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Klabin S/A - Water Security 2020

W0. Introduction

W0.1

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

For 121 years, Klabin has been part of the daily lives of millions of people by creating customized sustainable solutions for various industrial sectors. Klabin is the Brazil's largest paper manufacturer and exporter and the country's leading producer of papers and paperboard for packaging, industrial bags and corrugated board packaging. Moreover, we are the only Brazilian company to simultaneously supply hardwood pulp (eucalyptus), softwood pulp (pine) and fluff pulp to the market.

Founded in Brazil in 1899, currently has 19 industrial units, with 18 units distributed in nine Brazilian states and one in Argentina. Klabin also has commercial offices in various Brazilian states, a branch office in the United States, Austria, and sales representatives and agents in many countries.

The paper and paperboard for packaging manufactured, as well as corrugated board packaging and industrial bags offer protection and safety to foods, beverages, hygiene and cleaning products, electronics and consumer appliances, cement, seeds, wheat flour, chemical products and other items.

Klabin's Integrity Program comprises a series of procedures to prevent, detect and remediate conduct that could expose Klabin to undesirable situations, while also implementing best global practices related to the matter. In this way, Klabin demonstrates its commitment to building ethical relationships, contributing to a more transparent business environment, strengthening its image, reputation and business strategy and helping to build a more just and sustainable society. The program, which is aligned with the UN Sustainable Development Goals (SDG), targets anyone who works or interacts with Klabin in the public or private sectors.

We are a global reference in sustainable development. Our forestry and industrial operations are based on this concept to help preserve biodiversity and the ecological balance of the ecosystems surrounding our operations. Klabin's sustainability policy integrates the entire production chain to offer the market environmentally responsible products

sponsible management that is committed to biodiversity. We work in collaboration with our clients and suppliers, always guided by innovation and the constant improvement of our products and processes. We together to foster the engagement and development of our people and local communities to achieve increasingly better and sustainable results for the entire value chain.

We directly and indirectly influence the social and economic dynamics of the communities living in the cities where we operate. More than just offering good job opportunities, Klabin invests in the region so that the entire population benefits from initiatives in the areas of local development, education, culture and environmental education. Klabin also offers its employees programs to promote their personal development and volunteer initiatives.

All of Klabin's operations incorporate into their strategy environmental management aspects, such as water, energy, climate change and biodiversity. In this way, the company strengthens its commitment to preserve natural resources, such as by working to reduce the use of non-renewable resources, controlling environmental impacts, monitoring biodiversity and preserving fauna and flora in the forests where it operates.

To guarantee quality, attest to the credibility of our products and reinforce our commitment to continuous improvement, our processes are certified by a number of systems and methodologies that are widely recognized in the global market. The certifications that Klabin holds attest to its pioneering efforts in meeting the needs of its clients and anticipating market trends.

Klabin has a research team working at two research facilities focused on improving its production chain. The first – the Forestry Research Center in Lagoa, Telêmaco Borba (PR) – is dedicated to studying everything related to the forestry chain, such as genetic enhancement, wood quality, soil and climate studies, genetic adaptation, pest control and biotechnology, among others. The mission of the other Technology Center, also located in Telêmaco, is to improve the quality of products, while anticipating trends and developing new technologies and sustainable applications. The professionals seek solutions for an increasingly more efficient consumption of inputs in order to minimize environmental impacts.

The company creates 21,000 jobs (direct and indirect) and invests regularly in people development to promote competencies specific to its business, well-being and safety.

W0.2

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

W0.3

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

Brazil

W0.4

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

BRL

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

Sufficient amounts of good quality freshwater available for use	Vital	Vital	- Direct Use: Water is vital in pulp and paper industry. In 2019, Klabin's total water withdrawals was 109,710.76 megaliters, with 99.7% of surface water from rivers, 0.2% of third party water and 0.1% of groundwater. The reason for the chosen importance can be explained by the high water quantity required in our process, for example, on the timber debarking and on the fiber line of the pulp process. Considering the future dependency, Klabin will have an increase in water consumption of direct use due to the new expansion cycle involves the construction of two packaging paper (kraftliner) machines, with integrated pulp production, which will be built on the same site as the Puma Unit, its pulp mill inaugurated in 2016. The new machines will have combined annual production capacity of 920,000 tons of paper. - Indirect Use: Freshwater is vital raw material to our suppliers, principally chemical industry. Klabin wood suppliers have little water dependency for irrigation and wood represents the main raw material of Klabin's incoming supply chain. However, the chemical industries uses a lot of freshwater in your processes and the chemical products i.g sodium hydroxide, sulfuric acid and aluminium sulfate are very important for us. Considering the future dependency, the freshwater will continue being vital to our chemical suppliers because is very important raw material utilized in yours processes.
Sufficient amounts of recycled, brackish and/or produced water available for use	Vital	Neutral	- Klabin no used the brackish and produced water to direct and indirect use. - Direct Use: Recycled water is vital in pulp and paper industry. In 2019, Klabin's total water recycled was 238,405.47 megaliters, which represents 68.5% of the total water utilized in 2019. Puma unit use the same water around 5 times before returning approximately 82.5% of withdrawn water. Internal water recycling is crucial for Klabin, it allows company save money and energy, and reduces risks of water dependency and legal restrictions. Another example can be the use of recycled water in Klabin's forest nurseries that reuses water for irrigation of seedlings. Considering the future dependency, Klabin will have an increase in water consumption of direct use due to the new expansion cycle involves the construction of two packaging paper (kraftliner) machines, with integrated pulp production, which will be built on the same site as the Puma Unit, its pulp mill inaugurated in 2016. The new machines will have combined annual production capacity of 920,000 tons of paper. - Indirect Use: Indirect use of recycled water is of neutral importance because Klabin's supply chain does not significantly rely on recycled water. However, there are opportunities for recycled water use in our suppliers located in water stress areas. Considering the future dependency, we expect indirect use of recycled water will remain of neutral importance because we do not expect major business changes. Timber is the main raw material of our business and our forest suppliers are located in south and southeast of Brazil where we do not have stressed water trouble. The forests we are getting our timber from are sustainably managed, irrigation is not used. Therefore, the use of recycled water has a neutral importance.

W1.2

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

withdrawals – total volumes		withdraw higher volumes than the source regenerative capacity in order to ensure future availability of the resource. The volume of all sources water is monitored continuosly (daily basis). The method of monitoring is based in flowmeters. The consolidated data are registered in the Resource Advisor database by monthly basis. Due to environmental and water permits figures are reported by annually basis to the authorities.
Water withdrawals – volumes by source	100%	Klabin measure 100% of water withdrawals ensuring company will not withdraw higher volumes than the source regenerative capacity in order to ensure future availability of the resource. The volume of all sources water is monitored continuosly (daily basis). The method of monitoring is based in flowmeters. The consolidated data are registered in the Resource Advisor database by monthly basis. Due to environmental and water permits figures are reported by annually basis to the authorities.
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%	Klabin monitors continuously 100% of the water quality (eg. BOD, COD, P, N, TSS, temperature). For example, BOD and COD concentrations is measured according to standards APHA Standards Methods (5220). Klabin is measuring the quality of its water withdrawals for all of its operations on a daily basis. The data are consolidated by local database on monthly basis. Due to environmental and water permits figures are reported by annually basis to the authorities.
Water discharges – total volumes	100%	Klabin measure 100% of total volume of water discharged. The volume discharged in all sources is monitored continuosly (daily basis). The method of monitoring is based in flowmeters. The consolidated data are registered in the Resource Advisor database by monthly basis. Due to environmental and water permits figures are reported by annually basis to the authorities.
Water discharges – volumes by destination	100%	Klabin measure 100% of water discharged by destination (eg. surface water, irrigation of land, for recycling & reuse or third party destinations). The volume discharged in all sources is monitored continuously on daily basis. The method of monitoring is based in flowmeters. The consolidated data are registered in the Resource Advisor database by monthly basis. Due to environmental and water permits figures are reported by annually basis to the authorities.

– volumes by treatment method		only physical treatment or physical and biological treatment). The frequency of monitoring is daily. The method of monitoring is based in flowmeters. The consolidated data are registered in the Resource Advisor database by monthly basis. Due to environmental and water permits figures are reported by annually basis to the authorities.
Water discharge quality – by standard effluent parameters	100%	Klabin monitors continuously 100% of the water discharge quality (eg. BOD, COD, P, N, TSS, temperature). For example, BOD and COD concentrations is measured according to standards APHA Standards Methods (5220). Klabin is measuring the quality of its discharged water for all of its operations on a daily basis. The data are consolidated by local database on monthly basis. Due to environmental and water permits figures are reported by annually basis to the authorities.
Water discharge quality – temperature	100%	Klabin continuously monitors and measures temperature of its wastewater released during and after wastewater treatment plant. We use sensors specifically designed to monitor temperature in wastewater and industrial effluent treatment applications. The online sensors (thermometers) are factory calibrated and regularly maintained. Each factory control the quality data of water discharged locally on daily basis. The consolidated data are registered by local database on monthly basis. Due to environmental and water permits figures are reported by annually basis to the authorities.
Water consumption – total volume	100%	Klabin measure/calculate 100% of the total water consumption. Water consumption is calculated annually using a water balance which considering: water withdrawals, evaporation from dryers, evaporation from wastewater treatment plants, water left in our end products and water discharges. The volume of all sources water is monitored continuosly (daily basis). Klabin measure 100% of total volume of water discharged. The volume discharged in all sources is monitored continuosly (daily basis).
Water recycled/reused	100%	The use of water recycled/reused is vital to Klabin. 100% of water recycled/reuse is monitored continuosly (daily basis). The method of monitoring is based in flowmeters. The data is registered on the Resource Advisor database by monthly basis. Recycling of water takes place in many ways in our factories: 1. In process to cooling water, we reuse the same water several times before discharged. 2. Some treated process waters are recycled for use as water intake as new process water. 3. Condensate water is also recycled within the mills.
The provision of fully-functioning, safely managed WASH services to all workers	100%	Klabin is working in yours operations in compliance with international hygiene standards and according Brazilian law. 100% of Klabin production units monitors by daily basis the volume water provided for fully-functioning, safely managed WASH services. The method of monitoring is based in flowmeters. Due to environmental and water permits figures are reported by annually basis to the authorities.

W1.2b

		reporting year	
Total withdrawals	109710.76	About the same	The total of water withdrawn was about the same (0,3%) in 2019 compared to 2018, even as Klabin's production has increased by 3%. Its represent a good work to reduce water consumption in factories, especially in paper and pulp units (Puma, Monte Alegre, Correia Pinto e Otacílio Costa units). Together, this units represent 98.5% of total volume of water withdrawn. Fresh surface water is vital to Klabin because this volume represents 99.7% of all withdrawn water. All volumes for each source are sourced from direct measurements and are monitored by Klabin, quantitative and qualitatively. With the Puma unit expasion on going, the total withdrawals water is estimated to be increased by 20 to 30% in near future (the estimative to start-up the phase 1 of Puma 2 project is 2021). The total volume of water withdrawn is verified by a third party and the results are publicly available in our 2019 sustainability report.
Total discharges	92420.74	Higher	The total water discharge has increased by 2% in 2019 compared to 2018. As there was a increase on Klabin's total production in the same period, we consider a good job because our water consumption is decreased by 8%. All volumes for each source are sourced from direct measurements and are monitored by Klabin, quantitative and qualitatively. Puma unit has one of the largest amounts of water discharged in the Tibagi River. However, its treatment process is one of the most robust in the company. With tertiary treatment, the water discharged into the river has a much higher quality than the required environmental limits. The water withdrawals point is downstream from the water discharge point, which demonstrates our commitment with the best available practices. With the Puma unit expasion on going, the total water discharge is estimated to be increased by 20 to 30% in near future (the estimative to start-up the phase 1 of Puma 2 project is 2021). The total volume of water discharged is verified by a third party and the results are publicly available in our 2019 sustainability report.
Total consumption	17290.02	Lower	Total water consumption of Klabin is calculated by difference between the total withdrawals and discharge water from Klabin's units. The total consumption of water has decreased by 8% in 2019 compared to 2018. This has been caused due to increase of water discharge has been higher than water withdrawal. In near future, we expect a reduction of water consumption due to our commitment to improving our water reuse and water use efficiency, especially in operations located in water-stressed areas, as Pernambuco and São Paulo state. In addition, the Puma unit expasion will have a significante impact on total water consumption due to higher water reuse in this factory.

W1.2d

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

	water stress	areas with water stress	year		
Row 1	Yes	1-10	Higher	WRI Aqueduct	Klabin units were evaluated using the WRI Aqueduct tool. Water stressed sites were defined as having a baseline water stress score of 20% or more. According WRI Aqueduct tool, baseline water stress measures the ratio of total annual water withdrawals to total available annual renewable supply, accounting for upstream consumptive use. Higher values indicate more competition among users. All water stressed areas are measured at a minimum catchment level. No exclusions were considered. In 2018, this criterion had only one site as being located in water stressed areas: Goiana, localizated in Pernambuco/Brazil. Goiana's withdrawals water represented 0.89% (976.50 megaliters) of total withdrawals water by Klabin. In 2019, this criterion had more two sites as being classified in water stressed areas: Jundiaí DI e Jundiaí TP, both localizated on São Paulo state. In 2019, the three sites now classified as water stressed areas withdrawn 1,201.41 megaliters what represent 1.1% of total withdrawals water by Klabin. Its represent a increase by 23% between 2018 and 2019. The percentage of water withdrawn from areas with water stressed areas in column 2, even that small, is very important to Klabin. All units water stressed area classified are recommended to criate a team to figure out ways to reduce the water withdrawn.

W1.2h

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain

			reporting year	
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	109417.26	About the same	Fresh surface water is vital to Klabin because this volume represents 99.7% of all withdrawn water. The total fresh surface water are from rivers. All volumes for each source are sourced from direct measurements and are monitored by Klabin, quantitative and qualitatively. The volume of fresh surface water is about the same (insignificant higher – 0.3%) between 2019 and 2018. In the same period, the Klabin's total production was higher by 3%. Its represent a good work to reduce water consumption in factories, especially in paper and pulp units. With the Puma unit expasion on going, the fresh surface water is estimated to be increased by 20 to 30% in near future (the estimative to start-up the phase 1 of Puma 2 project is 2021).
Brackish surface water/Seawater	Not relevant	<Not Applicable>	<Not Applicable>	No brackish surface water/seawater intake for any use. The brackish surface water is not relevant because is impossible due costs and distance. Considering possible future trends,
Groundwater – renewable	Relevant	118.87	Higher	The groundwater (renewable) use has increased by 7.4% in 2019 compared to 2018 because the Goiana unit increased the production and it has needed a higher water intake. The groundwater is relevant to Klabin because around 58% of total groundwater withdrawals are located in water stressed area. The groundwater use represents only 0.1% of all water intake. All volumes for each source are sourced from direct measurements and are monitored by Klabin, quantitative and qualitatively. This increase of groundwater – renewable withdrawn was directly related with Considering possible future trends, Klabin will have an increase of groundwater withdrawn due to possibility of Goiana unit on increase a water intake.
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	Klabin is not using non-renewable groundwater sources. The non-renewable groundwater is not relevant because this use has environmental impacts. Considering possible future trends, Klabin will not consume non-renewable groundwater.
Produced/Entrained water	Not relevant	<Not Applicable>	<Not Applicable>	Klabin is not consume the produced water and so it is not relevant for us. Considering possible future trends, Klabin will not consume produced water.

			reporting year	
Third party sources	Relevant	174.63	Higher	Even its represents only 0.2% of total water used, the water intake from third party is very relevant to Klabin because 12% of total third party source withdrawals are located in water stressed area. In a few units we also used this water to packaging production (e.g Feira de Santana and Jundiaí units). 100% of third party source is from municipal/state supplier. The water intake from third party sources has increased by 3% in 2019 compared to 2018 because in the same period the production has also increased by 3% and it impacts on water intake. All volumes for each source are sourced from direct measurements and are monitored by Klabin, quantitative and qualitatively. Considering possible future trends, Klabin will have a stability of third party sources consumption.

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	92304.21	Higher	The fresh surface water discharge is relevant to Klabin because more than 99.8% of total discharge is into the fresh surface water.There was an increase by 2% between 2018 and 2019.In the same period, the Klabin's total production was higher by 3%. The company discharged 90,574.93 megaliters of water in fresh surface water in 2018. In 2019, the volume was 92,304.20 megaliters.Due to increasing of water withdrawn, the water discharge has increased too.All volumes for each source are sourced from direct measurements and are monitored by Klabin, quantitative and qualitatively.With the Puma unit expansion on going, the fresh surface water discharge is estimated to be increased by 20 to 30% in near future (the estimative to start-up the phase 1 of Puma 2 project is 2021).Puma unit has one of the largest amounts of water discharged in the Tibagi River.The water withdrawals point is downstream from the water discharge point, which demonstrates our com-

			reporting year	
Brackish surface water/seawater	Not relevant	<Not Applicable>	<Not Applicable>	Klabin is not discharge water in seawater and so it is not relevant for us. Considering possible future trends, Klabin will not discharge in seawater.
Groundwater	Not relevant	<Not Applicable>	<Not Applicable>	Klabin is not discharge water in groundwater and so it is not relevant for us. Considering possible future trends, Klabin will not discharge in groundwater.
Third-party destinations	Relevant	116.53	Higher	Even its represents only 0.2% of total water discharged, the water discharge in third party sources is very relevant to Klabin because 15% of total third party source withdrawals are located in water stressed area. This only happens for plant that are close to urban areas. 100% of third party sources is in municipal/state supplier. The water discharge in third party sources has increased by 14% in 2019 compared to 2018 because Jundiaí TP unit has decreased the water reuse in factory and this increased the volume of discharged water. All volumes for each source are sourced from direct measurements and are monitored by Klabin, quantitative and qualitatively. Considering possible future trends, Klabin will have a stability of third party sources destination.

W1.4

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

Yes, our suppliers

W1.4a

(W1.4a) What proportion of suppliers do you request to report on their water use, risks and/or management information and what proportion of your procurement spend does this represent?

Row 1

% of suppliers by number

1-25

% of total procurement spend

51-75

has selected 472 strategic suppliers from our portfolio (around 7,000 suppliers), representing 7% by number and 54% of total procurement spend of supply chain, to participate in the assessment, which considers questions grouped into four major themes: Environment (e.g water issues), Labor and Human Rights, Ethics and Sustainable Procurement. The strategic suppliers were selected according to criticality matrix of supply chain team that assesses aspects-related to potential impacts on business and sustainability area. Our suppliers are incentivized to participate the Ecovadis assessment through our supply contracts which request that they comply with the sustainability standards as defined in our Supplier Code.

Impact of the engagement and measures of success

Divided into three phases, 110 strategic suppliers were selected for the first phase in 2019. With an adherence by 78%, the result was considered above average by EcoVadis itself. To suppliers maintain within our procurement strategy, Klabin requires all suppliers to report their direct use of water, water-related actions and water-related potential risks. In situations where the result of this reporting is less than minimum score required (<35), suppliers are requested to elaborate an action plan to improve your score. In case of this score be critical (<25), Klabin realizes a follow-up audits in suppliers.We have found this assessment has helped us to identify on our supply chain the major water-related risks who we are exposed. We have the ambitious target of evaluate all critical suppliers by the end of 2030. The success is measured by number of suppliers with water actions every year.In 2019, 72% of 86 suppliers report that they had actions to reduce, reuse or other water actions.

Comment

EcoVadis is a collaborative platform that allows measuring the quality of a company's Corporate Social Responsibility management system through its policies, actions and results. It is used by more than 50 thousand companies in the world. In 2019, the participation is voluntary and requires an investment by suppliers. For this reason, Klabin financed the participation of smaller companies.

W1.4b

(W1.4b) Provide details of any other water-related supplier engagement activity.

Type of engagement

Innovation & collaboration

Details of engagement

Encourage/incentivize innovation to reduce water impacts in products and services
Encourage/incentivize suppliers to work collaboratively with other users in their river basins

51-75

Rationale for the coverage of your engagement

The Klabin forestry units have a Controlled Wood Program where the wood suppliers are evaluated by specific forestry team, based on specific methodology related to the FSC® chain of custody certification. This suppliers were selected because they represent an important part of our supply chain due to high risks this sector represents. In 2019, 650 audits has evaluated 140 certified and non-certified wood suppliers in Paraná. These suppliers represented 34% of Klabin's wood suppliers by number. In total procurement spend, these suppliers represented 73% of total wood suppliers. All suppliers of the forestry units are audited by Klabin on a quarterly basis. In case of non-compliance, Klabin stops supplying immediately and sends a recommendation of adequacy. After fulfilling the recommendations, the supplier is audited again and, in the event of no pending issues, the supply contract is resumed.

Impact of the engagement and measures of success

Klabin measures the success by compliance percentage of all sustainability parameters on properties involved in the Program. This checklist has labor and human rights, environmental (water, wastes, emissions) and social aspects and it is used to measure of sucess of the engagement. In 2019, 96.7% of the evaluated items in the Parana properties involved were attended. This shows that the properties of Klabin's wood suppliers, almost entirely, meet the assessed requirements. In 2019, only 17 of 650 audits has blocked the Parana wood suppliers because causing significant and negative impacts. With this engagement, Klabin could assess the progress in careful and protection to build water resilience in your wood suppliers.

Comment

In Parana, the percentage of audits identified in 2019 as causing significant and negative impacts which improvements were verified and resolved: 2% (15 audits).

W2. Business impacts

W2.1

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

No

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

No

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 part of an enterprise risk management framework

Frequency of assessment

More than once a year

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

Tools on the market

Enterprise Risk Management

Comment

The risk assessment department has updated the Klabin's risk policy in 2018. However, Klabin's factories have already developed a risk matrix for each unit with the main operational, physical, governmental risks. According COSO Enterprise Risk Management Framework, ISO 31000 and WRI Aqueduct tool, Klabin assesses the water-related risks of all our units and present to Risk Committee where the company's directors discuss them. When the risks has assessed as high or very high, the facilities develop an action plan for control and risk management.

Supply chain

Coverage

Full

Risk assessment procedure

Water risks are assessed as part of other company-wide risk assessment system

Frequency of assessment

Annually

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

Tools on the market
Enterprise Risk Management

Tools and methods used

WRI Aqueduct
ISO 31000 Risk Management Standard

Comment

Since 2019, Klabin assesses the water-related risks of all our suppliers (wood and industrial suppliers) through of Ecovadis platform (ISO 31000) which has some specifics KPIs to water-related issues. Further, Klabin uses the WRI Aqueduct to assess the water-related risks of supply chain. Klabin has not assessments other stages of the value chain.

Other stages of the value chain

Coverage

None

Risk assessment procedure

<Not Applicable>

Type of tools and methods used

<Not Applicable>

Tools and methods used

<Not Applicable>

Comment

Klabin has not assessments other stages of the value chain.

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	Klabin considers the water availability at basin level a relevant issue for all our operations and value chain. We used the WRI Aqueduct tool to evaluate surface water availability for the main rivers that our operations are dependent upon and that we have an impact on. In 2019, more than 99% of water withdrawals were from rivers. The water availability at a basin level is relevant to Klabin because any change can affect the Klabin costs. This information is compiled into our Enterprise Risk Management system which is COSO Enterprise Risk Management Framework aligned. Water availability is monitored by our corporate sustainability team and environmental team of each Klabin unit. Actually, we have three factories (Goiana, Jundiaí DI and Jundiaí TP) located in Pernambuco and São Paulo states that work in water stressed areas predicted by WRI Aqueduct. By considering different future scenarios we have been able to develop future risk profiles and identify ways to mitigate these water availability risks at basin level.
Water quality at a basin/catchment level	Relevant, always included	The water quality at basin level is very important to Klabin. That's why we monitor water quality upstream and downstream of all our operations that withdraw water from rivers. Our main water-related risks are associated with water treatment problems in paper and pulp units (i.e. Monte Alegre, Puma and Otacílio Costa units). We've developed a cumulative impacts study in the Tibagi River Basin where we have two major factories, Puma and Monte Alegre unit, to assess our impacts on surface water quality. The results showed Klabin does not cause any impact on Tibagi River. The water quality at a basin level is relevant to Klabin because any change can affect the Klabin costs to improve the treatment plant. This information is compiled into our Enterprise Risk Management system that is COSO Enterprise Risk Management Framework aligned. Water availability is monitored by our corporate sustainability team and environmental team of each Klabin unit.
Stakeholder conflicts concerning water resources at a	Relevant, always included	The stakeholder conflicts concerning water resources at a basin/catchment level are relevant because the decisions can impact directly Klabin costs. Klabin has a Community Relation area that is responsible by monitors potential conflicts with stakeholders due to increasing of pressure on natural resources. Further, Klabin particip-

water on your key commodities/raw materials	always included	cause the changes can impact directly Klabin operations and costs. A study on Climate Change vulnerabilities was developed in order to asses risks related to change in the rain pattern in the next coming years and the growth of Klabin's forests. Please, consider that Klabin's forests growth in cycles that varies from 7 up to 16 years, so our understanding of "current" is quite wide. This information is compiled into our Enterprise Risk Management system which is COSO Enterprise Risk Management Framework aligned.
Water-related regulatory frameworks	Relevant, always included	The water-related regulatory frameworks are relevant because the new requirements can impact directly Klabin operations and costs. Klabin follows the increasing on water regulatory pressure. Further, it has performed studies in order to identify future water potential costs and its impact on production and on the value of the final products. This information is compiled into our Enterprise Risk Management system which is COSO Enterprise Risk Management Framework aligned.
Status of ecosystems and habitats	Relevant, always included	The quantity and quality of the populations, endangered species and habitats are important to Klabin because the forests is vital to our operations. Therefore, Klabin monitors through diagnoses and follow-up of emissions, and corrective actions are taken in the case of deviations. Every year, a Stewardship Plan of the forestry units is prepared, which includes data on the biodiversity, in order to reduce negative impacts and increase positive ones, as well as to restore areas and improve environmental conditions of the native reserves. An example is the annual monitoring programs of Wild Fauna and environmental social programs developed with the communities where the factories are located. This information is compiled into our Enterprise Risk Management system which is COSO Enterprise Risk Management Framework aligned.
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always included	100% of Klabin units who are intended for food contact are certified according to FSSC 22000 hygiene management systems that are also in use as management systems in the food industry, thus high hygiene requirements are in place at these Klabin units. The access to fully-functioning, safety managed WASH services is relevant to Klabin because this has impact directly in the employees health and safety. 100% of Klabin units has a water treatment plant before water use by employees. In addition, after use, has a wastewater treatment plant before water discharge. All the water to personal consumption is bought. This information is compiled into our Enterprise Risk Management system which is COSO Enterprise Risk Management Framework aligned.
Other contextual issues, please specify	Not considered	Not applicable

W3.3c

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

	Relevance & inclusion	Please explain

	always included	on that matter and therefore more selective when choosing products and its components. This movement causes a wave that encourage the whole value chain to act. This is one of the drivers for Klabin's continuous improve efficiency on water use. Therefore, Klabin maintains a close relationship with its customers and seeks to understand what their needs and expectations through of materiality analysis. As engagement method, Klabin has a schedule to make the sustainability presentation in your customers where we discuss about our goals until 2030 and the possibility of elaborate an integrated goal. This information is compiled into our Enterprise Risk Management system which is COSO Enterprise Risk Management Framework aligned.
Employees	Relevant, always included	Employees are very relevant and included because they help our identification of water-related risks and opportunities and may be impacted by our activities. For this, every employee is informed and trained our water management policies. Klabin believes employees are major agents to improve our water performance in our factories. We have set communications channels for employees to report water-related risks and opportunities. Targets associated with water management are also included in performance contracts of all managers. We expect that in the future employees involvement will keep about the same.
Investors	Relevant, always included	Rise of awareness on natural resources pressure tend to make investors more critical on that matter and therefore more selective when choosing your investments. This movement causes a wave that encourage the whole value chain to act. This is one of the drivers for Klabin's continuous improve efficiency on water consumption. Therefore, Klabin maintains a close relationship with its investors and seeks to understand what their needs and expectations through of Klabin's Commercial area. In 2019, for the sixth consecutive time, a Klabin has integrated the B3 Corporate Sustainability Index, which brings together the actions of companies that stand out because of the high level of commitment sustainability of business and the country.
Local communities	Relevant, always included	Klabin has a Community Relation area that is responsible by monitors potential conflicts with local communities due to increasing of pressure on natural resources and impacts. Klabin evaluates the needs and expectations of the local communities and its services are prioritized according to the impacts caused. The principal engagement method is a community workshops and meetings where Klabin discuss with them the best practices to maintain a good relationship. Therefore, Klabin has a communication matrix that presents the monitoring plan to attend the needs and expectations of all stakeholders, including the local communities. For example, the Klabin's Wastes Program has begun in 2014 and it is contributing with 6 cities around two Klabin units in Paraná. The area of Community Relation of Klabin has an internal method to assessment the impacts of our processes on the local communities. Further, Klabin implements and supports programs aligned with its social investment platform, focused on the lines of action of local development, education and culture, and aims to generate positive socio-environmental impact and increase the assets of the communities where it operates.
NGOs	Relevant, always included	Klabin has a Community Relation area that is responsible by monitor potential conflicts with stakeholders, as NGOs, due to increasing of pressure on natural resources. The principal engagement method is a NGO workshops and meetings where Klabin discuss with them the best practices to maintain a good relationship. Therefore, Klabin has a communication matrix that presents the monitoring plan to attend the needs and expectations of all stakeholders, including the NGOs.Klabin evaluates the needs and expectations of the NGOs and its services are prioritized according to the impacts caused. The area of Community Relation of Klabin has an internal method to assessment the impacts of our processes on NGOs.

users at a basin/catchment level	always included	natural resources. The Klabin participates in the committee of the hydrographic basins, where they are represented major consumers of water from Brazil's water basins. In the committee the risks of the basins are discussed, the reduction of water consumption, the water pricing, etc. The tool utilized was the COSO Enterprise Risk Management Framework which asses the risks in Klabin units, for example, the water pricing.
Regulators	Relevant, always included	Rise of awareness on natural resources pressure tend to make Regulators more critical on that matter and therefore more rigorous when they elaborate new regulations. The Klabin participates in the committee of the hydrographic basins, where they are represented major consumers of water from Brazil's water basins. In the committee the risks of the basins are discussed, the reduction of water consumption, the water pricing, etc. This movement causes a wave that encourage the whole value chain to act. This is one of the drivers for Klabin's continuous improve efficiency on water consumption. All water catchment projects are awarded following guidelines of the regulators. The tool utilized was the COSO Enterprise Risk Management Framework which asses the risks in Klabin units, for example, the possible changes on regulations.
River basin management authorities	Relevant, always included	The water collected at each site is granted by the responsible government agency, to ensure the sustainable funding of the resource in the region where the site is located. The Klabin participates in the committee of the hydrographic basins, where they are represented major consumers of water from Brazil's water basins. In the committee the risks of the basins are discussed, the reduction of water consumption, the water pricing, etc. The tool utilized was the COSO Enterprise Risk Management Framework which asses the risks in Klabin units, for example, the water pricing.
Statutory special interest groups at a local level	Relevant, always included	Klabin monitors potential conflicts with statutory special interest groups at a local level due to increasing of pressure on water natural resources. The Klabin participates in the committee of the hydrographic basins, where they are represented major consumers of water from Brazil's water basins, inclusive the these special groups. In the committee the risks of the basins are discussed, the reduction of water consumption, the water pricing, etc. The tool utilized was the COSO Enterprise Risk Management Framework which asses the risks in Klabin mills, for example, the water pricing.
Suppliers	Relevant, always included	The suppliers of the industrial area considered critical for Klabin from a financial and sustainability point of view are monitored through a critical matrix that assesses impacts related to eco-efficiency initiatives, greenhouse gas inventory (GHG), operations sites, water consumption and generation of effluents, rights in labor relations, compliance with legislation, training on environmental norms and health and occupational safety, control of injury rates, diseases, absenteeism, deaths, anti-discrimination practices and prevention of corruption, legal and labor compliance, environmental licensing, type and danger of material supplied, type of supplier and participation in discussions with communities for local development. 100% of the new contractors hired in 2019, considered representative from an economic and financial point of view, were evaluated taking into consideration the legal compliance with environmental aspects, labor practices and human rights. The forest units have the Controlled Wood Program in which the suppliers are evaluated by the Forest area, based on a specific methodology related to the certification of the FSC® chain of custody. In 2019, 650 visits to certified and non-certified wood suppliers were made in Paraná. Klabin audits all forest suppliers on a quarterly basis, which considers elements of human rights, environmental aspects, social aspects, adaptation to labor legislation, working conditions analogous to slavery and child labor, as well as other aspects that may undermine human dignity. In the event of non-compliance, Klabin immediately discontinues delivery and sends a recommendation for suitability. After complying with the recommendations, the supplier is audited again and, if there is no pending, the supply contract is

a local level	always included	natural resources. The Klabin participates in the committee of the hydrographic basins, where they are represented major consumers of water from Brazil's water basins. In the committee the risks of the basins are discussed, the reduction of water consumption, the water pricing, etc. The tool utilized was the COSO Enterprise Risk Management Framework which asses the risks in Klabin mills, for example, the water pricing.
Other stakeholder, please specify	Not considered	Not applicable.

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.

Klabin has a specific area for risk management and controls of the organization. This management considers the entire organization as part of the scenario analysis. In this matrix we consider, for example, the categories of commodities, economic scenario, international policies, government changes, research and development, climate change, environmental accidents, environmental regulations, business continuity plan, etc. The risks listed in Klabin's risk matrix take into account strategic, financial, operational, regulatory and environmental aspects.

The applied methodology is based on the COSO Enterprise Risk Management Framework, ISO 31000 and WRI Aqueduct tool, where Klabin determines the evaluation criteria of impact and vulnerability of each listed risk, considering a heat map for the impact classification and vulnerability.

One of the risks mapped on Klabin's matrix, for example, is the increase in temperature and increase in the frequency of intense heat waves that can increase the growth of forest pests due to the increase of thermal stress on Klabin's plantations. This risk led the organization to strategically decide to create the Department of Forest Efficiency and Ecophysiology which monitors possible future climate scenarios, developing a modeling of data related to exposure to climatic parameters and assessing the impact of changes in planted forests, and recommends the necessary measures in case of adverse effects.

Once assessed (or updated), each potential risk/opportunity receives adaptive action-plan in order to find the best way to address it throughout the company. For risks, the magnitude and likelihood of the adverse effects will determine the time frame of company's action. Each Business Unit is responsible for embracing its own risks (pointed out by the vulnerability matrix)

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, both in direct operations and the rest of our value chain

W4.1a

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

- In Klabin's process, risks with substantive financial impacts is over 30% of EBITDA, which may have national and international reputation impact, environmental accidents with difficult re-mediation and occupational accidents are considered as substantial strategic or financial impact.

- To be considered as being exposed to substantive water risk the facilities need to classified on overall water risk score higher than 3 in WRI Aqueduct tool.

- Example of metric used to identify substantive change:

- Periods of damage to the public image:

* >24 months - critical impact

* 12 - 24 months - high impact

* <12 months - medium impact

* >700 MM - critical impact

* >400 MM and <700 MM - high impact

* >150 MM and >400 MM - medium impact

- This is applied to direct operations and supply chain – both.

- Follow below one example of a possible impact that is monitored by the company:

A surplus water could affect the Klabin's forestry productivity; around 7% productivity (>400 MM and < 700 MM) loss can be expected without adaptation/mitigation measure. It would represent high financial impact (> 30% EBITDA), considering the replacement cost of wood (cost of wood purchase in the market).

- It is relevant to inform that current conditions and projections do not evidence deficit or surplus water in Klabin forestry region (until 2040), but due the relevance of water for productivity it is monitored and there is investment to genetic improvement.

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	3	1-25	To Klabin, our definition of "facility" is the same as definition for a factory, unit or site, so there could be different types of factory operating in the same basin/area. Klabin has 19 sites. Three sites (Jundiaí DI, Jundiaí TP and Goiana units) represent 16% of total units and 11% of Klabin's total production. These factories are within a region of water stress. We classified all our substantive risk facilities using WRI Aqueduct tool. To be considered as being exposed to substantive water risk the facilities need to classified on overall water risk score higher than 3 in WRI Aqueduct tool.

(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

Brazil	Other, please specify (Piracicaba/Capivari/Jundiai River Basin)

Number of facilities exposed to water risk

2

% company-wide facilities this represents

1-25

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

1-10

Comment

Jundiaí DI and Jundiaí TP units represent around 3% of Klabin's total production.

Country/Area & River basin

Brazil	Other, please specify (Goiana River Basin)

Number of facilities exposed to water risk

1

% company-wide facilities this represents

1-25

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>

Comment
Goiana unit represents around 8% of Klabin's total production.

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

Brazil	Other, please specify (Piracicaba/Capivari/Jundiai River Basin)

Type of risk & Primary risk driver

Physical	Increased water stress

Primary potential impact
Increased operating costs

Company-specific description
Jundiaí DI and Jundiaí TP units are located in water stressed area classified by WRI Aqueduct tool. Klabin has considered the increased water stress can affect the withdraw of groundwater and it can be a risk to keep the operation costs.Jundiaí DI and Jundiaí TP units represent around 3% of Klabin's global production. Both units produce corrugated board. Both units intake water from two sources: groundwater and third party. Groundwater source represents 54% of total water intake in Jundiaí DI and 86% of total water intake in Jundiaí TP. Klabin has considered two months (july and august) more likely to drought. In additional, the magnitude of potential impact has considered that Jundiaí DI and Jundiaí TP groundwater use represent just 0.04% of total water intake. The worst scenario considers the increased of operation costs due to need to buy 100% of water on third party source.

Timeframe
1-3 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 - maximum (currency)
<Not Applicable>

Explanation of financial impact
The financial impact was estimated considering: two months of drought during the year (july and august) and the disruption of total water intake during these months. In 2019, Jundiaí DI and Jundiaí TP have withdrawn from groundwater source around 4,000.00 m3 per month. Two months represent 8,000.00 m3. The estimated cost to buy thirdy party water was BRL 33.61 per m3. This is the average cost of thirdy party water on the last year. Thus, the financial impact is BRL 268,880.00 per year. This financial impact is not important for Klabin because it's very low on global context of Klabin. This impact is small, with low magnitude and medium likelihood.

Primary response to risk
Adopt water efficiency, water reuse, recycling and conservation practices

Description of response
Jundiai TP unit has a project developed by multidisciplinary internal team to implementation of tertiary treatment at the WWTP (Wastewater Treatment Plant) to reuse wastewater in industrial processes. The tertiary treatment is based on advanced oxidation process that reduces COD (Chemical Oxygen Demand), BOD (Biological Oxygen Demand) and other parameters using ozone or hydrogen peroxide. The positive point of this system is the simple treatment that requires low maintenance because there is a retro washing system to clear on filters. Jundiaí TP unit discharge on thirdy party source in 2019 around 20,000.00 m3 of treated wastewater. This study has a payback around 21 months. This project shows the Klabin commitment to water management even when risk financial impact is low. However, this Project are being evaluated by Klabin's project team and no has deadline to start. The savings that project will have was estimated around BRL 27,326.00 per month based in discharge costs on third party source but the system implementation costs are around BRL 581,450.00.

Cost of response
581450

Explanation of cost of response
The cost of responding to the investment in the tertiary treatment system was obtained by requesting a budget for several suppliers registered with Klabin. BRL 581.450.00 is a high cost (compared with financial impact) but the investment payback is very good, less than 2 years. This response cost no represents an estimative. This response cost considers the entire construction and assembly service for the tertiary treatment presented in the "description of response" column. This study has a payback around 21 months. This project shows the Klabin commitment to water management even when risk financial impact is low. However, this Project are being evaluated by Klabin's project team and no has deadline to start.

Type of risk & Primary risk driver

Physical	Increased water stress

Primary potential impact
Increased operating costs

Company-specific description
Goiana unit is located in water stressed area classified by WRI Aqueduct tool. Klabin has found the increased water stress in the Goiana River Basin to be a risk to meet the water demand to production of the recycled paper, corrugated board and paper bags. Goiana unit represents around 8% of Klabin's global production. Goiana unit intake water from two sources: groundwater and surface water. Together, the water sources intake represent 1% of Klabin water intake. On northeast region, the months of october, november and december are affected to drought. We use this information to calculate the potential financial impact. In additional, the magnitude of potential impact has considered that Goiana unit is the only Klabin unit that produces recycled paper, corrugated board and paper bags. The worst scenario considers the increased of operation costs due to need to fetch water in another river/basin.

Timeframe
4-6 years

Magnitude of potential impact
Low

Likelihood
More likely than not

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
1693560

Potential financial impact figure - minimum (currency)
<Not Applicable>

Potential financial impact figure - maximum (currency)
<Not Applicable>

Explanation of financial impact
The financial impact was estimated considering: three months of drought during the year (october, november and december) and the disruption of total water intake during these months. In 2019, Goiana unit has withdrawn 94,401.32 m3 per month. Three months repres-

Description of response

Klabin has evaluated the possibility of reusing 100% of the wastewater after use on paper machines avoiding the operational costs of water intake in another river/basin. A study was performed from Voith Engenharia in 2017 and it has presented many changes and adjustments on paper machines in Goiana unit. Further, this study has intend to reduce of process water consumption. For reuse of process water, that is, white water and clarified water, it is important that this water has the appropriate quality for the device where it is intended to be used. In Goiana unit, located in Pernambuco state, we intend to use the clarified water to showers process. So, there are a recommendation to install a white water filter (rigid spiral or sieve) to guarantee the quality of the water in case of rupture of screens or moments of poor performance of the fiber recovery system. Depending on the process, white water or clarified water should be stored in a sufficient volume to prevent it being discarded during normal operation and in times of prolonged leaf breaks. The reduction of fresh water consumption can be achieved through some measures, among them: acquisition of equipment with less demand for fresh water, for example, showers with better efficiency, mechanical seals, air-cooled systems, turbine vacuum pumps, etc.; replacement of fresh water with clarified water treated in equipment that does not interfere in the process, such as screen and felt showers, elutriation and dilution systems, showers to guide the leaf, etc.; microbiological treatment of closed cooling systems (towers) avoiding or reducing the use of make-up water. The implemantation cost to do all of this modifications on Klabin process is around BRL 1,900,000.00 according a requesting a budget to the same supplier that performed this study. Goiana manager is evaluating this study realized in 2017 and if approval the project time is around of 12 months.

Cost of response

1900000

Explanation of cost of response

The response cost to do all of this modifications on Klabin process is around BRL 1,900,000.00 according a requesting a budget to the same supplier that performed this study. This response cost considers the devices and assembly service to all modifications presented in the "description of response" column.

W4.2a

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

Type of risk & Primary risk driver

Physical	Severe weather events

Primary potential impact

Increased operating costs

Company-specific description

Klabin's wood suppliers are exposed to the risk potential acceleration of the growth rate of forest pests due to increased thermal stress on plantations. Our tool for identifying and assessing forest risks that used future climate scenarios to identify risks to forest productivity has evaluated 100% of wood suppliers are exposed to this risk. Therefore, Klabin has a specific department to take care that. The presence of forest pests can reduce the productivity of the forest and consequently disruption the feeding of wood to the two largest units of Klabin, Puma and Monte Alegre units, located in Paraná state. This tool was used by Forest Efficiency and Ecophysiology Department. Klabin has invested in forestry research with testing of different materials of pine and eucalyptus, which are more resistant, for example, water deficit or pests. This investment is part of the general investment in the forestry research and development area.

Timeframe

More than 6 years

Magnitude of potential impact

Medium-low

Likelihood

Unlikely

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

41746500

Potential financial impact figure - minimum (currency)

<Not Applicable>

Potential financial impact figure - maximum (currency)

<Not Applicable>

Explanation of financial impact

The financial impact refers to the revenue from the sale of pulp and paper from the Puma and Monte Alegre units for one day. Puma unit: Average hard wood price of pulp: $ 1037 per ton Average soft wood price pulp: $ 1166 per ton USD: BRL 5.00 Hard wood quantity: 3700 tonnes

Primary response to risk

Direct operations	Increase capital expenditure

Description of response

The identified risk is the increase in temperature and the frequency of intense heat waves that can increase the growth of forest pests due to increased thermal stress on plantations. This risk can affect Klabin and supplier forests. For this, Klabin create the Forest Efficiency and Ecophysiology Department, located in Paraná state, which monitors possible future climate scenarios, developing data modelling related to climate parameters and assessing the impact of planted forests. The Department recommends the necessary measures in case of adverse effects for both, Klabin and supplier forests. Klabin has an important influence on yours wood suppliers because we have a good relationship with them. Klabin constantly monitors the suppliers' forests to identify possible pests. Klabin has a specific department (Wood Comercialization Departament) responsable for monitoring the forests of Klabin's wood suppliers. However, for suppliers' forests, Klabin only recommends the products and the application methodology based on Forest Efficiency and Ecophysiology Department, and the supplier is responsible for pest control. This monitoring is a continuous activity on Klabin.

Cost of response

500000

Explanation of cost of response

The cost presented (BRL 500,000.00) refers to the cost of the Wood Comercialization Departament responsible for monitoring the forests of Klabin's wood suppliers. This cost considers all involved people and monitoring cost in 2019. In 2019, 650 visits were made to certified and non-certified wood suppliers in Paraná state.

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

Primary water-related opportunity
Cost savings

Company-specific description & strategy to realize opportunity
- In Puma unit, there is a project to reduce water consumption. This project involves the areas of automation, environmental and process department. The project foresees a reduction of 2.1 m3 / tonne of water that would represent about 3,150,000 m3 per year (7% of total withdrawals water). Therefore, there will be a reduction the cost with water treatment in the order of BRL 4,441,500.00 per year. - The strategy of this study is close the white water circuit of softwood line and automate of make-up water on cooling towers. For example, Angatuba unit reduced the water withdrawals by 3.1 m³/tonne between 2017 and 2018 with water reduction projects, water reuse of paper machines and water circuit closure. Specific consumption decreased from 16.5 m³/tonne to 13.4 m³/tonne.

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)
4441500

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact
Considering in 2019 the cost of water treatment was BRL 0.20 per m3 and the cost of wastewater treatment was BRL 1.21 per m3, and considering that reduce would be the total amount of 3,150,000 m3, we can reduce the costs by, at least, BRL 4,441,500.00 per year.

W5. Facility-level water accounting

Facility reference number
Facility 1

Facility name (optional)
Jundiaí DI

Country/Area & River basin

Brazil	Other, please specify (Piracicaba/Capivari/Jundiai River Basin)

Latitude
-23.1752

Longitude
-46.931352

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)
37.44

Comparison of total withdrawals with previous reporting year
Higher

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
20.27

Withdrawals from groundwater - non-renewable
0

Withdrawals from produced/entrained water
0

Comparison of total discharges with previous reporting year
Higher

Discharges to fresh surface water
0

Discharges to brackish surface water/seawater
0

Discharges to groundwater
0

Discharges to third party destinations
14.55

Total water consumption at this facility (megaliters/year)
22.89

Comparison of total consumption with previous reporting year
Higher

Please explain
This facility is within a region of water stress. Klabin units were evaluated using the WRI Aqueduct tool. Water stressed sites were defined as having a baseline water stress score of 20% or more. According WRI Aqueduct tool, baseline water stress measures the ratio of total annual water withdrawals to total available annual renewable supply, accounting for up-stream consumptive use. Higher values indicate more competition among users. For this facility, estadual third-party source and groundwater are the only water intakes. For future trend, we do not expect any increase to water intake. All volumes for each source are sourced from direct measurements and are monitored by Klabin, quantitative and qualitatively. No brackish surface water/seawater intake, no produced water intake, no non-renewable groundwater intake for any use, considering now and future trends. In 2019, the total volume of withdrawals water was 37.44 megaliters/year what has represented 7% of increase compared to 2018 (35.00 megaliters/year). Addictionaly, the total volume of discharged water was 14.55 megaliters/year what has represented 13% of increase compared to 2018. Both increases has occured due to increase by 8% of corrugated board packaging production in the same period. The water consumption was calculated using withdrawals minus discharges water. This water consumption refers to partly by volume of incorporated water into products and partly by volume of evaporated water.

Facility reference number
Facility 2

Latitude
-23.266963

Longitude
-46.865105

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)
31.16

Comparison of total withdrawals with previous reporting year
Higher

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
26.76

Withdrawals from groundwater - non-renewable
0

Withdrawals from produced/entrained water
0

Withdrawals from third party sources
4.4

Total water discharges at this facility (megaliters/year)
17.22

Comparison of total discharges with previous reporting year
Much higher

Discharges to groundwater
0

Discharges to third party destinations
17.22

Total water consumption at this facility (megaliters/year)
13.94

Comparison of total consumption with previous reporting year
Lower

Please explain
This facility is within a region of water stress. Water stressed sites were defined as having a baseline water stress score of 20% or more. According WRI Aqueduct tool, baseline water stress measures the ratio of total annual water withdrawals to total available annual renewable supply, accounting for upstream consumptive use. For this facility, estadual third-party source and groundwater are the only water intakes. For future trend, we do not expect any increase to water intake. All volumes for each source are sourced from direct measurements and are monitored by Klabin, quantitative and qualitatively. No brackish surface water/seawater intake, no produced water intake, no non-renewable groundwater intake for any use, considering now and future trends. In 2019, the total volume of withdrawals water was 31.16 megaliters/year what has represented 23% of increase compared to 2018 (25.33 megaliters/year). Addictionaly, the total volume of discharged water was 17.22 megaliters/year what has represented 150% of increase compared to 2018 (6.88 megaliters/year). This increase is considered like much higher because the volume of discharged water has duplicated. The water consumption was calculated using withdrawals minus discharges water. This water consumption refers to partly by volume of incorporated water into products and partly by volume of evaporated water. Due to significative increase of discharged water, the water consumption was lower by 24%.

Facility reference number
Facility 3

Facility name (optional)
Goiana

Country/Area & River basin

Brazil	Other, please specify (Goiana River Basin)

Latitude
-7.556655

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)
1132.81

Comparison of total withdrawals with previous reporting year
Higher

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
1110.84

Withdrawals from brackish surface water/seawater
0

Withdrawals from groundwater - renewable
21.97

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)
900.15

Comparison of total discharges with previous reporting year
Higher

Discharges to fresh surface water
900.15

Discharges to brackish surface water/seawater
0

Discharges to groundwater
0

Comparison of total consumption with previous reporting year

Lower

Please explain

This facility is within a region of water stress. Klabin units were evaluated using the WRI Aqueduct tool. Water stressed sites were defined as having a baseline water stress score of 20% or more. According WRI Aqueduct tool, baseline water stress measures the ratio of total annual water withdrawals to total available annual renewable supply, accounting for upstream consumptive use. For this facility, the fresh surface water from river and the groundwater are the only water intakes. For future trend, we do not expect any increase to water intake. All volumes for each source are sourced from direct measurements and are monitored by Klabin, quantitative and qualitatively. No brackish surface water/seawater intake, no produced water intake, no non-renewable groundwater intake for any use, considering now and future trends. In 2019, the total volume of withdrawals water was 1,132.81 megaliters/year what has represented 16% of increase compared to 2018 (976.50 megaliters/year). Addictionaly, the total volume of discharged water was 900.15 megaliters/year what has represented 31% of increase compared to 2018 (686.90 megaliters/year). The water consumption was calculated using withdrawals minus discharges water. This water consumption refers to partly by volume of incorporated water into products and partly by volume of evaporated water. Due to significative increase of withdrawals and discharged water, the water consumption was lower by 20%.

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?

Conecta Consulting conducted the process of independent verification of the Klabin Sustainability Report 2019 preparing process, developed in accordance with the GRI with verification process with adherence to the principles of the AA1000; and sustainability management company. In addition, we have ISO 14.000 certification standards, which represents the guarantee of sampling methods, recycling systems and a wide management.

Conecta Consulting conducted the process of independent verification of the Klabin Sustainability Report 2019 preparing process, developed in accordance with the GRI with verification process with adherence to the principles of the AA1000; and sustainability management company. In addition, we have ISO 14.000 certification standards, which represents the guarantee of sampling methods, recycling systems and a wide management.

Water withdrawals – quality

% verified

76-100

What standard and methodology was used?

Conecta Consulting conducted the process of independent verification of the Klabin Sustainability Report 2019 preparing process, developed in accordance with the GRI with verification process with adherence to the principles of the AA1000; and sustainability management company. In addition, we have ISO 14.000 certification standards, which represents the guarantee of sampling methods, recycling systems and a wide management.

Water discharges – total volumes

% verified

76-100

What standard and methodology was used?

Conecta Consulting conducted the process of independent verification of the Klabin Sustainability Report 2019 preparing process, developed in accordance with the GRI with verification process with adherence to the principles of the AA1000; and sustainability management company. In addition, we have ISO 14.000 certification standards, which represents the guarantee of sampling methods, recycling systems and a wide management.

Water discharges – volume by destination

% verified

76-100

What standard and methodology was used?

Conecta Consulting conducted the process of independent verification of the Klabin Sustainability Report 2019 preparing process, developed in accordance with the GRI with verification process with adherence to the principles of the AA1000; and sustainability management company. In addition, we have ISO 14.000 certification standards, which represents the guarantee of sampling methods, recycling systems and a wide management.

Water discharges – volume by treatment method

company. In addition, we have ISO 14.000 certification standards, which represents the guarantee of sampling methods, recycling systems and a wide management.

Water discharge quality – quality by standard effluent parameters

% verified
76-100

What standard and methodology was used?
Conecta Consulting conducted the process of independent verification of the Klabin Sustainability Report 2019 preparing process, developed in accordance with the GRI with verification process with adherence to the principles of the AA1000; and sustainability management company. In addition, we have ISO 14.000 certification standards, which represents the guarantee of sampling methods, recycling systems and a wide management.

Water discharge quality – temperature

% verified
76-100

What standard and methodology was used?
Conecta Consulting conducted the process of independent verification of the Klabin Sustainability Report 2019 preparing process, developed in accordance with the GRI with verification process with adherence to the principles of the AA1000; and sustainability management company. In addition, we have ISO 14.000 certification standards, which represents the guarantee of sampling methods, recycling systems and a wide management.

Water consumption – total volume

% verified
76-100

What standard and methodology was used?
Conecta Consulting conducted the process of independent verification of the Klabin Sustainability Report 2019 preparing process, developed in accordance with the GRI with verification process with adherence to the principles of the AA1000; and sustainability management company. In addition, we have ISO 14.000 certification standards, which represents the guarantee of sampling methods, recycling systems and a wide management.

Water recycled/reused

% verified
76-100

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

		dependency on water Description of business impact on water Description of water-related performance standards for direct operations Description of water-related standards for procurement Reference to international standards and widely-recognized water initiatives Company water targets and goals Commitment to align with public policy initiatives, such as the SDGs Commitments beyond regulatory compliance Commitment to water-related innovation Commitment to stakeholder awareness and education Commitment to water stewardship and/or collective action Acknowledgement of the human right to water and sanitation Recognition of environmental linkages, for example, due to climate change	water security and water risks (energy, climate change and biodiversity are included too) are within our Sustainability Policy and are considered in all operations, reaffirming the company's commitment to the conservation of natural resources, with the constant reduction of resource use non-renewable and with the control and mitigation of environmental impacts. These aspects are monitored by indicators, whose management since 2018 has been consolidated in the Resource Advisor platform, facilitating the traceability of information. The indicators and targets are defined by the Sustainability Committee, formed by director and representatives of industrial operations, and deployed in specific goals for each business. Since 2016, Klabin has voluntarily joined the Sustainable Development Goals (ODS), a United Nations initiative that brings together governments, civil society and the private sector on a global agenda with 17 goals and 169 goals in favor of people, the planet, peace and prosperity. ODS sets global priorities and aspirations by 2030 and represents an opportunity to eliminate extreme poverty and put the world on a sustainable path. In 2019, Klabin has developed new goals and targets to incorporate both issues relevant to our business and the issues on this global agenda to the Klabin Sustainability Strategy. Our Innovantion team is always looking for water-related innovations on the market, i.e. The entire management of the company is oriented to Sustainable Development, seeking integrated and responsible growth, which combines profitability, social development and environmental commitment. Since 2014, Klabin has been integrating the Business Sustainability Index (ISE) of B3. It is also a signatory to the UN Global Compact and the National Pact for the Eradication of Slave Labor, seeking suppliers and business partners who follow the same values of ethics, transparency and respect for the principles of sustainability.

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 director of industrial technology, innovation and sustainability officer has the responsibility over Water Security and its water-related studies on impacts and opportunities. Alongside him, the Environmental and Sustainability Corporate team is also responsible for the day-to-day management of the issue with the responsibility of monitoring global and national water security agendas and mapping their related risks and opportunities. It is worth mentioning that Klabin maintains a fixed sustainability committee main composed of directors. Also, participate in this committee, managers of people and corporate services, legal directory, industrial directory of papers and forest management areas. In 2019, the CSO decided the targets (including water-related targets) of Klabin's Sustainability Development Goals that it is into 2030 Klabin Agenda.

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

	issues are a scheduled agenda item	issues are integrated	
Row 1	Scheduled - some meetings	Monitoring implementation and performance Overseeing acquisitions and divestiture Overseeing major capital expenditures Providing employee incentives Reviewing and guiding annual budgets 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 Reviewing innovation/R&D priorities Setting performance objectives	- Issues related to water security are part of the organization's sustainability policy and objectives. Item number 7 of Klabin's sustainability policy: "Seek to apply the most efficient and current technologies and engineering solutions in the implementation of new projects and ventures, ensuring the protection of human health, natural resources and the environment". - Taking into consideration this, the organization's goals and objectives are defined based on the organization's principles. Klabin has restructured its team in 2018 and created a specific corporate area of Sustainability and Environment that has as one of its objectives the day-to-day management of the issue with the responsibility of monitoring global and national climate agendas and mapping their related risks and opportunities. This change is focused on the importance that the organization sees to deal daily on corporate issues related to the environment and industrial sustainability in the different industrial units and businesses of Klabin. - In addition, the issues related to water security integrate the environmental indices of the main units of Klabin S/A, impacting the payment of variable incomes for employees. These indicators are monitored and analyzed on a monthly basis. Definitions and main action plans to meet defined goals involve the operational and strategic levels of the organization. - Klabin maintains a fixed sustainability committee main composed of directors, with the Director of Industrial Technology and Sustainability as the sponsor and Sustainability and Environment Executive Manager as the technical director of the commission. Also participate in this committee, managers of people and corporate services, legal directory, industrial directory of papers and forest management areas. Items related to climate change, water, risks and opportunities are fixed agenda items of critical analysis involving senior management (managers and directors). The aligned strategies and actions defined in the committee are guided by financial, legal, social and environmental themes. - In general, all these items taken into consideration during these meetings are important issues for the definition of the organization's growth strategy, considering new technologies and new projects for the company in line with the UN Sustainable Development Goals.

W6.3

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
Quarterly

Please explain
Director of Industrial Technology, Innovation and Sustainability Officer is the highest level of the organization, responsible for the execution of the Board of Directors' deliberations and the day-to-day management of the business. He is the sponsor of the Sustainability Committee whose role is to define guidelines and assess the need for investiments and prioritize initiatives, including water security and water-related impacts and opportunities. The frequency of reporting to the board on water-related issues is more frequently than quartely. Items related to water security and risks and opportunities are fixed agenda Items of critical analysis involving senior management (managers and directors). Has the objective of following both global and national Climate agendas and map its related risk and opportunities.

Name of the position(s) and/or committee(s)
Environment/Sustainability manager

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 Environment / Sustainability Executive Manager is positioned in the organizational structure below the director, responsible for consolidating and leveraging sustainability practices and environment. The monitoring process at Klabin starts with day-to-day management by the environmental teams of each Klabin facilities and / or by the team of assistants from the corporate area of environment and sustainability. The management of these items is carried out by these areas along with their coordinators and their respective manager, who periodically critically examines the items related to this subject so that they are brought to the steering committee for discussion and strategic decision making for the organization.

	Provide incentives for management of water-related issues	Comment
Row 1	No, not currently but we plan to introduce them in the next two years	Klabin has not incentives to C-suite employees or board members for the management of water-related issues yet. But Klabin has a Results Participation Program with monetary rewards to managers, coordinators and specialists. This participation in the results involves several aspects such as financial results, health and safety results for workers, results of product quality and environmental results. These environmental results consider environmental indicators such as water-related issues (quantitatively and qualitatively), energy, waste generated, energy matrix and atmospheric emissions.

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, direct engagement with policy makers

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?

- Only a few people are allowed to speak on behalf of the company.

- These people are trained by the communication area following the internal procedure (spokesperson internal procedure).

- Further, when the subject is water security, the sustainability area provides the necessary information to assist based on sustainability policy and strategy planning of Klabin.

- All employees are receiving training on Klabin's sustainable practices so they can always take correct information when they talk about the company.

(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)

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	11-15	Klabin has guidelines that orientates its activities planning and operations towards the management of Water Security and its related issues. Its pillars, basically, relies on making constant improvements to make its operations more efficient in terms of use, reuse and emissions, the establishment of targets for water withdrawals and the assessment of business vulnerabilities in face of the Water Security. Based on that, in 2013 the company started to study the most vulnerable aspects of its operations regarding change in rainfall and temperatures patterns, droughts and flooding. The study results in internal action plans and proposals for adaptive measures aimed at to prevent impacts to Klabin's operation (in both forest and industry factories), as well as indications on possible external effects related to these water security such as price and pressure on natural resources and its effects. The potential short and medium terms effects were already added to company's strategic planning (especially those ones which require technological innovation to preserve forests growth) and are closely monitored by multiple groups, including the Sustainability Committee and the Climate Committee. The time horizon chosen was selected because the eucalyptus and pinus wood growth are 7 and 14 years and our goals are based on Sustainability Development Goals of ONU until 2030.

	integrated?	horizon (years)	
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	11-15	An example of outcome is the creation of the Klabin's Ecophysiology department, which is responsible for monitoring current and future trends of climate elements such as changing in rainfall, winds and temperature patterns and for anticipating possible impacts on the forest productivity. Results from this analysis provides lines of action, for instance, to the R&D areas which become aware of new developments or innovation that they must pursue in order to face threats and opportunities of the water use. The adequate use and reuse of water and natural resources are also one of the commitments of the organization, inserted in its Sustainability Policy. Klabin joins other organizations in implementing a global plan of action for people, the planet, peace and prosperity. The 17 Sustainable Development Goals (SDG) set out the global priorities and aspirations for 2030 and represent an opportunity to eliminate extreme poverty and put the world on a sustainable path. To implement this commitment, Klabin has developed new objectives and targets to incorporate both the issues that are relevant to its business and general issues of the global agenda into its Sustainability Strategy. Our concern with the reuse and use of water extends to strategic decisions to the recently built Puma Unit in Ortigueira, PR. The time horizon chosen was selected because the eucalyptus and pinus wood growth are 7 and 14 years and our goals are based on Sustainability Development Goals of ONU until 2030.
Financial planning	Yes, water-related issues are integrated	11-15	Klabin invested BRL 2574 millions in 2019. Of this amount, BRL 334 millions were destined to forest operations, BRL 731 millions were allocated to the operational continuity of the plants, and BRL 237 millions were invested in special projects and expansions, especially in high-return projects that seek to improve the Company's performance in all segments in which it operates. Further, Klabin approved the construction of the Puma II project, which covers the installation of two paper packaging machines with an annual production capacity of 920 thousand tons, located at the Puma Unit, where Klabin already operates the production of bleached pulp. With a total estimated investment of BRL 9.1 billion, Klabin disbursed a total of BRL 1,271 million in 2019. Also as part of the expansion of the focus on Research, Development and Innovation to face a larger Klabin, the Company carries out a further investment cycle in the area. In addition to the investment of BRL 70 millions between 2015 and 2017, Klabin will contribute approximately BRL 180 millions in industrial and forestry research in the years 2019-2021, including a new Pilot Plant, aiming at the development of new products, in addition to agreements with research institutes and national and international universities. The time horizon chosen was selected because the eucalyptus and pinus wood growth are 7 and 14 years and our goals are based on Sustainability Development Goals of ONU until 2030.

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 OPEX (+/- % change)

56

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

6

Please explain

MM = Millions Water-related CAPEX: 2018: BRL 48.6 MM 2019: BRL 34.1 MM 2020 estimated: BRL 62.7 MM In 2019, the CAPEX increased because Klabin approved the construction of the Puma II project, which covers the installation of two paper packaging machines with an annual production capacity of 920 thousand tons, located at the Puma Unit, where Klabin already operates the production of bleached pulp. With a total estimated investment of BRL 9.1 billion, Klabin disbursed a total of BRL 1,271 million in 2019. The water-related CAPEX decreased because there was no disbursed water-related equipaments yet. To next year, we will have disbursed a part of new Water Treatment Plant and new Wastewater Treatment Plant. Water-related OPEX: 2018: BRL 72.7 MM 2019: BRL 113 MM 2020 estimated: BRL 120 MM In 2019, in general the Klabin OPEX has decreased. But the water-related operacional cost increased due to chemical prices used in the treatment plants.

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	Yes	To understand the potential risk to which its activities are subject, as well as the adaptive measures required to face such risks, Klabin conducts studies on its vulnerabilities regarding climate change and water security. The study is always based on global models such as the IPCC's Assessment Reports and on local scientific findings and focus on understanding risks, especially those with the highest potential to create a significant change in its business operations, revenues and expenses.

W7.3a

W7.3b

(W7.3b) What water-related outcomes were identified from the use of climate-related scenario analysis, and what was your organization's response?

	Climate-related scenarios and models applied	Description of possible water-related outcomes	Company response to possible water-related outcomes
Row 1	Other, please specify (RCP 4.5 / RCP 8 / RCP 8.5)	Klabin has a complete study on: (i) current and future climate conditions (ii) and the impact of climate change for the business. Thus defining the relevant climate risks and its mitigation plans, integrating the Klabin risk management. In Brazil, it was projected the changes of the main climatic factors for eucalyptus and pinus growth - precipitation, evapotranspiration and deficit / surplus water.However, 100% of forest areas of Klabin (SP, PR and SC states) are concentrated in little affected areas because in here we have a good water availability and good precipitation. The analyses of climatic variables are based on historical climate data in the region (1981-2010); and reference scenarios on GHG emissions - RCP 8 - for climate models - MIROC 5 and Hadgen, in the period of 2021-2040.For some industrial units we also use the Aqueduct Water Risk based on two climate scenarios, RCP 4.5 and RCP 8.5. Increase of more intensive rains was identified, although it does not affect forest productivity, but can affect the logistic and transportation due to access to Klabin's harvest areas is not possible in time of intensive rains.Water stressed sites were defined as having a baseline water stress score of 20% or more. According WRI Aqueduct tool, baseline water stress measures the ratio of total annual water withdrawals to total available annual renewable supply, accounting for upstream consumptive use.Higher values indicate more competition among users.	For the Klabin's forestry units (located in PR, SP and SC states) have not been identified substantive change in the water variables (precipitation, evapotranspiration and deficit / surplus water) that interfere with the growth of eucalyptus and pinus, in the analyzed period. For industrial units, in 2018, this criterion had only one site as being located in water stressed areas: Goiana, localizated in Pernambuco/Brazil. Goiana's withdrawals water represented 0.89% (976.50 megaliters) of total withdrawals water by Klabin. In 2019, this criterion had more two sites as being classified in water stressed areas: Jundiaí DI e Jundiaí TP, both localizated on São Paulo state. In 2019, the three sites now classified as water stressed areas withdrawn 1,201.41 megaliters what represent 1.1% of total withdrawals water by Klabin. Its represent an increase by 23% between 2018 and 2019. Based on this, Klabin created a working group to identify and evaluate possible operational and strategic responses, as is the case of searching other possible water sources for the factories located in water stress areas. This group aims to identify and assess risks in 2020 and develop action plans to response risks by the end of 2021.

W7.4

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

Klabin does not pay to withdraw fresh surface water. Klabin has a cost to treat the water on Water Treatment Plant. After of water treatment, all the operational areas of unit pay for the volume water consumes. In 2019, Puma unit has used 47,095.3 megaliters of treated water and had a cost of BRL 11,206,985. Therefore, for each m3 of water treated, the Puma unit paid in average BRL 0.24. For example, in December of 2019, Fiber Line area has used 1,335 megaliters of water and paid BRL 0.467 per m3 of treated water. Therefore, the Fiber Line area has paid on December of 2019 amount BRL 623,445 for the treated water.

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 Business level specific targets and/or goals Activity level specific targets and/or goals Site/facility specific targets and/or goals Brand/product specific targets and/or goals Country level targets and/or goals Basin specific	Targets are monitored at the corporate level Goals are monitored at the corporate level	Klabin's targets and goals related to water security are defined by the Sustainability Committee and based on company strategy and environmental requirements. The corporation targets and goals are monitored by environmental and sustainability team that it is responsible to monitors the corporation indicators. There is an environmental platform (Resource Advisor) which it assist the environmental management, the targets and goals. Environmental team of each unit analyzes the indicators monitored on the environmental critical analysis.

(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 withdrawals

Level
Company-wide

Primary motivation
Commitment to the UN Sustainable Development Goals

Description of target
Our target is reduce absolute water withdrawals by 5% in company-wide until 2022.

Quantitative metric
% reduction in total water withdrawals

Baseline year
2017

Start year
2018

Target year
2022

% of target achieved
46

Please explain
The target for reducing water withdrawal by 2022 is 5%. In 2019, we reduced the total water withdrawals by 2.28%, what it represents that 46% of the target has already been achieved. This target of Klabin SA contributes to water security through better management of water resources and meeting the UN Sustainable Development Goals.

W8.1b

Level
Company-wide

Motivation
Reduced environmental impact

Description of goal
Our 2030 goal is to have all critical and relevant suppliers participating in the Sustainable Supply Chain Management Program. This goal is very important to Klabin. The adequate water consumption by suppliers avoid the supply interruption of water and the interruption the Klabin production. The evaluation of Klabin critical suppliers will cover all suppliers, gradually, through the Ecovadis platform. For that, the chosen level is company-wide. Klabin aims to engage these suppliers on the importance of keeping the springs and quality of the water bodies present on their properties. For industrial suppliers, Klabin seeks to encourage them to reduce water consumption and the impacts related to their products. Klabin's supplier evaluation platform presents the results of each supplier and allows the development of an action plan for the supplier to work during the year.

Baseline year
2015

Start year
2016

End year
2030

Progress
Klabin evaluates the environmental indicators of its suppliers, based on water withdrawal, identification and evaluation of the risks related to water and definition of its objectives and targets related to water. In 2019, Klabin evaluated 86 wood and industrial suppliers that they scored from 0 to 100 regarding issues related to: 1. Environmental (water, energy consumption, emissions, etc.), 2. Labor and Human Rights (employee health and safety, working conditions, etc.), 3. Ethics (corruption, anti-competitive practices, etc.) 4. Sustainable Procurement (supplier environmental practices and supplier social practices). The Ecovadis platform compiles to the suppliers reports and provides the results of easy way and ready for decision making by assessing each supplier's scores. The success is measured by sustainability performance on the Ecovadis report. In 2019, 72% of total evaluated suppliers has water-related actions in your processes.

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

Yes

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	The data verified are volumes total withdrawals water, discharges wastewater and total consumption water.	AA1000AS	Conecta Consulting conducted the process of independent verification of the Klabin Sustainability Report 2019 preparing process, developed in accordance with the GRI with verification process with adherence to the principles of the AA1000; and sustainability management company. In addition, we have ISO 14.000 certification standards, which represents the guarantee of sampling methods, recycling systems and a wide management.
W4 Risks and opportunities	The data verified are risks and opportunities of company-wide.	AA1000AS	Conecta Consulting conducted the process of independent verification of the Klabin Sustainability Report 2019 preparing process, developed in accordance with the GRI with verification process with adherence to the principles of the AA1000; and sustainability management company. In addition, we have ISO 14.000 certification standards, which represents the guarantee of sampling methods, recycling systems and a wide management.
W6 Governance	The data verified are company-wide governance.	AA1000AS	Conecta Consulting conducted the process of independent verification of the Klabin Sustainability Report 2019 preparing process, developed in accordance with the GRI with verification process with adherence to the principles of the AA1000; and sustainability management company. In addition, we have ISO 14.000 certification standards, which represents the guarantee of sampling methods, recycling systems and a wide management.
W8 Targets	The data verified are targets and gols of company-wide.	AA1000AS	Conecta Consulting conducted the process of independent verification of the Klabin Sustainability Report 2019 preparing process, developed in accordance with the GRI with verification process with adherence to the principles of the AA1000; and sustainability management company. In addition, we have ISO 14.000 certification standards, which represents the guarantee of sampling methods, recycling systems and a wide management.

(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.

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	Director of Industrial Technology, Innovation and Sustainability Officer	Chief Sustainability Officer (CSO)

W10.2

(W10.2) Please indicate whether your organization agrees for CDP to transfer your publicly disclosed data on your impact and risk response strategies to the CEO Water Mandate's Water Action Hub [applies only to W2.1a (response to impacts), W4.2 and W4.2a (response to risks)].

Yes

Offices

Staff

Trustees, board and advisors

Terms & Conditions

Careers

LinkedIn

Twitter

YouTube