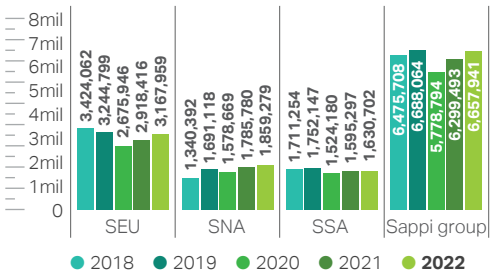
Our 2022
planet indicators

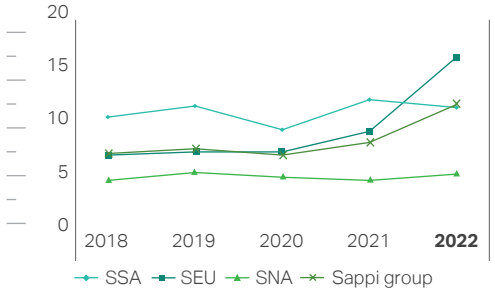
General

Saleable production (adt/annum)



__Globally__, there was an increase. In __SEU__, production increased especially at Kirkniemi (+22%), Lanaken (+35%) and Maastricht (+18%) Millls, and Rockwell Solutions (+12%). All other mills were more or less stable. The slight increase in __SNA__ was due to increased production at Cloquet, Matane and Somerset Mills. In __SSA__ the slight increase was attributable to improved run rates on both the paper and tissue machines at Stanger Mill and increased production at Saiccor Mill following the commissioning of the ZAR7.7 billion capacity expansion and environmental enhancement project.

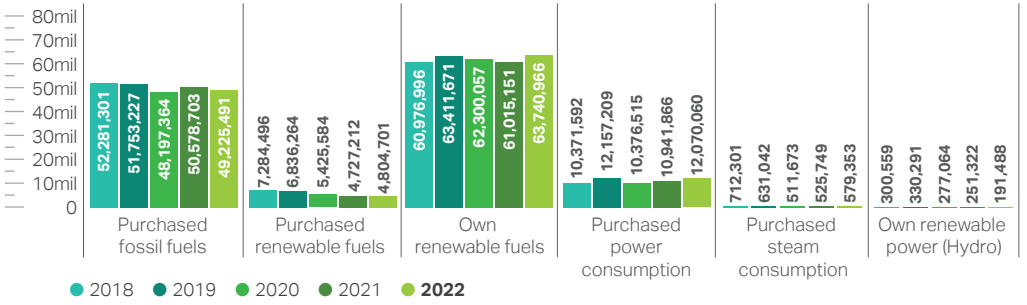
Purchased energy costs as a percentage of cost of sales (COS) (%)



__Globally__, there was an increase. In __SEU__, the European 'Green Deal' and the Ukraine crisis led to dramatically increasing energy prices. Fortunately we hedged major volumes of natural gas and electrical power. In __SNA__, Inflation and changes to the energy markets due to the impacts of Covid-19 and the war in Ukraine resulted in energy prices hitting new highs. However, long term, the trend appears stable. The decrease in __SSA__ was primarily due to the rise in raw material pricing (pulp and chemicals) which resulted in a significant increase in the cost of sales when compared with energy costs.

Energy

Energy consumption within organisation (GJ/annum)

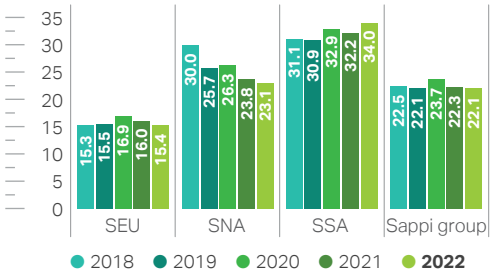


***Note:** Figures based on net calorific values*

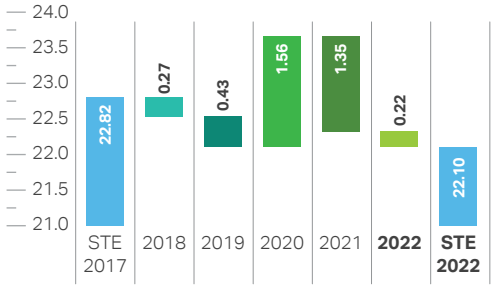
Our 2022
planet indicators continued

Energy

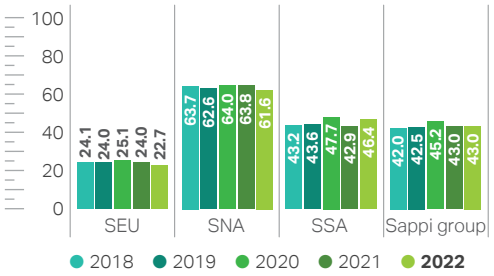
Energy intensity GJ/adt (specific total energy)



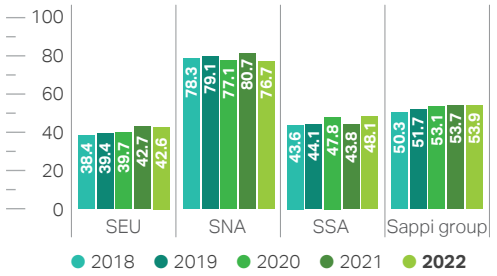
Reduction of specific energy consumption (GJ/adt)



Percentage energy self-sufficiency (%)



Renewable and clean energy (%)



Note: *Figures based on net calorific values*

***Globally**, energy intensity was stable. The slight decrease in **SEU** was due to considerably increased production in Kirkniemi, Lanaken and Maastricht Mills, as well as Rockwell Solutions which improved overall specific energy intensity. There was also a slight decrease in **SNA**. This was due to improvements at all sites, including increased production and efficiency at Cloquet Mill flowing from various Lean Six Sigma projects; favourable production at Matane Mill; strong paper production at Somerset Mill and efficiency projects at Westbrook Mill.*
*In **SSA**, energy intensity increased at Ngodwana, Saiccor and Tugela Mill. At Ngodwana Mill there were unplanned plant stoppages due to challenges on the power and recovery boilers. The increase at Saiccor Mill was attributable to increased Heavy Fuel Oil usage because of mill instability (commissioning activities of the ZAR7.7 billion capacity expansion project; power outages at Eskom, the state power utility; tube leaks, sodium hypochlorite shortages and floods). The increase at Tugela Mill was due to the increased use of coal and purchased power due to boiler issues.*

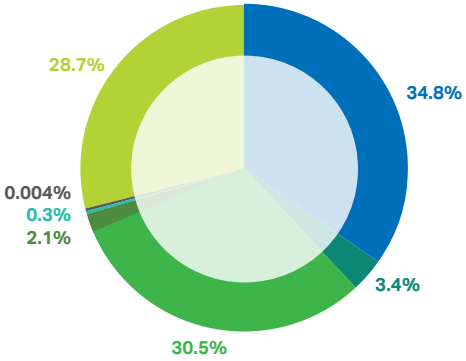
***Globally**, there was a slight increase. The decrease in **SEU** was due mainly to the outage of boiler 11 at Gratkorn Mill. The decrease at Carmignano Mill was due to the startup of the external combined heat and power (CHP) plant. On the positive side, energy self-sufficiency increased at Ehingen Mill following a major overhaul during FY2021 of the steam turbine #5 which came back on stream at the beginning of FY2022.*
*The increase at Stockstadt Mill was due to increased generation own power following the installation of a new turbine generator. In **SNA**, the decrease was due to higher use of natural gas at Cloquet Mill; an extended #1 turbine generator outage at Somerset Mill and a full year of Project Darwin at Westbrook Mill, which led to the production of less power, resulting in an increase of purchased power. In **SSA**, energy self-sufficiency increased at both Ngodwana and Saiccor Mills.*
Ngodwana Mill reduced energy imports and Heavy Fuel Oil consumption while increasing renewable energy (black liquor as well as bark). As the capacity expansion project at Saiccor Mill came on stream, so less coal was consumed, and the generation of black liquor increased.

***Globally**, there was a slight increase. The situation in **SEU** was stable. Renewable energy at Alfeld and Ehingen Mills increased due to the purchase of Guarantees of Origin (GoO). In Europe, these are used to document renewable energy consumption. Performance at all other **SEU** mills was comparable to the previous year. The slight decrease in **SNA** was due to higher use of natural gas at Cloquet Mill, together with increased purchased power purchased power and reduced biomass burning because of turbine and boiler outages at Somerset Mill. In **SSA**, the percentage of renewable energy increased due to higher levels of recovery of black liquor solids in the recovery boilers as well as increasing use of bark. Renewable energy also increased at Saiccor Mill due to increased black liquor generation following the change from calcium, to magnesium, pulping.*

Our 2022
planet indicators continued

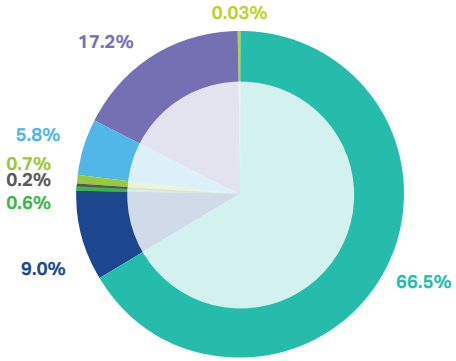
Energy continued

Fossil energy breakdown (%)



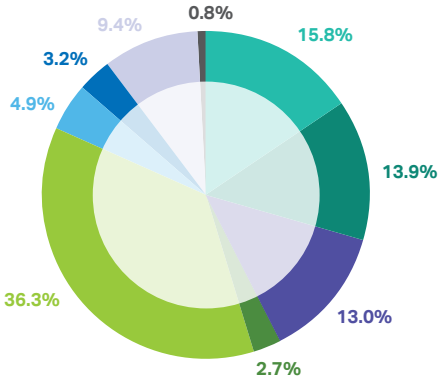
- Purchased coal (34.8%)
- Purchased heavy fuel oil (3.4%)
- Purchased natural gas (30.5%)
- Tyre derived fuel (TDF) (2.1%)
- Transport fuel (0.3%)
- Paraffin/kerosene (0.004%)
- Asphaltene (0.2%)
- Fossil energy in purchased power (28.7%)

Renewable and nuclear energy breakdown (%)



- Own black liquor (66.5%)
- Own biomass (mostly bark) (9.0%)
- Own biogas (0.6%)
- Own generated hydro electricity (0.2%)
- Combusted sludges (0.7%)
- Purchased biomass (5.8%)
- Renewable and nuclear energy in purchased power (17.2%)
- Own liquid biofuel (0.03%)

Fuel sources % (2022)

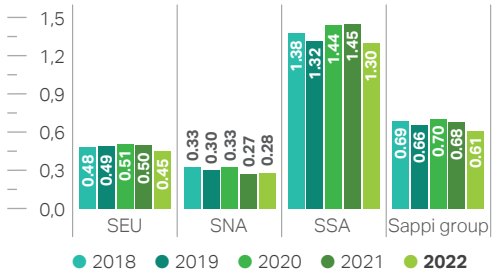


- Purchased coal (15.8%)
- Purchased natural gas (13.9%)
- Fossil energy in purchased power (13.0%)
- Other fossil fuel (2.7%)
- Own black liquor (36.3%)
- Own biomass (mostly bark) (4.9%)
- Purchased biomass (3.2%)
- Renewable and nuclear energy in purchased power (9.4%)
- Other renewable fuel (0.8%)

Our 2022
planet indicators continued

GHG emissions

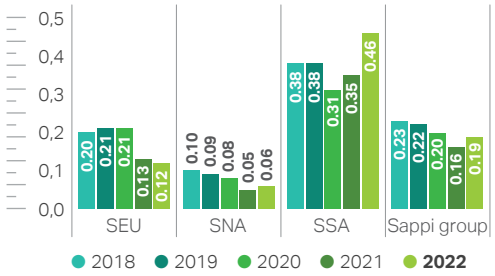
Direct GHG emissions (Scope 1) (t CO_2e/adt)



Note: *Scope 1 emission calculations are based on the guidance of the GHG Protocol, using IPCC emission factors (Chapter 2, Table 2.2, 2006) and 5th Assessment GWP factors.*

***Globally**, there was a decrease. The decrease in **SEU** was due to the following: outsourcing of the new natural gas CHP plant at Carmignana Mill; outage of the coal fired boiler #11 at Gratkorn Mill and increased production at Lanaken Mill. However, Scope 1 emissions increased at Stockstadt Mill due to reduced production. Emissions increased slightly in **SNA** due to higher natural gas use at Cloquet Mill, as well as the increased use of tyre derived fuel and a shortage of biomass on the market (stockpiling for winter). The decrease in **SSA** was the result of Ngodwana Mill using less heavy fuel oil owing to more stable operations and the reduced use of coal at Saiccor and Stanger Mills.*

Indirect GHG emissions (Scope 2) (t CO_2e/adt)



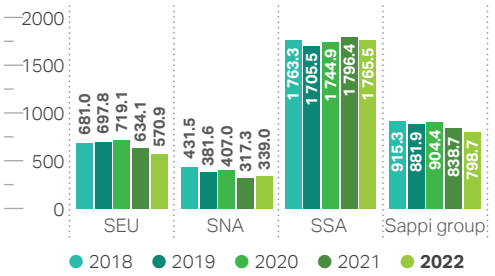
Note: *Scope 2 emissions are calculated based on the market-based method as defined by the GHG Protocol.*

***Globally**, there was an increase. In **SEU**, Alfeld, Ehingen and Stockstadt Mills reduced their Scope 2 emissions by purchasing Guarantees of Origin (GoO) which meant a lower fossil CO_2 factor for purchased power. Stockstadt Mill stopped selling of own green power, instead using it in the mill. Emissions at Carmignano Mill increased due to the outsourced CHP plant and the purchase of power. Scope 2 emissions in **SNA** increased from a very low base due to turbine generator outages at Cloquet and Somerset Mill and increased purchased power at Westbrook – the result of Project Darwin. This project involved the closure of paper machine #9 and the downsizing of the utilities' infrastructure. The coal-, biomass- and, oil boilers, together with the turbine generators were all shut down and replaced with small gas-fired boilers.*

*The increase in **SSA** was due to the following:*

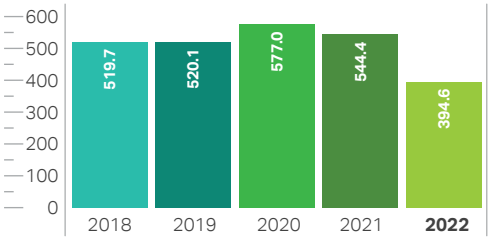
- *Increased imports of power at Ngodwana Mill due to the overhaul of Turbine 2, as well as a transformer gas leak and cable damage to Turbine 2.*
- *The commissioning of the capacity expansion project at Saiccor Mill added to base electrical consumption. There were unforeseen disruptions during Q1-Q3 as the mill experienced Eskom power outages, turbine failure, chemical delivery shortages as well as the KZN floods impacting operations leading to downtime in addition to planned shut periods. Significant amounts of power were required on start-up.*
- *Purchased power at Tugela Mill increased due to Boiler 2 shut for the refurbishment of the superheaters as well as reduced capacities on Boilers 3 and 5 resulting in reduction in turbine generation.*

Specific GHG (Scope 1 + 2) emissions (kg CO_2e/adt)



***Globally**, there was a slight decrease. There was a decrease in **SEU**, an increase in **SNA** and a slight decrease in **SSA**. The commentary given alongside for Scope 1 and 2 emissions explains these trends.*

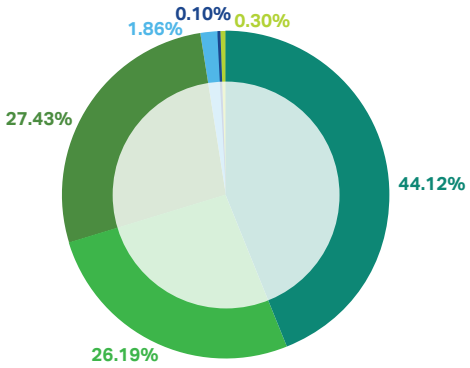
Specific GHG (Scope 1 + 2) emissions per revenue (kg CO_2e/US$ million)



Our 2022
planet indicators continued

GHG emissions continued

Scope 3 GHG emissions (t CO_2e)



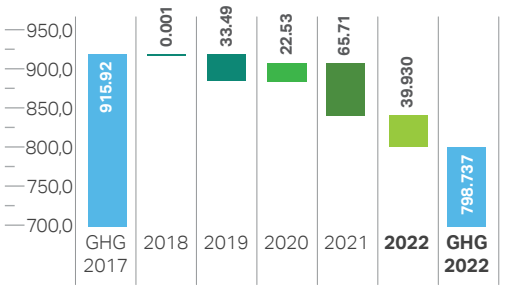
- Purchased goods (44.12%)
- Fuel and energy related activities (26.19%)
- Upstream transport (27.43%)
- Waste (1.86%)
- Business travel (0.10%)
- Employee commuting (0.30%)

Scope 3 emissions are defined as indirect emissions not included in scope 2, emanating from sources that we do not own or control and covering emissions along the value chain. Our scope 3 carbon footprinting is based on guidelines provided by the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (also referred to as the Scope 3 Standard). Given that we are committed to acting responsibly throughout our entire value chain, calculating scope 3 emissions enables us to make decisions not only based on price but also on the environmental performance of suppliers and service providers. Integrated and non-integrated mills are more comparable when the total Scope 1 + 2 + 3 emissions are considered.

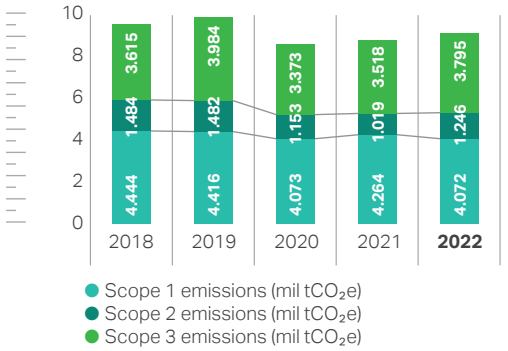
The GHG Protocol divides scope 3 emissions into 15 categories. Sappi reports upstream emissions in categories 1 – 7. These comprise emissions from purchased goods and services, capital goods, fuel and energy related activities, upstream transportation and distribution, waste generated, business travel and employee commuting). Downstream emissions in categories 8, 9 and 11 are not applicable to Sappi.

We do not include downstream emissions for categories 10 and 12 as we are unable to reasonably estimate emissions associated with the various end uses of our products. We do not have line of sight to what the end product and end of life of our products will be.

Reduction of GHG emissions intensity (kg CO_2/adt)



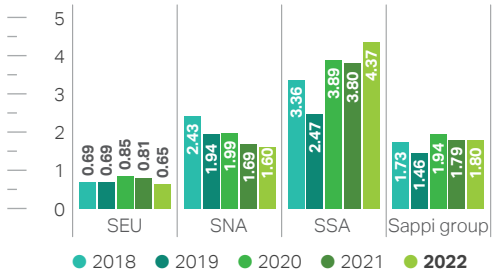
Absolute GHG emissions (tCO_2e)



Our 2022
planet indicators continued

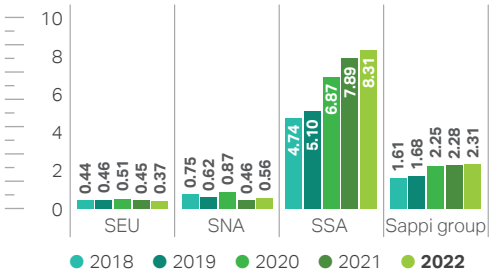
Air emissions

Specific NO_x emissions (kg/adt)



***Globally**, nitrogen oxide (NOx) emissions were stable. In **SEU**, increased production led to decreased specific NOx emissions. This was due to the decommissioning of the coal-fired boiler at Gratkorn Mill in August 2021 as well as the start-up of the new electrical (e-boiler) at Maastricht Mill and the reduction of natural gas firing. The slight decrease in **SNA** was due to improvements at Somerset Mill because of increased paper production and a full year of Project Darwin at Westbrook Mill (described on page 4 of this document). The increase in **SSA** was due to unfavourable stack results[1] at Ngodwana and Tugela Mills. In addition, at the latter coal consumption increased and coal quality was poor.*

Specific SO_x emissions (kg/adt)



***Globally**, there was a slight increase. However, in **SEU** there was a decrease due to various optimisation initiatives, the exception being Stockstadt Mill, where the increase was caused mainly by lower paper production. There was an increase in **SNA**, as significant improvement at Cloquet Mill was offset by increased consumption of turpentine and oil, as well as burning of tyre derived fuel (TDF) burning on Hog Fuel Boiler No. 1 at Somerset. The increase in **SSA** was due to unfavourable stack results at Ngodwana and Tugela Mills. In addition, coal consumption and the sulphur content of coal consumed increased at both mills.*

Absolute NO_x (kg/annum)	2018	2019	2020	2021	2022
SEU	2,352,324.0	2,243,482.8	2,278,410.6	2,360,089.5	**2,065,959.8**
SNA	3,254,618.6	3,277,376.7	3,136,551.7	3,012,886.4	**2,982,933.9**
SSA	5,748,817.1	4,322,674.6	5,936,212.2	6,061,163.4	**7,132,026.7**
Sappi group	**11,199,278.6**	**9,745,673.4**	**11,218,401.8**	**11,267,759.0**	**11,992,091.7**

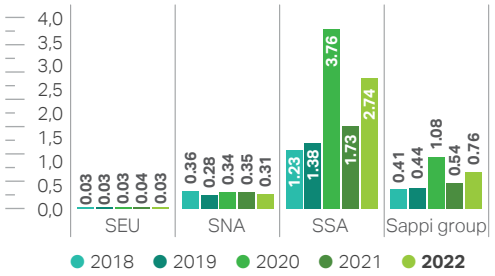
Absolute SO_x (kg/annum)	2018	2019	2020	2021	2022
SEU	1,503,915.7	1,480,129.9	1,373,241.3	1,302,977.5	**1,165,095.0**
SNA	1,006,181.0	1,044,623.5	1,372,927.1	823,293.1	**1,037,126.2**
SSA	8,111,866.9	8,935,852.4	10,466,668.3	12,579,314.8	**13,558,225.2**
Sappi group	**10,401,161.0**	**11,258,307.8**	**12,978,733.3**	**14,360,280.5**	**15,401,476.5**

[1] *At best stack measuring incorporates 3 x 60-minute snapshot of 365 days of emissions. While this is a legal requirement, it is not always representative.*

Our 2022
planet indicators continued

Air emissions continued

Specific total particular matter emissions (kg/adt)

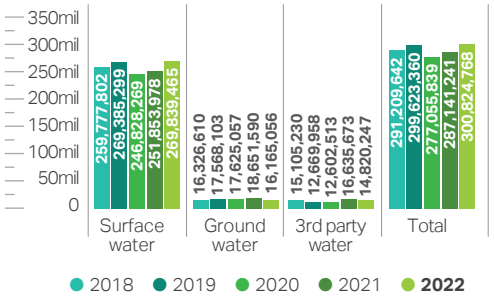


__Globally__, there was an increase. In __SEU__, there was a low-level decrease because of high production levels and reduced coal firing at Stockstadt Mill. The decrease in __SNA__ was due to a reduction and increased production at Somerset Mill, as well as a decrease at Westbrook Mill due to a full year of Project Darwin. In __SSA__, particulate matter (PM) emissions increased at Ngodwana Mill's Chemical Recovery Furnaces (CRF1 and 2) and also at the lime kiln. A project is in place to address this. In addition, Tugela Mill is installing additional PM abatement equipment on the coal fired boilers.

Absolute Particulate matter (kg/annum)					
	2018	2019	2020	2021	2022
SEU	1,503,915.7	1,480,129.9	1,373,241.3	1,302,977.5	1,165,095.0
SNA	1,006,181.0	1,044,623.5	1,372,927.1	823,293.1	1,037,126.2
SSA	8,111,866.9	8,935,852.4	10,466,668.3	12,579,314.8	13,558,225.2
Sappi group	**10,401,161.0**	**11,258,307.8**	**12,978,733.3**	**14,360,280.5**	**15,401,476.5**

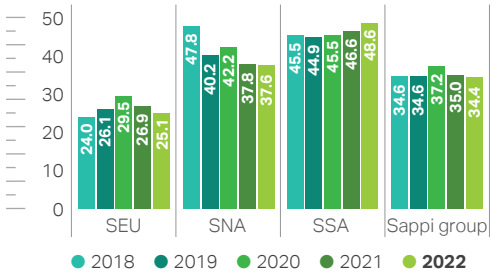
Water

Total water withdrawal by source (m³/annum)



Although process water was used more efficiently during 2022, total water withdrawal increased globally, mainly due to increased production.

Specific process water extracted (m³/adt)



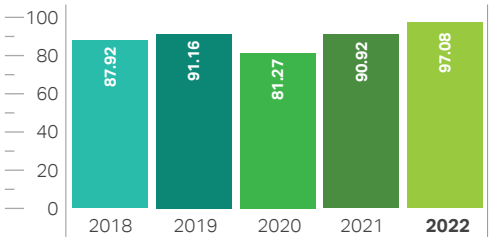
***Note:** Process water refers to water used for the manufacturing process only. Process water excludes non-contact cooling water, water to communities, irrigation water, unused water back to source, water for mill domestic use, water sold to municipality and third parties.*

Our 2022
planet indicators continued

Water continued

Absolute process water extracted and absolute process effluent discharged	2018	2019	2020	2021	2022
Process water extracted (m^3/annum)	223,891,061.0	231,470,794.8	214,965,531.9	220,243,264.8	**228,735,201.2**
Process effluent discharged (m^3/annum)	210,321,525.4	215,556,808.1	200,381,318.5	211,715,729.3	**225,434,557.1**

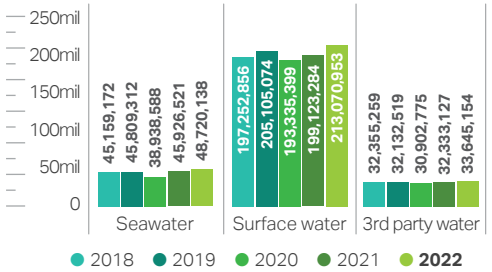
Total water withdrawal in water stressed locations (million m^3/annum)



Note: *Total water withdrawal includes water from rivers, own storage dams, ground water from boreholes and potable water.*

This graph applies to ***SSA***

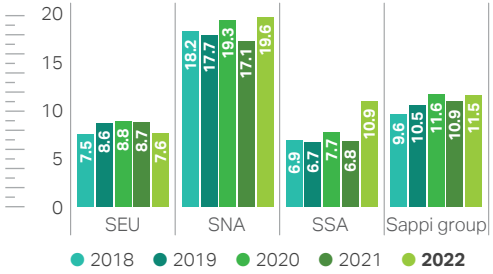
Total water discharge by destination (m^3/annum)



Our 2022
planet indicators continued

Water discharge by quality

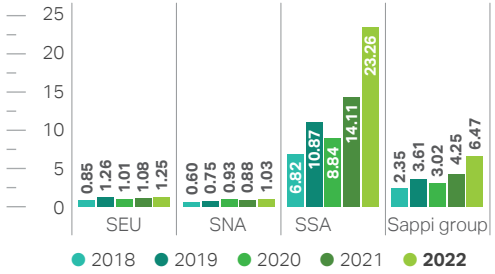
Chemical Oxygen Demand (COD) (kg/adt)



***Globally**, there was an increase. In **SEU**, however, there was a decrease. This was due mainly to the reduction of non-biodegradable COD emissions from the magnesium oxide bleaching plant at Gratkorn Mill. The increase in **SNA** was due to operational issues with the evaporator foul condensate stripper at Cloquet Mill during Qs1-3; operational issues with the anaerobic reactor at Matane Mill and washing issues at Somerset Mill during Q2. The increase in **SSA** was due to the floods in April 2022 which damaged some effluent treatment equipment at Stanger Mill, affecting COD removal efficiencies during May, June and July. The COD increase at Tugela from February 2022 to year end was attributable to the cleaning of the emergency dams and the lower consistency pulp.*

Saiccor Mill has been excluded from this graph as it is the only mill in the group to use the sulphite pulping process in the production of dissolving pulp. (Both Ngodwana and Cloquet Mills use the prehydrolysis kraft pulping process.)

Total Suspended Solids (TSS) (kg/adt)

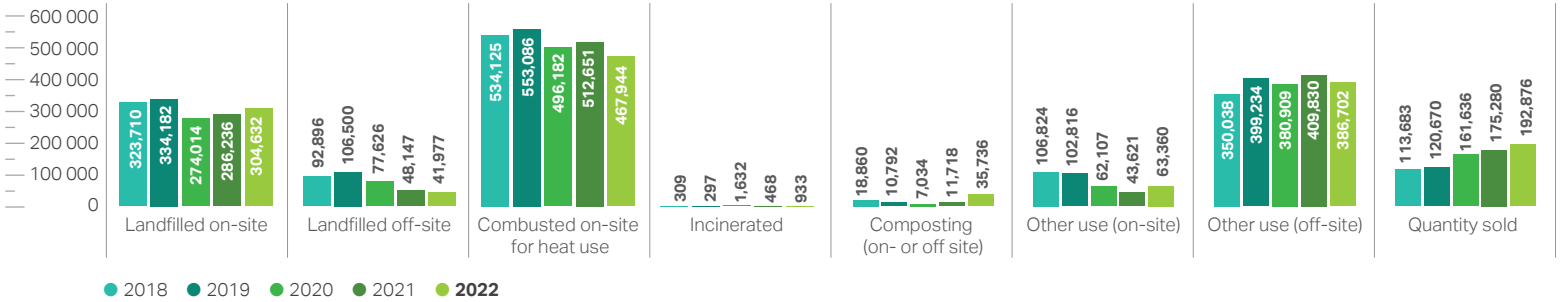


***Globally**, there was an increase. In **SEU**, the increase was due to multiple production stops at Lanaken and Maastricht Mills in the case of the former, problems in the effluent treatment. In **SNA** the increase can be attributed to poor clarifier efficiencies at Cloquet Mill for much of the year; an anaerobic reactor upset at Matane Mill and washing difficulties at Somerset Mill during Q2 and a waste treatment clarifier sludge line failure and waste treatment pH excursion during Q4. In **SSA**, the increase was due to instability at Saiccor Mill which resulted in significant pulp spills and increased effluent volumes. At Tugela Mill, the increase was due to operational issues on the belt press and higher fibre loss (PM2 instability and run-off from pulp slab due to poor pulp quality).*

Our 2022
planet indicators continued

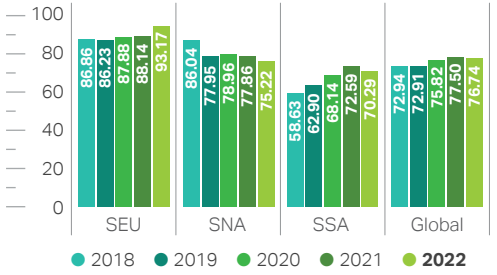
Waste

Disposal methods of solid waste (t/annum)



Globally, *total waste disposal was stable compared to last year. In* ***SEU****, landfilled off-site waste decreased due to the cessation of coal firing in Gratkorn and Stockstadt Mills and the related reduction of ash dispopsal. On-site combusted waste increased due to increased production. In* ***SNA****, bark burning at Somerset reduced due to stockpiling for winter use. In* ***SSA****, the positive increases in on-site use of waste and quantity sold were negatively impacted by higher volumes of waste generated and disposed to landfill.*

Waste diverted from disposal (%)

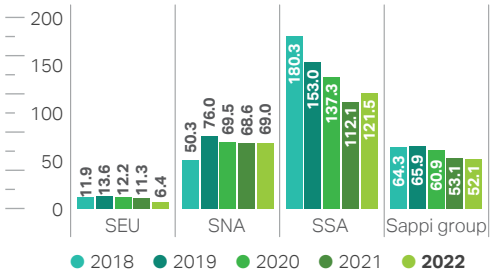


Globally*, the situation was stable. The increase in* ***SEU*** *was due to the cessation of coal firing at Gratkorn Mill and reduced coal firing at Stockstadt Mill which resulted in reduced amounts of ash to landfill. In* ***SNA****, the slight decrease can be attributed to reduced burning of bark at Somerset Mill. In* ***SSA****, the slight decrease was due to decreased ash generation at Saiccor Mill. In addition gypsum previously beneficiated was diverted to landfill during the last two quarters of the year. Tugela Mill beneficiated more absolute tons, but because of the higher volumes of waste produced the percentage beneficiated decreased.*

Our 2022
planet indicators continued

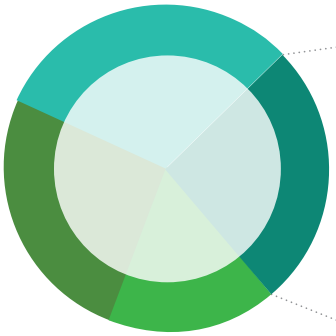
Waste continued

Specific landfilled solid waste (t/adt)



***Globally**, there was a slight decrease. In **SEU**, specific landfilled waste declined to nearly zero, attributable to the cessation of coal firing at Gratkorn Mill and reduced coal firing at Stockstadt Mill. The situation in **SNA** was stable. However, Matane Mill's landfill rates increased slightly due to an upset in the anaerobic reactor, resulting in more biological sludge to landfill. In **SSA**, there was an increase. At Ngodwana Mill, the increase can be ascribed to more dregs (trials to increase solids in circuit) and building rubble (multi-purpose tank installation) disposed to landfill. In Q4 bark burning was 16% of normal rates due to limiting the boiler run rate because of turbine issues, thus increasing landfilling of biomass. Effluent sludge landfilled increased due to cleaning of Edams and other waste streams such as wood waste, grinding rolls, etc. increased related to post-shut clean-up. Saiccor Mill disposed more waste to landfill due to instability, gypsum diversion to landfill, as well as annual cleaning activities and cleaning of the effluent spill pond. Tugela Mill increased waste disposal to landfill due to cleaning of the Edams and tanks. In addition, the increase in the rate of chipping has created high wood waste rejects and the ReFibre plant rejects have increased due to plant inefficiency and recovered paper quality.*

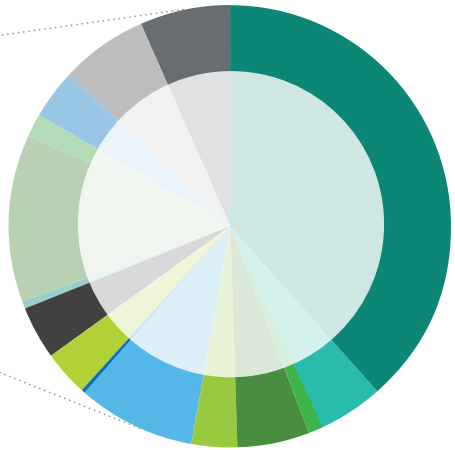
Global breakdown of solid waste types in Sappi (%) (2022)



- Bark (from own operations) (30.9%)
- Sludge (from pulp & paper mill and biological treatment) (26.0%)
- Boiler ashes (17.0%)
- Other (26.0%)

Total weight of hazardous waste (tons)	1,182.7
Total weight of non-hazardous waste (tons)	1,493,239.1
Total weight of waste recovered (tons) (Beneficially used waste)	1,146,618

Global breakdown of 'other' solid waste types in Sappi (%) (2022)



- Wood waste (knots, sawdust, slivers, fines oversize, pallets, other wood) (10.1%)
- Paper- and packaging waste (1.2%)
- Other combustible waste (0.3%)
- Green liquor dregs/Sodium sulphate rejects (1.4%)
- Slaker rejects (0.9%)
- Lime mud (2.2%)
- Wires and felts (0.1%)
- Domestic waste (0.9%)
- Plastics, polystyrene, plastic packaging (1.0%)
- Hazardous waste (0.1%)
- Used oil (3.2%)
- Other/scrap metals, iron, empty cans (0.5%)
- Oil contaminated waste (0.0%)
- Other waste (rolls, small chemicals, grinding roll waste etc.) (0.9%)
- Other waste (1.7%)
- Waste used for capping purposes (t/a) (1.a7%)