

W0. Introduction

W0.1

(W0.1) Give a general description of and introduction to your organization.

Smurfit Kappa Group plc ('SKG plc' or 'the Company') and its subsidiaries (together 'SKG' or 'the Group'), a FTSE 100 company, is one of the leading providers of paper-based packaging solutions in the world, with approximately 46,000 employees in 352 production sites across 35 countries and with revenue of products, with operations in Europe, Latin America, the United States and Canada. It manufactures, distributes and sells containerboard, corrugated containers and other paper-based packaging products such as solidboard, graphicboard and bag-in-box.

In Europe our business is highly integrated and includes a system of mills and plants that primarily produces a full line of containerboard that is converted into corrugated containers. In addition to other types of paper, such as solidboard and sack kraft paper, and paper-based packaging, such as solidboard packaging and folding cartons, this segment includes the Group's bag-in-box operations. The Group is the largest pan-regional producer of containerboard and corrugated containers in Latin America.

We use sustainability as a lens through which to focus our innovation, our strategy and our processes. The transparency and detail we offer our stakeholders is industry-leading.

With our pro-active team we relentlessly use our extensive experience and expertise, supported by our scale, to open up opportunities for our customers. We collaborate with forward thinking customers by sharing superior product knowledge, market understanding and insights in packaging trends to ensure business success in their markets. We have an unrivalled portfolio of paper-packaging solutions, which is constantly updated with our market-leading innovations. This is enhanced through the benefits of our integration, with optimal paper design, logistics, timeliness of service, and our packaging plants sourcing most of their raw materials from our own paper mills.

Our paper-based products improve the environmental footprint of our customers as their raw material is 100% renewable and the products itself are 100% recyclable.

What we do:

Paper - we manufacture a wide range of papers mainly used for packaging purposes. Our total global paper and board capacity is approximately 7 million tonnes per annum.

Packaging - we design, manufacture and supply paper-based packaging to package, promote and protect our customers' products. We manufacture over 10.5 billion square metres of corrugated packaging and have key supply positions in solid board, folding carton and tube markets.

The Group operates in 23 countries in Europe and is the European leader in corrugated packaging, containerboard and solidboard with key positions in several other packaging and paper market segments. We also have three bag-in-box facilities, located in Argentina, Canada and Mexico, which are managed as part of our European bag-in-box operations. The Group operates in 12 countries in the Americas and is the largest pan-regional producer of containerboard and corrugated containers in Latin America.

In terms of world market positions, the Group is the one of the largest producer of corrugated packaging.

Given the high degree of integration between the mills and its conversion plants, particularly in terms of containerboard, the Group's end customers are primarily in the corrugated packaging market, which uses the packaging for product protection and product merchandising purposes. The Group's large manufacturing footprint provides it with a competitive advantage because the corrugated packaging market is a localised market and corrugated box plants need to be close to customers (generally 300 kilometres or less) due to the relatively high cost of transporting the product. Approximately 60% of the Group's corrugated customers are in the fast moving consumer goods sector, comprising food, beverage, and household consumables, the remainder being split across a wide range of different industries.

In 2019, the Group's Europe and Americas regions accounted for approximately 75% and 25% of revenue respectively.

At the date of this report, the Group owns 34 mills (29 of which produce containerboard), 245 converting plants (which convert containerboard into corrugated boxes), 40 recovered fibre facilities and two wood procurement operations (which together provide raw material for our mills) and 34 other production facilities carrying on other related activities. In addition, the Group owns 67100 hectares of forest plantations in Latin America and manages relatively small forest holdings totalling ca. 600 hectares in France and Spain.

W0.2

(W0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date
Reporting year	January 1 2019	December 31 2019

W0.3

(W0.3) Select the countries/areas for which you will be supplying data.

Argentina
Austria
Belgium
Brazil
Canada
Chile
Colombia
Costa Rica
Czechia
Denmark
Dominican Republic
Ecuador
El Salvador
France
Germany
Greece
Ireland
Italy
Latvia
Lithuania
Mexico
Netherlands
Nicaragua
Norway
Poland
Portugal
Puerto Rico
Russian Federation
Slovakia
Spain
Sweden
Switzerland
United Kingdom of Great Britain and Northern Ireland
United States of America

W0.4

(W0.4) Select the currency used for all financial information disclosed throughout your response.

EUR

W0.5

(W0.5) Select the option that best describes the reporting boundary for companies, entities, or groups for which water impacts on your business are being reported.

Companies, entities or groups over which financial control is exercised

W0.6

(W0.6) Within this boundary, are there any geographies, facilities, water aspects, or other exclusions from your disclosure?

No

W1. Current state

W1.1

(W1.1) Rate the importance (current and future) of water quality and water quantity to the success of your business.

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Neutral	Direct Use: Vital. Water is a critical element in pulping wood and recovered-paper fibres (to process raw materials), in the formation of paper and drying it with steam-driven dryers (manufacture of paper) and for cooling purposes. Without water, we cannot produce paper and its quality is important in the manufacture of paper, which is the reason for the chosen importance. In 2019, our 34 paper and board operations used 134 million m3 of water, of which 125 million m3 was discharged in good condition. For all operations, water sources are, 83.3% surface water, 12.2 % groundwater, 2.9% from the Grid and 1.6% from other sources. Over 90% of the water we used is returned to nature in good condition, and the rest is emitted to the air, evaporated during the process or is bound to the product. The average water intake by our paper and board mills during 2019 was 18.0 m3 per tonne of paper produced and this represents an 11% increase mainly due as a result of the addition of the SK Parengo Paper mill in the Netherlands in our Group reporting. We are committed to responsible water stewardship. For us, there are two materials approaches to water: improving the quality of water we discharge and understanding the risks associated with water availability and use in the areas where we operate. Considering future dependencies, Smurfit Kappa may increase its water intake due the addition of new paper mills in the future as part of our strategy. Indirect Use: Neutral. For our main raw materials, wood from forest plantations and recovered paper, the quality of water is not a critical condition. We do not anticipate this to change in the future.
Sufficient amounts of recycled, brackish and/or produced water available for use	Neutral	Neutral	Direct Use: Neutral. The reason why the water is of neutral importance is due to the high recycling rate of water by our paper mills . At the headbox of a paper machine, the pulp consistency is around 1% in the water mix. We discharge 3-7m3 water – about the same amount as the intake per tonne of paper. We recycle the water we use 10-40 times in the paper-making process, before returning part to our process after treating it in our water treatment plants. Some mills (in Mexico and Germany) use partly recycled water from other industries for their process and our Zülpich (Germany) and Bento (Brazil) mills operate closed water loop systems. Considering future dependency in terms of direct use we will keep the same approach, to recycle and reuse water as many times as possible. Indirect Use: Neutral. We encourage our supplier to support at least our strategic SDG, 6 Water, and to participate in commonly accepted best practices. Responsible water stewardship is part of that, for example; increase reuse of water, reducing freshwater consumption. Considering the future dependency in terms of indirect use we will keep the same approach.

W1.2

(W1.2) Across all your operations, what proportion of the following water aspects are regularly measured and monitored?

	% of sites/facilities/operations	Please explain
Water withdrawals – total volumes	100%	Smurfit Kappa measures and monitors total (100%) of water withdrawals of all its operations. The information collected is according to the GRI guidelines (Water indicator: 303-3 Water withdrawal and 303-5 Water Consumption) and in accordance with internal protocols. The frequency of monitoring is daily; including daily measurements of the total volumes of water that enter into the paper mills from any source (surface water, ground water, grid). The method of monitoring is using flowmeters and water balance for the entity. Our reporting, individual information by mills (the Americas and Europe) for the full year is disclosed in the annual Sustainable Development Report, as well as the total for all Smurfit Kappa operations.
Water withdrawals – volumes by source	100%	Smurfit Kappa measures and monitors total (100%) of water withdrawals by source of all its operations. The information collected is according to the GRI guidelines (Water indicator: 303-3 Water withdrawal and 303-5 Water Consumption) and in accordance with internal protocols. The frequency of monitoring is daily; including daily measurements of the total volumes of water that enter into the paper mills from any source (surface water, ground water, grid). The method of monitoring is using flowmeters and water balance for the entity. Our reporting, individual information by mills (the Americas and Europe) for the full year is disclosed in the annual Sustainable Development Report, as well as the total for all Smurfit Kappa operations.
Entrained water associated with your metals & mining sector activities - total volumes [only metals and mining sector]	<Not Applicable>	<Not Applicable>
Produced water associated with your oil & gas sector activities - total volumes [only oil and gas sector]	<Not Applicable>	<Not Applicable>
Water withdrawals quality	100%	Smurfit Kappa measures and monitors total (100%) of water withdrawals quality of all its operations. The information collected is according to the GRI guidelines (Water indicator: 303-3 Water withdrawal and 303-5 Water Consumption) and in accordance with internal protocols. The frequency of monitoring is daily; including daily measurements of the total volumes of water and quality that enter into the paper mills from any source (surface water, ground water, grid). The method of monitoring is according to the law and diverse Standard methods for the Examination of water. Our reporting, individual information by mills (the Americas and Europe) for the full year is disclosed in the annual Sustainable Development Report, as well as the total for all Smurfit Kappa operations.
Water discharges – total volumes	100%	Smurfit Kappa measures and monitors total (100%) of water discharges of all its operations. The information collected is according to the GRI guidelines (Water indicator: 303-4 Water discharge and 303-5 Water Consumption) and in accordance with internal protocols. The frequency of monitoring is daily; including daily measurements of the total volumes of water discharges. The method of monitoring is using flowmeters and water balance for the entity. Our reporting, individual information by mills (the Americas and Europe) for the full year is disclosed in the annual Sustainable Development Report, as well as the total for all Smurfit Kappa operations.
Water discharges – volumes by destination	100%	Smurfit Kappa measures and monitors total (100%) of water discharges by destination of all its operations. Destination of water discharges is either the surface body for 26 mills, and the water treatment plant of the community located nearby the site for the remaining 6 others mills and for all our converting plants. The information collected is according to the GRI guidelines (Water indicator: 303-4 Water discharge and 303-5 Water Consumption) and in accordance with internal protocols. The frequency of monitoring is daily; including daily measurements of the total volumes of water discharges. The method of monitoring is using flowmeters and water balance for the entity. Our reporting, individual information by mills (the Americas and Europe) for the full year is disclosed in the annual Sustainable Development Report.
Water discharges – volumes by treatment method	100%	Smurfit Kappa measures and monitors total (100%) of water discharges by treatment method for all the Smurfit Kappa operations. The information collected is according to the GRI guidelines (Water indicator: 303-4 Water discharge and 303-5 Water Consumption) and in accordance with internal protocols, information on volume and quality of water discharges associated with the equipment on site for the treatment of process water (quarterly for mills and annually for other operations). The mills discharging directly to surface water body operate water treatment plants composed of a physical treatment followed by an aerobic and/or an anaerobic treatment. The frequency of monitoring is daily; including daily measurements of the total volumes of water discharges. The method of monitoring is using flowmeters and water balance for the entity.
Water discharge quality – by standard effluent parameters	100%	We measures and monitors total (100%) of water discharges by standard effluent parameters of all our operations. The information collected is according to the GRI guidelines (Water indicator: 303-4 Water discharge) and internal protocols. The frequency of monitoring is with regularly measured, daily or weekly measurement of the quality indicators for Water discharges for the mills and quarterly for other operations including daily measurements of the total volumes of water Discharges. The method of monitoring is according to the law and diverse Standard methods (eg. For European sites: COD: ISO6060, ASTM D1252; BOD: ISO 5815, T 90103; TSS: EN 872, ISO 11923; Kjeldhal: ISO 25663, ASTM D3590-02; NO ₂ , NO ₃ : EN ISO 10304-1, 10304-2. For The Americas sites: Standard methods for the Examination of Water and Wastewater). Parameters COD, BOD, TSS, N, P are reported by individual information in the annual SDR for the mills (the Americas and Europe) as well as for all Smurfit Kappa operations.
Water discharge quality – temperature	100%	Smurfit Kappa measures and monitors total (100%) of water discharges quality parameters, temperature, of all its operations. The information collected is according to the GRI guidelines (Water indicator: 303-4 Water discharge) and in accordance with internal protocols. The frequency of monitoring is with regularly measured, daily or weekly measurement of the temperature indicators for water discharges for the mills and quarterly for other operations, individual information for the mills for the full year as well as for all Smurfit Kappa operations for full year is relevant internally but not disclosed in the annual Sustainable Development Report.
Water consumption – total volume	100%	Smurfit Kappa measures/ calculate total (100%) of water consumption, for all its operations. The information collected is according to the GRI guidelines (Water indicator: 303-5 Water Consumption) and in accordance with internal protocols. Water consumption is measured/calculated by difference between water withdrawal and water discharged.
Water recycled/reused	100%	Smurfit Kappa measures and monitored the total (100%) of water recycled / reused in its operations. The information collected is according to the internal protocols, with regularly measured, including daily measurement. Our paper mills recycle water at a high rate. At the headbox of a paper machine, the pulp consistency is around 1% in the water mix. We discharge 3-7m ³ water – about the same amount as the intake per tonne of paper. We recycle the water use 10-40 times in the paper-making process, before returning part to our process after treating it in our water treatment plants. Our Zülpich (Germany) and Bento (Brazil) mills operate closed water loop systems.
The provision of fully-functioning, safely managed WASH services to all workers	100%	Specific space and facilities are offered for workers under the requirements of WASH, international hygiene standards and according to the law. The sanitation facilities are being offered to meet the need of the activities of the operation.

W1.2b

(W1.2b) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, and how do these volumes compare to the previous reporting year?

	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Total withdrawals	137083	Much higher	Increase is 19% in absolute (or 21735 MI) and 13% per tonne of paper. New acquisition of Parenco mill (absolute usage: 25222 MI/year) is the reason for the increase. This mill has a high withdrawal of water per tonne of paper due to its product portfolio. The mill is producing printing & writing paper, which is different from containerboard paper that is produced in our other paper mills. If we exclude Parenco, our water withdrawals decrease by 3% or 3487 MI
Total discharges	126086	Much higher	Increase is 21% in absolute (or 21808 MI) and 15% per tonne of paper. New acquisition of Parenco mill (absolute release: 24320 MI/year) is the reason for the increase. his mill has a high use of water per tonne of paper due to its product portfolio. The mill is producing printing & writing paper which is different from containerboard paper that is produced in our other paper mills. If we exclude Parenco, our water discharge decrease by 2% or 2512 MI
Total consumption	10997	About the same	Decrease is 2% in absolute (or 73 MI) 2019 compared to 2018. If we exclude Parenco, our total consumption decrease by 9% or 974 MI

W1.2d

(W1.2d) Indicate whether water is withdrawn from areas with water stress and provide the proportion.

	Withdrawals are from areas with water stress	% withdrawn from areas with water stress	Comparison with previous reporting year	Identification tool	Please explain
Row 1	Yes	1-10	Lower	WRI Aqeduct	SK strives to continuously improve its water management, with current focus on the better water use and reduced effluent release. The Group is aware that beyond direct financial impact, water need is a potential source of vulnerability and business disruption. Since 2014, we have investigated the environmental impact of our paper mills as well as water-related risks. Some mills of Smurfit Kappa are located in areas with low water availability. During 2019 and early 2020, we finalised our in-depth assessments at 10 paper mills not previously assessed, totalling 28 sites, the remaining four paper mills in Brazil and Serbia will be assessed during of 2020. All assessments confirmed that our mills' water use has no impact on water availability to neighbouring areas. Only 12% of our paper and board production is in areas of water scarcity, representing 3% of our water intake. Aqeduct is one of the most acknowledged water vulnerability assessment tools available. Indicators from the tool were selected according to their relevance to Smurfit Kappa's activities in order to create an integrated score for water-related risks and providing a first assessment of the vulnerability of the sites to these risks. The percentage is lower comparison with previous reporting year: 2017: 4.48%; 2018: 4.51% 2019: 3% NB: one of the sites has been deconsolidated during the course of 2018

W1.2h

(W1.2h) Provide total water withdrawal data by source.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	116233	Higher	Fresh surface water is relevant for Smurfit Kappa, it is vital and critical element in our process, for all operations, surface water represents 83.3% of all water withdrawal. The volume increase compared to 2018 is 15940 MI or 16% . New acquisition of Parenco mill is the reason for the increase. This mill has a high water use per tonne of paper due to its product portfolio. If we exclude Parenco, the figures decreased by 4% or 3550 MI.
Brackish surface water/Seawater	Not relevant	<Not Applicable>	<Not Applicable>	This source of water is not relevant. We don't use Brackish surface water/seawater in our operations. Considering future dependency or use, we will keep the same approach.
Groundwater – renewable	Relevant	16744	Much higher	Groundwater - renewable, is relevant for Smurfit Kappa, in general, water is vital and critical element in our process, for all operations, groundwater (renewable) represents 12.2% of all water withdrawal. The volume increase compared to 2018 is 5838 MI or 54% . New acquisition of Parenco mill is the reason for the increase. This mill has a high water use per tonne of paper due to its product portfolio. If we exclude Parenco, the figures are +453 MI or +4%.
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	This source of water is not relevant. We don't use Groundwater - non-renewable in our operations. Considering future dependency or use, we will keep the same approach.
Produced/Entrained water	Relevant	162	Much lower	The volume decrease compared to 2018 is -30 MI or -16%. One mill is using more than 90% of group figure. Due to weak temporary availability of this type of water at this mill, yearly figure is decreasing. Produced/Entrained water is relevant for Smurfit Kappa, in general, water is vital and critical element in our process, for all operations, Produced/Entrained water represents less than 1,6 % of all water withdrawal.
Third party sources	Relevant	3944	About the same	The volume increase compared to 2018 is 23 MI or 0.6% . New acquisition of Parenco mill is the reason for the increase. This mill has a high water use per tonne of paper due to its product portfolio. If we exclude Parenco, the figures are -44 MI or -1.1%. Third party sources are relevant for Smurfit Kappa even if for all the operations Third party sources represents 2.9% of all water withdrawal.

W1.2i

(W1.2i) Provide total water discharge data by destination.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water	Relevant	77466	Much higher	Fresh surface water discharge is relevant to Smurfit Kappa because represents the main destination of our water release. The volume increase is 42%. New acquisition of Parengo mill is the reason for the increase. If we exclude Parengo, our water discharge is -2%.
Brackish surface water/seawater	Relevant	38343	About the same	Brackish surface water/seawater is relevant to Smurfit kappa because represents part of the destination of our water release. The volume decrease is 2%, about the same figure in comparison with a previous reporting year.
Groundwater	Not relevant	<Not Applicable>	<Not Applicable>	We don't release water to groundwater. This is the reason because this destination is not relevant to Smurfit Kappa. Considering future trend, we will keep the same approach.
Third-party destinations	Relevant	10587	About the same	Third-party destinations is relevant to Smurfit kappa because represents part of the destination of our water release. The volume decrease is 2%, about the same figure in comparison with a previous reporting year.

W1.4

(W1.4) Do you engage with your value chain on water-related issues?

No, we do not engage on water with our value chain

W1.4d

(W1.4d) Why do you not engage with any stages of your value chain on water-related issues and what are your plans?

	Primary reason	Please explain
Row 1	Judged to be unimportant	In the paper value chain, paper manufacture is the highest single water usage factor. Other parts of the value chain are less relevant from the value chain perspective. We have assessed our supply chains and suppliers and as part of our sustainable sourcing programme we require our suppliers to sufficiently report to us about their manufacturing, continuous improvement as well as environmental and sustainable development. We require relevant sustainability topics, water included, to be covered by companies' certified environmental management systems. Our supplier risk mapping shows that nearly all of our strategic and important suppliers of our key raw materials, goods and services are in the moderate to low-risk area of the risk map.

W2. Business impacts

W2.1

(W2.1) Has your organization experienced any detrimental water-related impacts?

No

W2.2

(W2.2) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations?

Yes, fines

W2.2a

(W2.2a) Provide the total number and financial value of all water-related fines.

Row 1

Total number of fines

4

Total value of fines

27665

% of total facilities/operations associated

1

Number of fines compared to previous reporting year

About the same

Comment

We have received 4 fines of which one represents 52% of total. We consider none of these fines as significant.

W2.2b

(W2.2b) Provide details for all significant fines, enforcement orders and/or other penalties for water-related regulatory violations in the reporting year, and your plans for resolving them.

Type of penalty

Fine

Financial impact

14401

Country/Area & River basin

Spain	Guadalquivir
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Type of incident

Effluent limit exceedances

Description of penalty, incident, regulatory violation, significance, and resolution

The fine was received by our Spanish Mengibar mill where COD and TSS levels were exceeding permit levels for a short period of time with no detrimental impact to the environment. The exceedances occurred in 2018 but were handled by the authorities in 2019.

W3. Procedures

W3.3

(W3.3) Does your organization undertake a water-related risk assessment?

Yes, water-related risks are assessed

W3.3a

(W3.3a) Select the options that best describe your procedures for identifying and assessing water-related risks.

Direct operations

Coverage

Full

Risk assessment procedure

Water risks are assessed as a standalone issue

Frequency of assessment

Every two years

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

Tools on the market

Other

Tools and methods used

WRI Aqueduct

Internal company methods

External consultants

Comment

We have assessed the location based water risk of all of our paper mills in 2014 against WRI Aqueduct. Further on, we developed a specific tool to measure the risks related to both water scarcity in our locations as well as our paper and board mills' water management and water risk management in the course of 2014. The methodology takes into account the absolute water scarcity, as well as current and future potential attitude of other local users of water through a stakeholder analysis. This tool is based on four elements: physical risk, reputational risk, regulatory risk and risk management. The results impact our water strategy.

Supply chain

Coverage

None

Risk assessment procedure

<Not Applicable>

Frequency of assessment

<Not Applicable>

How far into the future are risks considered?

<Not Applicable>

Type of tools and methods used

<Not Applicable>

Tools and methods used

<Not Applicable>

Comment

Material part of our water consumption in our value chain takes place in our own paper mills. Therefore stakeholders in our supply chain are currently not included.

Other stages of the value chain

Coverage

None

Risk assessment procedure

<Not Applicable>

Frequency of assessment

<Not Applicable>

How far into the future are risks considered?

<Not Applicable>

Type of tools and methods used

<Not Applicable>

Tools and methods used

<Not Applicable>

Comment

98% of our water intake in our value chain takes place in our own paper mills. Therefore other stages in our value chain are currently not included.

W3.3b

(W3.3b) Which of the following contextual issues are considered in your organization's water-related risk assessments?

	Relevance & inclusion	Please explain
Water availability at a basin/catchment level	Relevant, always included	Water is a critical element in pulping wood and recovered-paper fibres, in the formation of paper and in drying it with steam-driven dryers. Without water, we cannot produce paper. Availability of fresh water is one of the key pre-conditions for our business; we need sufficient water with a good quality level for running our processes, the reason why we consider a high relevant aspect in Smurfit Kappa. Our water risk assessment is based on two stages: a global risk assessment based on WRI Aqueduct through which the overall availability of fresh water and its quality is assessed and this leads to a location based risk factor for each paper mill. The second stage is to assess how each site individually manages its access to water. This tool is based on four elements: physical risk, reputational risk, regulatory risk and risk management, and includes long-term evaluation of the permit levels, availability of water resource and alternative resources as well as the public opinion (stakeholder consultation) on the site impacting such resources as water. In 2019, for all operations of the Group, the 83.3% of water sourced from surface and 12.2% from ground.
Water quality at a basin/catchment level	Relevant, always included	Quality of fresh water is one of the key pre-conditions for running our processes in our business, we need sufficient water with a good quality level for to process raw materials and for cooling purposes, the reason why we consider a high relevant aspect in Smurfit Kappa. In our two stage assessment, the first stage defines a location based fresh water availability risk factor and on the second stage we evaluate the site's actions to ensure good quality water for its processes. This evaluation also includes the water discharge at our sites, if discharging to a water body, always discharge upstream from their water intake.
Stakeholder conflicts concerning water resources at a basin/catchment level	Relevant, always included	The stakeholder conflicts concerning water resources at a basin/catchment level are relevant for Smurfit Kappa, to know the potential for the future conflicts locally for our operations. Our water risk assessment is based on two stages: a global risk assessment based on WRI Aqueduct through which the overall availability of fresh water and its quality is assessed and this leads to a location based risk factor for each paper mill. The second stage is to assess how each site individually manages its access to water. This tool is based on four elements: physical risk, reputational risk, regulatory risk and risk management, and includes long-term evaluation of the permit levels, availability of water resource and alternative resources as well as the public opinion (stakeholder consultation) on the site impacting such resources as water. This issue is included where relevant locally where each site is responsible of mitigating the foreseeable conflicts as part of their mill- and water management. The possible conflicts impacting our sites could for example relate with: agriculture (our Mengibar paper mill in Spain), community (our Mexican paper mill Cerro Gordo), or transport (our Roermond paper mill in The Netherlands) or public opinion on site's water management (for example our Wrexen mill in Germany). We manage these risks locally with the stakeholders involved and the possible conflicts of interest have not become an issue.
Implications of water on your key commodities/raw materials	Relevant, not included	The implication of water on our commodities/raw materials are relevant to a lesser extent, due to paper production which is part of Smurfit Kappa's own processes, covers over 95% of our water footprint, we have focused on our internal processes and their risks. The key commodity that we use and could be impacted is starch. Currently the starch production for our use is mainly in low risk areas and as a food-industry by product, it has some risk buffer. Relevance becomes visible during the assessment process due to the use of external tools such as regional government databases and WFN. For our raw material sourcing, water can play a role in climate change related issues facing forest management, but these are mainly covered in our climate change risk management for our forest operations. We support forests in maintaining nature's water cycles. For example, preserving water bodies linked to commercial forests is an indicator of sustainable forest management, while allocating protected forest land, as we do in Colombia, further supports natural water ecosystems.
Water-related regulatory frameworks	Relevant, always included	The water-related regulatory frameworks are relevant for Smurfit Kappa because the existing and potential requirements related to water, can impact directly our operations. Regulatory requirements and continued scrutiny mean that to mitigate any impact on biodiversity, the quality and safety of treated water returned to public water bodies must always remain uncompromisingly high. Our risk assessment tool is based on four elements: physical risk, reputational risk, regulatory risk and risk management, and includes long-term evaluation of the permit levels, availability of water resource and alternative resources as well as the public opinion (stakeholder consultation) on the site impacting such resources as water. Part of the assessment are interviews with stakeholders, including authorities. This is a question in the tool that is being covered in these interviews.
Status of ecosystems and habitats	Relevant, always included	In our risk assessment methodology, status of ecosystems and habitats are relevant for our operations, understanding and mitigate any impact to surrounding environment due our operations. We support forests in maintaining nature's water cycles. For example, preserving water bodies linked to commercial forests is an indicator of sustainable forest management, while allocating protected forest land, as we do in Colombia. To maintain forest biodiversity and sustainability, our principles are to: • conserve them, by protecting and promoting species diversity, sustaining ecosystems, and protecting water sources and habitats; • identify appropriate species and practices that increase plantation yields whilst protecting the environment; and • develop research programmes to preserve and enhance soil productivity. Status of ecosystems and habitats are part of the water risk assessment we conduct at individual sites. However, we also monitor ecosystems and habitats in our direct impact areas in our regular environmental data collection reporting, for all the operations. Regulatory requirements and continued scrutiny mean that to mitigate any impact on biodiversity, the quality and safety of treated water returned to public water bodies must always remain uncompromisingly high; to achieve this, we have invested €79 million since 2005 in the development of our water treatment plants. If relevant, in our site individual risk assessments we evaluate the impact to ecosystems and habitats through environmental impact assessments, mandatory by law for most of our sites. A good example of how we work towards improving ecosystems and habitats is the waste water basin restoration at our Fature mill in France where we pioneered in soil and ecosystem restoration by using vegetation.
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always included	Access to fully-functioning, safely managed WASH services for all employees is relevant for Smurfit Kappa because are part of the fundamental Human Rights that we support. As a responsible business, we support global human rights and labour standards. Smurfit Kappa Group is committed to the application of the principles expressed in the UN Guiding Principles on Business and Human Rights, and the Fundamental Principles and Rights at Work developed by the ILO in all of the countries in which we have (or will have) a presence. Our Social Citizenship Policy Statement reflects our commitment to upholding internationally recognised human rights. Lack of WASH may be relevant at some of the regions where our operations are located at, and that are remote and where we offer employment to people with limited access to all services. All our facilities cover WASH, nevertheless, we have included this as part of the water risk assessment site visits to ensure that all employees have access to safe water, sanitation and hygiene.
Other contextual issues, please specify	Not considered	-x-

W3.3c

(W3.3c) Which of the following stakeholders are considered in your organization's water-related risk assessments?

	Relevance & inclusion	Please explain
Customers	Relevant, always included	Customers are one of our key stakeholder groups and especially for customers in agricultural businesses or Fast Moving Consumer Goods businesses, using water sustainably is a central aim, and a key concern for our stakeholders. Customers whose production processes are water intensive have demonstrated an interest in sharing knowledge with Smurfit Kappa on water management practices. The scarcity and use of water is relevant to part of our customers. The risk for them is linked to their own operations in agriculture. Use of our products do not require the use of water at our customers' facilities and we have not been asked to specifically report on risk related to water to our customers. However, we closely follow the discussion among our customers and mirror it to the individual mill's situation.
Employees	Relevant, always included	The employees are a relevant stakeholder considered in our water-related risk. We consider employees as a stakeholder group from the perspective of a group that has views and requirements to them as a group. To ensure that our material issues are well formed and relevant, we explore a myriad of internal and external factors, and our employees play a fundamental role in this aspect. The key concern related to our employees are Health and Safety and access to WASH. Health and Safety is covered by our Group risk assessment procedure based on the Zürich insurance approach. Our operations offer WASH to our employees. Our risk assessment methodology consider in the stakeholder mapping interviews with the employees. We believe our employees are the beating heart of our business and they need to feel how much they are valued by the organisation offering communications channels for them. Smurfit Kappa has set targets related to the quality of water we discharge and understanding the risks associated with water availability and use in the areas where we operate, and the contribution of our employees to achieve them, is fundamental.
Investors	Relevant, always included	Our stakeholders, investors are increasingly requesting information about our responsible water stewardship covering our paper and packaging production as well as our supply chains. Investors have been defined, as one of our key stakeholder groups and managing scarcity of water is relevant material matters to our investors, respond what our investors expect from us is also part of our strategy; this is why they are relevant and always included in our water-related risk assessment. However, their key interest within paper industry is on climate change and sustainable origin of wood. Our key water footprint consists of paper manufacturing and forest and plantation management. We include our investors' requests related to water in our risk assessments.
Local communities	Relevant, always included	We see ourselves as a 'corporate citizen' in the communities in which we're privileged to operate around the world, and we actively make positive and lasting changes. Our impact is not only on the people we work with. Our responsibilities extend beyond, to supporting local economies and livelihoods, especially in remote areas with limited opportunities for work, where we are significant employer. Local communities are a highly important factor in our water risk assessments representing several stakeholders in our locations. This is reason why they are relevant and always included. Our risk assessment tool is based on four elements: physical risk, reputational risk, regulatory risk and risk management, and includes long-term evaluation of the permit levels, availability of water resource and alternative resources as well as the public opinion (stakeholder consultation) on the site impacting such resources as water. Part of the assessment are interviews with stakeholders, including local communities. We always consider the concerns of the wider community at national and international level. Community involvement builds trust and serves as a link to the issues important to us. Local general managers are expected to represent the Group as part of the local community and play a positive part in its development. We estimate that as a Group, including our Smurfit Kappa Foundation, approximately €3.5 million was donated in cash and kind in 2019. The circular economy has an impact on our communities as well. Smurfit Kappa participates widely in local circular operations. Some examples of these are: • Delivering district heating from our paper mill to the residents of Piteå, Sweden • Supporting municipality water treatment systems with our effluent that has nutrients that help treat municipality waste water in Nettingsdorf, Austria and Nervión, Spain • Treating municipality waste water in Morava, Czech Republic • Maintaining rural road structures at our Colombian Forestry Operations • Collecting city-recovered paper in Malaga, Spain
NGOs	Relevant, sometimes included	Smurfit Kappa includes NGOs in the assessment, specifically in the reputational risk, stakeholder consultation, if deemed relevant for the site based on the assessments. In our water risk assessments, the NGO views have been considered in the WRF Aqueduct assessments. The additional layer to the assessment comes from the local NGOs and are considered.
Other water users at a basin/catchment level	Relevant, always included	The stakeholder conflicts concerning other water users at a basin/catchment level are relevant for Smurfit Kappa, to know the potential for the future conflicts locally for our operations. We consider, where appropriate other users of water from where we withdraw water or to where we discharge water after usage (for leisure, other industries). Reputational risk, regulatory risk and risk management, and including a long-term evaluation of the permit levels, availability of water resource and alternative resources as well as the public opinion (stakeholder consultation) to our company may arise from the activities of these other water users
Regulators	Relevant, always included	In our water risk assessment, rules on water allocation and distribution, current regulations and expected policy outlook and trends, licences to operate based on local regulations are part of our regulatory risk, because they can affect our operations directly, so, include regulators in the assessment is relevant and always included and they are part of the reputational risk as well. We gain relevant information from the interviews with the (local) regulators (stakeholder consultation/opinion) in terms of changes in local regulations. The mills' risk management system typically covers these relationships with regulators to be able to keep our mills at state of the art.
River basin management authorities	Relevant, always included	The responsibility of the river basin management and stewardship is delegated usually in the government agency, authorities, to ensure sustainable supply and distribution of the resource, and avoid the potential for future conflicts locally, which is especially important for our operations. The river basin management authorities are always included in our risk assessment. We gain relevant information from the interviews with the (local) regulators (stakeholder consultation/opinion) in terms of changes in local regulations. The mills' risk management system typically covers these relationships with regulators to be able to keep our mills at state of the art.
Statutory special interest groups at a local level	Relevant, always included	Statutory special interest groups at a local level are relevant for Smurfit Kappa, to know the potential for the future conflicts locally for our operations. We consider, where appropriate other users of water from where we withdraw water or to where we discharge water after usage (for leisure, other industries). Reputational risk, regulatory risk and risk management, and including a long-term evaluation of the permit levels, availability of water resource and alternative resources as well as the public opinion (stakeholder consultation) to our company may arise from the activities of these other water users We gain relevant information from the interviews with the (local) regulators in terms of changes in local regulations. The mills' risk management system typically covers these relationships with regulators to be able to keep our mills at state of the art.
Suppliers	Not relevant, included	In our water risk assessments, the role of our suppliers is not currently relevant due to their small role in our value chain linked to water. 98% of our water intake in our value chain takes place in our own paper mills and we have assessed them as materially insignificant. If the situation changes in the future, their influence in the overall risk will be considered.
Water utilities at a local level	Relevant, always included	Water utilities at a local level are relevant for Smurfit Kappa, to know the potential for the future conflicts locally for our operations. We consider, where appropriate other users of water from where we withdraw water or to where we discharge water after usage (for leisure, other industries). Reputational risk, regulatory risk and risk management, and including a long-term evaluation of the permit levels, availability of water resource and alternative resources as well as the public opinion (stakeholder consultation) to our company may arise from the activities of these other water users. We gain relevant information from the interviews with the (local) regulators in terms of changes in local regulations. Other utilities are a relevant part of that regulatory understanding. Smurfit Kappa participates widely in local circular operations, our circular business model. Some examples of these are: • Supporting municipality water treatment systems with our effluent that has nutrients that help treat municipality waste water in Nettingsdorf, Austria and Nervión, Spain • Treating municipality waste water in Morava, Czech Republic
Other stakeholder, please specify	Relevant, always included	Any locally significant stakeholders, including neighbouring businesses (an important factor for example, in our Roermond paper mill in the Netherlands), Universities for ecosystem research for example in Colombia etc. are relevant for our risk assessment.

W3.3d

(W3.3d) Describe your organization's process for identifying, assessing, and responding to water-related risks within your direct operations and other stages of your value chain.

*Smurfit Kappa strives to continuously improve its water management, with current focus on the better water use and improve the quality effluent release.

The Group is aware that beyond direct financial impact, water need is a potential source of vulnerability and business disruption. Since 2014, we have investigated the environmental impact of our paper mills as well as water-related risks. The Group-wide site-related water risk assessment is based on four elements: assessing physical risk, regulatory risk, reputational risk and their management on site. These are supported by location based assessments conducted through WRF Aqueduct

* The water related risks are very local and therefore each operation is responsible for their own operational water risk assessments. As water is a key resource for paper making, the operational risk assessment starts with understanding the working environment: water availability, cost and regulations. Further on, the sites build relationships with their stakeholders in order to understand and stay up to date with their water related issues.

*Methodology: Our water risk assessment is based on two stages: 1) A global risk assessment based on WRI Aqueduct through which the overall availability of fresh water and its quality is assessed and this leads to a location based risk factor for each paper mill. Aqueduct is one of the most acknowledged water vulnerability assessment tools available. Indicators from the tool were selected according to their relevance to Smurfit Kappa's activities in order to create an integrated score for water-related risks and providing a first assessment of the vulnerability of the sites to these risks. 2) The second stage is to assess how each site individually manages its access to water. This tool is based on four elements: physical risk, reputational risk, regulatory risk and risk management, and includes long-term evaluation of the permit levels, availability of water resource and alternative resources as well as the public opinion (stakeholder consultation) on the site impacting such resources as water. The final score oscillates between, from 1= low risk to 5 = high risk.

* The Group-wide water risk assessments support the local processes by assessing the risks on a uniform approach and the results typically add to and support the local strategies. In addition, this assessment contributes to our target set.

W4. Risks and opportunities

W4.1

(W4.1) Have you identified any inherent water-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes, only within our direct operations

W4.1a

(W4.1a) How does your organization define substantive financial or strategic impact on your business?

SKG defines substantive impact as significant financial, strategic or reputational damage that forces us to change our business strategy significantly either locally or as a Group. This definition applies to both our direct operations and our supply chain. The Group's risk process is based upon a standardised approach to risk identification, assessment and review with a clear focus on mitigating factors and assignment of responsibility to risk owners. Each individual risk identified is assessed based upon potential impact and likelihood of occurrence criteria. The likelihood of occurrence categories are based upon the probability of the risk occurring using percentage thresholds from remote up to probable. The impact of risk on cost is measured based upon applicable percentage thresholds of the Group's pre-exceptional EBITDA which for 2019 was €1,650m and reputational impact is also considered.

W4.1b

(W4.1b) What is the total number of facilities exposed to water risks with the potential to have a substantive financial or strategic impact on your business, and what proportion of your company-wide facilities does this represent?

	Total number of facilities exposed to water risk	% company-wide facilities this represents	Comment
Row 1	5	1-25	These 5 sites represent 4% of the water intake by our paper mills (paper mills represents 98% of water intake of our total operations) and 13% of our production. This shows that in water scarce areas we have focused in extreme water efficiency.

W4.1c

(W4.1c) By river basin, what is the number and proportion of facilities exposed to water risks that could have a substantive financial or strategic impact on your business, and what is the potential business impact associated with those facilities?

Country/Area & River basin

Spain	Guadalquivir
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Number of facilities exposed to water risk

1

% company-wide facilities this represents

Less than 1%

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

Less than 1%

Comment

SK Mengibar is located in a water scarce area in central Spain. The mill is running a highly efficient water-related process and does not either have competition of the water source or reduce the opportunities from others to use water. The neighbouring livelihoods are olive tree plantations that do not require high amounts of irrigation. The mill releases over 90% of its water back to the nature and the mill's activity is not impacting availability of drinking water or WASH.

Country/Area & River basin

Mexico	Panuco
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Number of facilities exposed to water risk

1

% company-wide facilities this represents

Less than 1%

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

Less than 1%

Comment

SK Cerro Gordo is located in the Mexico City urban area where the main problem is polluted drinking water and availability of water for residents. The mill is not impacting this shortage.

Country/Area & River basin

Mexico	Panuco
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Number of facilities exposed to water risk

1

% company-wide facilities this represents

Less than 1%

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

Less than 1%

Comment

SK Los Reyes is located in Mexico in a water scarce area. However, the mill manages its water risk well and has not competition of water resources. The mill releases over 90% of its water back to the nature and its operations doesn't impact the availability of drinking water nor WASH.

Country/Area & River basin

Mexico	Bravo
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Number of facilities exposed to water risk

1

% company-wide facilities this represents

Less than 1%

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

Less than 1%

Comment

SK Monterrey is located in Mexico in a water scarce area. However, the mill manages its water risk well and has not competition of water resources. The mill releases over 90% of its water back to the nature and its operations doesn't impact the availability of drinking water nor WASH.

Country/Area & River basin

United Kingdom of Great Britain and Northern Ireland	Thames
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Number of facilities exposed to water risk

1

% company-wide facilities this represents

Less than 1%

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

Less than 1%

Comment

SK Townsend Hook has been completely rebuilt during 2014. Therefore, the mill has a state of the art water treatment plant and is highly efficient in its resource management. The main risk for the site are fluctuations in water availability in the River Thames. The mill doesn't have an impact on drinking water availability nor WASH.

W4.2

(W4.2) Provide details of identified risks in your direct operations with the potential to have a substantive financial or strategic impact on your business, and your response to those risks.

Country/Area & River basin

Spain	Guadalquivir
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Type of risk & Primary risk driver

Physical	Drought
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Primary potential impact

Increased operating costs

Company-specific description

Smurfit Kappa Mengibar is a paper mill located in the Metropolitan zone of Sevilla, in the Province of Jaen, Spain, close to the Guadalquivir. Main products: High performance fluting, Test Liner Brown and White Top Test Liner. SK Mengibar is located in a water scarce area in central Spain and when assessed against the WRI and Aquaduct assessments by geolocation, the site should pay attention to its possible water risks. The mill is running a highly efficient water-related process and does not either have competition of the water source or reduce the opportunities from others to use water. The neighbouring livelihoods are olive tree plantations that do not require high amounts of irrigation. The mill releases over 90% of its water back to the nature and the mill's activity is not impacting availability of drinking water or WASH.

Timeframe

More than 6 years

Magnitude of potential impact

Medium

Likelihood

About as likely as not

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

750000

Potential financial impact figure - minimum (currency)

<Not Applicable>

Potential financial impact figure - maximum (currency)

<Not Applicable>

Explanation of financial impact

The financial impact has been calculated with an assumed increase of water cost by 0.50 euro per m3 water intake on a yearly basis. However, the likeliness for this is low due to the good management of water and related risks on site.

Primary response to risk

Increase investment in new technology

Description of response

SK Mengibar has established an internal working group to understand its water systems and find improvement opportunities. The internal working group's task is to continually find technological improvement opportunities to manage possible water related risks. These include improved efficiency of operations, improved water treatment and changes in employee behaviour. As a response the site has a long-term investment plan to improve its water efficiency and the investment to date is 4,5M€.

Cost of response

4500000

Explanation of cost of response

This is the total of investments in water efficiency at the mill since 2005. All of the investments deliver also process and performance improvements, so aren't purely water risk related.

Country/Area & River basin

Mexico	Panuco
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Type of risk & Primary risk driver

Regulatory	Statutory water withdrawal limits/changes to water allocation
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Primary potential impact

Reduction or disruption in production capacity

Company-specific description

SK Cerro Gordo is located in an urban area where availability of clean drinking water is scarce and when assessed against the WRI and Aquaduct assessments by geolocation, the site should pay attention to its possible water risks. Even though the mill operates in an industrial valley, regulations related to water withdrawal and discharge may change either through limiting availability or increasing costs related to water.

Timeframe

More than 6 years

Magnitude of potential impact

High

Likelihood

Unlikely

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

500000

Potential financial impact figure - minimum (currency)

<Not Applicable>

Potential financial impact figure - maximum (currency)

<Not Applicable>

Explanation of financial impact

The financial impact has been estimated with an increase of cost of water withdrawal to reach 0.50€/m3.

Primary response to risk

Adopt water efficiency, water reuse, recycling and conservation practices

Description of response

SK Cerro Gordo is located in an urban area where availability of clean drinking water is scarce. Even though the mill operates in an industrial valley, regulations related to water withdrawal and discharge may change either through limiting availability or increasing costs related to water. SK Cerro Gordo operates its own waste water treatment plant onsite. This way the mill can impact its water recirculation and reuse better, manage the quality of water discharge from site and this way both build buffers for water withdrawal limits as well as comply with regulations related to discharge. When the mill returns good quality water back to the nature, it can demonstrate that it is not competing with the drinking water usage.

Cost of response

1300000

Explanation of cost of response

Investments in water treatment on site since 2005. All of the investments deliver also process and performance improvements, so aren't purely water risk related.

Country/Area & River basin

Mexico	Panuco
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Type of risk & Primary risk driver

Reputation & markets	Increased stakeholder concern or negative stakeholder feedback
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Primary potential impact

Brand damage

Company-specific description

SK Los Reyes is situated in Mexico in a water scarce area and when assessed against the WRI and Aquaduct assessments by geolocation, the site should pay attention to its possible water risks. The key risk for the site is a reputation risk that comes through the international FMCG customers for whom water scarcity is a very material risk in general. The fact that the site is situated in a water scarce region can mean that it impacts Smurfit Kappa Group brand.

Timeframe

4-6 years

Magnitude of potential impact

Low

Likelihood

Unlikely

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

20000

Potential financial impact figure - minimum (currency)

<Not Applicable>

Potential financial impact figure - maximum (currency)

<Not Applicable>

Explanation of financial impact

Renewed in-depth water risk assessment by an external body.

Primary response to risk

Adopt water efficiency, water reuse, recycling and conservation practices

Description of response

Smurfit Kappa Los Reyes is located in the city of Tlalnepantla, Mexico SK Los Reyes operates its own waste water treatment plant onsite. This way the mill can impact its water recirculation and reuse better, manage the quality of water discharge from site and this way both build buffers for water withdrawal limits as well as comply with regulations related to discharge. When the mill returns good quality water back to the nature, it can demonstrate that it is not competing with the drinking water usage.

Cost of response

130000

Explanation of cost of response

Investments in water efficiency on site since 2005. It is important to notice that this doesn't include the rebuilt paper machine that has a huge influence in the mill's performance also regarding water.

Country/Area & River basin

Mexico	Bravo
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Type of risk & Primary risk driver

Reputation & markets	Increased stakeholder concern or negative stakeholder feedback
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Primary potential impact

Brand damage

Company-specific description

SK Monterrey is situated in Mexico in a water scarce area and when assessed against the WRI and Aquaduct assessments by geolocation, the site should pay attention to its possible water risks. The key risk for the site is a reputation risk that comes through the international FMCG customers for whom water scarcity is a very material risk in general. The fact that the site is situated in a water scarce region, can mean that it impacts Smurfit Kappa Group brand.

Timeframe

4-6 years

Magnitude of potential impact

Low

Likelihood

Unlikely

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

20000

Potential financial impact figure - minimum (currency)

<Not Applicable>

Potential financial impact figure - maximum (currency)

<Not Applicable>

Explanation of financial impact

Renewed in-depth water risk assessment by an external body.

Primary response to risk

Adopt water efficiency, water reuse, recycling and conservation practices

Description of response

SK Monterrey operates its own waste water treatment plant onsite. This way the mill can impact its water recirculation and reuse better, manage the quality of water discharge from site and this way both build buffers for water withdrawal limits as well as comply with regulations related to discharge.

Cost of response

180000

Explanation of cost of response

Investments in water treatment on site since 2005.

Country/Area & River basin

United Kingdom of Great Britain and Northern Ireland	Thames
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Type of risk & Primary risk driver

Regulatory	Regulation of discharge quality/volumes
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Primary potential impact

Constraint to growth

Company-specific description

Smurfit Kappa Townsend Hook is located in Snodland in the county of Kent and in the district of Tonbridge and Malling in England. It is located at 56km South East from London. The site is positioned on the river Medway which belongs to the river basin district of the Thames and to the river basin of the Medway and more precisely in the sub-catchment of Middle Medway on the limit with the sub-catchment of Upper and when assessed against the WRI and Aquaduct assessments by geolocation, the site should pay attention to its possible water risks. The UK has launched a water allocation reform that leads to new sets of allocation limits for all industries. The reform is on hold now, during the Brexit discussions. However, when put in force it may have an impact on mill's water availability

Timeframe

More than 6 years

Magnitude of potential impact

Low

Likelihood

About as likely as not

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

50000

Potential financial impact figure - minimum (currency)

<Not Applicable>

Potential financial impact figure - maximum (currency)

<Not Applicable>

Explanation of financial impact

Increase of cost of water by 0.10€/m3.

Primary response to risk

Adopt water efficiency, water reuse, recycling and conservation practices

Description of response

Continued best practice on site: The SK Townsend Hook mill was completely rebuilt in 2014. It has best practice paper machines and water treatment at place. Now, the key response is to maintain the best practice levels.

Cost of response

2000000

Explanation of cost of response

Investments in water treatment on site since 2005. All of the investments deliver also process and performance improvements, so aren't purely water risk related.

W4.2c**(W4.2c) Why does your organization not consider itself exposed to water risks in its value chain (beyond direct operations) with the potential to have a substantive financial or strategic impact?**

	Primary reason	Please explain
Row 1	Risks exist, but no substantive impact anticipated	The key risk for Smurfit Kappa is related to our water use at our paper mills (representing 98% of our company water withdrawals). The five mills located in water scarce areas have the highest risk in general that can have a substantive financial or strategic impact. Due to our careful risk assessment, we manage our risks well and therefore risks, especially in our downstream value chain are very limited.

W4.3

(W4.3) Have you identified any water-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes, we have identified opportunities, and some/all are being realized

W4.3a

(W4.3a) Provide details of opportunities currently being realized that could have a substantive financial or strategic impact on your business.

Type of opportunity

Efficiency

Primary water-related opportunity

Improved water efficiency in operations

Company-specific description & strategy to realize opportunity

Improved water efficiency in Smurfit Kappa's paper mills means improved production efficiency. Therefore, we monitor closely the opportunities arising from best practices to improve our efficiency. Our strategy is to implement best practice water management systems at our sites, follow the development and further improve where we can. Our COD target is a good measurement also in terms of understanding how our water efficiency strategy works as the COD impacts both paper production as well as effluent. Water treatment is part of the bio economy. We use bacteria to clean the water, and the resultant biogas fuels our Combined Heat and Power plants. We aim to further improve our discharged water quality, and know the risks associated with water availability and use. We therefore continually implement best practice in our mills' water treatment. In 2019, over 98% of paper and board was produced at mills with best practice water treatment systems. This involves decreasing the organic content of process water through anaerobic and aerobic treatments before returning it to public water bodies. Investments in best practice water treatment reached €79 million since 2005, and we achieved a reduction of 35% in the water discharge COD in the same period relative to production, in comparison with 33% in 2018. This progress during 2019 is mainly due to: the improvement of the water treatment plant at our Piteå paper mill in Sweden; the Cali paper mill in Colombia improved efficiency of its water treatment plant from multiple initiatives, these included changes made to reduce the presence of foam, stabilising clarifier and eventually installing a new sludge press that also reduces the volume of solids entering to the water treatment plant; and the contributions of the Pirapetinga paper mill in Brazil continued to improve its water treatment.

Estimated timeframe for realization

1 to 3 years

Magnitude of potential financial impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

0

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact

Investments in water treatment plants took place in a number of paper mills since 2005. Following investments over €79 million in water treatment facilities since 2005 (until end of 2019), the quality of water discharges by our global paper and board mill system has improved on a relative basis by 35%. Compared to previous year 2018, the average water intake by our paper and board mills increased to 18.0 m³ per tonne of paper produced from 16.3 m³, an 11% increase, mainly due as a result of the addition of the SK Parenco paper mill in the Netherlands to our Group reporting after its full year in the Group.

Type of opportunity

Resilience

Primary water-related opportunity

Resilience to future regulatory changes

Company-specific description & strategy to realize opportunity

Water is an important medium in paper making. Therefore, it is our benefit to comply to regulations now and in the future. Our strategy to realise this opportunity is to invest in best practice water management on site, follow and influence the regulation developments and seek efficiency benefits while doing so.

Estimated timeframe for realization

More than 6 years

Magnitude of potential financial impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

0

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact

Investments in water treatment plants took place in a number of paper mills since 2005. Following investments over €79 million in water treatment facilities since 2005 (until end of 2019), the quality of water discharges by our global paper and board mill system has improved on a relative basis by 35%. Compared to previous year 2018, the

average water intake by our paper and board mills increased to 18.0 m3 per tonne of paper produced from 16.3 m3, an 11% increase, mainly due as a result of the addition of the SK Parengo paper mill in the Netherlands to our Group reporting after its full year in the Group.

Type of opportunity

Resilience

Primary water-related opportunity

Increased resilience to impacts of climate change

Company-specific description & strategy to realize opportunity

Improving the quality of our water discharge is our first priority regarding our water sustainability strategy. We return some 90% of our water used at our paper mills back to the nature (the rest being either evaporated or bound to products). Therefore, it is important that the water we discharge is of such quality that it supports the natural environment to maintain and be resilient against impacts of climate change.

Estimated timeframe for realization

More than 6 years

Magnitude of potential financial impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

0

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact

Investments in water treatment plants took place in a number of paper mills since 2005. Following investments over €79 million in water treatment facilities since 2005 (until end of 2019), the quality of water discharges by our global paper and board mill system has improved on a relative basis by 35%. Compared to previous year 2018, the average water intake by our paper and board mills increased to 18.0 m3 per tonne of paper produced from 16.3 m3, an 11% increase, mainly due as a result of the addition of the SK Parengo paper mill in the Netherlands to our Group reporting after its full year in the Group.

W5. Facility-level water accounting

W5.1

(W5.1) For each facility referenced in W4.1c, provide coordinates, water accounting data, and a comparison with the previous reporting year.

Facility reference number

Facility 1

Facility name (optional)

Smurfit Kappa Mengibar

Country/Area & River basin

Spain	Guadalquivir
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Latitude

37.979

Longitude

-3.796

Located in area with water stress

Yes

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

1342

Comparison of total withdrawals with previous reporting year

Lower

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

1303

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

4

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

36

Total water discharges at this facility (megaliters/year)

1095

Comparison of total discharges with previous reporting year

Lower

Discharges to fresh surface water

1079

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

17

Total water consumption at this facility (megaliters/year)

247

Comparison of total consumption with previous reporting year

Much lower

Please explain

Water consumption is calculated as a difference between withdrawal and discharges. The re-circulation of water after water treatment plant has increased significantly from 42% in 2018 to 50% in 2019, these figures represent a reduction in water intake and water released.

Facility reference number

Facility 2

Facility name (optional)

Smurfit Kappa Cerro Gordo

Country/Area & River basin

Mexico	Panuco
--------	--------

Latitude

19.53735

Longitude

-99.05917

Located in area with water stress

Yes

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

1436

Comparison of total withdrawals with previous reporting year

About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

22

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

1414

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

0

Total water discharges at this facility (megaliters/year)

925

Comparison of total discharges with previous reporting year

Higher

Discharges to fresh surface water

925

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year)

511

Comparison of total consumption with previous reporting year

Much lower

Please explain

Water consumption is calculated as a difference between withdrawal and discharges. The water discharge has an increasing mainly due to reduction of use of water recirculated, the current trend shows designed improvements after building the new paper machine.

Facility reference number

Facility 3

Facility name (optional)

Smurfit Kappa Los Reyes

Country/Area & River basin

Mexico	Panuco
--------	--------

Latitude

19.529

Longitude

-99.19792

Located in area with water stress

Yes

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

443

Comparison of total withdrawals with previous reporting year

About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

293

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

150

Withdrawals from third party sources

0

Total water discharges at this facility (megaliters/year)

150

Comparison of total discharges with previous reporting year

Much lower

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

150

Total water consumption at this facility (megaliters/year)

293

Comparison of total consumption with previous reporting year

About the same

Please explain

Water consumption is calculated as a difference between withdrawal and discharges. The site is in the setting process after the investment and start-up of the new paper machine in 2018.

Facility reference number

Facility 4

Facility name (optional)

Smurfit Kappa Monterrey

Country/Area & River basin

Mexico	Bravo
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Latitude

25.68049

Longitude

-100.29669

Located in area with water stress

Yes

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

191

Comparison of total withdrawals with previous reporting year

About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

103

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

88

Total water discharges at this facility (megaliters/year)

111

Comparison of total discharges with previous reporting year

About the same

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

111

Total water consumption at this facility (megaliters/year)

80

Comparison of total consumption with previous reporting year

About the same

Please explain

Water consumption is calculated as a difference between withdrawal and discharges.

Facility reference number

Facility 5

Facility name (optional)

Smurfit Kappa Townsend Hook

Country/Area & River basin

United Kingdom of Great Britain and Northern Ireland	Thames
--	--------

Latitude

51.32802

Longitude

0.449

Located in area with water stress

Yes

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

1610

Comparison of total withdrawals with previous reporting year

Much higher

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

1021

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

588

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

1

Total water discharges at this facility (megaliters/year)

1274

Comparison of total discharges with previous reporting year

Much higher

Discharges to fresh surface water

793

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

481

Total water consumption at this facility (megaliters/year)

337

Comparison of total consumption with previous reporting year

Lower

Please explain

Water consumption is calculated as a difference between withdrawal and discharges. Starting 2019 the mill is reporting also water usage from CHP (before 2019, CHP was outsourced so water usage was not taken into account in the past)

W5.1a

(W5.1a) For the facilities referenced in W5.1, what proportion of water accounting data has been externally verified?

Water withdrawals – total volumes

% verified

76-100

What standard and methodology was used?

External Audit made by KPMG (see assurance report at page 100 of our 2019 SDR) KPMG has carried out the review of the Smurfit Kappa Sustainable Development Report 2019, which has been prepared in accordance with the GRI Standards: Comprehensive option; this review is aimed at obtaining assurance, on the data and the text of the report. KPMG have performed the review on the Report in accordance with Dutch law, including Dutch Standard 3810N Assurance engagements relating to sustainability reports ('Assuranceopdrachten inzake maatschappelijke verslagen'), which is a specified Dutch standard based on the International Standard on Assurance Engagements (ISAE) 3000 'Assurance Engagements other than Audits or Reviews of Historical Financial Information'. Data relating to environmental factors is gathered through a Group-wide, IT-based reporting system implemented in all Smurfit Kappa operations. This tool is integrated into the Group's intranet, enabling sites to report their environmental data online according to GRI guidelines. As the information is stored centrally, this allows for easier and faster processing. Likewise, our mills have environmental management system certified under ISO 14001, which is evidenced by a wide management, clear guidelines for sampling and monitoring methods in all our mills. The frequency of monitoring is daily; including measurements of the total volumes of water that enter into the paper mills, and monitoring using flowmeters and water balance.

Water withdrawals – volume by source

% verified

76-100

What standard and methodology was used?

External Audit made by KPMG (see assurance report at page 100 of our 2019 SDR) KPMG has carried out the review of the Smurfit Kappa Sustainable Development Report 2019, which has been prepared in accordance with the GRI Standards: Comprehensive option; this review is aimed at obtaining assurance, on the data and the text of the report. KPMG have performed the review on the Report in accordance with Dutch law, including Dutch Standard 3810N Assurance engagements relating to sustainability reports ('Assuranceopdrachten inzake maatschappelijke verslagen'), which is a specified Dutch standard based on the International Standard on Assurance Engagements (ISAE) 3000 'Assurance Engagements other than Audits or Reviews of Historical Financial Information'. Data relating to environmental factors is gathered through a Group-wide, IT-based reporting system implemented in all Smurfit Kappa operations. This tool is integrated into the Group's intranet, enabling sites to report their environmental data online according to GRI guidelines. As the information is stored centrally, this allows for easier and faster processing. Likewise, our mills have environmental management system certified under ISO 14001, which is evidenced by a wide management, clear guidelines for sampling and monitoring methods in all our mills. The frequency of monitoring is daily; including measurements of the total volumes of water that enter into the paper mills from any source, using flowmeters and water balance.

Water withdrawals – quality

% verified

76-100

What standard and methodology was used?

External Audit made by KPMG (see assurance report at page 100 of our 2019 SDR) KPMG has carried out the review of the Smurfit Kappa Sustainable Development Report 2019, which has been prepared in accordance with the GRI Standards: Comprehensive option; this review is aimed at obtaining assurance, on the data and the text of the report. KPMG have performed the review on the Report in accordance with Dutch law, including Dutch Standard 3810N Assurance engagements relating to sustainability reports ('Assuranceopdrachten inzake maatschappelijke verslagen'), which is a specified Dutch standard based on the International Standard on Assurance Engagements (ISAE) 3000 'Assurance Engagements other than Audits or Reviews of Historical Financial Information'. Data relating to environmental factors is gathered through a Group-wide, IT-based reporting system implemented in all Smurfit Kappa operations. This tool is integrated into the Group's intranet, enabling sites to report their environmental data online according to GRI guidelines. Likewise, our mills have environmental management system certified under ISO 14001, which is evidenced by a wide management, clear guidelines for sampling and monitoring methods in all our mills. The frequency of monitoring is daily; including measurements of the total volumes of water and quality that enter into the paper mills. The method of monitoring is according to the law and diverse Standard methods for the Examination of water.

Water discharges – total volumes

% verified

76-100

What standard and methodology was used?

External Audit made by KPMG (see assurance report at page 100 of our 2019 SDR) KPMG has carried out the review of the Smurfit Kappa Sustainable Development Report 2019, which has been prepared in accordance with the GRI Standards: Comprehensive option; this review is aimed at obtaining assurance, on the data and the text of the report. KPMG have performed the review on the Report in accordance with Dutch law, including Dutch Standard 3810N Assurance engagements relating to sustainability reports ('Assuranceopdrachten inzake maatschappelijke verslagen'), which is a specified Dutch standard based on the International Standard on Assurance Engagements (ISAE) 3000 'Assurance Engagements other than Audits or Reviews of Historical Financial Information'. Data relating to environmental factors is gathered through a Group-wide, IT-based reporting system implemented in all Smurfit Kappa operations. This tool is integrated into the Group's intranet, enabling sites to report their environmental data online according to GRI guidelines. As the information is stored centrally, this allows for easier and faster processing. Likewise, our mills have environmental management system certified under ISO 14001, which is evidenced by a wide management, clear guidelines for sampling and monitoring methods in all our mills. The frequency of monitoring is daily; including measurements of the total volumes of water discharge, and monitoring using flowmeters and water balance.

Water discharges – volume by destination

% verified

76-100

What standard and methodology was used?

External Audit made by KPMG (see assurance report at page 100 of our 2019 SDR) KPMG has carried out the review of the Smurfit Kappa Sustainable Development Report 2019, which has been prepared in accordance with the GRI Standards: Comprehensive option; this review is aimed at obtaining assurance, on the data and the text of the report. KPMG have performed the review on the Report in accordance with Dutch law, including Dutch Standard 3810N Assurance engagements relating to sustainability reports ('Assuranceopdrachten inzake maatschappelijke verslagen'), which is a specified Dutch standard based on the International Standard on Assurance Engagements (ISAE) 3000 'Assurance Engagements other than Audits or Reviews of Historical Financial Information'. Data relating to environmental factors is gathered through a Group-wide, IT-based reporting system implemented in all Smurfit Kappa operations. This tool is integrated into the Group's intranet, enabling sites to report their environmental data online according to GRI guidelines. Likewise, our mills have environmental management system certified under ISO 14001, which is evidenced by a wide management, clear guidelines for sampling and monitoring methods in all our mills. The frequency of monitoring is daily; including measurements of the total volumes of water discharges. The method of monitoring is using flowmeters and water balance for the entity.

Water discharges – volume by treatment method

% verified

76-100

What standard and methodology was used?

External Audit made by KPMG (see assurance report at page 100 of our 2019 SDR) KPMG has carried out the review of the Smurfit Kappa Sustainable Development Report 2019, which has been prepared in accordance with the GRI Standards: Comprehensive option; this review is aimed at obtaining assurance, on the data and the text of the report. KPMG have performed the review on the Report in accordance with Dutch law, including Dutch Standard 3810N Assurance engagements relating to sustainability reports ('Assuranceopdrachten inzake maatschappelijke verslagen'), which is a specified Dutch standard based on the International Standard on Assurance Engagements (ISAE) 3000 'Assurance Engagements other than Audits or Reviews of Historical Financial Information'. Data relating to environmental factors is gathered through a Group-wide, IT-based reporting system implemented in all Smurfit Kappa operations. This tool is integrated into the Group's intranet, enabling sites to report their environmental data online according to GRI guidelines. As the information is stored centrally, this allows for easier and faster processing. Likewise, our mills have environmental management system certified under ISO 14001, which is evidenced by a wide management, clear guidelines for sampling and monitoring methods in all our mills. The frequency of monitoring is daily; including measurements of the total volumes of water discharge, and monitoring using flowmeters and water balance.

Water discharge quality – quality by standard effluent parameters

% verified

76-100

What standard and methodology was used?

External Audit made by KPMG (see assurance report at page 100 of our 2019 SDR) KPMG has carried out the review of the Smurfit Kappa Sustainable Development Report 2019, which has been prepared in accordance with the GRI Standards: Comprehensive option; this review is aimed at obtaining assurance, on the data and the text of the report. KPMG have performed the review on the Report in accordance with Dutch law, including Dutch Standard 3810N Assurance engagements relating to sustainability reports ('Assuranceopdrachten inzake maatschappelijke verslagen'), which is a specified Dutch standard based on the International Standard on Assurance Engagements (ISAE) 3000 'Assurance Engagements other than Audits or Reviews of Historical Financial Information'. The frequency of monitoring is with regularly measured, daily or weekly measurement of the quality indicators for Water discharges for the mills including daily measurements of the total volumes of water Discharges. The method of monitoring is according to the law and diverse Standard methods (eg. For European sites: COD: ISO6060, ASTM D1252; BOD: ISO 5815, T 90103; TSS: EN 872, ISO 11923; Kjeldhal: ISO 25663, ASTM D3590-02; NO₂, NO₃: EN ISO 10304-1, 10304-2. For The Americas sites: Standard methods for the Examination of Water and Wastewater). Parameters COD, BOD, TSS, N, P are reported by individual information in the annual SDR for the mills (the Americas and Europe) as well as for all Smurfit Kappa operations.

Water discharge quality – temperature

% verified

76-100

What standard and methodology was used?

External Audit made by KPMG (see assurance report at page 100 of our 2019 SDR) KPMG has carried out the review of the Smurfit Kappa Sustainable Development Report 2019, which has been prepared in accordance with the GRI Standards: Comprehensive option; this review is aimed at obtaining assurance, on the data and the text of the report. KPMG have performed the review on the Report in accordance with Dutch law, including Dutch Standard 3810N Assurance engagements relating to sustainability reports ('Assuranceopdrachten inzake maatschappelijke verslagen'), which is a specified Dutch standard based on the International Standard on Assurance Engagements (ISAE) 3000 'Assurance Engagements other than Audits or Reviews of Historical Financial Information'. Data relating to environmental factors is gathered through a Group-wide, IT-based reporting system implemented in all Smurfit Kappa operations. This tool is integrated into the Group's intranet, enabling sites to report their environmental data online according to GRI guidelines. Likewise, our mills have environmental management system certified under ISO 14001, which is evidenced by a wide management, clear guidelines for sampling and monitoring methods in all our mills. The frequency of monitoring is daily; including measurements of the total volumes of water and quality of water discharge. The method of monitoring is according to the law and diverse Standard methods for the Examination of water.

Water consumption – total volume

% verified

76-100

What standard and methodology was used?

External Audit made by KPMG (see assurance report at page 100 of our 2019 SDR) KPMG has carried out the review of the Smurfit Kappa Sustainable Development Report 2019, which has been prepared in accordance with the GRI Standards: Comprehensive option; this review is aimed at obtaining assurance, on the data and the text of the report. KPMG have performed the review on the Report in accordance with Dutch law, including Dutch Standard 3810N Assurance engagements relating to sustainability reports ('Assuranceopdrachten inzake maatschappelijke verslagen'), which is a specified Dutch standard based on the International Standard on Assurance Engagements (ISAE) 3000 'Assurance Engagements other than Audits or Reviews of Historical Financial Information'. Data relating to environmental factors is gathered through a Group-wide, IT-based reporting system implemented in all Smurfit Kappa operations. This tool is integrated into the Group's intranet, enabling sites to report their environmental data online according to GRI guidelines. Likewise, our mills have environmental management system certified under ISO 14001, which is evidenced by a wide management, clear guidelines for sampling and monitoring methods in all our mills.

Water recycled/reused

% verified

76-100

What standard and methodology was used?

External Audit made by KPMG (see assurance report at page 100 of our 2019 SDR) KPMG has carried out the review of the Smurfit Kappa Sustainable Development Report 2019, which has been prepared in accordance with the GRI Standards: Comprehensive option; this review is aimed at obtaining assurance, on the data and the text of the report. KPMG have performed the review on the Report in accordance with Dutch law, including Dutch Standard 3810N Assurance engagements relating to sustainability reports ('Assuranceopdrachten inzake maatschappelijke verslagen'), which is a specified Dutch standard based on the International Standard on Assurance Engagements (ISAE) 3000 'Assurance Engagements other than Audits or Reviews of Historical Financial Information'. Data relating to environmental factors is gathered through a Group-wide, IT-based reporting system implemented in all Smurfit Kappa operations. This tool is integrated into the Group's intranet, enabling sites to report their environmental data online according to GRI guidelines. Likewise, our mills have environmental management system certified under ISO 14001, which is evidenced by a wide management, clear guidelines for sampling and monitoring methods in all our mills.

W6. Governance

W6.1

(W6.1) Does your organization have a water policy?

Yes, we have a documented water policy that is publicly available

W6.1a

(W6.1a) Select the options that best describe the scope and content of your water policy.

	Scope	Content	Please explain
Row 1	Company-wide	<p>Description of business dependency on water</p> <p>Description of business impact on water</p> <p>Description of water-related performance standards for direct operations</p> <p>Company water targets and goals</p> <p>Commitments beyond regulatory compliance</p> <p>Commitment to water-related innovation</p> <p>Commitment to water stewardship and/or collective action</p>	<p>The scope of our Water Policy is company-wide and it has been set as part of our overall Environmental Policy. Our approach is explained in our Vision on Sustainability covering the business importance of water in our operations. Our policy expresses maintain and demonstrate our responsible approach to water use. We are committed to responsible water stewardship, to ensure that the human and natural environment with which SK interacts as a company is protected both today and into the future as SK continues to use resources in managing its business. In our Environmental policy Smurfit Kappa expresses that will ensure to having all production units managed under environmental management systems and measured against recognized international systems. We monitor our performance against water stewardship through target setting. We have defined two main targets: 1) Perform environmental impact assessments of the water use of our paper mills (where relevant) and develop water usage measurements by 2020. 2) Reduce the organic content of water returned to the environment from our mill plants, Chemical Oxygen Demand (COD) by 60% compared with 2005 levels (baseline) by 2025. Our approach aligned with the SDG and other international initiatives represent a continuing improvement, we are working on aligning with SDGs and other international initiatives, and it is explained in the Sustainable Development Report 2019.</p>

W6.2

(W6.2) Is there board level oversight of water-related issues within your organization?

Yes

W6.2a

(W6.2a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for water-related issues.

Position of individual	Please explain
Chief Sustainability Officer (CSO)	The Chief Sustainability Officer is a member of the SK Group Executive Committee and responsible for Smurfit Kappa's overall sustainability strategy and its implementation. This includes water related issues. Smurfit Kappa Board has an overall responsibility for ensuring the Group demonstrates leadership within the paper-based packaging sector, promoting an actionable sustainable development agenda. The Group CEO reports to the board as its member on any water related issue and those are discussed in minimum three times a year.
Chief Executive Officer (CEO)	The Group CEO is ultimately responsible for actions governing water. The Chief Sustainability Officer reports directly to the Group CEO. The Group CEO is an executive director of the SKG Board.
Board-level committee	The Board Sustainability Committee has the responsibility to drive and provide overall strategic guidance of the Smurfit Kappa Group Sustainability strategy. The Committee consists of three non-executive directors of the company. Part of their responsibility is to drive and provide overall strategic guidance on water related issues. The overall sustainability strategy will focus on the three key pillars: People; Planet; and Business. Water related issues are part of Smurfit Kappa's sustainability strategy.
Other, please specify (Executive Sustainability Committee)	The Executive Sustainability Committee consists of a number of Group Executive Committee members that have responsibilities that are directly connected to sustainability issues. Water related issues will be governed by some of the members as part of their direct operational responsibilities.

W6.2b

(W6.2b) Provide further details on the board's oversight of water-related issues.

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Scheduled - all meetings	Monitoring implementation and performance Overseeing acquisitions and divestiture Overseeing major capital expenditures Reviewing and guiding business plans Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding strategy Reviewing and guiding corporate responsibility strategy Setting performance objectives	Smurfit Kappa Group's board receives three reports on water-related issues, two interim reports at the end of Q2 and Q4 as well as the annual Sustainable Development Report. *Commitment #1: Reduce the organic content of water returned to the environment from our mill plants (COD) by 60% compared with 2005 levels by 2025. Progress made: Since 2005, we reached a 35% reduction. *Commitment #2: Perform environmental impact assessments of the water use of our paper mills (where relevant) and develop water usage measurements by 2020. Progress made: During 2019 and the first quarter of 2020, 10 new sites were assessed. The project will be finalised by the end of 2020.

W6.3

(W6.3) Provide the highest management-level position(s) or committee(s) with responsibility for water-related issues (do not include the names of individuals).

Name of the position(s) and/or committee(s)

Chief Sustainability Officer (CSO)

Responsibility

Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

More frequently than quarterly

Please explain

The CSO is reporting to the Board Sustainability Committee on water related issues. The CSO is part of the Group Executive Committee. The CSO is responsible for coordinating Group sustainability strategies, including water related issues, internal and external target setting and reporting against these targets. The Board is informed through presentations on specific topics and also receives three times per year progress performance reports on water related issues among which progress on the long term sustainability targets related to water issues.

Name of the position(s) and/or committee(s)

Sustainability committee

Responsibility

Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

More frequently than quarterly

Please explain

Implementation level: The Sustainability Working group consists of 11 individuals with different expertise areas in sustainability. This group is responsible for supporting Group operations in implementing its sustainability/water strategies, collecting and analysing data from the operations to the Group excom and it is led by CSO. The members of this working group coordinate sustainability roles in operations who are responsible for local implementation.

W6.4

(W6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?

	Provide incentives for management of water-related issues	Comment
Row 1	Yes	

W6.4a

(W6.4a) What incentives are provided to C-suite employees or board members for the management of water-related issues (do not include the names of individuals)?

	Role(s) entitled to incentive	Performance indicator	Please explain
Monetary reward	Chief Executive Officer (CEO) Chief Sustainability Officer (CSO)	Other, please specify (Achievement of commitments and targets)	Sustainability and water related targets are part of the personal KPI's measures for the CSO, as part of the annual bonus system
Non-monetary reward	Chief Executive Officer (CEO) Chief Sustainability Officer (CSO) Other, please specify (Mill directors and environmental managers)	Improvements in waste water quality - direct operations Other, please specify (Achievement of commitments and targets)	SKG has a global target for reducing the waste water quality - the stringest in the whole industry: 60% of the COD emissions in water discharge in comparison to the baseline year 2005 by 2025. The CEO, CSO and local paper mill directors and environmental managers are participating to the target achievement. Since this is a global target and different sites contribute in different ways, the individuals are globally recognised for their efforts for example through their projects being presented in the public annual Sustainable Development Report. An example of this is the case story from SDR 2018, p 51 on how SK Mengibar improved its COD levels by improving water circulation in its waste water treatment plant.

W6.5

(W6.5) Do you engage in activities that could either directly or indirectly influence public policy on water through any of the following?

- Yes, trade associations
- Yes, funding research organizations

W6.5a

(W6.5a) What processes do you have in place to ensure that all of your direct and indirect activities seeking to influence policy are consistent with your water policy/water commitments?

The Group has set guidance for advocacy in its Business Code of Conduct. We have defined roles within the company who lead the advocacy and our activities to influence policy. These activities are steered by the SK Sustainability Committee of the Board and the actual implementation is being coordinated through the Sustainability Working Group who is also responsible of Smurfit Kappa's sustainability vision and strategy implementation. The 11 individuals of this working group are representing different disciplines in the Group and coordinate internal and external advocacy and influencing policy within their divisions and operations.

Our water related policy and commitments are part of the employee sustainability training. We repeat these trainings with key people regularly, in minimum every three years. We have included our policies and targets into our sustainability communications and use a wealth of training methods from personal trainings to newsletters depending on the topic.

W6.6

(W6.6) Did your organization include information about its response to water-related risks in its most recent mainstream financial report?

- Yes (you may attach the report - this is optional)
- Smurfit_Kappa_Annual_Report_2019.pdf
- Smurfit_Kappa_Sustainable_Development_Report_2019.pdf

W7. Business strategy

W7.1

(W7.1) Are water-related issues integrated into any aspects of your long-term strategic business plan, and if so how?

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	Yes, water-related issues are integrated	21-30	Water is an integral part of paper making and therefore we have to understand water-related risks and opportunities in our long-term planning. Water is a critical element to process raw materials, in the manufacture of paper and others purposes. Without water, we cannot produce paper. Stakeholders are increasingly requesting information about our responsible water stewardship covering our paper and packaging production as well as our supply chains. Our environmental sustainability strategy is in four main areas: Climate Change, Forest, Water and Waste. These priorities cover the most material environmental aspects in accordance with our business and stakeholders, expectations; water quality and scarcity, litter on land and oceans are included. Investments in our paper mills are expected to have a long-term life span (i.e. a paper machine should have at least 30 year time of service), so it is of utmost importance that we have the conditions to run our operations in long-term. Water is one of those key conditions. Investments in best practice water treatment reached €79 million since 2005. Our progress in 2019 is due to improvements in our operations, for example, the Cali paper mill in Colombia improved efficiency of its water treatment plant from multiple initiatives. These included changes made to reduce the presence of foam, stabilising clarifier and eventually installing a new sludge press that also reduces the volume of solids entering to the water treatment plant.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	5-10	We focus our efforts on further improving the quality of water we discharge and understanding the risks associated with water availability and use in the areas where we operate. This strategy positions us well to improve our processes and lower environmental load. In order to create long-term value, Smurfit Kappa has built its business on three pillars of sustainability. We base our ambitions of sustainable grow on making impactful business through our products and their production, respecting people in our organization and as stakeholders and continually minimising our environmental impact. We are mapping against the SDGs, and the recognition by the 'We Support the Goals' initiative is proof that Smurfit Kappa is doing its part to realise the 2030 UN Sustainable Development Goals. Our targets focus on our strategic areas and are designed to align the Group with the UN 2030 Sustainable Development Goals. *Commitment #1: Reduce the organic content of water returned to the environment from our mill plants (COD) by 60% compared with 2005 levels by 2025. Progress made: Since 2005, we reached a 35% reduction. *Commitment #2: Perform environmental impact assessments of the water use of our paper mills (where relevant) and develop water usage measurements by 2020. Progress made: During 2019 and the first quarter of 2020, 10 new sites were assessed, totalling 28 sites since 2014.
Financial planning	Yes, water-related issues are integrated	5-10	Smurfit kappa is actively committed to environmental and social best practices. We aim to further improve our discharged water quality, and know the risks associated with water availability and use. We therefore continually implement best practice in our mills' water treatment. In 2019, over 98% of paper and board was produced at mills with best practice water treatment systems. This involves decreasing the organic content of process water through anaerobic and aerobic treatments before returning it to public water bodies. Over € 79 million of our capital expenditure have been dedicated to rebuild or extend water treatment plants of our mills between 2005 and 2019. In 2019, Smurfit Kappa made approximately €3.5 million in social investments across many projects in the areas in which it is located

W7.2

(W7.2) What is the trend in your organization's water-related capital expenditure (CAPEX) and operating expenditure (OPEX) for the reporting year, and the anticipated trend for the next reporting year?

Row 1

Water-related CAPEX (+/- % change)

50

Anticipated forward trend for CAPEX (+/- % change)

10

Water-related OPEX (+/- % change)

2

Anticipated forward trend for OPEX (+/- % change)

2

Please explain

We don't expect much of a change in water - related OPEX year on year. The CAPEXes are dependent on long-term investment planning and have therefore large differences between years. Annual changes are not relevant metric to measure Smurfit Kappa's commitment to improved water management rather than long - term realized investment is.

W7.3

(W7.3) Does your organization use climate-related scenario analysis to inform its business strategy?

	Use of climate-related scenario analysis	Comment
Row 1	No, but we anticipate doing so within the next two years	Mitigating climate change is an integral part of our business strategy and our long-term ambition is to become a climate-neutral producer of paper-based packaging. Through dedicated investments we focus on resource efficiency projects (including energy and water). In our site-specific water risk assessments we evaluate the risks on weather patterns driven by climate change.

W7.4

(W7.4) Does your company use an internal price on water?

Row 1

Does your company use an internal price on water?

No, but we are currently exploring water valuation practices

Please explain

As we are continuing our site specific water risk assessments, we gain information of the current cost of water and benefits of setting an internal price on water. We are also discussing with different bodies with best practice advice to understand if price of water would be the best option for Smurfit Kappa.

W8. Targets

W8.1

(W8.1) Describe your approach to setting and monitoring water-related targets and/or goals.

	Levels for targets and/or goals	Monitoring at corporate level	Approach to setting and monitoring targets and/or goals
Row 1	Company-wide targets and goals	Targets are monitored at the corporate level Goals are monitored at the corporate level	Taking a strategic approach to understand the material sustainability issues for our business helps us to better understand how to identify opportunities, mitigate risks and influence the areas that impact the most. When identifying the most material aspects arising from our operations, we take account of internal and external factors. These include the issues identified in our overall vision and mission, vision on sustainability, long-term strategy and the Code of Business Conduct, which governs Group behaviours and activities. We review these material aspects and processes against external developments such as emerging regulation, environmental standards and approaches to certification. To aid understanding, the aspects are grouped under three key pillars: planet, people and impactful business. Our environmental sustainability strategy is in main areas: Climate Change, Forest, Water and Waste. These strategic priorities cover the most material environmental aspects in accordance with our business and stakeholders, expectations. They cover biodiversity, the circular economy, climate change awareness, energy use and emissions, litter on land and oceans, responsible forestry, water quality and scarcity, as well as waste to landfill. All are relevant for compliance and the monitoring is continuous. For Smurfit Kappa the overall volume of water used is less relevant than the quality of water that we take in and discharge. As we return over 90% of the water we take in back to the nature, we haven't set ourselves a water consumption reduction target. For us the water quality, and especially water discharge quality is important. The best measurement is the Chemical Oxygen demand for which we have a 60% reduction target by 2025 against the 2005 baseline.

W8.1a

(W8.1a) Provide details of your water targets that are monitored at the corporate level, and the progress made.

Target reference number

Target 1

Category of target

Water discharge

Level

Company-wide

Primary motivation

Water stewardship

Description of target

Reduce the organic content of water returned to the environment from our mill plants (COD) by 60% compared with 2005 levels by 2025. The reduction is relative to the organic discharge measured by COD, for those mills that discharge directly on water bodies.

Quantitative metric

% reduction per product

Baseline year

2005

Start year

2005

Target year

2025

% of target achieved

35

Please explain

In 2019, we achieved 35% of COD reduction per tonne of paper produced compared to 2005, for the mills discharging directly to surface. Previous target (-33% in 2020 compared to 2005) was achieved at end of 2017 and is three years ahead of schedule.

W8.1b

(W8.1b) Provide details of your water goal(s) that are monitored at the corporate level and the progress made.

Goal

Other, please specify (Risk Mitigation)

Level

Company-wide

Motivation

Risk mitigation

Description of goal

Perform environmental impact assessments of the water use of our paper mills (where relevant) and develop water usage measurements by 2020.

Baseline year

2005

Start year

2005

End year

2020

Progress

28 mills have been assessed using the tool since 2014. During 2019 and the first quarter of 2020, 10 new sites were assessed. The project will be finalised by the end of 2020. The assessment programme on high water stress areas was completed in early 2017. Our targets focus on our strategic areas and are designed to align the Group with the UN 2030 Sustainable Development Goals.

W9. Verification

W9.1

(W9.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1a)?

Yes

Smurfit_Kappa_Annual_Report_2019.pdf

Smurfit_Kappa_Sustainable_Development_Report_2019.pdf

W9.1a

(W9.1a) Which data points within your CDP disclosure have been verified, and which standards were used?

Disclosure module	Data verified	Verification standard	Please explain
W1 Current state	all data	ISAE 3000	Our complete water reporting data is verified in our Sustainable Development Report assurance process
W2 Business impacts	all data	ISAE 3000	Our complete water reporting data is verified in our Sustainable Development Report assurance process
W4 Risks and opportunities	all financial impacts	ISAE 3000	Our complete water reporting data is verified in our Sustainable Development Report assurance process
W8 Targets	all data	ISAE 3000	Our complete water reporting data is verified in our Sustainable Development Report assurance process

W10. Sign off

W-FI

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

n/a

W10.1

(W10.1) Provide details for the person that has signed off (approved) your CDP water response.

	Job title	Corresponding job category
Row 1	Group Chief Executive Officer	Chief Executive Officer (CEO)