

Module: Introduction**Page: Introduction**

CC0.1**Introduction**

Please give a general description and introduction to your organization.

Sappi is a global company with 12 000 employees focused on providing dissolving wood pulp, paper pulp and paper-based solutions to its direct and indirect customer base across more than 150 countries. Manufacturing operations are located in North America, Europe and South Africa, where the company also owns plantations, In FY2016, production included:

- * 5.4 million tons of paper per year
- * 2.3 million tons of paper pulp per year
- * 1.3 million tons of dissolving wood pulp per year

In FY2016, in terms of production of group sales, Europe accounted for 50%, North America for 27% and South Africa for 23%.

The wood and pulp needed for our products is either grown by Sappi, produced within Sappi or bought from accredited suppliers. Across the group, Sappi is close to 'pulp neutral', meaning that the group sells almost as much pulp as its buys.

CC0.2**Reporting Year**

Please state the start and end date of the year for which you are reporting data.

The current reporting year is the latest/most recent 12-month period for which data is reported. Enter the dates of this year first.

We request data for more than one reporting period for some emission accounting questions. Please provide data for the three years prior to the current reporting year if you have not provided this information before, or if this is the first time you have answered a CDP information request. (This does not apply if you have been offered and selected the option of answering the shorter questionnaire). If you are going to provide additional years of data, please give the dates of those reporting periods here. Work backwards from the most recent reporting year. Please enter dates in following format: day(DD)/month(MM)/year(YYYY) (i.e. 31/01/2001).

Enter Periods that will be disclosed
Thu 01 Oct 2015 - Fri 30 Sep 2016

CC0.3

Country list configuration

Please select the countries for which you will be supplying data. If you are responding to the Electric Utilities module, this selection will be carried forward to assist you in completing your response.

Select country
Austria
Belgium
Finland
Germany
Netherlands
South Africa
United States of America

CC0.4

Currency selection

Please select the currency in which you would like to submit your response. All financial information contained in the response should be in this currency.

USD (\$)

CC0.6

Modules

As part of the request for information on behalf of investors, companies in the electric utility sector, companies in the automobile and auto component manufacturing sector, companies in the oil and gas sector, companies in the information and communications technology sector (ICT) and companies in the food, beverage and tobacco sector (FBT) should complete supplementary questions in addition to the core questionnaire.

If you are in these sector groupings, the corresponding sector modules will not appear among the options of question CC0.6 but will automatically appear in the ORS navigation bar when you save this page. If you want to query your classification, please email respond@cdp.net.

If you have not been presented with a sector module that you consider would be appropriate for your company to answer, please select the module below in CC0.6.

Further Information

Module: Management

Page: CC1. Governance

CC1.1

Where is the highest level of direct responsibility for climate change within your organization?

Board or individual/sub-set of the Board or other committee appointed by the Board

CC1.1a

Please identify the position of the individual or name of the committee with this responsibility

The Social, Ethics, Transformation and Sustainability (SETS) Committee, a statutory board committee, has final responsibility for climate change. The SETS committee has an independent role with accountability to the Board. The role of the SETS 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 in the fields of social, ethics, sustainability and transformation. In each region where Sappi operates, climate change-related responsibilities 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.

The individual within Sappi with the highest responsibility for climate change is the Group Head Technology who reports directly to the Group CEO.

CC1.2

Do you provide incentives for the management of climate change issues, including the attainment of targets?

No

CC1.2a

Please provide further details on the incentives provided for the management of climate change issues

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator	Comment

Further Information

Page: CC2. Strategy

CC2.1

Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities

Integrated into multi-disciplinary companywide risk management processes

CC2.1a

Please provide further details on your risk management procedures with regard to climate change risks and opportunities

Frequency of monitoring	To whom are results reported?	Geographical areas considered	How far into the future are risks considered?	Comment
Annually	Board or individual/sub-set of the Board or committee appointed by the Board	Regions in which Sappi operates and from which the group sources fibre.	3 to 6 years	The Global Risk Cluster presents key risks on an annual basis to the Sappi Global- and Regional Executive Committees, the Group Technology Management Team and the Group Risk Management Team, which in turn reports regularly on risks to the Audit Committee and the Board.

CC2.1b

Please describe how your risk and opportunity identification processes are applied at both company and asset level

At a company (group) level, the Regional Risk Management Councils meet bi-annually to identify, assess and discuss risks. The top risks are then identified and plotted on a graph in terms of likelihood and severity. Risks, including indirect climate change risks, are monitored and publicly reported on annually. Sappi currently has a general process for determining materiality and priorities of all risks. Climate change risks considered include regulatory, reputational, weather related (fire and pests), forest management, operational resource management (water, energy), licence to operate and customer behavioural change risks.

At asset (regional and operating unit e.g. mills) level, risks pertaining to that specific asset are assessed and mitigation actions are managed by the management team of that specific asset. The risks to assets are reviewed on a six-monthly basis by the management team responsible for the asset and all major assets are covered by insurance. On an annual basis, the risks associated with Sappi's non-forestry assets are reviewed by external consultants. The results of these reviews are converted to mitigation action plans, if required. The results of these reviews are used together with the internal survey results of the company's forestry assets, to buy insurance to mitigate risk as required.

CC2.1c

How do you prioritize the risks and opportunities identified?

Climate change risk and opportunity factors such as regulatory, reputational, weather related (fire and pests), forest management, operational resource management (water, energy), licence to operate and customer behavioural change are assessed together with other non-climate change related risks and are plotted bi-annually on a risk matrix according to the probable severity of the monetary impact and the likelihood of occurrence, to determine possible risk exposure. The risk matrix is updated bi-annually.

CC2.1d

Please explain why you do not have a process in place for assessing and managing risks and opportunities from climate change, and whether you plan to introduce such a process in future

Main reason for not having a process	Do you plan to introduce a process?	Comment

CC2.2

Is climate change integrated into your business strategy?

Yes

CC2.2a

Please describe the process of how climate change is integrated into your business strategy and any outcomes of this process

i) Sappi's business strategy is encapsulated in its publicly stated 2020Vision: "Within the next five years, we want to maximize the returns from our mature businesses, expand our existing high-growth businesses and enter new businesses in adjacent fields as we unlock and commercialise the potential of plantation and forest-derived bio-products. The fact that we operate in a carbon-constrained world as a natural resource company has opened up many exciting opportunities to expand and diversity. Our business is based on woodfibre derived from trees – and it is in these fibres that we have found the key to unlock our sustainable future in a fast-changing world".

Against this backdrop, and given that climate change has the potential to impact to negatively impact natural resources like woodfibre, climate change remediation is of particular strategic importance to Sappi.

ii) Key to this strategy is the reduction of fossil fuel usage- one of the major causes of climate change. Energy is one of Sappi's key inputs, together with woodfibre, chemicals and water. Aggressively managing energy-use and increasing energy efficiency, positively impact profitability and environmental performance with reduced emissions and a lower carbon footprint. Globally, Sappi has achieved a reduction in absolute emissions intensity (Scope 1 and 2) of 8.8% over five years; an increase in energy self-sufficiency of 10.5% and we have also increased our generation of renewable energy by 5.1%.

iii) In the short term (i.e. less than five years), the most important components of Sappi's strategy are the opportunity to reduce energy costs and take advantage of cogeneration opportunities. Even though globally Sappi's energy costs as a percentage of cost of sales have declined over five years due to actions taken, it makes business sense for Sappi to aggressively manage energy usage and promote the generation of renewable energy. Most Sappi mills generate power onsite from fossil or renewable resources for internal consumption. In some instances (Westbrook Mill (North America), Gratkorn and Maastricht Mills (Europe) and Ngodwana Mill (Southern Africa)), excess power can be generated which is sold back into the power grid. This power is used for district heating in the vicinity of Sappi's plants and for export into the public grid, thereby replacing fossil fuels. In this way, roughly 100,670 metric tons CO₂e were avoided during the past five-year cycle.

iv) In the long term (i.e. more than five years), Sappi aims to reduce its carbon footprint by improving energy efficiency and decreasing its reliance on fossil fuels. Sappi has, and will continue to achieve this by making process changes, installing more efficient equipment, reducing purchased energy (electricity and fossil fuel) by increasing its use of renewable energy – an approach that ultimately results in a reduction in CO₂ emissions. In addition, the global demand for woodfibre is expected to increase for the foreseeable future, driven partly by the trend to use renewable resources like woodfibre, rather than finite fossil fuels for energy generation. Given that woodfibre is a key input to its manufacturing operations, maintaining continuity of supply is integral to Sappi's sustainability as a business. Accordingly, the group's tree improvement research focuses on improving sustainable supply of wood fibre.

A key component of Sappi's strategy focuses on extracting previously untapped value from woodfibre. Aligned with the group's strategic move into adjacent markets, Sappi has invested in a nanocellulose pilot plant which offers the opportunity to build on its established presence in lightweight packaging and other materials – important given the need to reduce carbon emissions.

In addition, Sappi believes that climate and food security risks will affect cotton availability in the future. As dissolving wood pulp (DWP) is a raw material used in the manufacture of viscose, a direct competitor to cotton, the group has identified DWP as a high growth, high margin business of the future. In 2013, the group successfully commissioned two projects to expand DWP capacity from 800 000tpa to 1,34m tpa. We are expanding our DWP capacity by up to 50,000tpa at each mill, beginning in FY2017.

v) There is a high level of consumer awareness, in all regions where Sappi operates, of the need to reduce fossil fuel emissions. In the USA, the country's energy profile is only 10% renewable energy whereas the pulp and paper industry uses 54.5% and Sappi North America's use of renewable energy is over 70%. This is a significant competitive benefit not just in terms of costs, but also in terms of customers choosing papers with a lower environmental footprint. Globally, Sappi's generation of renewable energy stands at 52.9% (75% of which is own black liquor) – an important strategic advantage in terms of marketing and in the light of possible carbon taxation and/or carbon levies.

vi) Sappi has a long-standing commitment to control energy usage. Environmental impact is reduced not only by the amount of energy, but also by the type of energy consumed. Sappi has made significant efforts to reduce reliance on fossil fuels, thereby reducing greenhouse gas emissions and separating its operations from the volatility of energy prices.

Sappi's energy efficiency is enhanced through extensive use of cogeneration and through an ongoing drive to make process improvements and install more efficient equipment.

Sappi has taken the decision to understand the challenges and risks of GMO tree crops as its competitors in the woodfibre space have started utilising the technology. While Sappi sees potential environmental, social and reputational risks with GMOs, it also sees GMOs as a potential method to adapt its plantations to a potentially rapidly changing climate and as a renewable source of chemicals, energy and fibre.

CC2.2b

Please explain why climate change is not integrated into your business strategy

CC2.2c

Does your company use an internal price on carbon?

No, but we anticipate doing so in the next 2 years

CC2.2d

Please provide details and examples of how your company uses an internal price on carbon

CC2.3

Do you engage in activities that could either directly or indirectly influence public policy on climate change through any of the following? (tick all that apply)

Direct engagement with policy makers
 Trade associations
 Funding research organizations
 Other

CC2.3a

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 minor exceptions	In 2015, in South Africa, the Department of Environmental Affairs (DEA) and National Treasury embarked on a process to ensure that the carbon tax is aligned with a proposed carbon budget system – a move Sappi welcomed.	In 2016, the DEA accepted our proposed carbon budget which is valid until 2020.

CC2.3b

Are you on the Board of any trade associations or provide funding beyond membership?

Yes

CC2.3c

Please enter the details of those trade associations that are likely to take a position on climate change legislation

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
Confederation of	Consistent	In Europe, revisions to the European Trading Scheme	We support CEPI's call to oppose any tiered approach and to

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
European Paper Industries (CEPI)		(ETS) have been on the table for some time. One of the proposals is to adopt a tiered approach to carbon leakage which would favour some sectors over others.	advocate for full (100%) free allocation up to emissions efficiency benchmark levels for all sectors.
CEPI	Consistent	The European Union has proposed the removal of support for co-firing of wood in coal plants which only produce electricity. The subsidies for the direct burning of wood to create renewable energy increase pressure on wood markets and distort them.	Sappi concurs with CEPI's view that the current average efficiency of coal plants is between 30% and 35%. Burning wood as the main biomass source, in coal plants at these efficiencies, is a waste of raw material, not a climate reduction measure.
American Forest & Paper Association (AF&PA)	Consistent	Prior to 2010, the U.S. clearly recognized forest-based biomass energy as carbon neutral. In EPA's Greenhouse Gas (GHG) Tailoring Rule, for the first time, no such designation was made, subjecting biomass energy used in stationary sources to Clean Air Act permit programme requirements. In 2011, EPA issued a rule deferring regulation of biogenic CO2 emissions while it studied the issue and pledged to complete an accounting framework for biogenic emissions from stationary sources by July of 2014, which three years later is still incomplete.	Sappi fully supports the AF&PA recommendation to treat forest-derived biomass as carbon neutral where the growth rate of forests is greater than or equal to harvest levels. The carbon neutrality of biomass harvested from sustainably managed forests has been recognised repeatedly by an abundance of studies, agencies, institutions, legislation and rules around the world, including the guidance of the Intergovernmental Panel on Climate Change and the reporting protocols of the United Nations Framework Convention on Climate Change.
AF&PA	Consistent	AF&PA opposes recycled content mandates as an ineffective path to increasing paper recovery. Additionally, the distinction between pre- and post-consumer content constrains the amount of recovered fibre available for recycling and should not be used in government policies. EPA is considering changes to federal purchasing requirements that would require communication papers to have 100 percent post-consumer recycled content.	AF&PA, is collaborating with the Massachusetts Institute of Technology (MIT) to develop a new approach for a more comprehensive understanding of the trade-offs of changes in recovered fibre utilization. The MIT methodology applies a "systems dynamics" approach to consequential life cycle assessment for US paper production to model the system-wide effects. The project will deliver a comprehensive model to better educate policy makers and customers to make informed decisions about shifts in recovery rate and recycled content. Sappi personnel have worked alongside other stakeholders as members of a Technical Advisory Group and participants in several workshops to help define systems variables and interactions.
AF&PA	Consistent	There is an increasing trend to legislate and/or promote the use of biomass for energy.	Studies show that per ton of wood used, the paper and wood products manufacturing industry sustains nine times as many total jobs as the biomass energy sector. Sappi North America

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
			concurs with AF&PA's view that it is important for federal renewable energy policies should not require forest products manufacturing facilities to compete on an uneven playing field with their power suppliers and other energy producers for biomass fibre.
Paper Manufacturers' Association of South Africa (PAMSA)	Consistent	Carbon tax poses a potential risk going forward for Sappi Southern Africa. 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. In addition, PAMSA is actively participating in the development of a local factor to input into the carbon accounting methodology that applies to the unique circumstances of plantation forestry in South Africa.	By supporting PAMSA

CC2.3d

Do you publicly disclose a list of all the research organizations that you fund?

Yes

CC2.3e

Please provide details of the other engagement activities that you undertake

Sappi is a member of various industry and business associations in each region.

SEU

Confederation of European Paper Industries (CEPI)

Eurograph

The alliance of energy-intensive industries

The Two Team Project – (focusing on breakthrough technology concepts in the industry which could enable a more competitive future)

European joint undertaking on biobased industries
TwoSides and PrintPower

SNA

American Forests and Paper Association (AF&PA)

Paper and Paper Packaging Board

Agenda 2020 Technology Alliance

Sustainable Packaging Coalition (SPC)

Forest Products Working Group

TwoSides

SSA

Paper Manufacturers' Association of South Africa
(PAMSA)

Business Unity South Africa

Business Leadership South Africa

The CEO Initiative

Manufacturing Circle

Forestry South Africa

TwoSides

Sappi Forests is a founding member of the Tree Protection Cooperative Programme (TPCP) based in the Forestry and Bio-technical Institute (FABI): www.fabinet.up.ac.za at the University of Pretoria. Through the TPCP we are also members of the internationally collaborative programme BiCEP (Biological Control of Eucalyptus Pests: <http://bicep.net.au/>) at the Australian Centre for Industrial and Agricultural Research (ACIAR). We also belong to the Eucalyptus Genome Network (EUCAGEN) based at the University of Pretoria and to CAMCORE, an international, non-profit organisation dedicated to the conservation and utilisation of sub-tropical and tropical tree species.

Sappi Speciality Papers is a member of the Save Food initiative which aims to eliminate food waste and loss globally.

Sappi supports TAPPI (the Technical Association of the Pulp and Paper Industry).

CC2.3f

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?

At the Regional Sustainable Development Councils (Europe, North America and South Africa), Global Sustainable Development Council and the Social Ethics Transformation and Sustainability (SETS) 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.

CC2.3g

Please explain why you do not engage with policy makers

Further Information

Page: CC3. Targets and Initiatives

CC3.1

Did you have an emissions reduction or renewable energy consumption or production target that was active (ongoing or reached completion) in the reporting year?

Intensity target

CC3.1a

Please provide details of your absolute target

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions covered by target (metric tonnes CO2e)	Target year	Is this a science-based target?	Comment
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CC3.1b

Please provide details of your intensity target

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions covered by target	Target year	Is this a science-based target?	Comment
Int1	Scope 1+2 (market-based)	35%	0%	Metric tonnes CO2e per metric tonne of product	2014	0.49	2020	No, and we do not anticipate setting one in the next 2 years	Sappi Europe's 2020 target is the reduction of specific direct fossil CO2 emissions (i.e. kg of CO2 per tonne of sold pulp and saleable paper) of 5%
Int2	Scope 1+2 (market-based)	54%	6.9%	Metric tonnes CO2e per metric tonne of product	2014	1.79	2020	No, and we do not anticipate setting one in the next 2 years	Sappi Southern Africa's 2020 target is the reduction of specific purchased fossil energy (SPFE) of 10% (i.e. GJ per tonne of sold pulp and saleable paper decrease of 10%) This target translates into emissions reductions.
Int3	Scope 1+2 (market-based)	54%	6.9%	Metric tonnes CO2e per metric tonne of product	2014	1.79	2020	No, and we do not anticipate setting one in the next 2 years	Sappi Southern Africa's 2020 target is the reduction of specific total energy (TE) of 5% (i.e. GJ of TE per tonne of sold pulp and saleable paper). This was achieved through numerous energy efficiency projects in our mills This target translates into emissions reductions.
Int4	Scope 1+2 (market-based)	11%	0%	Metric tonnes CO2e per	2014	0.33	2020	No, and we do not anticipate setting one in	Sappi North America's 2020 target is to reduce energy intensity by 5%. This target translates into emissions reductions.

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions covered by target	Target year	Is this a science-based target?	Comment
				metric tonne of product				the next 2 years	
	Scope 1+2 (market-based)	100%	1%	Metric tonnes CO2e per metric tonne of product	2014	0.80	2020	No, and we do not anticipate setting one in the next 2 years	Sappi Ltd's global target is to improve specific energy usage by 5% by 2020. This target translates into emissions reductions.

CC3.1c

Please also indicate what change in absolute emissions this intensity target reflects

ID	Direction of change anticipated in absolute Scope 1+2 emissions at target completion?	% change anticipated in absolute Scope 1+2 emissions	Direction of change anticipated in absolute Scope 3 emissions at target completion?	% change anticipated in absolute Scope 3 emissions	Comment
Int1	Decrease	5	No change		Sappi Europe is focused on achieving a 5% reduction in CO2 emissions by 2020. Projects planned for the near future will help SEU to exceed this target. The intensity target is directly proportional to the absolute values. No Scope 3 target in place.
Int2	Decrease	5	No change		Sappi Southern Africa is focused on achieving a 10% Reduction on Specific purchased fossil energy by 2020 which will relate to emissions reductions. SA is focused on achieving a 5% on Specific Total energy by 2020 which will relate to emissions reductions. The intensity target is directly proportional to the absolute values.

ID	Direction of change anticipated in absolute Scope 1+2 emissions at target completion?	% change anticipated in absolute Scope 1+2 emissions	Direction of change anticipated in absolute Scope 3 emissions at target completion?	% change anticipated in absolute Scope 3 emissions	Comment
Int4	Decrease	5	No change		Sappi North America is focused to reduce energy intensity by 5% by 2020. This target will translate to emission reductions. Scope 3 emissions not being reported in detail yet, and no Scope 3 target exists. The intensity target is directly proportional to the absolute values.
Int5	Decrease	5	No change		Due to projects planned for the near future, emissions are expected to decrease. Global absolute emissions are expected to decrease as a result of two Sappi SA mills that were sold at the end of 2015. Scope 3 emissions are not being reported in detail yet, and there is no Scope 3 target in place. The intensity target is directly proportional to the absolute values.

CC3.1d

Please provide details of your renewable energy consumption and/or production target

ID	Energy types covered by target	Base year	Base year energy for energy type covered (MWh)	% renewable energy in base year	Target year	% renewable energy in target year	Comment
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CC3.1e

For all of your targets, please provide details on the progress made in the reporting year

ID	% complete (time)	% complete (emissions or renewable energy)	Comment
Int1	33.33%	0%	Sappi Europe's 2020 target is the reduction of specific direct fossil CO2 emissions (i.e. kg of CO2 per tonne of sold pulp and saleable paper) of 5%. Emissions intensity have increased since the base year and therefore 0% of the emissions target have been completed.
Int2	33.33%	69%	Sappi Southern Africa achieved a Scope 1 + 2 reduction of 6.9%. Specific purchased fossil energy (SPFE) consumption targets were set that relates to emission reductions. The SPFE target is a 10% reduction from base year 2014 to 2020.
Int3	33.33%	100%	Sappi Southern Africa achieved a Scope 1+ 2 reduction of 6.9%, exceeding the 5% reduction target of Total energy from base year 2014 to 2020.
Int4	33.33%	0%	Sappi North America's Scope 1 + 2 emissions has increased based on the 2014 base year, therefore 0% of the 5% reduction target has been achieved.
Int5	33.33%	20%	Sappi Limited Scope 1+2 emissions decreased by 1%. Specific energy targets were set that relates to emissions reductions. The specific total energy target is a 5% reduction from base year 2014 to 2020.

CC3.1f

Please explain (i) why you do not have a target; and (ii) forecast how your emissions will change over the next five years

CC3.2

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

CC3.2a

Please 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	Description of product/Group of products	Are you reporting low carbon product/s or avoided emissions?	Taxonomy, project or methodology used to classify product/s as low carbon or to calculate avoided emissions	% revenue from low carbon product/s in the reporting year	% R&D in low carbon product/s in the reporting year	Comment
Company-wide	<p>All 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 42.3% energy self-sufficient and the group's renewable fuel energy usage currently stands at 52.9%. The carbon neutrality of biogenic fuels has been recognized by many studies and institutions, including the Intergovernmental Panel on Climate Change. In addition, in SA, all Sappi's owned and leased plantations are 100% FSC-certified, while globally 73% of fibre used in Sappi's operations is certified, while the balance is obtained from known and controlled sources. This is important, as less than 10% of the world's forests are certified to a credible standard and deforestation of endangered forests is responsible generating for significant levels</p>	Low carbon product	Low Carbon Investment (LCI) Registry Taxonomy	100%	More than 80% but less than or equal to 100%	

Level of aggregation	Description of product/Group of products	Are you reporting low carbon product/s or avoided emissions?	Taxonomy, project or methodology used to classify product/s as low carbon or to calculate avoided emissions	% revenue from low carbon product/s in the reporting year	% R&D in low carbon product/s in the reporting year	Comment
	of greenhouse gas emissions.					
Group of products	Most Sappi mills generate power on site from fossil- or renewable resources for internal consumption. In some instances (Westbrook Mill (North America), 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. Roughly 100,670 metric tonnes CO ₂ e emissions were avoided during the past five-year cycle	Avoided emissions	Other:	100%	More than 80% but less than or equal to 100%	The emissions avoidance value was calculated by taking each regional power utility's emissions factor and comparing it with Sappi's internal power generation emissions factor. The difference between the two factors indicates that Sappi's internal power generation is less carbon intensive in certain regions and therefore results in carbon emission avoidance.

CC3.3

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

Yes

CC3.3a

Please identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings

Stage of development	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	24	0
To be implemented*	36	74351
Implementation commenced*	33	33484
Implemented*	112	34851
Not to be implemented	2	0

CC3.3b

For those initiatives implemented in the reporting year, please provide details in the table below

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Low carbon energy installation	At Tugela Mill in South Africa, we have installed a new turbine and applied for the project to be registered under the South African government's cogeneration Independent Power Producer Programme,	166214	Scope 2 (location-based)	Voluntary	2000000		1-3 years	>30 years	Estimated lifespan could be extended to 40 years if maintained. Investment is amount is considered competitive

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
									information and is therefore confidential
Energy efficiency: Processes	At Saiccor Mill in South Africa, we are replacing three turbine generators with a high efficiency steam turbine generator set. This will eliminate wasteful steam venting during process upsets, allow for efficient boiler operation and mitigate the impact of an Eskom electricity supply interruption. It will also reduce the amount of imported power purchased from Eskom, thereby increasing power self-sufficiency to approximately 69% and enhancing the mill's cost competitiveness. In addition, it will improve coal-fired boiler operation as the occasional oversupply of steam due to the cyclical nature of the steam demand will be handled via the condensing turbine set rather than by increasing or decreasing boiler steaming rates. It is expected that the boiler steam to coal ratio will improve by 6% as a result of running these boilers at an	56000	Scope 2 (location-based)	Voluntary	4900000		1-3 years	>30 years	Estimated lifespan could be extended to 40 years if maintained. Investment is amount is considered competitive information and is therefore confidential.

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
	optimal rate. Annual savings will be based mainly on reduced power purchases.								
Energy efficiency: Processes	At Saiccor Mill, in FY2016, we established a pilot scale plant at the mill to assess the use of anaerobic digestion to treat Saiccor Mill's waste condensate. Rich in organic matter, the condensate could be treated via a process which uses organic acids to produce biogas in the form of methane. This in turn could be used to produce energy, either for internal use or external sales to the national grid. This has significant implications for the mill's energy costs, as evaluations show that the condensate has the potential to generate enough energy to replace 30 tons of coal per day. We are also evaluating the extraction of chemicals from the condensate stream.	31956	Scope 1	Voluntary	1400000		4-10 years	16-20 years	Currently only a pilot scale plant is in operation. The estimated annual savings are based on full operation. Estimated annual CO2 emission savings are based on fossil fuel combustion. Investment is amount is considered competitive information and is therefore confidential.

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 Kretsloppsanspassad 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.
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.
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.
Dedicated budget for energy efficiency	This is in place at some of Sappi's mills in Europe and all mills in North America.
Employee engagement	Sappi North America has a Sustainability Ambassador programme that helps to support communications, training and education on environmental issues including energy savings and greenhouse gas reductions. Sappi Europe engages all employees through its Sappi Performance Engine and Eco-Effectiveness approach which involves all employees in continuous improvement activities. Sappi Southern Africa has developed an innovative e-platform game focused on sustainability, Earth Kind Agent, for employees. A tablet version of the game (iPad and Android) was launched in April 2015, giving access to our suppliers, customers and other stakeholders.

If you do not have any emissions reduction initiatives, please explain why not

Further Information

In terms of 3.1 b above, the negative values for lines 1 and 4 are -5% and -20.4% respectively, the online response system does not allow for inputting of negative values. Projects described as implemented in 3.3b) are the major projects of the 112 projects described as implemented

Page: CC4. Communication

CC4.1

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	Status	Page/Section reference	Attach the document	Comment
In mainstream reports (including an integrated report) but have not used the CDSB Framework	Complete	40-42	https://www.cdp.net/sites/2017/90/16290/Climate Change 2017/Shared Documents/Attachments/CC4.1/sappi 2016 annual report.pdf	Available on www.sappi.com
In voluntary communications	Complete	Whole document	https://www.cdp.net/sites/2017/90/16290/Climate Change 2017/Shared Documents/Attachments/CC4.1/Sappi-FAQs-Climate-change (1).pdf	Available on www.sappi.com
In voluntary communications	Complete	13,38,39	https://www.cdp.net/sites/2017/90/16290/Climate Change 2017/Shared Documents/Attachments/CC4.1/sappi 2016 sa sdr.pdf	Available on www.sappi.com
In voluntary communications	Complete	13,18,23,24,40	https://www.cdp.net/sites/2017/90/16290/Climate Change 2017/Shared Documents/Attachments/CC4.1/sappi 2016 na sdr.pdf	Available on www.sappi.com
In voluntary communications	Complete	Whole document	https://www.cdp.net/sites/2017/90/16290/Climate Change 2017/Shared Documents/Attachments/CC4.1/Sappi-Group-Climate-Change-Policy (1).pdf	Available on www.sappi.com

Publication	Status	Page/Section reference	Attach the document	Comment
In voluntary communications	Complete	18	https://www.cdp.net/sites/2017/90/16290/Climate Change 2017/Shared Documents/Attachments/CC4.1/sappi 2015 seu sdr.pdf	Sappi Europe only publishes a sustainability report every second year
In mainstream reports (including an integrated report) but have not used the CDSB Framework	Complete	10,11,22-26,80-81,86-90, 100-101	https://www.cdp.net/sites/2017/90/16290/Climate Change 2017/Shared Documents/Attachments/CC4.1/Sappi 2016 Group GLOBAL SD 18 Jan.pdf	

Further Information

Module: Risks and Opportunities

Page: CC5. Climate Change Risks

CC5.1

Have you identified any inherent climate change risks that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

- Risks driven by changes in regulation
- Risks driven by changes in physical climate parameters
- Risks driven by changes in other climate-related developments

CC5.1a

Please describe your inherent risks that are driven by changes in regulation

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Carbon taxes	Against the backdrop of the pulp and paper industry's high levels of energy intensity, regulators are formulating policy aimed at curbing emissions and introducing carbon tax without due recognition of the industry's high use of renewable energy or of the important role that sustainably managed natural forests and plantations play in mitigating global warming.	Increased operational cost	1 to 3 years	Direct	Virtually certain	Low-medium	Differ by region	The success of our industry depends, in part, on fair, consistent and predictable environmental regulations that take account of the high level of renewable energy used by our operations. In 2016, globally our generation of renewable energy (derived from black liquor, sludges and biomass) stood at 52.9% – an increase of 5.1% over five years. In addition, over five years we have achieved a reduction in absolute emissions intensity (Scope 1 and 2) of 8.8%. As forests grow, carbon dioxide (CO2) is removed from the atmosphere via photosynthesis.	Not yet applicable

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								<p>This CO2 is converted into organic carbon and stored in woody biomass. Trees release the stored carbon when they die, decay or are combusted. As the biomass releases carbon as CO2, the carbon cycle is completed. The carbon in biomass will return to the atmosphere regardless of whether it is burned for energy, allowed to biodegrade or lost in a forest fire. The net impact of these processes is that CO2 flows in and out of forests and through the forest products industry by both biomass combustion and sequestration in products. Overall, the flow of forest</p>	

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Carbon taxes	A region-wide carbon tax was proposed by the European Commission in 2010 but has not been agreed upon by the 27-member states.	Increased operational cost	3 to 6 years	Direct	More likely than not	High	Not possible to predict	Tax incentives for a reduction in carbon emissions have been tabled in Europe for all industries. Sappi Europe is engaging with the relevant commissions in this regard.	Covered under SEU's membership of CEPI
Cap and trade schemes	In Europe, revisions to the European Trading Scheme (ETS) have been on the table for some time. One of the proposals is to adopt a tiered approach to carbon leakage which would favour some sectors over others.	Increased operational cost	3 to 6 years	Direct	Virtually certain	High	Not possible to predict	Sappi is engaging through CEPI and the Alliance of Energy Intensive Industries (AEII).	Covered under SEU's membership of both organisations. We support the call by CEPI and the AEII to oppose any tiered approach and to advocate for full (100%) free allocation up to emissions efficiency benchmark levels for all sectors.
Uncertainty surrounding new regulation	At Ngodwana Mill, excess energy is generated which is sold back into	Reduction/disruption in production capacity	Up to 1 year	Direct	Virtually certain	High	Not possible to quantify	Partnership	Covered under general management costs.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>the power grid. We had an opportunity to expand this in 2015, when we were selected as preferred bidder in terms of the government's independent power producer programme for a project which involves the supply of biomass from local plantations to Ngodwana Mill. The project proposal involves the generation of 25MW per annum through the combustion of biomass at Ngodwana Mill, with energy generated planned to be sold into the national grid from 2018. Significant ongoing value would be</p>								

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>created due to the nature of biomass projects and the monetary and job creation spend across the project value chain; from collecting biomass in the plantations, through plant and equipment contracts, to community impact through Community Trusts and the economic development and socio-economic development spend as well as shareholder returns. The bureaucracy and red tape surrounding this project have been extremely frustrating and disappointing, not just in terms of emissions</p>								

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	reduction, but also in view of the potential jobs generated and empowerment component of the project.								
Other regulatory drivers	South African government restrictions on new plantation cultivation are, to some extent, driven by climate change concerns. In global terms, South Africa's water resources are extremely limited and climate change is expected to impact on water availability. Even though commercial forestry accounts for slightly less than 3% of South Africa's total water usage, a general perception exists	Reduction/disruption in production capacity	1 to 3 years	Indirect (Supply chain)	Virtually certain	Medium	Not possible to quantify	Sappi mitigates this risk through Project Grow, Khulisa Umnotho (Project Grow), our enterprise development initiative which began in 1983, is aimed at community tree-farming and has successfully uplifted impoverished communities in KwaZulu-Natal and the Eastern Cape. The total area currently managed under this programme amounts to 22,717ha. In FY2016, under the programme, 395,232 tons (2015: 361,134	Covered under general management costs

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>that forestry uses excessive amounts of water by reducing water runoff into rivers and streams. This is a key factor in the restriction on new plantation cultivation.</p>							<p>tons), worth approximately US\$20 million was delivered to our operations. Since 1995, a total volume of 2,865,360 tons, to the value of US\$88 million (ZAR1.3 billion), has been purchased from small growers in terms of this programme. In recent years, we have expanded Khulisa Umnotho beyond the borders of KwaZulu-Natal to the Eastern Cape. We have signed a Memorandum of Understanding with the Eastern Cape Rural Development Agency (ECRDA) to Rural Development Agency (ECRDA) to facilitate forestry development in</p>	

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								this region. To date, the total area planted covers 3,297ha and a further 4,812ha is in the Environmental Impact Assessment phase, with records of decision awaited on a further 1,250ha.	
Other regulatory drivers	The South African government has made a reduction commitment to the United Nations Framework on Climate Change (UNFCCC). Sappi shares Business Unity South Africa's view that this commitment is not realistic in terms of sustaining economic growth and raising standards of	Increased operational cost	3 to 6 years	Direct	Likely	Medium-high	Not possible to quantify	Engagement with the Department of Trade and Industry through BUSA	Membership cost of BUSA

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	living in a developing country whose energy needs are met mainly by coal.								
Other regulatory drivers	The global demand for woodfibre is expected to increase for the foreseeable future, driven partly by the demand for wood pellets rather than finite fossil fuels as a green energy source. This is expected to accelerate as more and more countries commit to mitigation actions on climate change. In 2015, global wood pulp prices climbed past the previous peak from 2011, which was the highest price point in more	Increased operational cost	3 to 6 years	Indirect (Supply chain)	Likely	Medium-high	Not possible to quantify	Given that woodfibre is a key input to our manufacturing operations, maintaining continuity of supply and containing costs is integral to our sustainability as a business. In Europe, we mitigate fibre supply risk through shareholdings in wood sourcing cooperatives and in this region and North America, through a combination of approaches which include both short- and long-term wood supply agreements. As an example of our	US\$25 million

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	than 30 years.							<p>efforts to ensure continuity of supply, in North America, we recently announced a US\$25 million capital project to upgrade Somerset Mill woodyard. This project will allow the mill to modernise the wood debarking, chipping and chip distribution systems, thereby improving reliability, reducing white wood losses and costs while enhancing efficiency gains through the increased production of wood chips. The improved quality will decrease the cooking time within the digester, while the increased chip volumes mean</p>	

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								the mill will no longer purchase woodchips from the external market. The commissioning of the new system will be complete by the end of November 2017, following a temporary woodyard shutdown for installation. Specifically, upgrades will be made to the log infeed, debarker, chipper, chip transfer system, woodroom controls and bark handling.	
Other regulatory drivers	South African government restrictions on new plantation cultivation are, to some extent, driven by climate change concerns. In global terms, South Africa's	Reduction/disruption in production capacity	1 to 3 years	Indirect (Supply chain)	Virtually certain	Medium	Not possible to quantify	Sappi mitigates supply risk by being active in land reform. As at the end of September 2016, Sappi was involved in 51 land reform projects with the average farm size	Costs are known, but are considered confidential

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>water resources are extremely limited and climate change is expected to impact on water availability. Even though commercial forestry accounts for slightly less than 3% of South Africa's total water usage, a general perception exists that forestry uses excessive amounts of water by reducing water runoff into rivers and streams. This is a key factor in the restriction on new plantation cultivation.</p>							<p>of 218ha to the largest project of approximately 6,900ha. Many of these properties previously belonged to commercial farmers who had supply agreements with Sappi. To ensure sustainable production from these properties, we have entered into supply agreements with the new beneficiaries and have also provided assistance. This depends on the requirements of the project, but ranges from a pure supply agreement to a comprehensive Forestry Enterprise Development Agreement (FEDA). The latter</p>	

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								is a supply agreement but also incorporates development objectives whereby Sappi provides technical and business training as well as administrative support.	

CC5.1b

Please describe your inherent risks that are driven by changes in physical climate parameters

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Change in mean (average) temperature	In all three regions where Sappi operates, climate change could alter the frequency and intensity of forest disturbances such as insect	Reduction/disruption in production capacity	Unknown	Indirect (Supply chain)	More likely than not	Low-medium	Not estimated	Given Sappi Europe's general risk mitigation strategy of sourcing pulp and woodfibre from a variety of sources and regions, Sappi does not anticipate any material impact to	Covered under operational costs

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>outbreaks, invasive species, wildfires, and storms. These disturbances could reduce forest productivity and change the distribution of tree species.</p>							<p>raw material supply from climate change in the short to medium term. In North America, Sappi's operations do not currently face material risks associated with climate change. Sappi sources from northern hardwood and softwood wood baskets that have not suffered under any drought conditions or from fire. Sappi works diligently to minimise the carbon footprint of its operations by sourcing only from sustainably managed forests, using fossil fuels wisely with large reliance on carbon neutral biomass fuel, and minimising waste throughout its processes. In South Africa, Sappi is conducting forest research into species improvement in</p>	

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								order to maximise yield under different climate change scenarios and match species more closely to sites.	
Change in precipitation extremes and droughts	South Africa has been suffering a severe drought.	Reduction/disruption in production capacity	Unknown	Indirect (Supply chain)	Likely	Low-medium	Not estimated	As responsible manufacturers, we recognise that we have a particular responsibility to reduce water usage. We are proud of the fact that specific water extracted has decreased by 11.6% over five years. To mitigate the impact of low flows on the Umkomazi River, the prime source of water to Saiccor Mill, we have completed a project, with the regulatory approval, to raise the Comrie Dam wall upstream of Saiccor Mill, tripling the amount of water in the dam. At Ngodwana, Tugela and Stanger Mills we are focusing on	US\$1.5 million

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								internal modifications which involve the more efficient use of water.	
Change in temperature extremes	The Southern African landscape is prone to, and ecologically adapted to, frequent fires. There is a high risk of uncontrolled fires entering and burning down significant areas of plantation.	Reduction/disruption in production capacity	Unknown	Direct	More likely than not	Medium	Not possible to quantify	Sappi has established an improved Fire Risk Management System (FRMS) which categorises risks and assigns a risk rating. An estimated maximum loss (EML) per area is also calculated. Fire management plans are drawn up with mitigation measures to minimise these risks and reduce EMLs as much as possible. These plans are monitored throughout the fire season using the FRMS system. Sappi has increased community participation in fire prevention to reduce the incidents of fires. Following a series of fires on	US\$11 million

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								our plantations, in 2014 we launched the Abashintshi (the 'changers' in Zulu) training programme in KwaZulu-Natal. The aim of the programme is twofold: to reduce fires and uplift communities. The Abashintshi programme has exceeded all expectations across all communities in terms of community contact and engagement, shift in perceptions and reduction in the number of fires.	
Change in precipitation pattern	The plantation industry in South Africa faces an increasing threat from pests and diseases because of changes in precipitation patterns	Reduction/disruption in production capacity	Unknown	Direct	More likely than not	Low-medium	Not possible to quantify	We follow an integrated pest management approach to dealing with the problem of pests and diseases. In support of this strategy, we work closely with other organisations to manage this problem, like the Forestry and Agricultural	US\$2.5 million: R & D

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								<p>Biotechnology Institute (FABI), which is a flagship research centre promoting many aspects of plant improvement in South Africa and is based at the University of Pretoria. The Cossid moth (Coryphodema tristis), has caused extensive damage in Eucalyptus (E) nitens on our plantations. A survey conducted during 2015 resulted in the write off of 297,783 tons of timber on Sappi land holdings. Our partners at the tree pathology cooperative programme have identified and replicated the pheromone which attracts male moths to the females. A researcher from FABI at the University of Pretoria highlighted</p>	

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								the identity of three electro-physiologically and behaviourally active compounds in the Cossid moth. The research resulted in an optimised pheromone lure. Accordingly, we have now instituted a pilot project for mass trapping of adult Cossid males in all five and six-year-old E nitens compartments at Lothair plantation covering an area of approximately 1,600ha during September to November 2016. This is a first-of-its-kind, large-scale, mass-trapping of insects, using pheromones in South Africa.	

CC5.1c

Please describe your inherent risks that are driven by changes in other climate-related developments

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Reputation	The reputational aspect of Sappi's business is under pressure, with some consumers associating pulp and paper products with deforestation of endangered tropical forests and concomitant global warming.	Reduced demand for goods/services	1 to 3 years	Direct	Likely	Medium-high	Not possible to quantify	Sappi Europe is a member of Two Sides and supports Print Power. Both of these organisations work to dispel myths about the environmental impact of print, Sappi paper and paper packaging. Sappi North America is a founding member of Two Sides US and Sappi Southern Africa supported the launch of the local Two Sides campaign in 2014.	US\$ 39,000 and 1.5 Full Time Employees (FTE). US\$25 000
Changing consumer behavior	Trends in advertising, electronic data transmission and – storage, as well as the internet, could have adverse effects on traditional print media and other paper applications, including Sappi's products and those of its customers. Advertising expenditure has gradually shifted	Reduced demand for goods/services	1 to 3 years	Direct	Very likely	Medium-high	Closure cost is typically US\$23-55.5million. Cost of pilot plant is confidential.	In general terms, Sappi has changed its strategic approach to focus on fibre based products with growing demand and improved margins. The decline in the graphic paper markets has necessitated the closure or disposal of mills in Europe and South Africa. In 2015, Sappi announced the development of a	Closure cost is typically US\$23-55.5million. Cost of pilot plant is confidential.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	away from the more traditional forms of advertising (newspapers, magazines, radio and television) which tend to be more expensive, toward a greater use of electronic and digital forms of advertising (the internet, mobile phones and other electronic devices), which tend to be less expensive.							patented, low-cost nanocellulose process in conjunction with Edinburgh Napier University. This process uses unique chemistry whereby wood pulp fibres can be easily broken down into nanocellulose without producing the large volumes of effluent associated with existing techniques using high amounts of energy. In addition, the chemicals used in the process can be recycled and reused without generating large amounts of effluent. In FY2016, we commissioned phase 1 of the pilot plant.	

CC5.1d

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC5.1e

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC5.1f

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

Further Information

Page: CC6. Climate Change Opportunities

CC6.1

Have you identified any inherent climate change opportunities that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

Opportunities driven by changes in regulation

Opportunities driven by changes in physical climate parameters

Opportunities driven by changes in other climate-related developments

CC6.1a

Please describe your inherent opportunities that are driven by changes in regulation

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Renewable energy regulation	In the US, regulations that arise from government initiatives to reduce the effects of climate change present opportunities for Sappi to capitalise on its use of internally generated renewable energy by selling renewable energy certificates.	Reduced operational costs	Up to 1 year	Direct	Virtually certain	Low	Positive – considered competitive information and not disclosed publicly.	Sappi has representatives that work directly with brokers to sell compliance RECs.	Low – partial responsibility of existing employees.
Renewable energy regulation	Lanaken Mill in Europe entered into an Automated Demand Response (ADR) agreement with an electricity aggregator to achieve stability, lower costs and reduce overall CO2 emissions. Demand response systems allow power suppliers and transmission-grid operators to approach significant energy users, like	Reduced operational costs	Up to 1 year	Direct	Virtually certain	Low	Positive – considered competitive information and not disclosed publicly.	Managed as part of production planning	Low

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>Sappi, to alleviate pressure on the energy transmission grid at peak times. During periods of peak power demand, pulp mill refiners can be switched off temporarily, stabilising the grid with minimal impact on the mill. Buffer capacity is in place to allow the mill to offset manageable quantities of pulp production during periods of peak energy demand. This reduces energy costs and Sappi benefits from an annual premium, while helping to reduce CO2 emissions. Without ADRs, power suppliers have to activate fast-reacting power generation plants to eliminate grid imbalances. This is very expensive because capital-intensive equipment</p>								

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	is required to be kept constantly in standby mode which in itself requires energy.								

CC6.1b

Please describe your inherent opportunities that are driven by changes in physical climate parameters

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Change in mean (average) precipitation	The fact that Sappi owns, manages and leases 492,000 hectares of plantations in South Africa means that climate change has a particular relevance to the company. Woodfibre, in common with other agricultural crops, can be negatively impacted by changes in weather. Our tree breeding programme continuously tests and selects tree genotypes which are best suited to the climate conditions in	Reduced operational costs	Unknown	Direct	More likely than not	Medium	Not possible to quantify	The Sappi Forest Research department is based at the Shaw Research Centre in Howick, with satellite offices at Kwambonambi and Ngodwana. There are three active research programmes: • Tree breeding • Propagation • Seed orchards	US\$2.5 million

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>the range of sites where we operate, resulting in competitive advantage in the light of pressure on global fibre supply caused by changes in temperature. Having a broad genetic base enables us to utilise a variety of sites for tree planting, including harsh areas that would not normally be suitable but can be utilised due to drought-resilient tree varieties. By anticipating possible climate shifts and planting trees that are water efficient in these environments, we are able to ensure security of our supply chain going forward. Sappi also maximises its competitive advantage by</p> <ul style="list-style-type: none"> • Developing genomic methods for the selection of superior individuals to potentially shorten the breeding cycle. Pure species development is ongoing, with selected individual genotypes being captured through grafting. • Ongoing trials on seed use efficiency, 								

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>aiming to make best use of scarce seed resources, whether for breeding, or in the nursery. • Hybrid production of both pines and eucalypts continues, and various hybrid combinations are being tested across Sappi land holdings. Work is being done to improve the growing environment for cutting production, to refine plant quality specifications and to investigate media and media enhancements to promote growth. • In the field, cold tolerance trials and insecticide investigations look for ways to counter biotic and abiotic threats, while methods of land preparation, fertiliser treatment and site selection seek to give plants the best possible growth, and studies on wood properties seek to add value to the pulping process. • In FY2016, we began to test <i>Corymbia henryi</i>, a promising potential new</p>								

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	species choice which can tolerate salt-laden coastal winds and is slightly tolerant to frost (0° to -5°C).								

CC6.1c

Please describe your inherent opportunities that are driven by changes in other climate-related developments

Opportunity driver	Description	Potential impact	Timeframe	Direct / Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Other drivers	At Saiccor Mill, we are replacing three turbine generators with a high efficiency steam turbine generator set. This will eliminate wasteful steam venting during process upsets, allow for efficient boiler operation and mitigate the impact of an Eskom electricity supply interruption. It will also reduce the amount of imported power purchased from Eskom, thereby increasing power self-sufficiency to approximately 69% and enhancing the mill's cost competitiveness. In addition, it will improve coal-fired boiler operation as the occasional oversupply of steam due to the cyclical nature of the steam demand will be handled via the condensing turbine set rather than by increasing or decreasing boiler steaming rates. It is expected that the boiler	Reduced operational costs	1 to 3 years	Direct	Likely	Medium-high	Annual savings of US\$4.9 million.	To redress the situation, Sappi is replacing the three small turbines with a cogeneration and condensing system to supply steam to the process, while taking up swings in process	Included in operational costs

Opportunity driver	Description	Potential impact	Timeframe	Direct / Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	steam to coal ratio will improve by 6% as a result of running these boilers at an optimal rate. Annual savings will be generated by reduced power purchases.							demand, thereby improving efficiency considerably . This will allow the mill to draw steam on demand and will also mean that up to 25MW of electricity which could be fed into the national grid will be generated.	
Reputation	Globally, 52.9% of Sappi's energy is derived from renewable sources and the company has targets in all three regions to increase the amount of renewable energy used. This is expected to cushion Sappi from the negative effects of future possible regulatory requirements and also to create opportunities in the form of tax and trading credits. In addition, the extent to which renewable energy is used throughout Sappi's operations is a strong marketing tool, and hence this is an opportunity for Sappi's products in the current climate of GHG awareness and in the context of regulatory requirements. In the USA, the country's energy profile is only 10% renewable energy whereas the pulp and paper industry	Reduced operational costs	Up to 1 year	Direct	Very likely	High	Not possible to determine	Sappi continues to focus on opportunities to increase the usage of renewable energy.	Not possible to isolate

Opportunity driver	Description	Potential impact	Timeframe	Direct / Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	uses 54.5% and Sappi North America's use of renewable energy is over 70%. This is a significant competitive benefit not just in terms of costs, but also in terms of customers choosing papers with a lower environmental footprint.								
Other drivers	In many of its European mills, Sappi generates renewable energy in the form of biogas. In FY 2016, we established a pilot scale plant at Saiccor Mill to assess the use of anaerobic digestion to treat Saiccor Mill's waste condensate. Rich in organic matter, the condensate could be treated via a process which uses organic acids to produce biogas in the form of methane. This in turn could be used to produce energy, either for internal use or external sales to the national grid. This has significant implications for the mill's energy costs, as evaluations show that the condensate has the potential to generate enough energy to replace 30 tons of coal per day. We are also evaluating the extraction of chemicals from the condensate stream.	Other:	1 to 3 years	Direct	Likely	Medium	US\$11.36 million	We established the pilot scale plant after assessing three potential technology suppliers.	Confidential
Reputation	In the US, 29 states plus Washington, DC and two territories have adopted policies (the Renewable Portfolio Standard, or RPS) that reduce carbon emissions from electricity generation by requiring that utilities generate a specified share of power from renewable sources. The state of Maine has an effective renewable portfolio standard target: Starting at 30 percent renewable energy in 2007, the Maine standard requires an additional one percent per year to reach a target of 40 percent by 2017. Renewable Energy	Increased demand for existing products/services	Up to 1 year	Direct	Likely	Low	An element of overall brand and product positioning	Renewal and compliance report submitted annually	Confidential

Opportunity driver	Description	Potential impact	Timeframe	Direct / Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>Certificates (RECs) are tradable environmental commodities that represent proof that one megawatt hour (MWh) of electricity was generated from a renewable energy resource. Our Westbrook facility has met the requirements of Maine Class I RECs based on the combustion of biomass and construction and demolition wood. Our Somerset Mill also qualifies for selling RECs based on black liquor combustion. As such, we are eligible to sell RECs from both mills to support the renewable portfolio standards in Maine.</p>								
Other drivers	<p>Process modifications at Tugela Mill (South Africa) allow the mill to sell its black liquor as lignosulphonate which also results in a significant emission reduction for the mill. A knock-on emission saving is also achieved: One ton of lignosulphonate displaces 26.6 tons of cement which results in a significant reduction in greenhouse gas (GHG) emissions for the cement manufacturing industry Report by the Cement Sustainability Initiative, available at: http://csiprogress2012.org/CSI_ProgressReport_FullReport.pdf</p>	New products/business services	1 to 3 years	Direct	Virtually certain	Low	Unknown	Part of everyday operations. Part of everyday operations. The mill sells 90,00 tons per annum of liquid sodium lignosulphonate to customers around the world and in FY2015, we installed drying equipment to reduce transport	Part of normal overheads

Opportunity driver	Description	Potential impact	Timeframe	Direct / Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								costs to customers, resulting in a lighter carbon footprint. We currently have the capacity to dry 25 000 tons of powder (+- 50 000 tons liquid input)	
Reputation	<p>There is growing recognition globally of the need for consumers and businesses to become more energy efficient. AF&PA recognised Sappi's efforts in this regard by awarding Sappi North America the 2016 AF&PA Leadership in Sustainability Award for Energy Efficiency and Gas Reduction of the Hood Head Recovery project at Somerset Mill. In terms of this project, heat from the paper machine dryer hoods was previously vented. Equipment has been installed to recover that thermal energy, which is now being used to generate approximately 4.6 million litres of hot water per day which is used in the papermaking process. The recovered thermal energy reduces steam demand by approximately 474GJ/day, resulting in reduced fossil fuel use and enables the mill to generate additional electrical power. The project is avoiding the generation of 2,210 tons of CO2 every year.</p>	Increased demand for existing products/services	1 to 3 years	Direct	Virtually certain	Medium-high	Unknown	Product development in response to market trends	Normal R & D and marketing costs

Opportunity driver	Description	Potential impact	Timeframe	Direct / Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Reputation	<p>The spectre of climate change has created high consumer awareness of the role played by forests and plantations in mitigating global warming. This represents a marketing opportunity for Sappi, within the context of the group's high compliance with forest certification systems. This is particularly important as only 10% of the world's forests are certified to a credible standard. The percentage of certified fibre applied to Sappi's mills in each region in FY16 was as follows: SA: 82%, EU: 75%; NA: 55%, with the balance procured from known and controlled sources. In SA, 100% of Sappi's owned and leased plantations are certified by the FSC. Globally, 72% of fibre supplied to our mills is certified, with the balance procured from known and controlled sources. We have a global goal in place which is to maintain or exceed our 2014 base of 79% certification of fibre supplied to our mills. We did not achieve this target in 2016, for the following reasons: In Europe, we are finding there is a push back against certification by sawmills, who are finding certification requirements increasingly onerous; in North America, the decline was driven primarily by a change in production strategy at Cloquet Mill which involved a change from buying 100% certified market pulp to making our own pulp. Doing so means we are limited to the amount of certified fibre available in the local wood basket. In Southern Africa, the slight decrease (1%) was the result of using less of our own woodfibre because of the drought, having to buy it in and being limited by the amount of certified fibre available.</p>	Increased demand for existing products/services	1 to 3 years	Indirect (Supply chain)	Virtually certain	High	Not possible to quantify	Managed in terms of audits by independent certifying bodies	Approx US\$1.85 million

Opportunity driver	Description	Potential impact	Timeframe	Direct / Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Reputation	ISO 50001 accreditation focuses on the efficient use of energy. To achieve accreditation, an organisation has to prove that they are continuously reducing the amount of energy consumed. Both Sappi Europe and Sappi Southern Africa are ISO 50001 accredited.	Increased demand for existing products/services	>6 years	Indirect (Client)	Virtually certain	Medium-high	Too early to determine	Managed in terms of audits by independent certifying bodies	Programme implemented with assistance of the NCPC (part of CSIR) with funding from European countries, therefore no cost to Sappi
Changing consumer behavior	The environmental credentials of cellulosic fibres, when compared with petroleum-based fibres, are contributing to their growing popularity. This emphasis on environmental credentials presents an opportunity for Sappi's dissolving wood pulp (DWP) business.	Increased demand for existing products/services	1 to 3 years	Indirect (Client)	Virtually certain	Medium-high	Not possible to quantify	We are expanding our DWP capacity at Ngodwana and Saiccor Mills by 40,000 and 50,000tpa respectively, beginning in FY2017	Too early to determine
Changing consumer behavior	Our 2020 strategy is focused on meeting the opportunities presented by strong, growing market demand for renewable biochemicals from non-food sources as companies intensify their search for 'green' products that offer enhanced sustainability and a lower carbon footprint. Accordingly, we are moving into new	Increased demand for existing products/services	1 to 3 years	Direct	Virtually certain	Medium	Not possible to quantify	In 2017, we will be establishing a sugar demonstration (demo) pilot plant at	Confidential

Opportunity driver	Description	Potential impact	Timeframe	Direct / Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>adjacent business fields based on renewable raw materials, ie biomaterials and bio-energy to extract more value from the production processes. In July 2016, we established a new business unit, Sappi Biotech, to take global responsibility for the commercialisation of new products. For example, we are looking into ways to use the sugars (as well as lignin and organic acids) extracted from the wood during the pulping process, including entering into partnerships to modify these extracts into higher value products for use in a wide variety of applications.</p>							<p>Ngodwana Mill in alignment with our 2020 Vision and strategy. The overall aim of the project is to develop a new process that would optimize the yield of hemicellulose sugars in the pre-hydrolysate stream. The aim of the demo plant is to illustrate the business case to install a full-scale plant. This represents a further important step in realizing our vision to diversify</p>	

Opportunity driver	Description	Potential impact	Timeframe	Direct / Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								from a traditional paper company into a woodfibre company.	

CC6.1d

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC6.1e

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC6.1f

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

Further Information

Certification costs exclude full time employees

Module: GHG Emissions Accounting, Energy and Fuel Use, and Trading**Page: CC7. Emissions Methodology**

CC7.1

Please provide your base year and base year emissions (Scopes 1 and 2)

Scope	Base year	Base year emissions (metric tonnes CO2e)
Scope 1	Sat 01 Oct 2011 - Sun 30 Sep 2012	4320308.55
Scope 2 (location-based)	Sat 01 Oct 2011 - Sun 30 Sep 2012	1542343.96
Scope 2 (market-based)	Sat 01 Oct 2011 - Sun 30 Sep 2012	1542343.96

CC7.2

Please give the name of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

Please select the published methodologies that you use

The Greenhouse Gas Protocol: Public Sector Standard
IPCC Guidelines for National Greenhouse Gas Inventories, 2006
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

CC7.2a

If you have selected "Other" in CC7.2 please provide details of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

CC7.3

Please give the source for the global warming potentials you have used

Gas	Reference
CO2	IPCC Fifth Assessment Report (AR5 - 100 year)

CC7.4

Please give the emissions factors you have applied and their origin; alternatively, please attach an Excel spreadsheet with this data at the bottom of this page

Fuel/Material/Energy	Emission Factor	Unit	Reference
Motor gasoline	69.48	metric tonnes CO2e per GJ	IPCC
Residual fuel oil	77.65	metric tonnes CO2e per GJ	IPCC
Liquefied petroleum gas (LPG)	63.15	metric tonnes CO2e per GJ	IPCC
Bituminous coal	95.3	metric tonnes CO2e per GJ	IPCC
Natural gas	56.15	metric tonnes CO2e per metric tonne	IPCC
Wood or wood waste	113.94	metric tonnes CO2e per GJ	IPCC
Sulphite lyes (Black liquor)	95.97	metric tonnes CO2e per metric tonne	IPCC
Biogas	54.65	metric tonnes CO2e per metric tonne	IPCC

Further Information

Further Information	Fuel/Material/Energy	Emission Factor	Unit	Reference
Biogas	54.65	metric tonnes		
IPCC Brown coal	95.3	metric		
IPCC Distillate fuel oil No 6	77.65	metric tonnes		
SA, ESKOM Liquefied		metric tonnes		
IPCC Motor gasoline	69.48	metric tonnes		
IPCC Black liquor	95.97	metric tonnes		
IPCC Wood or wood waste	113.94	metric tonnes		
IPCC Butiminous coal	95.3	metric tonnes		
IPCC Distillate fuel oil No 2	77.65	metric tonnes		
IPCC Electricity	1	metric tonnes		
IPCC Natural gas	56.15	metric tonnes		
IPCC Waste oils	77.65	metric tonnes		
IPCC				

Page: CC8. Emissions Data - (1 Oct 2015 - 30 Sep 2016)

CC8.1

Please select the boundary you are using for your Scope 1 and 2 greenhouse gas inventory

Operational control

CC8.2

Please provide your gross global Scope 1 emissions figures in metric tonnes CO₂e

3781272

CC8.3

Please describe your approach to reporting Scope 2 emissions

Scope 2, location-based	Scope 2, market-based	Comment
We are reporting a Scope 2, location-based figure	We are reporting a Scope 2, market-based figure	

CC8.3a

Please provide your gross global Scope 2 emissions figures in metric tonnes CO₂e

Scope 2, location-based	Scope 2, market-based (if applicable)	Comment
1124972	1124972	

CC8.4

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

CC8.4a

Please 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	Relevance of Scope 1 emissions from this source	Relevance of location-based Scope 2 emissions from this source	Relevance of market-based Scope 2 emissions from this source (if applicable)	Explain why the source is excluded
Sappi Europe head office, sales offices and warehouses/offices outside mill premises	No emissions from this source	Emissions are relevant but not yet calculated	Emissions are relevant but not yet calculated	At present, Sappi only has the resources to collect emission information from production facilities such as the mills. These are not production facilities, i.e. no Scope 1 emissions, but the power consumption (Scope 2 emissions) is yet to be evaluated. However, relative to Sappi's production facilities these emissions are not meaningful.
Sappi North America head office	No emissions from this source	Emissions are relevant but not yet calculated	Emissions are relevant but not yet calculated	At present, Sappi only has the resources to collect emission information from production facilities such as the mills. These are not production facilities, i.e. no Scope 1 emissions, but the power consumption (Scope 2 emissions) is yet to be evaluated. However, relative to Sappi's production facilities these emissions are not meaningful.
Sappi SA Forests head office regional offices	No emissions from this source	Emissions are relevant but not yet calculated	Emissions are relevant but not yet calculated	At present, Sappi only has the resources to collect emission information from production facilities such as the mills. This is not a production facility, i.e. no Scope 1 emissions, but the power consumption (Scope 2 emissions) are yet to be evaluated. However, relative to Sappi's production facilities these emissions are not meaningful.

Source	Relevance of Scope 1 emissions from this source	Relevance of location-based Scope 2 emissions from this source	Relevance of market-based Scope 2 emissions from this source (if applicable)	Explain why the source is excluded
Sappi Ltd. and SSA head office	No emissions from this source	Emissions are relevant but not yet calculated	Emissions are relevant but not yet calculated	At present, Sappi only has the resources to collect emission information from production facilities such as the mills. This is not a production facility, i.e. no Scope 1 emissions, but the power consumption (Scope 2 emissions) are yet to be evaluated. However, relative to Sappi's production facilities these emissions are not meaningful.
Sappi Technology Centres in Europe, North America and South Africa	No emissions from this source	Emissions are relevant but not yet calculated	Emissions are relevant but not yet calculated	At present, Sappi only has the resources to collect emission information from production facilities such as the mills. This is not a production facility, i.e. no Scope 1 emissions, but the power consumption (Scope 2 emissions) are yet to be evaluated. However, relative to Sappi's production facilities these emissions are not meaningful.
Sappi Lomati Sawmill – South Africa	Emissions are relevant and calculated, but not disclosed		Emissions are relevant and calculated, but not disclosed	While Sappi collects the emission data, these emissions not meaningful relative to Sappi's production facilities and are therefore not disclosed

CC8.5

Please estimate the level of uncertainty of the total gross global Scope 1 and 2 emissions figures that you have supplied and specify the sources of uncertainty in your data gathering, handling and calculations

Scope	Uncertainty range	Main sources of uncertainty	Please expand on the uncertainty in your data
Scope 1	More than 5% but	Metering/	Some of Sappi's metering equipment has a measuring error in the range 5 - 10%. Not all of Sappi's

Scope	Uncertainty range	Main sources of uncertainty	Please expand on the uncertainty in your data
	less than or equal to 10%	Measurement Constraints Sampling	mills have online stack emission monitoring equipment and annual stack gas sampling can often result in a poor representation of the actual boiler performance. One of Sappi's largest purchased fuel types is coal. The delivery truck/rail mass metering equipment and methodology takes into account existing stocks before and after the delivery and this measuring period/methodology is often not very accurate.
Scope 2 (location-based)	More than 2% but less than or equal to 5%	Metering/ Measurement Constraints	There is no known uncertainty to report.
Scope 2 (market-based)	More than 2% but less than or equal to 5%	Metering/ Measurement Constraints	There is no known uncertainty to report.

CC8.6

Please indicate the verification/assurance status that applies to your reported Scope 1 emissions

Third party verification or assurance process in place

CC8.6a

Please provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/section reference	Relevant standard	Proportion of reported Scope 1 emissions verified (%)
Annual process	Complete	Reasonable assurance	https://www.cdp.net/sites/2017/90/16290/Climate Change 2017/Shared Documents/Attachments/CC8.6a/sappi 2016 ehingen verification.pdf	All	European Union Emissions Trading System (EU ETS)	36

CC8.6b

Please provide further details of the regulatory regime to which you are complying that specifies the use of Continuous Emission Monitoring Systems (CEMS)

Regulation	% of emissions covered by the system	Compliance period	Evidence of submission

CC8.7

Please indicate the verification/assurance status that applies to at least one of your reported Scope 2 emissions figures

Third party verification or assurance process in place

CC8.7a

Please provide further details of the verification/assurance undertaken for your location-based and/or market-based Scope 2 emissions, and attach the relevant statements

Location-based or market-based figure?	Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of reported Scope 2 emissions verified (%)
Market-based	Annual process	Complete	Reasonable assurance	https://www.cdp.net/sites/2017/90/16290/Climate Change 2017/Shared Documents/Attachments/CC8.7a/Eskom_integrated_report_2016.pdf	P113	ISAE3000	62

CC8.8

Please identify if any data points have been verified as part of the third-party verification work undertaken, other than the verification of emissions figures reported in CC8.6, CC8.7 and CC14.2

Additional data points verified	Comment
Progress against emissions reduction target	In SA, third party verification was done for the Income tax act S12I. Certificates are issued by SANEDI (South African National Energy Development Institute)
Other:	Sappi SA was audited for ISO50001 certification purposes. Certification received in 2017

CC8.9

Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

Yes

CC8.9a

Please provide the emissions from biologically sequestered carbon relevant to your organization in metric tonnes CO2

4670792

Further Information

Page: CC9. Scope 1 Emissions Breakdown - (1 Oct 2015 - 30 Sep 2016)

CC9.1

Do you have Scope 1 emissions sources in more than one country?

Yes

CC9.1a

Please break down your total gross global Scope 1 emissions by country/region

Country/Region	Scope 1 metric tonnes CO2e
Africa	1972181
EU15	1359895
United States of America	449196

CC9.2

Please indicate which other Scope 1 emissions breakdowns you are able to provide (tick all that apply)

- By business division
- By facility
- By GHG type
- By activity

CC9.2a

Please break down your total gross global Scope 1 emissions by business division

Business division	Scope 1 emissions (metric tonnes CO2e)
SSA	1972181
SEU	1359895
SNA	449196

CC9.2b

Please break down your total gross global Scope 1 emissions by facility

Facility	Scope 1 emissions (metric tonnes CO2e)	Latitude	Longitude
Ngodwana Mill (SA)	1093113	-25.57803	30.66549
Saiccor Mill (SA)	530023	-30.18078	30.77091
Stanger Mill (SA)	180708	-29.36743	31.28908

Facility	Scope 1 emissions (metric tonnes CO2e)	Latitude	Longitude
Tugela Mill (SA)	244765	-29.15216	31.40536
Alfeld Mill (Germany)	104658	51.98592	9.82076
Ehingen Mill (Germany)	37535	48.26766	9.72712
Gratkorn Mill (Austria)	385184	47.13333	15.33333
Kirkniemi Mill (Finland)	312913	60.18815	23.94212
Lanaken Mill (Belgium)	46583	50.877	5.6427
Maastricht Mill (Netherlands)	114233	50.85857	5.69457
Stockstadt Mill (Germany)	569457	49.80421	8.46762
Cloquet Mill (Minnesota USA)	140671	46.72288	-92.4384
Somerset Mill (Maine USA)	281174	44.70652	-69.63782
Westbrook Mill (Maine USA)	27352	43.68397	-70.35211
Cape Kraft Mill (SA)	28	-33.857	18.5223
Enstra Mill (SA)	12863	-26.20601	28.44676

CC9.2c

Please break down your total gross global Scope 1 emissions by GHG type

GHG type	Scope 1 emissions (metric tonnes CO2e)
CO2	3781272

CC9.2d

Please break down your total gross global Scope 1 emissions by activity

Activity	Scope 1 emissions (metric tonnes CO2e)
Heavy fuel oils	106940
Coal	2939322
Natural gas	935146
Transport fuels (diesel, petrol/gasoline)	22281
Renewable fuels (sludges, biomass, black liquor)	5903165

Further Information

Page: **CC10. Scope 2 Emissions Breakdown - (1 Oct 2015 - 30 Sep 2016)**

CC10.1

Do you have Scope 2 emissions sources in more than one country?

Yes

CC10.1a

Please break down your total gross global Scope 2 emissions and energy consumption by country/region

Country/Region	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Africa	695526.5	695526.5	785809.35	89534

Country/Region	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
EU15	333151.12	333151.12	2118583.54	9439078
United States of America	96293.13	96293.13	368006.49	137579

CC10.2

Please indicate which other Scope 2 emissions breakdowns you are able to provide (tick all that apply)

By business division

By facility

By activity

CC10.2a

Please break down your total gross global Scope 2 emissions by business division

Business division	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)
Sappi Southern Africa	695526.5	695526.5
Sappi Europe	333151.12	333151.12
Sappi North America	96293.13	96293.13

CC10.2b

Please break down your total gross global Scope 2 emissions by facility

Facility	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)
Cape Kraft Mill, S. Africa.	11647	695526.5
Enstra Mill, S. Africa.	13088	333151.12
Ngodwana Mill, S. Africa.	40479	96293.13
Saiccor Mill, S. Africa.	299678	695526.5
Stanger Mill, S. Africa.	113367	333151.12
Tugela Mill, S. Africa.	217268	96293.13
Alfeld Mill, Germany.	55591	695526.5
Ehingen Mill, Germany.	70963	333151.12
Gratkorn Mill, Austria.	0	96293.13
Kirkniemi Mill, Finland.	1237	695526.5
Lanaken Mill, Belgium.	76055	333151.12
Maastricht Mill, Netherlands.	1821	96293.13
Stockstadt Mill, Germany.	127485	695526.5
Cloquet Mill, Minnesota, USA.	38882	333151.12
Somerset Mill, Maine, USA.	57337	96293.13
Westbrook Mill, Maine, USA.	74	695526.5

CC10.2c

Please break down your total gross global Scope 2 emissions by activity

Activity	Scope 2, location-based (metric tonnes CO2e)		Scope 2, market-based (metric tonnes CO2e)
Purchased power	1118423		1118423
Purchased steam	6548		6548

Further Information

Page: CC11. Energy

CC11.1

What percentage of your total operational spend in the reporting year was on energy?

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

CC11.2

Please state how much heat, steam, and cooling in MWh your organization has purchased and consumed during the reporting year

Energy type	MWh
Heat	0
Steam	24982
Cooling	0

CC11.3

Please state how much fuel in MWh your organization has consumed (for energy purposes) during the reporting year

32322973

CC11.3a

Please complete the table by breaking down the total "Fuel" figure entered above by fuel type

Fuels	MWh
Biogas	65398
Bituminous coal	8567453
Distillate fuel oil No 2	10846
Distillate fuel oil No 6	371710
Liquefied petroleum gas (LPG)	9255
Motor gasoline	71538
Natural gas	4626229
Sulphite lyes (Black liquor)	14180119
Waste tire derived fuels	191697
Wood or wood waste	4105788
Sludge gas	
Other:	122941

CC11.4

Please provide details of the electricity, heat, steam or cooling amounts that were accounted at a low carbon emission factor in the market-based Scope 2 figure reported in CC8.3a

Basis for applying a low carbon emission factor	MWh consumed associated with low carbon electricity, heat, steam or cooling	Emissions factor (in units of metric tonnes CO2e per MWh)	Comment
Contract with suppliers or utilities, with a supplier-specific emission rate, not backed by electricity attribute certificates	1171020		Electricity supplied by national/state utilities which provide a breakdown of energy generation breakdown of fossil, nuclear, hydro and wind power.

CC11.5

Please report how much electricity you produce in MWh, and how much electricity you consume in MWh

Total electricity consumed (MWh)	Consumed electricity that is purchased (MWh)	Total electricity produced (MWh)	Total renewable electricity produced (MWh)	Consumed renewable electricity that is produced by company (MWh)	Comment
6357634	3019664	3888216	2171212	1941447	

Further Information

Please note that the "other" referred to in question 11.3a) is black liquor

Page: CC12. Emissions Performance

CC12.1

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

Decreased

CC12.1a

Please 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

Reason	Emissions value (percentage)	Direction of change	Please explain and include calculation
Emissions reduction activities			
Divestment	6.33	Decrease	The total emissions for (Scope 1+2) for this reporting year are 4906243 metric tonnes of CO2e. The total emissions for the previous reporting year were 5037499 metric tonnes of CO2e. This means that the total change in emissions is 131256 metric tonnes of CO2e, which is equal to a 2.61% decrease. Two mills were sold during 2016 in South Africa which lead to a decrease of 319107 t CO2e compared to the previous reporting year. $(319107/5037499) * 100 = 6.33\%$
Acquisitions			
Mergers			
Change in output			
Change in methodology			
Change in boundary			
Change in physical operating conditions			
Unidentified			
Other	3.73	Increase	In South-Africa, Scope 1 emissions increased mainly due to poor quality coal and recovery boiler tube leaks, resulting in using more coal and HFO. There was also a higher fossil fuel demand caused by increased output. In North-America, Scope 2 emissions increased as purchased power increased to make up for less onsite generation. The total emissions for (Scope 1+2) for this reporting year are 4906243 metric tonnes of CO2e. The total emissions for the previous reporting year were 5037499 metric tonnes of CO2e. This means that the total change in emissions is 131256 metric tonnes of CO2e, which is equal to a 2.61% decrease. Increased emissions caused by activities other than divestment is 187851 t CO2e. $(187851/5037499) * 100 = 3.73\%$

CC12.1b

Is your emissions performance calculations in CC12.1 and CC12.1a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Market-based

CC12.2

Please describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per unit currency total revenue

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator: Unit total revenue	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
0.000954	metric tonnes CO2e	5141000000	Market-based	1.7	Increase	Decrease in sales revenue due to lower sales volumes combined with only slight decrease in emissions

CC12.3

Please provide any additional intensity (normalized) metrics that are appropriate to your business operations

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator	Metric denominator: Unit total	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
0.7985	metric tonnes CO2e	metric tonne of product	6144392	Market-based	0.3	Increase	Decrease in saleable production combined with only slight decrease in emissions

Further Information

Page: **CC13. Emissions Trading**

CC13.1

Do you participate in any emissions trading schemes?

Yes

CC13.1a

Please complete the following table for each of the emission trading schemes in which you participate

Scheme name	Period for which data is supplied	Allowances allocated	Allowances purchased	Verified emissions in metric tonnes CO2e	Details of ownership
European Union ETS	Thu 01 Oct 2015 - Fri 30 Sep 2016	1002939	311535	1520053	Facilities we own and operate

CC13.1b

What is your strategy for complying with the schemes in which you participate or anticipate participating?

We follow allocation and monitor emissions monthly and buy, sell and trade emission rights accordingly.

CC13.2

Has your organization originated any project-based carbon credits or purchased any within the reporting period?

No

CC13.2a

Please provide details on the project-based carbon credits originated or purchased by your organization in the reporting period

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits cancelled	Purpose, e.g. compliance
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Further Information

Page: CC14. Scope 3 Emissions

CC14.1

Please account for your organization's Scope 3 emissions, disclosing and explaining any exclusions

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
Purchased goods and services	Relevant, calculated	307462	All raw materials, additives, chemicals and packaging material included in purchased goods and services emissions.		SSA and SEU have supplied CO2 values for purchased goods and services. .
Capital goods	Not relevant, explanation provided				During normal operating years, this is not material. In the event that a major project is done within the reporting year, we will provide this information.
Fuel-and-energy-related activities (not included in Scope 1 or 2)	Not relevant, calculated	201756	Production of primary fuels and production of transport fuels are calculated and included.		Data collected for SEU only. SSA and SNA not included. .
Upstream transportation and distribution	Relevant, not yet calculated	381793	Local and imported raw materials, additives, chemicals and packaging material included in upstream transportation and distribution.		SSA and SEU have supplied CO2 values for upstream transportation and distribution.
Waste generated in operations	Relevant, calculated	217414	For SSA mills only - For waste to own landfills. IPCC default emission values relating to "Managed Landfill sites" were used, using 15 years of history. Emissions are focused on the organic material that sent to own landfills. For SEU, emissions relate to waste transported to landfill		Data collected for SSA and SEU operations.
Business travel	Relevant, calculated	14487	For SSA, data was obtained directly from the travel (flights and car hire) suppliers e.g. Europcar, Avis, Comair, British Airways etc. The general flight- and car CO2 emission factors are multiplied by the number of flight hours or kilometres travelled by car to arrive at the Scope 3 emission value. For SEU, the distances		For SSA, this category includes emissions for the transportation of employees for business travelling by air or via car hire. The information has been supplied by Sappi's in-house travel agency for South Africa (Head office, Tech Centre, and mill operations. Forestry is excluded for this year's submission but will be

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			travelled by the different transport types, are multiplied by associated fuel emission factors multiplied by associated fuel emission factors. Hotel stay carbon measurement is included in business travel. The number of days stayed at hotels for business travelling purposes, multiplied by a factor of 23.6 kg CO2e/night.		included next year). For SEU, this category includes emissions for the transportation of employees on business travelling by small car, medium car, large car, taxi, national rail, international rail, light rail, tram, London underground and air. Since no SNA values are being collected, it is difficult to determine the percentage of Scope 3 emissions. Efforts will be made to obtain more accurate values for next year's submission, which will allow Sappi to determine the percentage of emissions better.
Employee commuting	Relevant, calculated	11421	"An estimation made for Europe operations: It is assumed that 80% of employees live within 15 km of the work place, and 20% live within 40 km of the work place. For SSA, actual data was gathered for each mill as well as forest and head office, regarding the number of employees, mode of transport and distance from work. The days travelled to work and back is estimated at 230 days of the year. The distance travelled is multiplied by an average emission factor. "		SSA and SEU have supplied CO2 values for employee commuting.
Upstream leased assets	Not relevant, explanation provided				After a review and in relation to Sappi's major emissions (process and transport) this Scope 3 emission is of an insignificant quantum and impact. As such it does not warrant the time, manpower and expense to capture, record, monitor and manage this parameter.
Downstream transportation and distribution	Relevant, calculated	240876	For SSA, data is obtained from the eight major South African transporters, transporting pulp and paper products to customers. The average fuel		For SSA, not all transport companies have carbon footprints available. Only those companies that had the data readily available in

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			consumption of the truck is multiplied by the CO2 emission factor for diesel and then multiplied by the number of kilometres travelled. Conversion factors are applied to achieve final value in metric units. For SEU, distribution by sea, waterway, road (Truck, 60% 40t, 40% 25t) and rail (10% diesel, 90% electric) is taken into account, multiplying the respective CO2e emission factor with the distance travelled.		South Africa were used in this year's submission. For SEU, distribution by sea, waterway, road and rail are taken into account. Since no North American values are being collected, it will be difficult to determine the percentage of Scope 3 emissions it makes up. Efforts will be made to obtain more accurate values for next year's submission, which will allow Sappi to determine the percentage of emissions better.
Processing of sold products	Not relevant, explanation provided				After a review and in relation to Sappi's major emissions (process and transport) this Scope 3 emission is of an insignificant quantum and impact. As such it does not warrant the time, manpower and expense to capture, record, monitor and manage this parameter.
Use of sold products	Not relevant, explanation provided				After a review and in relation to Sappi's major emissions (process and transport) this Scope 3 emission is of an insignificant quantum and impact. As such it does not warrant the time, manpower and expense to capture, record, monitor and manage this parameter.
End of life treatment of sold products	Not relevant, explanation provided				After a review and in relation to Sappi's major emissions (process and transport) this Scope 3 emission is of an insignificant quantum and impact. As such it does not warrant the time, manpower and expense to capture, record, monitor and manage this parameter.
Downstream leased assets	Not relevant, explanation				After a review and in relation to Sappi's major emissions (process and transport) this Scope 3

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
	provided				emission is of an insignificant quantum and impact. As such it does not warrant the time, manpower and expense to capture, record, monitor and manage this parameter.
Franchises	Not relevant, explanation provided				Sappi does not have franchises
Investments	Not relevant, explanation provided				After a review and in relation to Sappi's major emissions (process and transport) this Scope 3 emission is of an insignificant quantum and impact. As such it does not warrant the time, manpower and expense to capture, record, monitor and manage this parameter.
Other (upstream)	Not relevant, explanation provided				After a review and in relation to Sappi's major emissions (process and transport) this Scope 3 emission is of an insignificant quantum and impact. As such it does not warrant the time, manpower and expense to capture, record, monitor and manage this parameter.
Other (downstream)	Not relevant, explanation provided				After a review and in relation to Sappi's major emissions (process and transport) this Scope 3 emission is of an insignificant quantum and impact. As such it does not warrant the time, manpower and expense to capture, record, monitor and manage this parameter.

Please indicate the verification/assurance status that applies to your reported Scope 3 emissions

No third-party verification or assurance

CC14.2a

Please provide further details of the verification/assurance undertaken, and attach the relevant statements

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of reported Scope 3 emissions verified (%)

CC14.3

Are you able to compare your Scope 3 emissions for the reporting year with those for the previous year for any sources?

Yes

CC14.3a

Please identify the reasons for any change in your Scope 3 emissions and for each of them specify how your emissions compare to the previous year

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Downstream transportation and distribution	Change in boundary	95	Increase	Previously only SA was included, but for 2016 EU figures were added, significantly increasing the emissions.
Business travel	Change in boundary	919	Increase	Previously only SA was included, but for 2016 EU figures were added, significantly increasing the emissions.

CC14.4

Do you engage with any of the elements of your value chain on GHG emissions and climate change strategies? (Tick all that apply)

Yes, our suppliers
Yes, our customers

CC14.4a

Please give details of methods of engagement, your strategy for prioritizing engagements and measures of success

Our suppliers

In South Africa, PBS Timber Trucks was engaged by Sappi to reduce the number of trucks on the road and thereby reducing GHG emissions by 936 tons CO₂ per annum. Discussions are also underway with railroad companies, such as Spoornet in South Africa and European railroad transporters, to use rail transport instead of road transport of raw materials and Sappi's products, which will result in reduced GHG emissions.

In Europe, the move to intermodal transport (rail or canal rather than road) meant that 45% of all Sappi Europe's finished paper is transported by rail or canals, which are more energy-efficient methods of transport than by road. This reduced the number of truck deliveries by 5 000 per year as a result of using trains for long journeys to deliver and collect materials.

Since 2009, Sappi North America has participated in the US Environmental Protection Agency's (EPA) SmartWay® Transport Partnership, aimed at helping businesses move goods in the cleanest, most efficient way possible. Since 2004, SmartWay has helped partners avoid emitting 94 million tons of air pollution (NO_x, PM, and CO₂). Sappi has also successfully influenced major distribution partners to become SmartWay® certified. (<https://www.epa.gov/smartway/smartway-program-successes>)

Our customers

Corporates and printers are part of the paper industry's (and Sappi's) global discussion "Story of Paper" which promotes the use of paper instead of other substrates, since Sappi is carbon positive due to the plantations that it owns. The industry initiative called "Two Sides" also promotes paper to customers on behalf of paper companies emphasising paper's green footprint w.r.t. GHG emissions.

We are heavily engaged with our wood and pulp suppliers through direct interaction as well as third party certifications. Our responsible sourcing practices ensure no deforestation and in all cases growth rates exceed harvesting.

For customers, we routinely respond to a wide variety of questionnaires and scorecards to provide GHG performance data. We also have conducted carbon footprint analysis to help understand and educate customers about how to mitigate the impact of using different fibre types (e.g. In North America, deinked pulp has a higher carbon footprint than virgin pulp made in our kraft mills).

CC14.4b

To give a sense of scale of this engagement, please give the number of suppliers with whom you are engaging and the proportion of your total spend that they represent

Type of engagement	Number of suppliers	% of total spend (direct and indirect)	Impact of engagement
Collaboration/innovation	100	33%	Reduced emissions

CC14.4c

Please explain why you do not engage with any elements of your value chain on GHG emissions and climate change strategies, and any plans you have to develop an engagement strategy in the future

Further Information

Module: Sign Off

Page: CC15. Sign Off

CC15.1

Please provide the following information for the person that has signed off (approved) your CDP climate change response

Name	Job title	Corresponding job category
Graeme Wild	Group Head Investor Relations and Sustainability	Business unit manager

Further Information

CDP 2017 Climate Change 2017 Information Request