Factors for Stationary Combustion in Manufacturing industries, Table 2.3.

IPCC Fifth Assessment Report (AR5) for GWP

Comment

2006 IPCC Guidelines for National Greenhouse Gas Inventories. Default Emission Factors for Stationary Combustion in Manufacturing industries, Table 2.3.

IPCC Fifth Assessment Report (AR5) for GWP

Fuels (excluding feedstocks)

Tires

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

236,571.8

MWh fuel consumed for self-generation of electricity

85,427.19

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-cogeneration or self-trigeneration

Emission factor

85

Unit

kg CO2e per GJ

Emissions factor source

DOE Instructions for Form EIA-1605, Appendix B, March 2013. NCASI suggested default emission factors.

Comment

DOE Instructions for Form EIA-1605, Appendix B, March 2013. NCASI suggested default emission factors.

Fuels (excluding feedstocks)

Diesel

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

62,743.71

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

62,743.71

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-cogeneration or self-trigeneration

Emission factor

74.343

Unit

kg CO₂e per GJ

Emissions factor source

2006 IPCC Guidelines for National Greenhouse Gas Inventories. Default Emission Factors for Stationary Combustion in Manufacturing industries, Table 2.3.

IPCC Fifth Assessment Report (AR5) for GWP

Comment

2006 IPCC Guidelines for National Greenhouse Gas Inventories. Default Emission Factors for Stationary Combustion in Manufacturing industries, Table 2.3.

IPCC Fifth Assessment Report (AR5) for GWP

Fuels (excluding feedstocks)

Kerosene

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

592.49

MWh fuel consumed for self-generation of electricity

213.95

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-cogeneration or self-trigeneration

Emission factor

72.143

Unit

kg CO2e per GJ

Emissions factor source

2006 IPCC Guidelines for National Greenhouse Gas Inventories. Default Emission Factors for Stationary Combustion in Manufacturing industries, Table 2.3.

IPCC Fifth Assessment Report (AR5) for GWP

Comment

2006 IPCC Guidelines for National Greenhouse Gas Inventories. Default Emission Factors for Stationary Combustion in Manufacturing industries, Table 2.3.

IPCC Fifth Assessment Report (AR5) for GWP

Fuels (excluding feedstocks)

Wood Waste

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

3,858,850.39

MWh fuel consumed for self-generation of electricity

1,393,449.04

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-cogeneration or self-trigeneration

Emission factor

113.9

Unit

kg CO₂e per GJ

Emissions factor source

2006 IPCC Guidelines for National Greenhouse Gas Inventories. Default Emission Factors for Stationary Combustion in Manufacturing industries, Table 2.3.

IPCC Fifth Assessment Report (AR5) for GWP

Comment

2006 IPCC Guidelines for National Greenhouse Gas Inventories. Default Emission Factors for Stationary Combustion in Manufacturing industries, Table 2.3.

IPCC Fifth Assessment Report (AR5) for GWP

Fuels (excluding feedstocks)

Black Liquor

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

14,827,240.12

MWh fuel consumed for self-generation of electricity

5,354,186.2

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-cogeneration or self-trigeneration

Emission factor

95.914

Unit

kg CO2e per GJ

Emissions factor source

2006 IPCC Guidelines for National Greenhouse Gas Inventories. Default Emission Factors for Stationary Combustion in Manufacturing industries, Table 2.3.

IPCC Fifth Assessment Report (AR5) for GWP

Comment

2006 IPCC Guidelines for National Greenhouse Gas Inventories. Default Emission Factors for Stationary Combustion in Manufacturing industries, Table 2.3.

IPCC Fifth Assessment Report (AR5) for GWP

Fuels (excluding feedstocks)

Biogas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

122,122.61

MWh fuel consumed for self-generation of electricity

44,099.05

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

MWh fuel consumed for self-cogeneration or self-trigeneration

Emission factor

54.6545

Unit

kg CO2e per GJ

Emissions factor source

2006 IPCC Guidelines for National Greenhouse Gas Inventories. Default Emission Factors for Stationary Combustion in Manufacturing industries, Table 2.3.

IPCC Fifth Assessment Report (AR5) for GWP

Comment

2006 IPCC Guidelines for National Greenhouse Gas Inventories. Default Emission Factors for Stationary Combustion in Manufacturing industries, Table 2.3.

IPCC Fifth Assessment Report (AR5) for GWP

C8.2d

(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	4,070,938.36	3,481,679.04	2,216,096.42	1,895,321.37
Heat	0	0	0	0
Steam	22,556,179.21	22,556,179.21	12,278,905.65	12,278,905.65
Cooling	0	0	0	0

C8.2e

(C8.2e) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero emission factor in the market-based Scope 2 figure reported in C6.3.

Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, supported by energy attribute certificates

Low-carbon technology type

Hydropower

Country/area of consumption of low-carbon electricity, heat, steam or cooling

Austria

MWh consumed accounted for at a zero emission factor

97,046.93

Comment

Power supplier supplies 100% hydropower to Sappi Gratkorn Mill in Austria.

Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, not supported by energy attribute certificates

Low-carbon technology type

Hydropower

Country/area of consumption of low-carbon electricity, heat, steam or cooling

Canada

MWh consumed accounted for at a zero emission factor

1,585,545.71

Comment

Power supplier supplies 100% hydropower to Sappi Matane Mill in Quebec.

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

Description

Waste

Metric value

0.06

Metric numerator

Tons

Metric denominator (intensity metric only)

Air dry ton saleable production

% change from previous year

7.61

Direction of change

Decreased

Please explain

Tons of landfilled solid waste per air dry ton of saleable production are tracked. Solid waste to landfill is decreased by increasing recycling, beneficiation and finding alternative uses for our waste streams. Landfilled solid waste relates to CO₂e emissions. Methane emissions from landfilled solid waste sent to Sappi owned landfills are included in Scope 1 total emissions. Saleable production includes paper, pulp and dissolving wood pulp. Landfilled solid waste methane emissions are included in total Scope 1 emissions, converted to CO₂e equivalent.

Description

Waste

Metric value

351,697.98

Metric numerator

Tons

Metric denominator (intensity metric only)

Air dried ton saleable production

% change from previous year

20.19

Direction of change

Decreased

Please explain

Absolute tons of landfilled solid waste are tracked. Solid waste to landfill is decreased by increasing recycling, beneficiation and finding alternative uses for our waste streams. Landfilled solid waste relates to CO₂e emissions. Methane emissions from landfilled solid waste sent to Sappi owned landfills are included in Scope 1 total emissions.

Description

Energy usage

Metric value

23.71

Metric numerator

Gigajoules

Metric denominator (intensity metric only)

Air dry ton saleable production

% change from previous year

7

Direction of change

Increased

Please explain

Total energy (TE) usage is monitored based on GJ per tons of saleable production. Saleable production includes paper, pulp and dissolving wood pulp. Energy usage relates to Scope 1 emissions as the highest contributing energy used is fossil based.

Description

Other, please specify
Process water

Metric value

36.82

Metric numerator

Cubic metres

Metric denominator (intensity metric only)

Air dry ton saleable production

% change from previous year

7.24

Direction of change

Increased

Please explain

Process water consumption is monitored in m3 per tons of saleable production. Process water relates to CO2 emissions as the COD content of water effluent may contribute to CO2e emissions.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	No third-party verification or assurance

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement



Page/ section reference

Pages 1 - 4, see also pages 5 to 6 of the Sappi 2020 group sustainability report:
https://cdn-s3.sappi.com/s3fs-public/2020-Sappi-Group-Sustainability-Report_4.pdf

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

100

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

High assurance

Attach the statement

Page/ section reference

Not applicable

Relevant standard

Proportion of reported emissions verified (%)

33

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Scope 2 approach

Scope 2 market-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement



Page/ section reference

Pages 1 - 4

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

100

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

Yes

C10.2a

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C8. Energy	Energy consumption	ISO50001	Sappi SA and Sappi Europe are ISO50001 certified.

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.

EU ETS
Finland carbon tax
South Africa carbon tax

C11.1b

(C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.

EU ETS

% of Scope 1 emissions covered by the ETS

33.41

% of Scope 2 emissions covered by the ETS

0

Period start date

January 1, 2020

Period end date

December 31, 2020

Allowances allocated

957,304

Allowances purchased

700,000

Verified Scope 1 emissions in metric tons CO₂e

1,354,773

Verified Scope 2 emissions in metric tons CO₂e

0

Details of ownership

Facilities we own and operate

Comment

We have 43 156 t EUAs surplus from the previous year. The strategy is to cover the need by leaving surplus for the following year.

C11.1c

(C11.1c) Complete the following table for each of the tax systems you are regulated by.

Finland carbon tax

Period start date

January 1, 2020

Period end date

December 31, 2020

% of total Scope 1 emissions covered by tax

4.79

Total cost of tax paid

15,067,280.5

Comment

Finland introduced a carbon tax in 1990, based on the carbon content of the fossil fuel, becoming the first country to use a carbon tax as an instrument for climate change mitigation. Total tax paid was US\$15067280.50 in FY20, but Sappi will get a refund of approximately US\$12807188 in July 2021, which is an 85% refund of tax paid.

South Africa carbon tax

Period start date

January 1, 2020

Period end date

December 31, 2020

% of total Scope 1 emissions covered by tax

53.81

Total cost of tax paid

1,500,000

Comment

US\$1.5 million is an estimate of tax incurred in FY20. This carbon tax needs to be paid in July 2021.

C11.1d

(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

Sappi believes the climate science and actively recognises the role that industry needs to fulfil to be part of the solution to mitigating climate change. Sappi has been placing increased strategic focus on decarbonization. Each region has established decarbonization plans and our mills are heavily invested in implementing projects like Vulindlela at Saiccor Mill, or analysing and preparing projects, plans and pathways to further reduce emissions. Sappi's Thrive25 sustainability targets have now been established, including emissions targets which are embody our commitment to science-based targets. Related to climate action, we have globally committed to a 17% reduction in specific GHG emissions (scope 1 & 2 combined), the first time

that we have established a group wide GHG emissions reduction target. Within the context of the Science Based Target initiative, we now have two years to work on setting and validating our science-based targets. This will give us precision for our longer-term targets like 2030 and 2050. Reducing our emissions also plays a critical role in futureproofing our business. For example, if Sappi were charged a carbon price of US\$50 per ton of CO₂ on direct emissions generated by our operations (Scope 1 emissions), our 2021 group EBITDA could be reduced by more than 50%.

Our reasons for implementing science-based targets include:

- Market pressure is mounting for our products to have an improved carbon footprint. Science based targets build trusts with our customers and provides assurance on our commitment to continuous improvement on our existing performance
- Strengthened brand reputation
- Enhanced investor confidence in our business
- Driver of innovation
- Ensures that our operations remain lean and efficient and we build resilience against a future where resources, particularly those derived from fossil fuels, will become increasingly scarce and expensive
- Increased innovation, reduced uncertainty, strengthened investor confidence and improved profitability, will enable Sappi to compete in the low carbon economy.

Throughout Sappi there is a strong focus on climate action and decarbonization across all aspects of our business. One example is the recently established Cluster 1.5 which bring experts together across the group to focus on identifying, scanning or developing future and new technologies required to dramatically reduce energy requirements in pulp and papermaking processes and energy supplies.

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?

Yes

C11.2a

(C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.

Credit origination or credit purchase

Credit purchase

Project type

Biomass energy

Project identification

N₂O abatement: Sasol Nitrous Oxide Abatement Project.

Verified to which standard

Other, please specify

Mixture between Clean Development Mechanism (CDM) and Verified Carbon Standard (VCS)

Number of credits (metric tonnes CO₂e)

95,000

Number of credits (metric tonnes CO₂e): Risk adjusted volume

95,000

Credits cancelled

No

Purpose, e.g. compliance

Voluntary Offsetting

C11.3

(C11.3) Does your organization use an internal price on carbon?

Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Objective for implementing an internal carbon price

Navigate GHG regulations
Change internal behaviour
Drive energy efficiency
Drive low-carbon investment
Stress test investments
Identify and seize low-carbon opportunities

GHG Scope

Scope 1

Application

Carbon pricing influences business decisions and company strategy. It is used in our capital project assessments and expenditure at all our operations, as well as in our energy budget process for the Sappi Southern Africa region.

Actual price(s) used (Currency /metric ton)

9.07

Variance of price(s) used

Differentiated pricing is used in Sappi where the internal price on carbon varies per region because there are different requirements and objectives in different regions. For Sappi Southern Africa, the internal carbon price is based on the South African carbon tax price.

Type of internal carbon price

Shadow price

Impact & implication

Decisions on capital projects now take into account the carbon impact. There is an increased focus on energy efficiency measures and low-carbon initiatives.

Objective for implementing an internal carbon price

- Navigate GHG regulations
- Change internal behavior
- Drive energy efficiency
- Drive low-carbon investment
- Stress test investments
- Identify and seize low-carbon opportunities

GHG Scope

Scope 1

Application

Carbon pricing influences business decisions and company strategy. It is used in our capital project assessments and expenditure at all our operations, as well as in our energy budget process for the Sappi Europe region.

Actual price(s) used (Currency /metric ton)

30.46

Variance of price(s) used

Differentiated pricing is used in Sappi Europe where the internal price on carbon varies per region because there are different requirements and objectives in different regions. For Sappi Europe, the internal carbon price is periodically adjusted to align with the European Trading System (ETS) CO2 allowance value.

Type of internal carbon price

Shadow price

Impact & implication

Decisions on capital projects and energy procurement take into account carbon impact. There is an increased focus on energy efficiency measures and low-carbon initiatives.

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers

Yes, our customers

Yes, other partners in the value chain

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Information collection (understanding supplier behavior)

Details of engagement

Other, please specify

Code of conduct featuring climate change KPIs

% of suppliers by number

3.85

% total procurement spend (direct and indirect)

41.65

% of supplier-related Scope 3 emissions as reported in C6.5

0.1

Rationale for the coverage of your engagement

Our assessment of our carbon footprint shows a proportion of our carbon emissions lie in our supply chain. In 2020 we continued to roll-out our Supplier Code of Conduct which includes expectations around reducing emissions and increasing energy efficiency. We have prioritized high impact suppliers (by high spend and/or risk) and worked to have suppliers declare compliance with our Code of Conduct either in renewed contracts or in signed declarations. In 2020 we initiated a membership with Ecovadis to support our supplier assessment programme. From 2021 onwards we will report proportion of suppliers for which we have reviewed risk and sustainability performance. or our pulp suppliers specifically, we already have a process in place to collect data and ensure responsible practices.

Impact of engagement, including measures of success

Currently we are focused on data collection from suppliers and compliance with our Code of Conduct, which includes climate related aspects. At this stage it is too early to measure an impact. However, in the next phases of implementing our Code and engaging with suppliers more measures of success will be possible.

Comment

We are meeting with key suppliers regularly to discuss strategies for decarbonisation, expectations and to discuss developments around new or alternative materials and innovation that could support reduced carbon footprints.

Type of engagement

Information collection (understanding supplier behavior)

Details of engagement

Collect climate change and carbon information at least annually from suppliers

% of suppliers by number

0.36

% total procurement spend (direct and indirect)

14.16

% of supplier-related Scope 3 emissions as reported in C6.5

0.1

Rationale for the coverage of your engagement

Sappi is engaging with our pulp suppliers in EU and SA to collect environmental data annually to ensure responsible practices and include emissions from the entire value chain. This data is used in our Paper Profiles which is shared with our customers upon request. In SNA, we engaged 33 raw material vendors who supplied 201 unique, non-wood, non-fuel products. The supplier engagement was in the form of a "GHG Survey". The survey requested GHG emissions factors for the product(s) and details on the transportation of those products.

Impact of engagement, including measures of success

Too early to measure impact.

Comment

Sappi is planning to further intensify our efforts to engage with more suppliers, collecting primary environmental data to increase Scope 3 accuracy and ensure responsible practices in our supply chain.

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement

Education/information sharing

Details of engagement

Share information about your products and relevant certification schemes (i.e. Energy STAR)

% of customers by number

80

% of customer - related Scope 3 emissions as reported in C6.5

20.7

Please explain the rationale for selecting this group of customers and scope of engagement

Customers generally approach us for information about the fibre sourcing and production processes behind our brands, including carbon footprint. In response to these requests, in Europe and South Africa, we publish Paper Profiles and information sheets for our papers. We also respond to many questionnaires from our customers that collect data on our CO2 reduction plans and performance. In Europe we regularly meet different customers to explain our decarbonisation roadmap and share insights on a range of sustainability topics. Often our technical inputs inform the development of our customers' policies and programmes. In North America, we hold Customer Council meetings where we discuss sustainability initiatives relevant to both Sappi and our customers. We have also developed our own GHG emissions calculator that quantifies the amount of emissions associated with a customer order and how those emissions compare against the industry average. At the request of our customers, we participate in EcoVadis (all regions) and Sedex (SSA and SEU), both of which include climate-related questions. We also publish as FAQs covering topics like climate change, as well as forest and energy certification.

Impact of engagement, including measures of success

The impact of this engagement has been in raising customer awareness about climate change and giving them the ability to evaluate and model their own carbon footprint and trajectory. In all three regions, we were awarded a Platinum Recognition Level in sustainability performance by independent rating agency EcoVadis, placing us in the top 1% of 30,000 companies

Type of engagement

Education/information sharing

Details of engagement

Other, please specify

See rationale box below

% of customers by number

% of customer - related Scope 3 emissions as reported in C6.5

Please explain the rationale for selecting this group of customers and scope of engagement

The DP business is engaging with three customers on climate related topics. These customers are headquartered in Austria, India and China. Together they take up approximately 80% of dissolving pulp supply from South Africa and North America. Engagement is confined to sharing of scope 3 emissions to help with the setting of SBTs. The DP business has also used the services of an LCA consultant to calculate category 12 end of life emissions in the textile value chain and is engaging with customers on the way forward. Project Vulindlela, our expansion project at Saiccor Mill, is a key capital project undertaken and serves to reduce GHG emissions in line with the ambitious decarbonisation pathway set by the textile value chain (45% reduction by 2030) and serves to reduce scope 3 emissions of our key customers.

The DP business is also engaging with key textile value chain non-profits, like the Textile Exchange to strengthen the decarbonisation model that has been developed, specifically engaging on the role of natural climate solutions in closing the 2030 decarbonisation gap, for the textile sector.

Impact of engagement, including measures of success

Type of engagement

Collaboration & innovation

Details of engagement

Other, please specify

Collect climate change and carbon information at least annually from long-term customers

% of customers by number

20.7

% of customer - related Scope 3 emissions as reported in C6.5

Please explain the rationale for selecting this group of customers and scope of engagement

We have engaged and collected carbon information from three of our DP customers to determine our Scope 3, processing of sold goods carbon emissions, and understand our customer behaviour.

Impact of engagement, including measures of success

The impact of this engagement has enabled us to gain more insight and precision to our downstream scope 3 emissions. It has also helped to raise customer awareness about climate change and giving them the ability to evaluate their own carbon footprint.

Type of engagement

Collaboration & innovation

Details of engagement

Other, please specify

Product development

% of customers by number
% of customer - related Scope 3 emissions as reported in C6.5
Please explain the rationale for selecting this group of customers and scope of engagement

Our focus on innovation is allowing us to take advantage of the changing dynamics between the environment, consumers and the products they require within the context of the global forces shaping our world. It also underpins our growth strategy that is targeted at high-impact, high-value areas. We recently added a 91 g/m² version to our high-barrier paper range, opening up additional applications for manufacturers of branded goods. All high-barrier papers from Sappi ensure that the product quality of foods and other goods is preserved. They feature barriers against oxygen, water vapour, grease and mineral oil as well as outstanding print results, a wide range of finishing options, complete recyclability and integrated heat sealability.

Impact of engagement, including measures of success

In Europe, we collaborated with a machine manufacturer on a project for a well-known cereal manufacturer that switched its fully automated production to paper-based, sealable barrier pouches. Two further application projects focused on confectionery and snacks are already in the development stage. The project has given us and our collaboration partner a strong position to successfully implement paper-based packaging solutions for future customer demands.

C12.1d

(C12.1d) Give details of your climate-related engagement strategy with other partners in the value chain.

1) Currently in progress is an initiative to make available to small growers and farmers DNA fingerprinting technology (developed through collaboration with the Forest Molecular Genetics programme) that will allow growers to determine clonal identity of their material obtained from Sappi nurseries. This will be provided through government funding. This is an example of

providing access to technology developed through Sappi input and funding together with other South African companies.

2) In conjunction with the University of Pretoria, we conducted a pilot study to determine if Near Infrared Reflection Analysis (NIRA) could be used to classify susceptible eucalypt hybrids against the pathogen *Chrysosporthe austroafricana*, a fungal pathogen that causes the development of stem cankers on susceptible trees. The next step will be to verify the model independently and then deploy it operationally. It will be a useful tool to identify hybrids to maintain high purity in nurseries rapidly and cost-effectively.

C-AC12.2/C-FB12.2/C-PF12.2

(C-AC12.2/C-FB12.2/C-PF12.2) Do you encourage your suppliers to undertake any agricultural or forest management practices with climate change mitigation and/or adaptation benefits?

Yes

C-AC12.2a/C-FB12.2a/C-PF12.2a

(C-AC12.2a/C-FB12.2a/C-PF12.2a) Specify which agricultural or forest management practices with climate change mitigation and/or adaptation benefits you encourage your suppliers to undertake and describe your role in the implementation of each practice.

Management practice reference number

MP1

Management practice

Other, please specify

Certification, forestry management

Description of management practice

The Confederation of European Paper Industries (CEPI), of which Sappi Europe is a member, participates in actions supporting and promoting the development of sustainable forestry management tools, including forest certification—all over the world. In North America our Forestry Programme assists woodlot owners in the states of Maine, Minnesota, Wisconsin, and Michigan's Upper Peninsula develop, manage and harvest their woodlands. In Southern Africa, qualified extension officers work with growers in our enterprise development scheme Sappi Khulisa, to promote response planting and harvesting practices.

In the past 10 years, we have settled land claims involving 39,950 hectares of which claimants took ownership of 8,151 hectares and claims for 11, 271 hectares in which claimants preferred to seek compensation. Many of these properties previously belonged to commercial farmers who had supply agreements with Sappi. For many of the land claims in which we have been involved, and where there has been a change in ownership, we continue to buy the timber and help to manage those plantations

sustainably.

Your role in the implementation

Financial
Knowledge sharing
Operational

Explanation of how you encourage implementation

In South Africa, we have established a group certification scheme for small- and medium growers. There are currently of 44 members representing a total of 42,000 planted hectares. We pay growers in this scheme a premium for certified timber. While our own plantations are 100% FSC-certified, we recognised that we needed to obtain certification over and above the FSC group scheme certification, based on the difficulty of getting small growers certified and on customers' requests for PEFC labelled products. PEFC endorses national certification schemes, which meant South Africa had to develop a new certification scheme including a forest management standard. Sappi participated in the development of this scheme now known as the Sustainable African Forestry Assurance Scheme (SAFAS). As SAFAS is directly relevant to a range of South African conditions and more flexible with respect to group schemes, we hope that this move will facilitate the full involvement of small-scale growers and improve the sustainability of the forestry industry

Climate change related benefit

Increasing resilience to climate change (adaptation)
Other, please specify
Responsible land management

Comment

To further assist with the development of small growers and other forestry value chain participants, in South Africa we have established training centres known as Khulisa Ulwazi ('Growing Knowledge') and developed training material in conjunction with the Institute of Natural Resources. Training, which is offered to all value chain participants including small growers, land reform beneficiaries and small-scale contractors, and covers all aspects of forestry, including the core operational skills as well as safety, legal compliance and running a business. A mobile grower app assists Khulisa growers in accessing their plantation information, financial statements and training material. Growers can also send Sappi requests or submit documents through the app.

Management practice reference number

MP2

Management practice

Pest, disease and weed management practices

Description of management practice

Pest and disease management experts will visit any private grower that reports pest and disease issues to Sappi North America.

Your role in the implementation

Knowledge sharing

Explanation of how you encourage implementation

Samples will be collected for identification (if the problem cannot be identified in-field). Growers are advised on management strategies to minimise loss through control methods or species choice for new plantings

Climate change related benefit

Increasing resilience to climate change (adaptation)

Comment

The Sappi's Lake States Private Forestry Program worked collaboratively with the Minnesota Department of Natural Resources (DNR) to save DNR operating and administrative costs while benefiting wildlife on a wildlife management area by employing summer harvest techniques. The team was recognized by Bureau Veritas for their impressive and outstanding outreach programme.

Management practice reference number

MP3

Management practice

Practices to increase wood production and forest productivity

Description of management practice

Timber harvesting is essential to maintain and restore resilient and sustainable forests. Sappi North America was selected by the US Fish and Wildlife Services to lead their timber harvest. Umbagog National Wildlife Refuge, which straddles the New Hampshire and Maine border.

Your role in the implementation

Knowledge sharing

Explanation of how you encourage implementation

The timber harvest in the Umbagog Refuge is designed to promote the US government's long-term goal of a multi-aged, mixed species forest with more than 70%

canopy closure. The harvest we were asked to assist with is the first of a series of harvests scheduled to occur in 15-year increments. Our harvesting procedures will promote and release the regeneration of red spruce, sugar maple and yellow birch, which have been marked for harvest. Some spruce, fir, white birch, sugar maple and American beech trees are also included. Our harvesting plan involves single tree and group selection harvesting. Group cuts are distributed throughout the harvest area with single tree selection used between groups.

Climate change related benefit

Increasing resilience to climate change (adaptation)

Comment

Management practice reference number

MP4

Management practice

Practices to increase wood production and forest productivity

Description of management practice

Soil productivity can be impacted by the season in which harvesting takes place.

Your role in the implementation

Knowledge sharing
Operational

Explanation of how you encourage implementation

In North America, our stumpage and wood supply agreements include requirements to comply with applicable laws, including the use of Best Management Practices (BMPs) to ensure that wood procurement operations adapt appropriately to seasonal adverse weather conditions and other weather events to ensure that soil productivity and water quality resources are protected. A key procurement provision is to build inventory at mills during the winter months to avoid logging activities during the spring breakup / mud season. We specify that wetlands and other wet areas should be logged when soils are in a frozen condition and that BMP guidelines appropriate to the site should be adhered to. We also identify, mitigate and avoid adverse impacts on Forests with Exceptional Conservation Value (FECV), which includes areas identified by NatureServe with a G1 (Globally Critically Imperilled) or G2 (Globally Imperilled) ranking for species and native plant communities.

Climate change related benefit

Increase carbon sink (mitigation)

Comment

Management practice reference number

MP5

Management practice

Other, please specify

Provision of planting material

Description of management practice

Traditional tree breeding is a relatively slow process and in order to keep up with environmental changes, Sappi Forests' tree breeding programme is producing and selecting the most optimally suited hybrid varieties for each climatic zone. Our tree breeding division has a target of developing a hybrid varietal solution for all our sites by 2025. We are also making use of genetic tools, like DNA fingerprinting, to enhance and accelerate their breeding and selection process. In addition, as pine and eucalypt hybrids are more successfully propagated through rooted cuttings rather than seed, a strategy is being rolled out to meet future requirements. In addition to construction of Clan Nursery and the rebuild of the Ngodwana Nursery, we plan to upgrade Richmond Nursery in 2023 to enable the production of additional hybrid cuttings in addition to seedlings. We also provide advice to growers on which species to plant through field days and individual consultations.

Your role in the implementation

Knowledge sharing

Operational

Explanation of how you encourage implementation

Our suppliers benefit from our tree improvement programmes as we provide them with genetically improved (not genetically modified) planting material in the form of seedlings and cuttings.

Climate change related benefit

Increasing resilience to climate change (adaptation)

Increase carbon sink (mitigation)

Comment

C-AC12.2b/C-FB12.2b/C-PF12.2b

(C-AC12.2b/C-FB12.2b/C-PF12.2b) Do you collect information from your suppliers about the outcomes of any implemented agricultural/forest management practices you have encouraged?

Yes

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?

- Direct engagement with policy makers
- Trade associations
- Funding research organizations
- Other

C12.3a

(C12.3a) On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Carbon tax	Support with major exceptions	While Sappi recognises the need to reduce fossil fuel usage in South Africa, the country urgently needs to promote socio-economic development and enhance competitiveness. To support the establishment of a carbon tax accounting system that recognizes the role of forest, we engaged National Treasury via PAMSA to motivate taking into account carbon sequestration by companies that own their own forests. Sappi's process starts with the planting of trees and our total supply chain is carbon positive.	We believe there should be greater recognition of the positive carbon sequestration impact of plantation forestry in South Africa, particularly in view of the fact that forestry only uses 3% of the country's available water, as opposed to agriculture, which uses approximately 60%.
Other, please specify EU Forest Strategy	Support with minor exceptions	The priority objectives of the EU Forest Strategy are stated as effective afforestation, forest preservation and restoration to help increasing the absorption of CO ₂ , reduce the incidence and extent of forest fires, and promote the bio-economy.	The EU Forest Strategy must promote a holistic approach to ensuring the multiple contributions of forests to the environment, climate, economy, and society. Averting climate crisis requires first and foremost the radical reduction of fossil-based emissions. The forest sector is able to provide alternatives made from renewable resources. If forests are only seen for their role as carbon sinks, then we block the

			ability of forest products to substitute resource-intensive and fossil-based products and industries. Such an approach distracts and encourages the perpetual generation of fossil emissions, whose reduction needs to be the priority focus to avert a climate crisis.
Other, please specify EU Single Use Plastics (SUP) Directive	Support with minor exceptions	Sappi was active in lobbying the Commission, Parliament and Member States on the proposed interpretation for “not chemically modified” natural polymers that included viscose.	We welcome the interpretation confirmed in the SUP Guidance Document published in 2021, to exclude viscose, which is derived from renewable woodfibre sourced from sustainably managed forests, from the scope of the SUP directive. On the contrary, the expanded definition of plastic within the SUPD, which includes products containing even a thin polymeric barrier coating runs the risk to hamper innovation and product substitution which would otherwise support the objectives of the SUP – namely, the prevention and reduction of plastic pollution.
Other, please specify Extended Producer Responsibility	Support	United States extended producer responsibility ('EPR') legislative activity focused on packaging materials is increasing at the state and federal levels. Much of the activity is fuelled by the drive to eliminate single-use plastics; however, some bills are far broader and include paper and paperboard products. Several state legislatures, notably New York and Maine, have bills introduced. EPR bills were introduced in March at the federal level in both the House and Senate. The House bill lists 90 Representatives as co-sponsors.	We support AF&PA's position.

		<p>Brands and entities that place items in the end use markets will be primarily responsible for payments. Although paper-based products lead significantly in material recovery (~63%+ annually), they also represent a high percentage of volume not recovered thus ending up in landfills. This fact makes it difficult to argue for a complete exemption for paper based products as a category in the proposed regulations.</p> <p>Environmental NGO activity is growing, with more calls to action to members of Congress. Some major brand owners are increasingly supportive of Extended Producer Responsibility (EPR) regulation. Our trade association, AF&PA, is actively engaged at both the state and Federal level, and we are leveraging their voice at the table to defeat a localised approach and instead, if an EPR does include paper and packaging, lobby for consistency across the country and amend EPR legislation such that paper producers don't bear the costs of improved recycling infrastructure for plastics and other materials.</p>	
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C12.3b

(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

Yes

C12.3c

(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.

Trade association

Confederation of European Paper Industries (Cepi)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Cepi welcomed the new European Climate Law launched in March 2020 by the European Commission. The transition towards a carbon-neutral economy will have to build on strong European industrial value-chains. The combined positive climate impact of European forest (forest sink) and forest-based sector's net substitution effect (forest industry and forest products) reaches a total of more than -806 million tonnes of CO₂e every year, which corresponds to about 20% of the EU's annual emissions. One of the main contributions of forest-based industries is to valorise and ensure healthy forests by fostering their ability to absorb CO₂ from the atmosphere and enhance carbon storage. the contribution of the sectors' low-carbon products is significant.

A Cepi study has shown that informed consumer choices, moving from high-carbon products to low-carbon products, have an immediate and important impact on Europe's goal to become carbon neutral. Cepi calls for an improved market access for recyclable and bio-based products, through a coherent product policy framework that allows for sustainable consumer choices. This should go hand-in-hand with a policy framework that enables availability and access to responsibly sourced bio-based raw materials, through more support to sustainable forest management and high quality recycling in the paper industry.

How have you influenced, or are you attempting to influence their position?

Through our membership of Cepi

Trade association

Sustainable Apparel Coalition

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Sappi is a member of the Sustainable Apparel Coalition's (SAC) policy advocacy task team responsible for providing commentary on the development of the EU textile strategy and associated policies, in line with the EU Green deal directive. One of the key aims is to ensure that virgin wood based raw materials are recognised as a sustainable option. This advocacy group is supported by the Federation of European Sporting

Goods Industry and Global Fashion Agenda.

How have you influenced, or are you attempting to influence their position?

By providing input into position papers.

Trade association

Textile Exchange

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

The Textile Exchange(TE) is positively impacting the climate through accelerating the use of preferred materials across the global textile industry. to maintain healthy ecosystems – estimated to hold the key to one third of the climate solution – we need to stay below a 2°C global temperature rise. The Textile Exchange recently launched its biodiversity benchmarking module.

How have you influenced, or are you attempting to influence their position?

Sappi was an advisory partner in the development of the biodiversity module and has participated in the pilot launch of the tool. Sappi is participating in the TE climate sub-committee and to share best practices on how corporate goals are set, status of climate journey and how natural climate solutions are accounted for in the goal setting process. The results of the study, which includes 38 other companies will articulate the status of the fashion industry as well as to highlight gaps to reach the value chain goal of reducing greenhouse gas emissions by 45% by 2030.

Trade association

American Forest & Paper Association (AF&PA)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

In North America, the regional sustainability director sits on the Environmental Policy Committee which addresses Climate Policy amongst other environmental matters. The Committee is working to update the AF&PA's Principles for Sustainable Climate Policies. The Environment Policy Committee has met with new administration officials to discuss the importance of establishing regulatory certainty on the carbon neutrality of biomass. The association urges the Biden Administration to support policies that recognise that our industry is one based on a renewable and recyclable resource, that our products are manufactured using renewable bioenergy, and after use, are widely and highly recycled. Public policies are most effective when they meet the economic needs, environmental concerns and societal expectations of our diverse communities.

Our progress in renewable energy and sustainability goals demonstrates that a balance is both possible and necessary.

How have you influenced, or are you attempting to influence their position?

By participating in Committee activities.

C12.3d

(C12.3d) Do you publicly disclose a list of all research organizations that you fund?

Yes

C12.3e

(C12.3e) Provide details of the other engagement activities that you undertake.

1) Sappi has been a signatory to the United Nations Global Compact since 2008 and annually reports on progress in terms of the 10 principles. In addition, we have developed action plans to incorporate seven global priority SDGs where we can make the biggest impacts, either by increasing our positive contribution or by reducing our negative impacts. Our global priority SDGS are SDG6: Clean water and sanitation; SDG7: Affordable and clean energy; SDG8: Decent work and economic growth; SDG12: Responsible Consumption and production; SDG13: Climate action; SDG15: Life on land and SDG17: Partnerships for the goals. As South Africa is a developing country, we have identified two further priority SDGS in this region: SDG1: No poverty and SDG4: Quality education.

2) The Greenhouse Gas Protocol launched a process to develop new standards and guidance on how companies account for and report the following activities in their greenhouse gas inventories:

- Carbon removals and storage
- Land use
- Land use change
- Bioenergy

A member of the Sappi Forests Research team has been working with the World Resources Institute on the GHG Protocol Carbon Removals and Land Sector Initiative Project. The land sector technical working group will develop guidance on:

- Types of emissions, removals and sequestration within the land sector
- Carbon emissions and removals from land use (e.g., forest management, crop and livestock production, bioenergy feedstock production, soil carbon, etc.)
- Carbon emissions and removals from land use change (e.g., deforestation, afforestation, wetland conversion, etc.)
- Direct and indirect land use change and related impacts from changes in production
- Agricultural GHG emissions (e.g., livestock methane emissions, soil nitrous oxide emissions, etc.)
- Biogenic removals and temporary to long-term storage in biogenic products/materials (e.g., furniture, building materials, etc.)
- Biogenic carbon dioxide emissions and removals from bioenergy production and consumption (e.g., biomass, biofuels, biogas)

· Land sector accounting approaches

- Use of land-based vs. activity-based accounting methods
- Addressing the timing of removals and emissions
- Separate biogenic carbon emissions and removals accounting vs. bringing biogenic emissions and removals into scopes 1, 2 and 3
- Quantification methods and data sources; reporting requirements; target setting and tracking changes over time; alignment with or revisions to other GHG Protocol standards and guidance.

3) Climate legislation On June 26, 2019, the Governor and Legislature created the Maine Climate Council, an assembly of scientists, industry leaders, bipartisan local and state officials, and engaged citizens to develop a four-year plan to put Maine on a trajectory to reduce emissions by 45% by 2030 and at least 80% by 2050. By Executive Order, the state must also achieve carbon neutrality by 2045. <https://climatecouncil.maine.gov/strategies> The Energy Manager for Sappi North America Somerset Maine mill was invited to be a member of the Council. This individual also serves on the Transportation Working Group.

4) Sappi is the co-lead of the committee operating under the auspices of the Alliance for Pulp and Paper Technology Innovation (APPTI) to demonstrate and deploy membrane-based technology for black liquor. Other members of the committee include the Georgia Institute of Technology (Georgia Tech), members of the US forest products industry and membrane system/ process developers.

5) Cloquet Mill recently completed the Higg FEM sustainability self-assessment for Verve, our DP brand, with the results exceeding internal expectations. The results position the mill as a leader in sustainable practices, evidenced by a low environmental footprint. The Higg FEM self-assessment tool is part of the Higg Index suite of tools that was developed by the Sustainable Apparel Coalition (SAC) to allow the apparel industry to measure their sustainability performance and drive supply chain transparency and decision making. The Higg Index enables suppliers, manufacturers, brands, and retailers to evaluate materials, products, facilities, and processes based on environmental performance, social labour practices, and product design choices. Sappi joined the SAC in February 2019 and remains a committed member of the organisation, participating in many of the SAC events and engaging in ongoing discussions on how to enhance the tools on offer.

C12.3f

(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

The Group Head: Corporate Affairs and the Group Head: Strategy and Legal, liaise with the GM: Group Sustainability, as well as the regional CEOs and sustainability heads regarding direct activities that influence policy. At the Regional Sustainable Development Councils (Europe, North America and South Africa), Global Sustainable Development Council, as well as the SETS and Risk and Audit committee meetings, policy and legislative items that can or do affect the sustainability of Sappi's business, including climate change, are discussed and

appropriate actions are agreed with management and EXCO to ensure our positions are consistent with our overall climate strategy.

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In mainstream reports

Status

Complete

Attach the document



Page/Section reference

14,22,23,24,42,82,156

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Other metrics

Comment

Other metrics including energy consumption, breakdown of fuel types etc for FY20 can be found here: <https://cdn-s3.sappi.com/s3fs-public/2020-Sappi-Group-Sustainability-Report-Key-indicators-Planet.pdf>

Please note that our 2025 emission targets are detailed here:
<https://www.sappi.com/new-sustainability-targets-for-a-thriving-world>

C13. Other land management impacts

C-AC13.1/C-FB13.1/C-PF13.1

(C-AC13.1/C-FB13.1/C-PF13.1) Do you know if any of the management practices implemented on your own land disclosed in C-AC4.4a/C-FB4.4a/C-PF4.4a have other impacts besides climate change mitigation/adaptation?

Yes

C-AC13.1a/C-FB13.1a/C-PF13.1a

(C-AC13.1a/C-FB13.1a/C-PF13.1a) Provide details on those management practices that have other impacts besides climate change mitigation/adaptation and on your management response.

Management practice reference number

MP1

Overall effect

Positive

Which of the following has been impacted?

Biodiversity

Description of impact

As our primary input, woodfibre is a renewable natural resource, Sappi depends on ecosystem services such as healthy soils, clean water, pollination and a stable climate. Accordingly, biodiversity is a key focus area.

Have you implemented any response(s) to these impacts?

Yes

Description of the response(s)

In FY20, we signed up to Business for Nature's call to action, a global coalition of non-governmental organisations (NGOs) and business groups including the International Chamber of Commerce, WWF, We Mean Business, the World Business Council for Sustainable Development (WBCSD) and the International Union for Conservation of Nature (IUCN).

We made progress in terms of our Thrive25 target by addressing our first biodiversity objective underpinning this task – understanding what types of vegetation are present on our plantations, as well as their importance value. This enables managers to develop appropriate management plans for implementation. It is also important, from a conservation management perspective, to identify those vegetation types that are least protected, in order to prioritise efforts to safeguard the vegetation type from possible extinction. Our potential contribution to conserving vegetation types at the provincial level can be calculated by comparing what is present on Sappi property with the vegetation types in the province.

In Mpumalanga, of the fifteen vegetation types present on Sappi land, six are well represented, enabling a potential contribution of between 9 – 18% of hectares conserved for the vegetation type in the province. In KwaZulu-Natal, of the twenty

vegetation types present on Sappi land, four are well represented, enabling a potential contribution to conserving the vegetation of between 8 – 13.5% in this province

Management practice reference number

MP2

Overall effect

Positive

Which of the following has been impacted?

Biodiversity

Description of impact

As our primary input, woodfibre is a renewable natural resource, Sappi depends on ecosystem services such as healthy soils, clean water, pollination and a stable climate. Accordingly, biodiversity is a key focus area.

Have you implemented any response(s) to these impacts?

Yes

Description of the response(s)

Of the 394,000 hectares of land we own and lease, approximately one third is managed for biodiversity conservation. This includes maintaining 160 Important Conservation Areas (ICAs) and seven nature reserves on our plantations. Proclaimed nature reserves are areas that are formally gazetted as protected areas. The Biodiversity Stewardship Scheme run by the South African National Biodiversity Institute (SANBI) recognises different levels of protection, depending on the commitment of the landowner. The category of nature reserve is the highest level of protection that can be awarded to an area. All stewardship projects are based on partnerships, between landowners, provincial conservation authorities and NGOs, which are developed to secure biodiversity. Stewardship agreements compiled between provincial conservation authorities and land owners recognise the land owner as the custodian of biodiversity and will ensure the land is managed and protected in a way that will conserve its biodiversity.

Management practice reference number

MP3

Overall effect

Positive

Which of the following has been impacted?

Water

Description of impact

The Karjaanjoki watershed provides our Kirkniemi Mill in Finland with one of its most important raw materials, water. The four power plant dams around the watershed have acted as an especially tough barrier to salmon fish migration. Lake Lohjanjärvi to the Gulf of Finland.

Have you implemented any response(s) to these impacts?

Yes

Description of the response(s)

Sappi is a partner in a project with the Länsi-Uusimaa Water and Environment Association in Finland to support the revitalisation of threatened aquatic species in the nearby Mustionjoki River. The project involves building fish passages to restore salmon stocks and freshwater pearl mussel populations in the river. By building the fish passages, the project enables salmon to bypass the dams on their important journey to and from the Gulf. Similarly, the passages also benefit the unique population of freshwater pearl mussels that have been threatened by the dams

C-AC13.2/C-FB13.2/C-PF13.2

(C-AC13.2/C-FB13.2/C-PF13.2) Do you know if any of the management practices mentioned in C-AC12.2a/C-FB12.2a/C-PF12.2a that were implemented by your suppliers have other impacts besides climate change mitigation/adaptation?

Yes

C-AC13.2a/C-FB13.2a/C-PF13.2a

(C-AC13.2a/C-FB13.2a/C-PF13.2a) Provide details of those management practices implemented by your suppliers that have other impacts besides climate change mitigation/adaptation.

Management practice reference number

MP1

Overall effect

Positive

Which of the following has been impacted?

Biodiversity

Soil

Description of impacts

Practices to promote biodiversity.

Have any response to these impacts been implemented?

Yes

Description of the response(s)

Approximately 87% of forests in the European Economic Area (EEA) countries are classified as semi-natural. These forests retain their natural characteristics to a certain degree, including biodiversity. Practices to promote biodiversity in Europe's semi-natural forests include: * Thinning which selectively the weaker trees leaving the stronger to strengthen the wood stand so that it can offer continuity of habitat for species and makes the stand fitter to stand sickness and calamities. It also, protects and creates habitats for species dependent upon older large diameter trees and deadwood e.g. slowly colonising lichens, fungi, wood-boring insects and hole-nesting birds. * Avoiding soil compaction. * Logging site planning which identifies the key elements for biodiversity that must be considered during harvesting operations. These practices provide habitat for species that inhabit new or growing forests.

Management practice reference number

MP2

Overall effect

Positive

Which of the following has been impacted?**Description of impacts**

Practices to promote biodiversity.

Have any response to these impacts been implemented?

Yes

Description of the response(s)

In North America, written stumpage and wood supply agreements include requirements to comply with applicable laws, including the use of Best Management Practices (BMPs) to ensure that wood procurement operations adapt appropriately to seasonal adverse weather conditions and other weather events to ensure that soil productivity and water quality resources are protected. A key procurement provision is to build inventory at the mill during the winter months to avoid logging activities during the spring break-up / mud season. SNA also specifies that wetlands and other wet areas be logged when soils are in a frozen condition. Stipulations include: * Supervision, inspection and adequate documented occurs on all Sappi stumpage operations, including monitoring and enforcement of BMP guidelines appropriate to the site. Similar inspections are conducted on a risk-based sampling of open-market sales from which SNA procures

wood/chips. * Action to protect threatened and endangered species, as required by state and federal law. SNA goes further to identify and mitigate or avoid adverse impacts on Forests with Exceptional Conservation Value (FECV), which includes areas identified by NatureServe with a G1 (Globally Critically Imperilled) or G2 (Globally Imperilled) ranking for species and native plant communities. SNA also utilises regional risk assessment and site-specific data from credible scientific agencies/organisations to identify and mitigate for broader biodiversity risks in sourcing activities

C15. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

C15.1

(C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	General Manager Group Sustainability	Chief Sustainability Officer (CSO)

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

Sappi Europe (SEU) is the largest fine paper producer in Europe and one of the largest publication and speciality paper manufacturers. SEU operates six paper mills and one speciality mill in Europe of which six have integrated pulp production lines. Sappi North America (SNA) operates one paper mill, one speciality mill and one paper and dissolving wood pulp mill. In FY2019, SEU produced 50% of group sales, while SNA produced 25%.

SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	4,609,000

SC0.2

(SC0.2) Do you have an ISIN for your company that you would be willing to share with CDP?

Yes

SC0.2a

(SC0.2a) Please use the table below to share your ISIN.

	ISIN country code (2 letters)	ISIN numeric identifier and single check digit (10 numbers overall)
Row 1	ZA	E000006284

SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

Requesting member

Bank of America

Scope of emissions

Scope 1

Allocation level

Facility

Allocation level detail

Emissions from combusted fuels are allocated evenly over all products manufactured at the mills.

Emissions in metric tonnes of CO₂e

276

Uncertainty (±%)

5

Major sources of emissions

Fuels combusted at the mill power plant.

Verified

Yes

Allocation method

Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

These figures are based on the externally verified calculations.

Requesting member

Bank of America

Scope of emissions

Scope 2

Allocation level

Facility

Allocation level detail

Emissions from purchased power are allocated equally per ton product.

Emissions in metric tonnes of CO₂e

67

Uncertainty (±%)

5

Major sources of emissions

Purchased power.

Verified

Yes

Allocation method

Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Invoices from the power supplier, consumption meters at the mills.

Requesting member

Bank of America

Scope of emissions

Scope 3

Allocation level

Facility

Allocation level detail

Emissions in metric tonnes of CO₂e

444

Uncertainty (±%)

30

Major sources of emissions

Pulp production, fuel production. Industry average CO₂ emission factors are used for most raw materials. Transport to a customer facility is included.

Verified

No

Allocation method

Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

We follow the guidance and methodology from a third party consultant Quantis.

Requesting member

Avery Dennison Corporation

Scope of emissions

Scope 1

Allocation level

Facility

Allocation level detail

Emissions from the fuel combustion are allocated equally per ton of product at each mill.

Emissions in metric tonnes of CO₂e

1,316

Uncertainty (±%)

5

Major sources of emissions

Combustion of fuels at our own power plants.

Verified

Yes

Allocation method

Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

These figures are based on the externally verified calculations. At our European facilities these are also used to calculate the EU ETS carbon credits and audited according to the requirements of the EU ETS.

Requesting member

Avery Dennison Corporation

Scope of emissions

Scope 2

Allocation level

Facility

Allocation level detail

Emissions from purchased power are allocated equally per ton of product.

Emissions in metric tonnes of CO₂e

1,519

Uncertainty (±%)

5

Major sources of emissions

Purchased power.

Verified

Yes

Allocation method

Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Invoices from the power supplier, consumption meters at the mills.

Requesting member

Avery Dennison Corporation

Scope of emissions

Scope 3

Allocation level

Commodity

Allocation level detail

Emissions in metric tonnes of CO₂e

861

Uncertainty (±%)

30

Major sources of emissions

Manufacturing of raw materials: market pulp, fillers, pigments, binders and starch.
Upstream and downstream transport emissions, including transport to a customer. End of life emissions are not included.

Verified

No

Allocation method

Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Allocation is done on a product group level. Pulp mix, filler and binder content are taken into account, but other (smaller) raw materials are allocated evenly between all products at the mill. We mostly use database values for CO₂ factors.

Requesting member

Philip Morris International

Scope of emissions

Scope 1

Allocation level

Facility

Allocation level detail

Emissions from the fuel combustion are allocated equally per ton of product at each mill.

Emissions in metric tonnes of CO₂e

14,583

Uncertainty (±%)

5

Major sources of emissions

Combustion of fuels at our own power plants.

Verified

Yes

Allocation method

Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

These figures are based on the externally verified calculations that are also used to calculate the EU ETS carbon credits.

Requesting member

Philip Morris International

Scope of emissions

Scope 2

Allocation level

Facility

Allocation level detail

Emissions from purchased power are allocated equally per ton of product.

Emissions in metric tonnes of CO₂e

7,677

Uncertainty (±%)

5

Major sources of emissions

Purchased power and steam.

Verified

Yes

Allocation method

Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Invoices from the supplier, consumption meters at the mills.

Requesting member

Philip Morris International

Scope of emissions

Scope 3

Allocation level

Commodity

Allocation level detail

Emissions in metric tonnes of CO₂e

9,015

Uncertainty (±%)

30

Major sources of emissions

Manufacturing of raw materials: market pulp, fillers, pigments, binders and starch.

Upstream and downstream transport emissions, including transport to a customer. End of life emissions are not included.

Verified

No

Allocation method

Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Allocation is done on a product group level. Pulp mix, filler and binder content are taken into account, but other (smaller) raw materials are allocated evenly between all products at the mill. We mostly use database values for CO₂ factors.

Requesting member

L'Oréal

Scope of emissions

Scope 1

Allocation level

Facility

Allocation level detail

Emissions from the fuel combustion are allocated equally per ton of product at each mill.

Emissions in metric tonnes of CO₂e

1,717

Uncertainty (±%)

5

Major sources of emissions

Combustion of fuels at our own power plants.

Verified

Yes

Allocation method

Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

These figures are based on the externally verified calculations that are also used to calculate the EU ETS carbon credits.

Requesting member

L'Oréal

Scope of emissions

Scope 2

Allocation level

Facility

Allocation level detail

Emissions from purchased power are allocated equally per ton of product.

Emissions in metric tonnes of CO₂e

1,945

Uncertainty (±%)

5

Major sources of emissions

Purchased power.

Verified

Yes

Allocation method

Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Invoices from the power supplier, consumption meters at the mills.

Requesting member

L'Oréal

Scope of emissions

Scope 3

Allocation level

Commodity

Allocation level detail

Emissions in metric tonnes of CO₂e

937

Uncertainty (±%)

30

Major sources of emissions

Manufacturing of raw materials: market pulp, fillers, pigments, binders and starch.

Upstream and downstream transport emissions, including transport to a customer. End of life emissions are not included.

Verified

No

Allocation method

Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Allocation is done on a product group level. Pulp mix, filler and binder content are taken into account, but other (smaller) raw materials are allocated evenly between all products at the mill. We mostly use database values for CO₂ factors.

Requesting member

JT International SA

Scope of emissions

Scope 1

Allocation level

Facility

Allocation level detail

Emissions from the fuel combustion are allocated equally per ton of product at each mill.

Emissions in metric tonnes of CO₂e

1,682

Uncertainty (±%)

5

Major sources of emissions

Combustion of fuels at our own power plants.

Verified

Yes

Allocation method

Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

These figures are based on the externally verified calculations that are also used to calculate the EU ETS carbon credits.

Requesting member

JT International SA

Scope of emissions

Scope 2

Allocation level

Facility

Allocation level detail

Emissions from purchased power are allocated equally per ton of product.

Emissions in metric tonnes of CO₂e

1,327

Uncertainty (±%)

5

Major sources of emissions

Purchased power.

Verified

Yes

Allocation method

Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Invoices from the power supplier, consumption meters at the mills.

Requesting member

JT International SA

Scope of emissions

Scope 3

Allocation level

Commodity

Allocation level detail

Emissions in metric tonnes of CO₂e

1,253

Uncertainty (±%)

30

Major sources of emissions

Manufacturing of raw materials: market pulp, fillers, pigments, binders and starch.
Upstream and downstream transport emissions, including transport to a customer. End of life emissions are not included.

Verified

No

Allocation method

Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Allocation is done on a product group level. Pulp mix, filler and binder content are taken into account, but other (smaller) raw materials are allocated evenly between all products at the mill. We mostly use database values for CO₂ factors.

SC1.2

(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges	Please explain what would help you overcome these challenges
-----------------------	--

Managing the different emission factors of diverse and numerous geographies makes calculating total footprint difficult	It is often difficult and time consuming to obtain data from suppliers in order to calculate Scope 3 emissions.
Other, please specify When material is sold through merchant partners we do not always have visibility to sales data to the end use customer. Any customer supplied consumption data would help.	When material is sold through merchant partners we do not always have visibility to sales data to the end use customer. Any customer supplied consumption data would help.

SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

Yes

SC1.4a

(SC1.4a) Describe how you plan to develop your capabilities.

We are working to improve our use of the most up-to-date CO2-factors for our raw materials and constantly improving the accuracy of allocations of raw materials to products. We will first focus on our customers that are most engaged in GHG accounting.

SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?

Yes, I will provide data

SC4.1a

(SC4.1a) Give the overall percentage of total emissions, for all Scopes, that are covered by these products.

SC4.2a

(SC4.2a) Complete the following table for the goods/services for which you want to provide data.

Name of good/ service

Algro Design
Algro Design Nature

Description of good/ service

SBB, manufactured at Alfeld Mill

Type of product

Intermediate

SKU (Stock Keeping Unit)

ton

Total emissions in kg CO₂e per unit

1,195

±% change from previous figure supplied

-15

Date of previous figure supplied

July 31, 2020

Explanation of change

Reduction of Scope 2 through purchase of green power

Methods used to estimate lifecycle emissions

Other, please specify
CEPI and Eurograph carbon footprint

Name of good/ service

Fusion

Description of good/ service

Topliner

Type of product

Intermediate

SKU (Stock Keeping Unit)

Ton

Total emissions in kg CO₂e per unit

799

±% change from previous figure supplied

-4

Date of previous figure supplied

July 31, 2020

Explanation of change

Reduction of Scope 2 through purchase of green power

Methods used to estimate lifecycle emissions

Other, please specify

CEPI and Eurograph carbon footprint

Name of good/ service

Leine Muehle

Description of good/ service

Uncoated flexpack

Type of product

Intermediate

SKU (Stock Keeping Unit)

Ton

Total emissions in kg CO2e per unit

1,255

±% change from previous figure supplied

-13

Date of previous figure supplied

July 31, 2020

Explanation of change

Reduction of Scope 2 through purchase of green power

Methods used to estimate lifecycle emissions

Other, please specify

CEPI and Eurograph carbon footprint

Name of good/ service

Algro Fin

Algro Fin TO

Algro Finess

Algro Finess H

Algro Finess T

Royal Poncho A

Description of good/ service

Coated flexpack

Type of product

Intermediate

SKU (Stock Keeping Unit)

Ton

Total emissions in kg CO2e per unit

1,216

±% change from previous figure supplied

-15

Date of previous figure supplied

July 31, 2020

Explanation of change

Reduction of Scope 2 through purchase of green power

Methods used to estimate lifecycle emissions

Other, please specify

CEPI and Eurograph carbon footprint

Name of good/ service

Magno Volume

Description of good/ service

Manufactured in Gratkorn

Type of product

Intermediate

SKU (Stock Keeping Unit)

ton

Total emissions in kg CO2e per unit

784

±% change from previous figure supplied

-1

Date of previous figure supplied

July 31, 2020

Explanation of change

Continuous improvement activities

Methods used to estimate lifecycle emissions

Other, please specify
CEPI and Eurograph carbon footprint

Name of good/ service

Magno Volume

Description of good/ service

Manufactured in Stockstadt

Type of product

Intermediate

SKU (Stock Keeping Unit)

ton

Total emissions in kg CO₂e per unit

1,554

±% change from previous figure supplied

12

Date of previous figure supplied

July 31, 2020

Explanation of change

Closure of a paper machine at the mill, reduction of production volumes.

Methods used to estimate lifecycle emissions

Other, please specify
CEPI and Eurograph carbon footprint

Name of good/ service

Innerliner Pro
Innerliner Classic
Innerliner Satin

Description of good/ service

Carmignano Innerliner

Type of product

Intermediate

SKU (Stock Keeping Unit)

ton

Total emissions in kg CO₂e per unit

1,035

±% change from previous figure supplied

Date of previous figure supplied

Explanation of change

Methods used to estimate lifecycle emissions

Other, please specify

CEPI and Eurograph carbon footprint

Name of good/ service

Sol SNC

Description of good/ service

Release Liner Alfeld

Type of product

Intermediate

SKU (Stock Keeping Unit)

ton

Total emissions in kg CO₂e per unit

1,200

±% change from previous figure supplied

Date of previous figure supplied

Explanation of change

Methods used to estimate lifecycle emissions

Other, please specify

CEPI and Eurograph carbon footprint

SC4.2b

(SC4.2b) Complete the following table with data for lifecycle stages of your goods and/or services.

Name of good/ service

Fusion Topliner

Please select the scope

Scope 1

Please select the lifecycle stage

Production

Emissions at the lifecycle stage in kg CO2e per unit

179

Is this stage under your ownership or control?

Yes

Type of data used

Primary

Data quality

High

If you are verifying/assuring this product emission data, please tell us how

Covered by ISO 50 001

Name of good/ service

Algro Design

Algro Design Nature

Please select the scope

Please select the lifecycle stage

Production

Emissions at the lifecycle stage in kg CO2e per unit

452

Is this stage under your ownership or control?

Yes

Type of data used

Primary

Data quality

High

If you are verifying/assuring this product emission data, please tell us how

Covered by ISO 50 001

SC4.2c

(SC4.2c) Please detail emissions reduction initiatives completed or planned for this product.

Name of good/service	Initiative ID	Description of initiative	Completed or planned	Emission reductions in kg CO ₂ e per unit
Products manufactured at Alfeld mill	Initiative 1	Reduction of Scope 2 at Alfeld Mill	Ongoing	350

SC4.2d

(SC4.2d) Have any of the initiatives described in SC4.2c been driven by requesting CDP Supply Chain members?

Yes

SC4.2e

(SC4.2e) Explain which initiatives have been driven by requesting members.

Requesting member(s)	Name of good/service	Initiative ID
Philip Morris International	Algro Design Nature Algro Fin Algro Fin TO Algro Finess Algro Finess H Algro Finess T Royal Poncho A	Initiative 1
L'Oréal	Algro Design Nature	Initiative 1
Avery Dennison Corporation	Fusion Topliner Sol DN Sol SNC	Initiative 1

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I am submitting to	Public or Non-Public Submission	Are you ready to submit the additional Supply Chain questions?
I am submitting my response	Investors Customers	Public	Yes, I will submit the Supply Chain questions now

Please confirm below

I have read and accept the applicable Terms