Suzano Papel & Celulose - Water Security 2023

W0. Introduction

W0.1

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

Suzano is a Brazilian renewable-based company committed to be a global reference in the sustainable use of renewable resources. The world's leader in the manufacture of eucalyptus pulp and one of the largest paper manufacturers in Latin America, the company operates mainly in the eucalyptus pulp and paper segment from plantations for this purpose of serving companies worldwide.

Currently, Suzano exports to more than 100 countries and, based on its products, it is presented in the lives of more than 2 billion people. With operations at eleven factories, in addition to the Veracel joint venture, it has an installed capacity of more than 10.9 million tons of market pulp and 1.4 million tons of paper per year.

Abroad, Suzano has international offices in China, Canada, the United States, Israel, Switzerland, Finland (Joint venture Woodspin), Austria and Argentina. It has administrative offices in Salvador (BA) and São Paulo (SP), industrial units and FuturaGene, responsible for the genetic development of forest crops and biofuels, with research laboratories in Israel and Canada.

Suzano signed up for the Sustainable Development Goals (SDG) since it believes that the engagement of the private sector is essential to accelerate compliance with the 2030 Agenda established at the UN Sustainable Development Summit. Issues that are important for sustainability in its operations were evaluated jointly with the SDGs to assess environmental and social impacts across the value chain. Notable, Water is among the 8 material issues for Suzano, which involves analyzing the risks and scenarios for mitigating the impacts caused by the use of water in industrial and forestry operations. Due to some dry seasons in the recent past, affecting areas where Suzano operate. The company reviewed strategic actions to mitigate problems concerning water withdrawal and, mainly, the disposal of effluents into the receiving body of water.

Thanks to integrated actions involving the operations, environment and engineering areas, including the company's leadership of the Hydrographic Basin Committees, this drought did not significantly affect its production process. Suzano treats water availability and the quality of effluents disposed of into the environment as a strategy for a long-term challenge. Hence, it has been adopting eco-efficiency programs linked to cleaner production investments and a strong water recycling program as components of its strategic management practice.

In forestry operations, water withdrawal usage has been daily monitored by the Suzano's environmental department. The monitoring includes checks of where the water withdrawal is allowed, the license for capture issued by the environmental agency, the volume captured at each spot, with its geographic location and name of the stream, which streamlines identification, control and correction of eventual deviations.

Besides that, before all forestry activities begin, pre and post-operation monitoring is carried out, where the volume of water withdrawal is assessed considering the need of planting, harvesting and logistics activities and, when necessary, resized in order to not impact neighbouring communities or the amount of water downstream.

To face these challenges, in 2019 Suzano established two Long-Term Goals, approved by the Executive Board, related to this issue for reducing water withdrawal by 15% (m^3 of water/ton of pulp) and for increasing water availability in 100% of critical watersheds.

The company reached a withdrawal intensity of 25.9 m^3/t, which is very close to the target set for 2030 of 25.3 m3 /t1, and an 87% of achievement of the target with baseline in 2018.

Through its initiatives, Suzano seeks to raise awareness among its partners on the issue and achieve positive results for the environment, since the solution, especially for the water crisis, involves diverse action fronts that range from the efficient use and management of natural resources to the rational use and practices to mitigate potential risks. In this regard, Suzano's constructive participation on basins committees is considered strategic by the company in order to keep its operations aligned with the management plans of each basin and to generate positive results for all stakeholders.

In 2022, the company launched the Protecting our Water Program to encourage suppliers to better manage water use by monitoring and analyzing risks and opportunities. Suzano's selected strategic suppliers based on our social and environmental risk matrix to respond to CDP's water questionnaire, and had a 76% participation rate. The initiative is expected to last for three years. At the end of the first year, companies will receive a score from CDP and, based on their performance, will be encouraged to establish goals and initiatives to improve their water use performance. At the end of the third year, we will be able to measure progress and recognize suppliers that excelled.

W0.2

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

	Start date	End date
Reporting year	January 1 2022	December 31 2022

W0.3

(W0.3) Select the countries/areas in which you operate.

Argentina
Austria
Brazil
Canada
China
Finland
Israel
Switzerland
United States of America

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.

Other, please specify (Companies, entities or groups over which financial and operational control is exercised)

W0.6

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

No

W0.7

(W0.7) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization.	Provide your unique identifier
Yes, an ISIN code	BRSUZBACNOR0

W1. Current state

W1.1

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

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Important	Important	Importance of direct use: for Suzano mills the amount of fresh water available is more important - and not vital - than quality, as all water collected from the river to Suzano mills is treated in water treatment plants, regardless of its quality. In direct operations, the water withdrawn is used in production processes and is an important resource for these businesses, as it is needed in the process of washing logs and cooking wood, bleaching and washing pulp, as well as in the production of steam. In forestry operations (wood supply), water dependence is lower than in industrial operations. Suzano's forestry is not irrigated, relying on rainwater after the initial planting stage. However, Suzano is committed to reducing its water dependence by increasing availability in critical basins by 100% and reducing abstraction by 15% by 2030. This commitment drives new production methods with reduced water use and dependence. Ranking the importance of indirect use is important as our suppliers of chemicals, such as chlorine dioxide and hydrogen peroxide for example, also use water in their industrial processes (steam production and product dilution) and need to have quantities enough water. Water quality is also not a limiting factor as the mills have Wastewater Treatment Plants designed for the level of quality of abstracted water. With respect to future dependence on water, we believe that direct and indirect dependence will continue to be important as we believe that freshwater quality will deteriorate due to the lower volume of water available. The types of treatments will have to keep pace with this change, with the necessary engineering technologies and solutions, including the additional investments and expenses. We expect to continue to be dependent on water availability once our production depends directly on this factor. We intend to continue investments in water withdrawal reduction to make our business more resilient in water stress scenarios.
Sufficient amounts of recycled, brackish and/or produced water available for use	Vital	Important	Direct operations - Suzano's mills manage water resources in a sustainable manner, since around 80% of the water used in the mills is recirculated in the production process itself, before being treated and returned to the environment. Recycled water is inherent in Suzano's production mills - therefore "vital". This reuse is “vital” as it maximizes water savings and savings in heating energy and electricity for pumping. This recirculation occurs due to a series of internal reuse of industrial water, including internal recirculation of cooling water, optimization of the use of hot water and condensates (steam and liquor), reuse of filtrates in the bleaching process, reuse of white water from dryers at Fiberline, washing wood logs at Woodyard and internal recirculation at the plant itself. The recycled water is treated at the unit's effluent treatment station and returned to the water bodies, in accordance with Brazilian Law and international references (European Commission and World Bank). Indirect operations - the use of water by the main suppliers, producers of chemical products, is for the production of steam used in the processes. Normally, the reuse of water in your own processes is “important”, as the reuse of condensate water maximizes water and heating energy savings, optimizing production costs. It also minimizes the risks of water scarcity in the watersheds in which they are located. They also have a water treatment plant, so if there is only low quality water available (such as "produced water") it will be considered "important". Regarding future dependence on water, we believe that the improvement of water reuse systems will be vital for the continuity of direct and indirect operations, because we believe that the volume of freshwater available for industrial use will reduce at the expense of other uses, such as for the human and animal supply and food production.

W1.2

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

	% of sites/facilities/operations	Frequency of measurement	Method of measurement	Please explain
Water withdrawals – total volumes	100%	Continuously	All industrial units measure the flow of captured water, it can be done through an ultrasonic or magnetic flow meter, which allows the recording and reading of data online. The equipment used in the measurement follows the methodologies provided for in the latest edition of the Standard Methods for Examination of Water and Sewage are used, in addition to being periodically calibrated as needed. It is noteworthy that all Suzano factories are ISO 14001 certified.	The water collected in water bodies is monitored with continuous frequency (full-time online monitoring), making it possible to identify water consumption in any time scale (seconds, minutes, hours, etc.). This monitoring is done by flow meters, at the water collection point, at the water treatment plant and throughout the process. All industrial units follow this practice.
Water withdrawals – volumes by source	100%	Continuously	All industrial units measure the flow of captured water, it can be done through an ultrasonic or magnetic flow meter, which allows the recording and reading of data online. The equipment used in the measurement follows the methodologies provided for in the latest edition of the Standard Methods for Examination of Water and Sewage are used, in addition to being periodically calibrated as needed. It is noteworthy that all Suzano factories are ISO 14001 certified	The water collected from the water bodies is monitored with continuous frequency (full-time online monitoring), making it possible to identify the water intake at any time scale (seconds, minutes, hours, etc.). This monitoring is done by flow meters, at the water collection point, at the water treatment plant and throughout the entire process. All industrial units comply with this practice. Every water body source for water withdrawal is identified and monitored
Entrained water associated with your metals & mining and/or coal sector activities - total volumes [only metals and mining and coal sectors]	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Produced water associated with your oil & gas sector activities - total volumes [only oil and gas sector]	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Water withdrawals quality	100%	Daily	The quality parameters are monitored in two ways: On-line analyzers, equipment installed in the water collection system that allow instant reading of the data, used to measure pH, temperature, turbidity and conductivity. These equipment undergo periodic calibrations to ensure the accuracy of the data. We also monitor these parameters through daily laboratory analyses, including BOD, COD, color, phosphorus, nitrogen, sedimentable solids, etc. The laboratories are ISO 17025 certified.	Each industrial unit treats 100% of the water collected and its industrial effluents. Operational monitoring frequency is daily of water quality, including parameters such as turbidity, color and pH. We also have quarterly monitoring frequency of parameters such as: BOD, COD, color, turbidity, electrical conductivity, pH, nitrogen, phosphorus, solids concentration, dissolved oxygen and temperature. All analyzes are carried out by laboratories that follow the international standard ISO 17.025 and the methodologies provided for in the latest edition of the Standard Methods for Examination of Water and Sewage are used. It is noteworthy that all Suzano factories are ISO 14001 certified.

	% of sites/facilities/operations	Frequency of measurement	Method of measurement	Please explain
Water discharges – total volumes	100%	Continuously	All industrial units (ISO 14001 certified) measure the flow of discharged water through an ultrasonic and magnetic flow meter or parshall gutter system, a standardized device to measure liquid flow. It has a narrow throat and expanding section for accurate measurement. The equipment used in the measurement follows the methodologies provided for in the latest edition of the Standard Methods for Examination of Water and Sewage are used, in addition to being periodically calibrated as needed.	The water discharged in water bodies is monitored with continuous frequency (full-time online monitoring), making it possible to identify water consumption in any time scale (seconds, minutes, hours, etc.). This monitoring is done by flow meters, at the water collection point, at the water treatment plant and throughout the process. All industrial units follow this practice. The equipment used in the measurement follows the methodologies provided for in the latest edition of the Standard Methods for Examination of Water and Sewage are used, in addition to being periodically calibrated as needed. It is noteworthy that all Suzano factories are ISO 14001 certified.
Water discharges – volumes by destination	100%	Continuously	All industrial units (ISO 14001 certified) measure the flow of discharged water through an ultrasonic and magnetic flow meter or parshall gutter system, a standardized device to measure liquid flow. It has a narrow throat and expanding section for accurate measurement. The equipment used in the measurement follows the methodologies provided for in the latest edition of the Standard Methods for Examination of Water and Sewage are used, in addition to being periodically calibrated as needed.	The water discharged in water bodies is monitored with continuous frequency (full-time online monitoring), making it possible to identify water consumption in any time scale (seconds, minutes, hours, etc.). This monitoring is done by flow meters, at the water collection point, at the water treatment plant and throughout the process. All industrial units follow this practice. The equipment used in the measurement follows the methodologies provided for in the latest edition of the Standard Methods for Examination of Water and Sewage are used, in addition to being periodically calibrated as needed. It is noteworthy that all Suzano factories are ISO 14001 certified.
Water discharges – volumes by treatment method	100%	Continuously	All industrial units (ISO 14001 certified) measure the flow of discharged water through an ultrasonic and magnetic flow meter or parshall gutter system, a standardized device to measure liquid flow. It has a narrow throat and expanding section for accurate measurement. The equipment used in the measurement follows the methodologies provided for in the latest edition of the Standard Methods for Examination of Water and Sewage are used, in addition to being periodically calibrated as needed.	The water discharged in water bodies is monitored with continuous frequency (full-time online monitoring), making it possible to identify water consumption in any time scale (seconds, minutes, hours, etc.). This monitoring is done by flow meters, at the water collection point, at the water treatment plant and throughout the process. All industrial units follow this practice. The equipment used in the measurement follows the methodologies provided for in the latest edition of the Standard Methods for Examination of Water and Sewage are used, in addition to being periodically calibrated as needed. It is noteworthy that all Suzano factories are ISO 14001 certified.
Water discharge quality – by standard effluent parameters	100%	Daily	Below are the methodologies used to monitor some quality parameters of the water discharged into water bodies. These methodologies are in accordance with the standards required by Ecolabel and environmental agencies. Follow some of the methodologies: Total Phosphorus - EPA 6010D:2014/ISO 6878 Total Nitrogen - Method 10071 Adsorbable Organics Halogens – AOX - Internal ME.06.05.014	We have operational monitoring with continuous frequency (online) of effluent quality, including parameters such as pH, temperature and dissolved oxygen. We also monitor parameters such as COD, color and suspended solids daily. The monitoring programs can vary from each plant, with the minimum frequency being quarterly, but by default we monitor AOX, BOD, nitrogen, phosphorus, acute and chronic toxicity, presence of dioxins and furans, among several other parameters. We also assess the aquatic communities, in addition to the toxicity of the treated effluent to ensure the maintenance of river water quality. Samples are collected, analyzed and sent periodically to the State Environmental Agencies. All analyzes are carried out by laboratories accredited by the international standard ISO 17.025 and the methodologies provided for in the latest edition of the Standard Methods for Examination of Water and Sewage are used. It is noteworthy that all Suzano factories are ISO 14001 certified.
Water discharge quality – emissions to water (nitrates, phosphates, pesticides, and/or other priority substances)	100%	Continuously	Below are the methodologies used to monitor some quality parameters of the water discharged into water bodies. These methodologies are in accordance with the standards required by Ecolabel and environmental agencies. Follow some of the methodologies: Total Phosphorus - EPA 6010D:2014/ISO 6878 Total Nitrogen - Method 10071 Adsorbable Organics Halogens – AOX - Internal ME.06.05.014	All parameters are continuously evaluated in weekly analysis. We utilize approved methodologies to monitor water quality parameters for discharge into water bodies, in compliance with Ecolabel and environmental agencies standards: Total Phosphorus - EPA 6010D:2014/ISO 6878 Total Nitrogen - Method 10071 by default we monitor AOX, BOD, nitrogen, phosphorus, acute and chronic toxicity, presence of dioxins and furans, among several other parameters. We also assess the aquatic communities, in addition to the toxicity of the treated effluent to ensure the maintenance of river water quality. Samples are collected, analyzed and sent periodically to the State Environmental Agencies. All analyzes are carried out by laboratories accredited by the international standard ISO 17.025 and the methodologies provided for in the latest edition of the Standard Methods for Examination of Water and Sewage are used. It is noteworthy that all Suzano factories are ISO 14001 certified.
Water discharge quality – temperature	100%	Continuously	The method used to measure the temperature consists of using a digital thermometer in the outflow of the treated effluent.	The monitoring program adopts Resolution Conama n. 430 of 2011 as its legal scope, which provides for the conditions and standards for the release of effluents (below 40 °C). Temperature monitoring at the wastewater treatment plant is monitored with continuous frequency (full-time online monitoring), just like flow monitoring. All industrial units follow this practice. All analyzes are carried out by laboratories accredited by the international standard ISO 17.025 and the methodologies provided for in the latest edition of the Standard Methods for Examination of Water and Sewage are used. It is noteworthy that all Suzano factories are ISO 14001 certified.
Water consumption – total volume	100%	Continuously	All industrial units measure the flow of captured water, it can be done through an ultrasonic or magnetic flow meter, which allows the recording and reading of data online. To measure the flow and volume of treated effluent, the units use the parshall gutter system. Water consumption is calculated from the total volume collected minus the total volume of treated effluent returned to the receiving body.	We treat the concept of water consumption as the amount of water withdrawn minus the water discharge to the receiving body after treatment (monitored with continuous frequency - full-time online monitoring), that is, it is the portion incorporated into the cellulose (10% moisture), including the portion of water evaporated and/or infiltrated into the environment. Examples: water evaporated in the cooling towers and moisture from the chimney gases. It varies according to each industrial unit, but, on average, water consumption represents around 15% of all water intake.
Water recycled/reused	100%	Continuously	The volume of recirculated water is calculated from the measurement of water flow in the cooling towers.	Inherent in Suzano's industrial production of pulp and paper, the removal of water recirculates in the process: the water collected is treated at the water treatment station and then distributed in the factory's production processes. Later, this same water is directed to the cooling towers, so that it can return to production processes again. On average, the water circulates about 4.5 times until it is treated at the effluent treatment plant and directed to the water body (daily measurement frequency).
The provision of fully-functioning, safely managed WASH services to all workers	100%	Continuously	The units, for legal reasons, hire third-party laboratories that carry out weekly analyzes of water for human consumption.	The monitoring program adopts Portaria do Ministério da Saúde 518/2004 as its legal scope - the strictest safety levels for workers are required. All workers have access to securely managed laundry services. The company has a water quality monitoring program for human consumption in all its production units and offices Color, Turbidity pH and fecal coliforms are analysed weekly. The free residual chlorine is analysed daily.

W1.2b

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

	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Five-year forecast	Primary reason for forecast	Please explain
Total withdrawals	317020	Lower	Increase/decrease in efficiency	Higher	Facility expansion	Total water withdrawal by Suzano in 2022 was 2.2 % less than 2021. We achieved the value of 25.9 m³/t of water withdrawn in industrial operations, a result that exceeds by 1.2 m³/t the target of 27.1 m³/t set for 2022. The projects developed brought 1.5% reduction in Suzano's specific water withdrawal, which represents an 87% advance in relation to the baseline goal (Long-Term Target defined in 2019), i.e., a reduction of 3.9 m³/t in water withdrawal at industrial units. Variations up to 30% significantly impact our specific water withdrawal target, so we standardize the scale: Much lower: < 30% Lower: 1 – 30%; About the same ~ 0%, Higher: 1 – 30% and Much higher: > 30% In 2022 we implemented actions in all units seeking to optimize water use, including replacing equipment to generate more water efficiency and using recycled water in machinery. The Imperatriz Unit reduced about 7% of water withdrawn reusing osmosis water for make-up of the cooling tower and the installation of a self-cleaning filter in the fiber line. The Suzano unit reduced 6% the volume of withdrawn water through projects for using clarified water in the highlighting shower and the installation of the Water Treatment Station for the new Taiaçupeba river catchment point. The Cerrado Project, the world's largest pulp facility that will produce 2.55 million tons/year it's scheduled to be operational in 2024, that's why our five-year forecast shows an increase in water volume withdrawal. Cerrado will use the best technologies to water reuse that aim for 25.3 m3/ton, aligned with our long-term goal. We estimate an annual water withdrawal volume of about 64.5 million m3, a nearly 20% increase. We acquired Kimberly-Clark's Brazilian tissue business, including a plant in Mogi das Cruzes/SP (130,000-ton capacity). We don't know their water withdrawn volume already, but their production smaller than Suzano's annual production (11 million tons). We anticipate minimal impact on water withdrawal.
Total discharges	254838	Lower	Increase/decrease in efficiency	About the same	Facility expansion	The volume of total discharges was slightly lower than the volume reported in 2021. Variations up to 30% significantly impact our specific water withdrawal target, so we decide to standardize the scale: Much lower: < 30% Lower: 1 – 30%; About the same ~ 0%, Higher: 1 – 30% and Much higher: > 30% The company also sought to maximize the return of treated effluents to the river from which the water was captured. Suzano recirculates 80% of captured water in its industrial units, operating as "Sustainable Water Reservoirs." Water is treated in treatment plants, distributed and recirculated during production before being released, complying with environmental regulations. Internal water reuse methods include cooling water, hot water, condensates, bleaching filtrates, drying machine white water, and internal recirculation. This practice helps minimize water scarcity impact in the river and surrounding area. The Cerrado Project, the world's largest pulp facility that will produce 2.55 million tons/year it's scheduled to be operational in 2024, that's why our five-year forecast shows an increase in water volume withdrawal. Cerrado will use the best technologies to water reuse that aim for 25.3 m3/ton, aligned with our long-term goal. We estimate an annual water withdrawal volume of about 64.5 million m3, a nearly 20% increase. Usually, we lose about 15% for evaporation process, so water discharge volume is about 15% lower than water withdrawal. So, we expect an increase of 55 million m3 of water discharge volume, which represent an increase of almost 20%. We acquired Kimberly-Clark's Brazilian tissue business, including a plant in Mogi das Cruzes/SP (130,000-ton capacity). We don't know their water discharge volume already, but their production smaller than Suzano's annual production (11 million tons). We anticipate minimal impact on water discharge.
Total consumption	63921	Lower	Increase/decrease in efficiency	Higher	Facility expansion	The volume of total consumption was lower than the volume reported in 2021. The specific water consumption in the reported period was 6.1 m³/t, in line with the specific consumption of 2021 (6.0 m³/t), and meeting the target set for water consumption of up to 6.0 m³/t. Variations up to 30% significantly impact our specific water withdrawal target, so we standardize the scale: Much lower: < 30% Lower: 1 – 30%; About the same ~ 0%, Higher: 1 – 30% and Much higher: > 30% Suzano recirculates 80% of captured water in its industrial units, operating as "Sustainable Water Reservoirs." Water is treated in treatment plants, distributed and recirculated during production before being released, complying with environmental regulations. Internal water reuse methods include cooling water, hot water, condensates, bleaching filtrates, drying machine white water, and internal recirculation. This practice helps minimize water scarcity impact in the river and surrounding area. The Cerrado Project, the world's largest pulp facility that will produce 2.55 million tons/year it's scheduled to be operational in 2024, that's why our five-year forecast shows an increase in water volume withdrawal. Cerrado will use the best technologies to water reuse that aim for 25.3 m3/ton, aligned with our long-term goal. We estimate an annual water withdrawal volume of about 64.5 million m3, a nearly 20% increase. Usually, we lose about 15% for the evaporation process, so water discharge volume is about 15% lower than water withdrawal. That's why we expect an increase of 55 million m3 of water discharge volume, which means an increase of 9.5 million m3 of water consumption, which represents an increase of 15%. We acquired Kimberly-Clark's Brazilian tissue business, including a plant in Mogi das Cruzes/SP (130,000-ton capacity). We don't know their water consume volume already, but their production smaller than Suzano's annual production (11 million tons). We anticipate minimal impact on water.

W1.2d

(W1.2d) Indicate whether water is withdrawn from areas with water stress, provide the proportion, how it compares with the previous reporting year, and how it is forecasted to change.

	Withdrawals are from areas with water stress	% withdrawn from areas with water stress	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Five-year forecast	Primary reason for forecast	Identification tool	Please explain
Row 1	Yes	1-10	About the same	Investment in water-smart technology/process	Lower	Investment in water-smart technology/process	WRI Aqueduct	According to the Aqueduct Water Risk Analysis tool, most of Suzano sites, including Imperatriz, Jacareí, Limeira Mucuri and Três Lagoas, are located in areas with low water stress (lower than 10%). Aracruz is considered to be in an area with medium-high water stress (between 20-40%). The Suzano and Rio Verde mills are located in the city of Suzano (high rate of urbanization due to its proximity to the city of São Paulo), an area with high water stress (40-80%). Therefore, the total water withdrawn in water stress areas represents the sum of water withdrawn by the Suzano and Rio Verde mill. The percentage is calculated considering water withdrawn by these sites (28,790.5 ML) and the total water withdrawn by all Suzano sites (317,020.3 ML). The total water withdrawn from areas with water stress in 2022 was less than 1% lower than the volume reported in 2021. Investments in water technology in the Suzano mill contributed to a 1.4% reduction. Key projects included the use of clarified water in bleaching showers and the installation of a water treatment station in the new Taiaçupeba river collection point. This will increase the plant's resilience in critical situations. On the other hand, the volume of water withdrawn in the Rio Verde mill increased, as a result of a 9% increase in production compared to 2021. Due to the significant impact of variations of up to 30% in our specific water withdrawal target, we decided to standardize the rates: Much lower: < 30% Lower: 1 – 30%; About the same ~ 0%, Higher: 1 – 30% and Much higher: > 30%

W1.2h

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	315705	Lower	Other, please specify (increase in precipitation)	Fresh surface water accounts for 99% of total water usage, including river and rainwater. Suzano monitors water volume at each mill. Três Lagoas unit relies on rainwater, less than 1% of total usage, aligning with the unit's water withdrawal strategy. In 2022, there was a 2.1% reduction in fresh surface water compared to 2021. Despite similar production volumes, increased water efficiency allowed for absolute volume reduction. Investments in water-smart technologies led to significant reductions in specific mills: Aracruz: 10% reduction in water withdrawal by adjusting volume based on reservoir needs. Imperatriz: 7% reduction through osmosis water reuse and self-cleaning filter installation. Suzano (SP): 6% reduction through projects utilizing clarified water and implementing a Water Treatment Station for the Taiaçupeba river catchment. These projects achieved a 1.5% reduction in Suzano's specific water withdrawal, meeting the 2022 annual target, aligning with the Long-Term Target.
Brackish surface water/Seawater	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	Brackish surface water/Seawater source is not used for water collection by Suzano.
Groundwater – renewable	Relevant	1307	Lower	Increase/decrease in business activity	There are three mills that use groundwater sources (renewable): Limeira, Três Lagoas, and Belém. The groundwater volume from Belém accounts for 90% of the total. However, since the production volume of this unit represents less than 1% of the company's total production, groundwater is not considered critical for Suzano. In 2022, there was a reduction in the use of groundwater of 5.9% compared to 2021.The Belém unit reduced its production by 5% so, consequently, it reduced groundwater volume by 6.3%. Moreover, Três Lagoas unit reduced by 90% groundwater volume, because this water is used only in emergency cases, such as fire control, and in 2022 we had fewer emergency events. Variations up to 30% significantly impact our specific water withdrawal target, so we decide to standardize the scale: Much lower: < 30% Lower: 1 – 30%; About the same < 1%, Higher: 1 – 30% and Much higher: > 30%
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	Groundwater – non-renewable source is not used for water collection by Suzano.
Produced/Entrained water	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	This type of source is not used for water collection by Suzano.
Third party sources	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	This type of source is not used for water collection by Suzano.

W1.2i

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Please explain
Fresh surface water	Relevant	195961	About the same	Other, please specify (Process stability)	Fresh surface water is relevant for Suzano because we discharge almost 80% of water in rivers. The volume of total freshwater discharge was slightly lower than the volume reported in 2021. There was not any huge variation due to process stability. The discharge of treated effluents into surface fresh water is important due to its purification and dilution capacity due to the flow of the rivers where the company operates. This ensures that the treated discharged wastewater does not alter the water quality of the river. Variations up to 30% significantly impact our specific water withdrawal target, so we decide to standardize the scale: Much lower: < 30% Lower: 1 – 30%; About the same < 1%, Higher: 1 – 30% and Much higher: > 30%
Brackish surface water/seawater	Relevant	58876	Higher	Other, please specify (Mantainence)	Only Aracruz Mill releases its treated effluents into the sea. Despite almost 15% of Suzano's production is from Aracruz mill, this is an relevant category for discharge. In 2022, there was an increase in water discharged in sweater of 4% compared to 2021. Due to some maintenance in the mill, we increased the volume discharged. Discharge of treated effluents into seawater is important due to its purification and dilution capacity due to the large volume of seawater. This ensures that the treated wastewater does not change the quality of the sea after the mixing zone.
Groundwater	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	This destination is not used for water discharge by Suzano.
Third-party destinations	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	This destination is not used for water discharge by Suzano.

W1.2j

(W1.2j) Within your direct operations, indicate the highest level(s) to which you treat your discharge.

	Relevance of treatment level to discharge	Volume (megaliters/year)	Comparison of treated volume with previous reporting year	Primary reason for comparison with previous reporting year	% of your sites/facilities/operations this volume applies to	Please explain
Tertiary treatment	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	Suzano does not adopt tertiary treatment of wastewater in its mills, as they already operate in accordance with the standards required by Brazilian law and provided for in the references of the best available technologies of the IPPC and IFC.
Secondary treatment	Relevant	254838	About the same	Increase/decrease in business activity	100%	The volume of total discharges was slightly lower than the volume reported in 2021. Variations up to 30% significantly impact our specific water withdrawal target, so we decide to standardize the scale: Much lower: < 30% Lower: 1 – 30%; About the same < 1%, Higher: 1 – 30% and Much higher: > 30% "All Suzano units adopt primary and secondary treatment in Effluent Treatment Stations. The Imperatriz, Mucuri, Limeira, Jacareí and Três Lagoas plants adopt activated sludge technology in secondary treatment. All plants already operate in accordance with the standards required by Brazilian legislation and provided for in the references of the best available technologies from the IPPC and IFC. In 2022, there was a reduction of 0.23% in the Chemical Oxygen Demand (COD) load of the effluents released in relation to 2021. In specific terms (kg of COD per ton of product), Suzano had a reduction of 2.0%, from 6.65 kg/t, in 2021, to 6.53 kg/t, in 2022. The value is below the target established at the industrial units (7.00 kg/t). Even with the increase, Suzano remains within the international reference standards (between 8.00 and 23.00 kg/t), established by the IPPC (Integrated Pollution, Prevention and Control 2015 – European Commission)."
Primary treatment only	Relevant	254838	About the same	Increase/decrease in business activity	100%	The volume of total discharges was slightly lower than the volume reported in 2021. Variations up to 30% significantly impact our specific water withdrawal target, so we decide to standardize the scale: Much lower: < 30% Lower: 1 – 30%; About the same < 1%, Higher: 1 – 30% and Much higher: > 30% 100% of the wastewater generated in all Suzano's Industrial Units has primary treatment in its Wastewater Treatment Plant. The Units also have secondary wastewater treatment, ensuring compliance with the requirements of Brazilian legislation and international reference standards (such as those of the European Commission and the World Bank). In specific terms (kg of COD per ton of product), Suzano had a reduction of 2.0%, from 6.65 kg/t, in 2021, to 6.53 kg/t, in 2022. The value is below the target established at the industrial units (7.00 kg/t). Even with the increase, Suzano remains within the international reference standards (between 8.00 and 23.00 kg/t), established by the IPPC (Integrated Pollution, Prevention and Control 2015 – European Commission).
Discharge to the natural environment without treatment	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	Suzano does not discharge wastewater to the natural environment without treatment.
Discharge to a third party without treatment	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	Suzano does not discharge wastewater to third party without treatment.
Other	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	Suzano does not discharge wastewater to other destinations without treatment .

W1.2k

(W1.2k) Provide details of your organization's emissions of nitrates, phosphates, pesticides, and other priority substances to water in the reporting year.

	Emissions to water in the reporting year (metric tonnes)	Category(ies) of substances included	List the specific substances included	Please explain
Row 1	1494.7	Nitrates Phosphates	<Not Applicable>	All Suzano´s industrial mills have their own effluent treatment, that assure the quality off treated effluent discharged in the river. Comparing the performance of the year 2022 with 2021 for the parameters presented follow: There was a 13% increase in nitrogen load compared to 2021, going from 1,066.03 tons to 1,213.10 tons. For phosphorus load was 281.72 tons, in line with the cargo reported in 2021 (284.96 tons), This performance shows how efficient and stabilized internal controls are and how restrictive they are than current legislation and European parameters.

W1.3

(W1.3) Provide a figure for your organization's total water withdrawal efficiency.

	Revenue	Total water withdrawal volume (megaliters)	Total water withdrawal efficiency	Anticipated forward trend
Row 1	14370000	317020	45.3283704498139	In 2022, Suzano's internal water price (variable cost for water and effluent treatment) was R$0.33/m3. Our specific water withdrawal in 2022 was 25.9 m3/tonne of product, a reduction of 3.9 m3/tonne compared to the 2018 baseline. In 2022, our water savings totaled 44,207,886 m3. The reduction of Suzano's water footprint resulted in savings of R$14,588,602.

W1.4

(W1.4) Do any of your products contain substances classified as hazardous by a regulatory authority?

	Products contain hazardous substances	Comment
Row 1	No	Suzano commits to reducing or phase-out hazardous substances in products, ensuring safety by using ANVISA-approved (Brazilian Health Regulatory Agency) chemicals and raw materials in food contact paper production in resolution 88/2016. The company has also implemented a Corporate Product Safety Policy and eliminated all hazardous substances from this product line. As one of the benchmarks for hazardous substances, Suzano assesses all chemicals and raw materials used in its pulp and paper production processes against the Candidate List of Substances of Very High Concern (SVHC list) published by ECHA (European Chemicals Agency). Our products comply with the REACH Regulation and no substance from the SVHC list is present in concentrations exceeding 0.1%. Suzano evaluates chemicals and raw materials for CMR substances (carcinogenic, mutagenic, and toxic properties), complying with CLP Regulation 1272/2008, ensuring that the concentrations of these components are within permissible limits.

W1.5

(W1.5) Do you engage with your value chain on water-related issues?

	Engagement	Primary reason for no engagement	Please explain
Suppliers	Yes	<Not Applicable>	<Not Applicable>
Other value chain partners (e.g., customers)	No	We are planning to do so within the next two years	Suzano is working on potential projects to address this issue in the future.

W1.5a

(W1.5a) Do you assess your suppliers according to their impact on water security?

Row 1

Assessment of supplier impact
Yes, we assess the impact of our suppliers

Considered in assessment
Basin status (e.g., water stress or access to WASH services)
Supplier impacts on water quality
Other, please specify (Supplier Performance Index process Water Security (CDP Supply Chain) Second-party audit of suppliers classified as very high risk in the Social and Environmental Risk Matrix Wood supply monitored according FSC® National Risk Assessment for Brazil)

Number of suppliers identified as having a substantive impact
67

% of total suppliers identified as having a substantive impact
100%

Please explain
Suzano monitors 100% of its wood supply, including water resource preservation. Wood suppliers must comply with Wood Supply Policy and Commitment to Zero Deforestation, in line with the Brazilian Forest Code, the guidelines of FSC®'s Policy for Association, forest stewardship standards, and the standards of FSC® and PEFC chain of custody, FSC® controlled wood and PEFC controlled sources. We review documents that demonstrate the establishment of permanent preservation areas and legal reserves, which are key for the preservation of water resources. Principles are audited by qualified technicians through checklists, documents, maps, field visits and apps. Audits were conducted in 2022, identifying 67 suppliers with significant actual and potential negative environmental impacts. Supplier evaluation at Suzano includes an environmental assessment (Supplier Performance Index), with action plans for low-scoring suppliers (e.g water consumption, targets, measures to reduce and reuse water).

W1.5b

(W1.5b) Do your suppliers have to meet water-related requirements as part of your organization's purchasing process?

	Suppliers have to meet specific water-related requirements	Comment
Row 1	Yes, water-related requirements are included in our supplier contracts	<Not Applicable>

W1.5c

(W1.5c) Provide details of the water-related requirements that suppliers have to meet as part of your organization's purchasing process, and the compliance measures in place.

Water-related requirement
Complying with going beyond water-related regulatory requirements

% of suppliers with a substantive impact required to comply with this water-related requirement
100%

% of suppliers with a substantive impact in compliance with this water-related requirement
100%

Mechanisms for monitoring compliance with this water-related requirement
Certification
Fines and penalties
Geospatial monitoring tool
Grievance mechanism/Whistleblowing hotline
Off-site third-party audit
On-site third-party audit
Supplier self-assessment
Supplier scorecard or rating

Response to supplier non-compliance with this water-related requirement
Suspend and engage

Comment
Suppliers of wood certified by FSC Forest Management are annually evaluated by their certifiers to verify the monitoring and preservation of water resources, based on national law and regulatory requirements. In 2022, we audited 750 direct wood suppliers and 340 indirect suppliers, totaling 1,090 (100% of all suppliers). In 2022, we launched the "Cuidar da Água" program to encourage better water management by our suppliers. We selected 100 strategic suppliers based on social and environmental risks to respond to CDP's Water questionnaire, and had a 76% participation rate. The initiative is expected to last for three years, and participants will receive a score at the end of the first year. Suppliers will be encouraged to establish goals and initiatives to improve water management.

In addition, we conducted an ESG audit on 280 high-risk suppliers and implemented a social and environmental self-assessment as part of the supplier registration process to report and identify ESG issues.

Water-related requirement
Complying with a water-related certification

% of suppliers with a substantive impact required to comply with this water-related requirement
100%

% of suppliers with a substantive impact in compliance with this water-related requirement
100%

Mechanisms for monitoring compliance with this water-related requirement
Certification
Fines and penalties
Geospatial monitoring tool
Grievance mechanism/Whistleblowing hotline
Off-site third-party audit
On-site third-party audit
Supplier self-assessment
Supplier scorecard or rating

Response to supplier non-compliance with this water-related requirement
Suspend and engage

Comment
Suppliers of wood certified by FSC Forest Management are annually evaluated by their certifiers to verify the monitoring and preservation of water resources, based on national law and regulatory requirements. In 2022, we audited 750 direct wood suppliers and 340 indirect suppliers, totaling 1,090 (100% of all suppliers). In 2022, we launched the “Cuidar da Água” program to encourage better water management by our suppliers. We selected 100 strategic suppliers based on social and environmental risks to respond to CDP’s Water questionnaire, and had a 76% participation rate. The initiative is expected to last for three years, and participants will receive a score at the end of the first year. Suppliers will be encouraged to establish goals and initiatives to improve water management.

In addition, we conducted an ESG audit on 280 high-risk suppliers and implemented a social and environmental self-assessment as part of the supplier registration process to report and identify ESG issues.

Water-related requirement
Engaging with their suppliers on water security actions

% of suppliers with a substantive impact required to comply with this water-related requirement
Less than 1%

% of suppliers with a substantive impact in compliance with this water-related requirement
Less than 1%

Mechanisms for monitoring compliance with this water-related requirement
Certification
Fines and penalties
Geospatial monitoring tool
Grievance mechanism/Whistleblowing hotline
Off-site third-party audit
On-site third-party audit
Supplier self-assessment
Supplier scorecard or rating

Response to supplier non-compliance with this water-related requirement
Suspend and engage

Comment
In Supplier Performance Index we assess non-wood suppliers with questions incorporated into the evaluation method referring to critical suppliers, mainly in the environmental and social evaluation requirements. For suppliers who fall below the desired index, action plans are defined. Companies that fail to comply with the plan are blocked/suspended, do not receive new orders, and are subject to disqualification from the Suzano supply chain. We implemented a rigorous second-party ESG audit process for high-risk sustainability suppliers. For the success of actions, training sessions are periodically conducted with buyers through the Supply Academy.

Water-related requirement
Other, please specify (Code of Conduct)

% of suppliers with a substantive impact required to comply with this water-related requirement
100%

% of suppliers with a substantive impact in compliance with this water-related requirement
100%

Mechanisms for monitoring compliance with this water-related requirement
Fines and penalties
Grievance mechanism/Whistleblowing hotline
Supplier self-assessment
Supplier scorecard or rating

Response to supplier non-compliance with this water-related requirement
Suspend and engage

Comment
The Supplier Code of Conduct brings together various themes that describe the role to be played by our suppliers with regard to: obligations and prohibitions; desirable and non-mandatory requirements; material aspects to drive improvements and the pursuit of excellence. Any supplier that fails to comply with the provisions of this Document will be subject to sanctions, which may include rescission of the agreement without payment of indemnity, claims for losses and damages, among other measures established in the agreement between the parties.

W1.5d

(W1.5d) Provide details of any other water-related supplier engagement activity.

Type of engagement
Information collection

Details of engagement
Collect water management information at least annually from suppliers
Collect information on water-related risks at least annually from suppliers
Collect water quantity information at least annually from suppliers (e.g., withdrawal and discharge volumes)
Collect water quality information at least annually from suppliers (e.g., discharge quality, pollution incidents, hazardous substances)
Collect WASH information at least annually from suppliers

% of suppliers by number
Less than 1%

% of suppliers with a substantive impact
Less than 1%

Rationale for your engagement
In Suzano's Supplier Water Program, we had invited 100 critical suppliers identified in the socio-environmental risk matrix with the potential for the greatest impact on water resources. Through the program, Suzano aims to encourage them to make joint commitments to reduce their water footprint. In an initial approach, the program currently covers 1% of our suppliers, but they account for about 30% of the total direct and indirect procurement spending, showing the ambition and relevance of the program. Suzano's program aims to engage and assist our suppliers in measurements, data transparency, goal setting, as well as risk assessment and opportunities related to water management.

As engagement is a key issue for Suzano, we hosted an event with Suzano's leadership to promote the new program and engage suppliers in the process. Additionally, we are already monitoring the status of supplier questionnaires in the CDP system on a weekly basis and reaching out to those who have not yet initiated the response process.

Impact of the engagement and measures of success
To measure the success of the program, Suzano will monitor the number of suppliers that effectively respond to the questionnaire. We expect to engage at least 50% in this first cycle. For the following years, we will set engagement goals based on the results of this first cycle.
Measuring our suppliers' water consumption will allow the company to establish joint goals with its partners to reduce Suzano's water footprint. This decrease will impact two of Suzano's long-term goals: “increase water availability in all the critical watersheds¹ in suzano's areas of operation by 2030” and “reduce by 15% the water captured in our industrial operations”. therefore, engaging our suppliers in the program is fundamental to Suzano's strategy. In 2022, we launched the Cuidar da Água (“Protecting Our Water") program, with the goal of encouraging suppliers to promote better management of water use based on monitoring and of risks and opportunities. We selected 100 strategic suppliers according to the socio-environmental risk matrix to respond to the CDP Water questionnaire and we obtained 76% engagement. The initiative is expected to last for three years. At the end of the first year, companies will receive a score from the CDP and, based on their performance, they will be encouraged over the next two years to establish goals and initiatives to improve their performance in relation to the use of water resources. At the end of the third year, it will be possible to measure progress and recognize which suppliers stood out.

Comment
In 2022, we launched the Protecting Our Water Program to encourage suppliers to better manage water use by monitoring and analyzing risks and opportunities. The initiative is expected to last for three years. At the end of the first year, companies will receive a CDP score and, based on their performance, will be encouraged to set targets and initiatives to improve their performance. At the end of the third year, we will be able to measure progress and recognize outstanding suppliers.

Type of engagement
Other

Details of engagement
Other, please specify (Inclusion of water stewardship and risk management in supplier selection mechanism)

% of suppliers by number
26-50

% of suppliers with a substantive impact
26-50

Rationale for your engagement
Suzano has rural partnerships in the Mato Grosso do Sul region with which it has two types of long-term wood supply contracts (up to 14 years). In the first modality, applied to most old contracts, Suzano includes a financial incentive clause for FSC and/or PEFC certified wood. For the second type of contract, which started in 2020 and is valid for the new ones, Suzano included a clause requiring the supply of FSC and/or PEFC certified wood.
These certifications have water management requirements (which explains the selected suppliers´ coverage). The FSC and PEFC Forest Management certifications are attested by an independent body and verify principles and criteria related to the protection of forests, emphasizing the prohibition of interference in areas covered by primary or secondary native forests, legal reserves and permanent preservation, respecting the principles of conservation of renewable resources natural resources, in accordance with the best environmental practices). This practice encourages the preservation of riparian forests, water resources and good water management practices, for example.

Impact of the engagement and measures of success
The first benefit of hiring is the legal compliance of these suppliers, who must obtain the water use permit, as regulated by Brazilian legislation. Second, it establishes additional good forest/water management, such as monitoring of watersheds, fauna, and flora, benefiting other users of the watershed. Success is measured by maintaining the forestry certification of these suppliers.
In 2022, 44% of certified wood suppliers were evaluated by certifying bodies and maintained their certification. The remainder (56%) is evaluated according to the controlled wood standard. Suzano institutes and applies the Due Diligence System, based on the Suzano Wood Supply Policy, Zero deforestation position, Standard for Controlled Wood (FSC-STD-40-005), on the National Risk Assessment for Brazil (FSC-NRA-BR V1-0), and ABNT-NBR 14790 standard. For this, Suzano needs to verify compliance in 100% in all wood suppliers by field audit. Thus, we ensure compliance with all applicable legislation, respect for the right to property, ownership and land use, the non-commitment of areas of high conservation value, the non-conversion of non-conversion of native areas into commercial wood plantations.
All wood supply areas, including non-tier 1, are evaluated through the Due Diligence System, which considers compliance with all applicable legislation, respect for property rights, land ownership and use, no compromise of areas of high conservation value, no conversion of native areas into commercial wood plantations.
To this end, Suzano offers on-site training to internal employees and technical assistance to suppliers . Therefore, Supplier questionnaires on environmental and social indicators are applied in the field for management and monitoring of the items verified.
In 2022, 750 tier-1 (100%) and 340 non-tier-1 suppliers were audited in the field,

Comment
In addition, suppliers’ external audits (third-party) are carried out annually, based on the requirements of the Controlled Wood Standard (FSC-STD-40-005), National Risk Assessment for Brazil (FSC-NRA-BR V1-0) and the ABNT-NBR 14790 Standard. In 2022, field visits and third-party audits were carried out in Jacareí and Limeira no deforestation incidents were identified in our suppliers.

W2. Business impacts

W2.1

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

No

W2.2

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

	Water-related regulatory violations	Fines, enforcement orders, and/or other penalties	Comment
Row 1	No	<Not Applicable>	Suzano did not receive any sanctions due to water-related violations in the year 2022.

W3. Procedures

W3.1

(W3.1) Does your organization identify and classify potential water pollutants associated with its activities that could have a detrimental impact on water ecosystems or human health?

	Identification and classification of potential water pollutants	How potential water pollutants are identified and classified	Please explain
Row 1	Yes, we identify and classify our potential water pollutants	Potential water pollutants are identified and classified based on an analysis of the characteristics of the industrial process, treated effluent and water body upstream and downstream from the point of discharge. To complete the cycle, our analysis is then correlated with the pollutants defined by the environmental agency. The environmental agency guidance is CONAMA 430/2011, which defines the parameters that have to be analysed as well as the allowed ranges for each one. The CONAMA Resolution 430/2011 is crucial for the selection and monitoring of effluent discharge parameters. It establishes maximum allowable limits for substances such as pH, temperature, biochemical oxygen demand (BOD), and chemical oxygen demand (COD). These parameters are regularly analysed through laboratory tests to ensure environmental compliance and take corrective measures if necessary. They are analysed at least every six months using samples of the treated effluent and water body, based on which they are quantified and have their impact assessed. These analyses provide information to determine the need for improvements in the effluent treatment system, demonstrate the river's purification capacity, and preventively identify the risk of any impact of the industrial operations.	<Not Applicable>

W3.1a

(W3.1a) Describe how your organization minimizes the adverse impacts of potential water pollutants on water ecosystems or human health associated with your activities.

Water pollutant category

Inorganic pollutants

Description of water pollutant and potential impacts

According to the CONAMA 430/2011 resolution, all the categories of pollutants mentioned must be measured, as they have toxic potential on the aquatic community, depending on their concentration, and therefore, companies that dump effluents into rivers must monitor the quality of their waters.
Inorganic pollutants, such as heavy metals and toxic chemical compounds, have significant impacts due to their chemical properties and toxicity. They persist in the environment, accumulating in ecosystems and the food chain. This accumulation harms organisms, biodiversity, and human health. Inorganic pollutants degrade ecosystems, affecting soil quality, nutrient availability, and aquatic organisms. They contaminate drinking water sources, making it unfit for consumption, and contribute to air pollution and greenhouse gas emissions. Inorganic pollutants can enter our production process through wood extractives and chemicals used in bleaching.

Value chain stage

Direct operations

Actions and procedures to minimize adverse impacts

Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
Beyond compliance with regulatory requirements
Implementation of integrated solid waste management systems
Industrial and chemical accidents prevention, preparedness, and response
Provision of best practice instructions on product use
Water recycling
Reduction or phase out of hazardous substances
Requirement for suppliers to comply with regulatory requirements
Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements
Upgrading of process equipment/methods
Procedure(s) under development/ R&D

Please explain

Considering inorganic pollutants and potential impacts, the quality of the raw material and bleaching chemicals is controlled to reduce the residual to the effluent.

At least every six months, Suzano monitors the waters and biota of the water bodies where it operates. Monitoring ensures that effluent treated according to the best available technologies does not impact the availability of quality water for people and animals.
To ensure that the treatment of effluents operates properly and that any events of chemical leaks do not impact the quality of the receiving body, scheduled maintenance shutdowns are carried out every year and a half in which the equipment and environmental containments are checked and their maintenance carried out in order to avoid occurrences that may impact the quality of the rivers. To reduce inorganic pollutants, we control the quality of the wood to prevent highly extractive concentrations from entering in pulp process. Furthermore, the bleaching chemicals used in the process may also contain significant amounts of inorganic pollutants. Therefore, we require suppliers to attend legal limits to control the level of pollutants in the process.

Water pollutant category
Oil

Description of water pollutant and potential impacts
According to the CONAMA 430/2011 resolution, all the categories of pollutants mentioned must be measured, as they have toxic potential on the aquatic community, depending on their concentration, and therefore, companies that dump effluents into rivers must monitor the quality of their waters.
Oil residues can have severe impacts on rivers. When spilled or improperly disposed of in rivers, oil forms a layer on the water surface, reducing dissolved oxygen levels and affecting aquatic life. The chemicals present in the oil are toxic to organisms, impairing their growth, reproduction, and survival.

Value chain stage
Direct operations

Actions and procedures to minimize adverse impacts
Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
Beyond compliance with regulatory requirements
Implementation of integrated solid waste management systems
Industrial and chemical accidents prevention, preparedness, and response
Provision of best practice instructions on product use
Water recycling
Reduction or phase out of hazardous substances
Requirement for suppliers to comply with regulatory requirements
Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements
Upgrading of process equipment/methods
Procedure(s) under development/ R&D

Please explain
The pulp production process contains various hydraulic equipment that uses oils. Thus, there are preventive measures to avoid leaks and have containment basins to prevent it from reaching effluents and bodies of water, causing contamination.
At least every six months, Suzano monitors the waters and biota of the water bodies where it operates. Monitoring ensures that effluent treated according to the best available technologies does not impact the availability of quality water for people and animals.
To ensure that the treatment of effluents operates properly and that any events of chemical leaks do not impact the quality of the receiving body, scheduled maintenance shutdowns are carried out every year and a half in which the equipment and environmental containments are checked and their maintenance carried out in order to avoid occurrences that may impact the quality of the rivers.

Water pollutant category
Nitrates

Description of water pollutant and potential impacts
According to the CONAMA 430/2011 resolution, all the categories of pollutants mentioned must be measured, as they have toxic potential on the aquatic community, depending on their concentration, and therefore, companies that dump effluents into rivers must monitor the quality of their waters.
Nitrates are an important parameter for the classification of natural waters. It is considered a limiting factor for the development of algae and plants in aquatic environments and is one of the main nutrients for biological processes. It is identified as the main cause of eutrophication in water bodies.

Value chain stage
Direct operations

Actions and procedures to minimize adverse impacts
Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
Beyond compliance with regulatory requirements
Implementation of integrated solid waste management systems
Industrial and chemical accidents prevention, preparedness, and response
Provision of best practice instructions on product use
Water recycling
Reduction or phase out of hazardous substances
Requirement for suppliers to comply with regulatory requirements
Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements
Upgrading of process equipment/methods
Procedure(s) under development/ R&D

Please explain
At least every six months, Suzano monitors the waters and biota of the water bodies where it operates. Monitoring ensures that effluent treated according to the best available technologies does not impact the availability of quality water for people and animals.
To ensure that the treatment of effluents operates properly and that any events of chemical leaks do not impact the quality of the receiving body, scheduled maintenance shutdowns are carried out every year and a half in which the equipment and environmental containments are checked and their maintenance carried out in order to avoid occurrences that may impact the quality of the rivers. Moreover, nitrates monitoring is carried out by measuring micronutrients in the effluent treatment biological reactors.

Water pollutant category
Phosphates

Description of water pollutant and potential impacts
According to the CONAMA 430/2011 resolution, all the categories of pollutants mentioned must be measured, as they have toxic potential on the aquatic community, depending on their concentration, and therefore, companies that dump effluents into rivers must monitor the quality of their waters.
Phosphorus is an important parameter for the classification of natural waters. It is considered a limiting factor for the development of algae and plants in aquatic environments and is one of the main nutrients for biological processes. It is identified as the main cause of eutrophication in water bodies.

Value chain stage

Direct operations

Actions and procedures to minimize adverse impacts
Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
Beyond compliance with regulatory requirements
Implementation of integrated solid waste management systems
Industrial and chemical accidents prevention, preparedness, and response
Provision of best practice instructions on product use
Water recycling
Reduction or phase out of hazardous substances
Requirement for suppliers to comply with regulatory requirements
Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements
Upgrading of process equipment/methods
Procedure(s) under development/ R&D

Please explain
At least every six months, Suzano monitors the waters and biota of the water bodies where it operates. Monitoring ensures that effluent treated according to the best available technologies does not impact the availability of quality water for people and animals.
To ensure that the treatment of effluents operates properly and that any events of chemical leaks do not impact the quality of the receiving body, scheduled maintenance shutdowns are carried out every year and a half in which the equipment and environmental containments are checked and their maintenance carried out in order to avoid occurrences that may impact the quality of the rivers. Moreover, phosphorus monitoring is carried out by measuring micronutrients in the effluent treatment biological reactors.

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.

Value chain stage
Direct operations

Coverage
Full

Risk assessment procedure
Water risks are assessed as part of an established 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
Enterprise risk management
International methodologies and standards
Databases

Tools and methods used
COSO Enterprise Risk Management Framework
Enterprise Risk Management
ISO 31000 Risk Management Standard
Environmental Impact Assessment
Life Cycle Assessment
IPCC Climate Change Projections
Regional government databases
Other, please specify (WRI Aqueduct)

Contextual issues considered
Water availability at a basin/catchment level
Water quality at a basin/catchment level
Stakeholder conflicts concerning water resources at a basin/catchment level
Impact on human health
Implications of water on your key commodities/raw materials
Water regulatory frameworks
Status of ecosystems and habitats
Access to fully-functioning, safely managed WASH services for all employees

Stakeholders considered
Customers
Employees
Investors
Local communities
NGOs
Regulators

Suppliers

Comment

To evaluate possible water availability risks, Suzano conducted a company-wide water scarcity risk assessment for all facilities. Suzano assesses water-related risks of all sites and periodically presents the results to the Risk Committee, which includes different company levels up to the Board. When risks are identified as high or critical, industrial sites must develop action plans for risk control and management.

According to the Aqueduct Water Risk Analysis tool, most of Suzano sites, including Imperatriz, Jacareí, Limeira Mucuri and Três Lagoas, are located in areas with low water stress (lower than 10%). Aracruz is considered to be in an area with medium-high water stress (between 20-40%). The Suzano and Rio Verde mills are located in the city of Suzano (high rate of urbanization due to its proximity to the city of São Paulo), an area with high water stress (40-80%).

Additionally, we developed an internal company method that incorporates regional government databases and standards, national tools, analysis by external consultants and hydrological modelling. By 2030, the company will manage 100% of the watersheds considered to be critical by its studies. Currently, 44 out of a total of 2,006 basins where Suzano operates are classified as critical. Suzano uses technology to make recommendations to reduce water use in critical areas and, especially, to confirm the effectiveness of these recommendations. The company expanded its “open-air laboratory”, a long-term program that intensely monitors water, carbon, nutrients and biodiversity cycles in 11 watersheds. The data collected creates parameters for and validates different forecast models. Internationally renowned NGOs and research institutes are our partners in several PhD theses.

In 2022, the initiatives implemented at Suzano sites focused primarily on changing the arrangement of forest plantations to reduce the density of trees in critical watershed areas. As a result, we achieved 8.2% of our target KPI, representing 7,084 hectares.

Additionally, we worked during the year to incorporate specific management parameters into the company’s Strategic Forestry Planning to increase water availability in the watersheds. We expanded studies using medium- and high-resolution satellite imagery and statistical models to measure forest water use and determine the volume of water available in critical watersheds.

Value chain stage

Supply chain

Coverage

Full

Risk assessment procedure

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

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
International methodologies and standards
Databases
Other

Tools and methods used

Enterprise Risk Management
Environmental Impact Assessment
External consultants
Materiality assessment

Contextual issues considered

Stakeholder conflicts concerning water resources at a basin/catchment level
Water regulatory frameworks

Stakeholders considered

Local communities
Regulators
Suppliers

Comment

In 2021, external consultants carried out a study of social and environmental risks to evaluate 15 aspects of Suzano’s supply chain, including water and effluents. The assessment considered international frameworks such as IFC Industry Sector Guidelines, DVFA Environmental, social and governance KPIs, GRI Sector Guidelines and SASB Material Sustainability Issues. Suzano identified purchase categories and suppliers with potential high risk for each of the aspects.
We continuously monitor 100% of these companies using a dashboard powered by Reprisk, which monitors international media coverage and issues involving these companies on a daily basis.
If any material fact is identified, the buyer responsible for the account is notified to address the issue with the supplier. Suzano has an established approach to sustainable procurement called Responsible Supply Management, in line with ISO 20400. This approach includes the procurement processes involving all goods and services carried out by the Procurement area. Suzano considers social, environmental and governance topics as deciding factors in the evaluation of suppliers. Whenever two or more suppliers have similar qualifications, preference is given to the supplier with the best ESG record.
In 2022, we revised the Supplier Performance Index to include new environmental, social and safety questions to be incorporated into the evaluation of critical suppliers, resulting in an average 97% approval rate. Action plans are developed for suppliers with a low index. Companies that fail to comply with the plans are blocked/suspended, do not receive orders, and are subject to disqualification.
Our automation and data analysis processes have evolved towards improving risk prediction, increasing efficiency in supply chain audits, and supporting decisions.
In 2022, environmental criteria were considered in the registration of 54% of our suppliers and social criteria were considered for 100% of the suppliers.
The goal of implementing a second-party external audit process for high social and environmental risk suppliers has been achieved.

W3.3b

(W3.3b) 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.

	Rationale for approach to risk assessment	Explanation of contextual issues considered	Explanation of stakeholders considered	Decision-making process for risk response
Row 1	Our risk management processes and methodologies are based on COSO ERM and ISO 31000. We evaluate risks considering financial impacts, in addition to six other equally relevant aspects: health and safety, environment, sociocultural, image and reputation, organizational climate, and legal. Our methodology helps us identify not only financial risks, but also risks related to initiatives for the continuous improvement of processes, environmental conservation and responsible development practices that benefit our relationship with society, government agencies, customers, suppliers, employees and other stakeholders. The Enterprise Risk Management (ERM) process includes workshops and interviews with key executives to identify the company's main risks. The risks are then consolidated in a matrix, and the priority ones are presented to the entire leadership team, including the CEO, the Statutory Audit Committee and the Board of Directors. At least one action plan is created for each risk. The risk management process is continuous, and the classification of risks in the matrix may change, reflecting changes in internal and external conditions related to the business. Throughout 2022, the risk matrix was updated by more than 40 committees, with more than 210 members, including participants from international offices.	Our industrial mills use water primarily in the transportation of pulp from one site to another and in the different heating and cooling systems used in our processes. Because our operations need water directly, water availability is very important. On the other hand, water quality directly affects water reuse by our mills—low quality water results in increased need to withdraw water, leading also to an increase in discharge. Approximately 99% of the water used in our industrial operations is withdrawn from rivers, leading us to share the water basins with different users. Therefore, our participation in basin committees is very important to resolve potential water-related conflicts among different stakeholders. There are water treatment stations for industrial and domestic use. Therefore, Suzano must understand legislation regarding water security and ensure that it can be used by our employees. At the end of the production process, wastewater is sent to a treatment plant. These plants must comply with legal guidelines regarding the discharge of effluents into rivers and/or the ocean. Additionally, we monitor the conditions of ecosystems and habitats, such as ichthyofauna diversity and abundance. For example, because the Aracruz mill discharges effluents in the ocean, we have a substantial program to monitor our impact on sea life using a Mussel as a bioindicator.	Our methodology helps us identify not only financial risks, but also risks related to initiatives for the continuous improvement of processes, environmental conservation and responsible development practices that benefit our relationship with society, government agencies, customers, suppliers, employees and other stakeholders.	The company implements several initiatives to predict, mitigate and stay up-to-date with potential risks, Additionally, Suzano's Technology Center expanded its "open-air laboratory", naming it Watershed Project 2.0. This is a long-term program that intensely monitors water, carbon, nutrients and biodiversity cycles in 11 watersheds. These laboratories are installed in environments where we plant eucalyptus and are representative of our production model (Environmental Impact Assessment). Our Risk Management area conducts workshops and interviews with key company executives and operations employees to identify the company's main risks. Priority risks are then presented to the entire leadership team, including the CEO, the Statutory Audit Committee and the Board of Directors annually. The Integrated Risk Management process undergoes certification and customer audits. Suzano works to engage its partners and achieve positive results for the environment, recognizing that the solution, especially for the water crisis, involves several lines of work, including the efficient use and management of natural resources. With this in mind, Suzano participates in the river basin committees where its industrial sites are located. This is a strategic decision that aims to align the operations with the management plans for each basin and to contribute to the generation of positive results for all stakeholders.

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?

For direct operations, in line with Suzano's integrated risk management policy, both strategic and financial risks are identified based on a combination of impact and likelihood. Based on that, we classify impacts' risk in 'minor', 'moderate', 'major', and 'extreme', being the rules and definition of percentages applied to the calculation of Materiality of Risks consisting of use of EBITDA percentages (Earnings Before Interest, Taxes, Depreciation, and Amortization), following the curve:

1. Extreme: above R$600 million within the risk's time horizon

2. Major: between R$200 million and R$600 million within the risk's time horizon

3. Moderate: between R$40 million and R$200 million within the risk's time horizon

4. Minor: less than R$40 million within the risk's time horizon

Likelihood is classified as remote, possible, likely and very likely.

Impacts are analyzed according to the following categories: financial, health and safety, environmental, social/cultural, reputational, organizational and legal.

The combination of impact and likelihood produces our Risk Matrix; High- and Critical-level risks are considered substantive for Suzano's business.

To best monitor risks and potential impacts on Suzano's supply chain, since 2021 the company conduces a study of exposure to social and environmental risks including all our procurement categories. This study resulted in our Social and Environmental Risk Matrix, which classifies suppliers into four risk groups (low, medium, high and very high), based on the following criteria: human rights, sexual exploitation of children, product quality and safety, child labor, occupational safety and security, labor practices, diversity and inclusion, ethical management, energy, CO_2 emissions, air pollution, water and effluent, biodiversity and eco design. Based on this assessment, we established specific management strategies for each risk category—the higher the risk level, the more guidance, monitoring and support a supplier requires. For example, suppliers classified in the matrix as high and very high social and environmental risk are monitored in real time through the Reprisk platform, which continuously assesses and updates the level of risk exposure of suppliers, considering the risk of the production sector as a whole, the country where the supplier operates, and the gravity of the information reported by the media.

Water is vital for our production process, from the growth of our eucalyptus farms to the pulp extraction process in our plants. We implement global best practices in water use established by the Integrated Pollution Prevention and Control (IPPC) and International Finance Corporation (IFC). We recognize that incrementally reducing water consumption in our operations is key to reducing the water footprint of our products and helping lower the risk of water scarcity in the regions where we operate.

Although less than 5% of the water we use is retained in our products, water is an essential element in the pulp production process. Therefore, we know that our productivity is directly related to the availability of water, which is a critical input in our processes. In areas at risk of water scarcity, we estimate that the impact of reduced production in our revenue would be of approximately R$700 to R$1200 million.

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	2	1-25	According to the Aqueduct Water Risk Analysis tool, most of Suzano's units are in cities with low water stress (less than 10%), such as the units in Imperatriz (MA), Jacareí (SP), Limeira (SP), Mucuri (BA) and Três Lagoas (MS). The Aracruz (ES) unit is considered an area with medium-high water stress (between 20-40%). Suzano (SP) and Rio Verde (SP) units are located in an area with a high level of water stress (between 40-80%), once they are in the city of Suzano (high rate of urbanization - close to the city of São Paulo). However, Rio Verde units water withdrawal volume is considerably reduced, so there is no risk to the operation's continuity. Despite Mucuri (BA) unit being classified by Aqueduct in an area with low water stress, Suzano decided to keep this unit classified with a potential water risk, due to the river Mucuri historic flow reduction that make the company create a strict and constant follow-up.

W4.1c

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

Country/Area & River basin

Brazil	Other, please specify (Mucuri)

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>

% 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
11-20

Comment
In 2015, a Mucuri river basin experienced the worst scenario in recent years, with the flowrate remaining below 7m³ / s for 26 days, with a minimum of 4m³ / s. The rainfall rate for the year was 552.5mm, or 55% of the average for the last 5 years, keeping more than 60days without rain. In the face of such scenario, a series of measures were launched to mitigate the potential negative scenario in the future. Among the highlights, we can mention projects to reduce specific water consumption and install a new ETS (Effluent Treatment Station) - a R$100 million modernization project, improving BOD levels, in order to continue the operations normally.

Country/Area & River basin

Brazil	Other, please specify (Alto Tietê)

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>

% 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
According to the Aqueduct Water Risk Analysis tool Suzano (SP) unit is located in an area with a high level of water stress (between 40-80%), once they are in the city of Suzano (high rate of urbanization - close to the city of São Paulo).
In the last years, Suzano (SP) unit has invested in a system to capture and treat water from the Taiaçupeba River. This system started operating in 2022 and it is helping to increase the mill's resilience in the event of more critical scenarios.

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	Mucuri

Type of risk & Primary risk driver

Chronic physical	Changing precipitation patterns and types (rain, hail, snow/ice)

Primary potential impact
Reduction or disruption in production capacity

Company-specific description
At the Mucuri mill, Suzano collects water through the Mucuri river (51,619,416 m³ of water withdraw by 2022). The river originates in the northeast of Minas Gerais, and flows into southern Bahia, covering a total of 446 kilometers in an area of approximately 15,400square kilometers with a population of 537,000. During 2015, the region faced 67 days without rain and an annual average rainfall of 552mm, which represents an average of 55% of the last 5 years. Considering a negative material impact

scenario, a sensitivity analysis performed by the Company indicated that Suzano was going to have less water available to supply its water reservoirs, which could directly impact water supply for the industrial operation. Such impact could bring a reduction of 8-12% of annual production and sales volume.

Timeframe
More than 6 years

Magnitude of potential impact
Medium-high

Likelihood
Unlikely

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure - minimum (currency)
546176000

Potential financial impact figure - maximum (currency)
819264000

Explanation of financial impact
Considering the potential impact of disruption and requirement of stop our Mucuri mill during 10% of its yearly structural production capacity (1.7 million tonnes) and an average price of R$4.016/ton, based on net price for LTM 1Q 2023. Sensitivity analyses simulate a range of +20% and -20% (or 8-12% of total production) of such production losses.

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

Description of response
Based on the 2015 scenario, with a high reduction in flow and precipitation, the Mucurimill adopted a series of actions to mitigate potential impacts such as future partial production stoppage. Some practical examples of that strategy:
- Reduce water intake / consumption per tonne of produced pulp
- Installation of a new ETS (Effluent treatment station) to adequate BOD levels;
- acquisition of small hydropower plant (Mucuri), allowing regulation of the river flow in periods of drought (according to ANA resolutions and ONS) .

The timescale of implementation of the strategy was 13 months, based on the construction and installation of the equipment for the new ETS to adequate BOD levels, with the start-up occurring in November 2017. The acquisition of the small hydropower plant had been announced by the end of 2016, with final closing in the beginning of 2018. Re-duction of water intake is a constant initiative, with yearly follow-ups and process improvements.

Cost of response
153500000

Explanation of cost of response
Until then, Mucuri mill had already invested on a new effluent treatment station, built with technology from Veolia Water Technologies, a world leader in the provision of services related to the treatment of water and effluents, it has the capacity to treat 2,900 m^3 / h and has improved the process of returning water to the Mucuri River.
The Mucuri mill new effluent treatment plant has been used in parallel with the old plant. After 13 months of construction, the plant was started up in July 2017, with an inoculation phase, a period of preparation of the system for full operation (R$100M investment).
In addition, Mucuri small hydropower plant is already part of Suzano's strategy for providing sustainable energy and also guarantee production in its pulp mill (R$53.5M investment) .
Sum of both investments account for R$153.5M already invested. In additional, we have in our pipeline projects that contribute for long-term goal of reduce by 70% of water specific consumption at industrial process that may require incremental Capex for implementation.

Country/Area & River basin

Brazil	Other, please specify (Alto Tietê)

Type of risk & Primary risk driver

Chronic physical	Water stress

Primary potential impact
Reduction or disruption in production capacity

Company-specific description
The Suzano unit is in the hydrographic basin of the Tietê river, where it collects water for its processes. We have never noticed any water supply issue, but as Water Risk Analysis tool pointed Suzano city as a water stress area we start to take care carefully.
Considering a material negative scenario, a sensitivity analysis indicated that Suzano would have to reduce flow, due to future water stress, so we would have less water available to supply its industrial plant. Therefore, we estimated a potential impact of 8-12% in year basis production capacity of the mill (and then sales volume).

Timeframe
More than 6 years

Magnitude of potential impact
Medium

Likelihood
Unlikely

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure - minimum (currency)
231321600

Potential financial impact figure - maximum (currency)
346982400

Explanation of financial impact
Considering the potential impact of disruption and requirement of stop on Suzano mill during 10% of its yearly structural production capacity (720 thousand tonnes), which means do not operate in a period of water stress. For financial impact simulation it was considered the average price of R$4.016/ton, based on net price for LTM 1Q 2023. Sensitivity analysis simulates a range of +20% and -20% of such production losses (or 8-12% of Suzano annual total capacity in production losses). Therefore, the financial impact would be 720 k tonnes multiplied by 8% (minimum) or 12% (maximum) and then multiplied by average price of pulp.

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

Description of response
Based in Aqueduct analysis, we reinforced Suzano unti action plan to deliver our long-term target related to reduce 15% water withdrawn per product. In the last year, Suzano unit invested in more projects to ecoefficiency and reduced about 6% in the volume of withdrawn water, through the projects for using clarified water in the highlighting shower and the installation of the Water Treatment Station for the new Taiaçupeba river catchment point.

Cost of response
18000000

Explanation of cost of response
Water Treatment Station for river Taiaçupeba costed R$ 18.000.000,00

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.

Country/Area & River basin

Brazil	Mucuri

Stage of value chain
Supply chain

Type of risk & Primary risk driver

Chronic physical	Water scarcity

Primary potential impact
Increased operating costs

Company-specific description
Suzano, a major Brazilian company, relies on local suppliers in the Mucuri region for wood, a critical input for its pulp and paper production. The Mucuri River is a key water source for the region, and variations in its flow could lead to water scarcity. This could impact the quality and productiveness of wood available for Suzano's operations.

The risk is related to water scarcity, ultimately impacting the quality and productiveness of wood available for Suzano's operations. If the Mucuri River experiences fluctuations or interruptions in its flow, the wood suppliers and local communities in the area may face water scarcity issues. This, in turn, could lead to a reduction in available wood for pulp and paper production, directly impacting Suzano's core business.
Potential consequences: Suzano would likely experience an increase in operating costs as it attempts to manage the water scarcity risk effectively. It could potentially compromise production, leading to a decrease in the volumes of pulp and paper produced, impacting the company's overall revenue.

To mitigate this risk, Suzano has set a goal to manage 100% of the hydrographic basins considered critical by 2030. These are the basins that are highly demanded by Suzano and neighboring businesses and, therefore, require heightened attention. To achieve this, Suzano has taken strategic actions, such as acquiring the Small Hydroelectric Plant (PCH) and constructing a new Effluent Treatment Station at the Mucuri Unit.

Additionally, the company has undertaken the "Nascentes do Mucuri" project, which aims to promote the preservation of the springs of the Mucuri River and its surrounding areas. This initiative focuses on securing the perpetuity of this crucial water resource, which plays a vital role in sustaining the ecosystem services within the municipality and the wider region.

In 2022, Suzano launched the "Protecting our Water Program," which encourages its suppliers to improve water use management by closely monitoring and analyzing potential risks and opportunities.

By addressing the water scarcity risk in the Mucuri region through these initiatives and partnerships, Suzano demonstrates its commitment to sustainable water management and mitigating potential disruptions to its supply chain. This not only benefits the company's long-term resilience but also contributes to the preservation of the environment and the well-being of local communities in the region.

Timeframe
Current up to one year

Magnitude of potential impact
Medium-low

Likelihood
Virtually certain

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure - minimum (currency)
546176000

Potential financial impact figure - maximum (currency)
819264000

Explanation of financial impact
Considering Mucuri basin is critical for Mucuri Mill operation, possible variations in the flow of the major river would lead to possible interruptions in water supply, and consequently production outages.
Considering a potential impact of disruption and the interruption of Mucuri mill production during 10% of its yearly structural production capacity (1.7 million tonnes) and an average price of R$4.016/ton, based on export net price for LTM 1Q 2023. Or 170 thousand tonnes multiplied by R$4.016. Sensitivity analysis simulates a range of +20% and -20% (or 8-12% of total production) of such production losses.

Primary response to risk

Supplier engagement	Work with supplier to engage with local communities

Description of response
Suzano assumed the long-term goal of “Increasing water availability in all the critical watersheds in Suzano's areas of operation by 2030". For that, we built analysis model and, based on an extensive hydrological study of the river basins covering its areas, prioritized those that are critical and manageable, based on the balance between supply and demand for water and the vulnerability of local communities. This will allow us to start the implementation of management actions in forests in critical river basins.
In the medium and long term, Suzano will gradually develop forest management actions until reaching 100% of the forests in critical river basins by 2030; It will execute the social management plan to support landowners located in critical river basins; and will monitor and apply climate modelling to prepare for the risks arising from climate change.
Having Nascentes do Mucuri as a practical case, the 2020 results are the following: 76 rural properties visited, 72 springs being recovered, 489 people involved, and 1,465 hours dedicated to social and environmental education.

Cost of response
1300000

Explanation of cost of response
By assuming such an institutional commitment to increase the availability of a resource as sensitive as water in the long term, we have assumed the responsibility not only to look after our critical areas, but also to support our neighbors in areas of water restriction, mitigating the risks of scarcity of this resource. The year 2020 was focused on the characterization of 44 basins hydrographic as critical, after the evaluation of 100% of the areas of Suzano. The quoted response cost (R$1.3M) includes the initial disbursement foreseen in the project for the acquisition of equipment and monitoring of the basins.

W4.3

(W4.3) Have you identified any water-related opportunities with the potential to have a substantive financial or strategic impact on your business?
Yes, we have identified opportunities, and some/all are being realized

W4.3a

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

Type of opportunity
Efficiency

Primary water-related opportunity
Improved water efficiency in operations

Company-specific description & strategy to realize opportunity
After the disclosure of Suzano's Long Term Goals in 2020, we deployed the goal of reducing by 15% specific water withdrawal by 2030, linked to SDG 12 – Sustainable Consumption and Production, for each industrial mill. In addition, the long-term goals governance has been integrated into Suzano's management routine.
Considering the expected curve until 2030, we defined the annual and monthly targets for each mill. The results of each mill are monitored monthly in a meeting with the Executive Officer of Pulp Operations, integrating them with the governance of safety, production, quality, and cost indicators. Any deviations are treated according to the management tools adopted in Suzano's Operational Excellence model.
The results are disclosed to all Suzano employees at the monthly results meetings of each mill.
At the units, the targets were stratified by consumer sector and sector performance is monitored at routine Production Meetings.
Also in 2020, improvement projects were identified for each mill to be implemented by 2030 to achieve the goal. For the construction of this material, research was carried out on best practices adopted in the group, water balance sheets, management tools (such as Six Sigma and PDCA (Plan-Do- Check-Act cycle)) and innovation projects, through the“i9 focus on water” Program (I9 is an incentive Innovation Program, where a theme and several challenges are established, with Soft Money recognition for people with more innovative ideas), encouraging the operational team to insert ideas that may imply in reducing water consumption.
Additionally, this opportunity is considered strategic for the company because reducing water withdrawal contributes with two of the major strategic ambitions of the company: “Reinforce Suzano’s position as a biomaterials and sustainable solutions provider for the Society” and “Be Best-in-Class in the total pulp cost vision”. The first strategic avenue mentioned is related with the protagonist positioning of Suzano in balance financial results with the sustainable way of making business, ensuring that all stakeholders have “win-win” relations, with the minimum impact in surroundings. The second avenue is related to the cost reduction, on a long-term vision, resulted by the reduction of water use and, consequently, treatment reduction as well for multiple purposes. The major strategic ambitions/avenues for Suzano are disclosed by Investors Relations reports, and part of the corporate strategic planning.

Estimated timeframe for realization
More than 6 years

Magnitude of potential financial impact
Medium-high

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

Potential financial impact figure (currency)
133192959

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

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

Explanation of financial impact
Considering the difference between our 2018 baseline and the targets that make up the curve to reach our long-term goal for 2030, the sum of water savings in the period may be 403,614,118 m3 of water (does not include the Cerrado project). If we consider only the variable cost of R$ 0.33 /m3, saving until 2030 could achieve R$133 million.
In 2020 Suzano established its Long-Term Goal of reducing by 15% the industry's water withdrawal per ton of product (m^3/t) by 2030, considering the baseline of 2018. To achieve this goal in 2030, annual goals were defined.
The projects developed in the various mills brought a reduction of 1.5% in Suzano's specific water withdrawal, in line with the Long Term Goal. The target established for 2022 was 26.3 m3/t and the result were 25.9 m3/t.
Suzano reached a reduction of 3.9 m3/t in 2022 in relation to the goal baseline (2018). The result achieved in 2022 represents an advance of 87% in relation to the baseline of the goal (2018) and the goal defined for 2030.

W5. Facility-level water accounting

W5.1

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

Facility reference number
Facility 1

Facility name (optional)
Mucuri mill

Country/Area & River basin

Brazil	Mucuri

Latitude
-18.04

Longitude
-39.92

Located in area with water stress
No

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)
51619.4

Comparison of total withdrawals with previous reporting year
Higher

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
51619.4

Withdrawals from brackish surface water/seawater
0

Withdrawals from groundwater - renewable
0

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)
34492.2

Comparison of total discharges with previous reporting year
About the same

Discharges to fresh surface water
34492.2

Discharges to brackish surface water/seawater
0

Discharges to groundwater
0

Discharges to third party destinations
0

Total water consumption at this facility (megaliters/year)
17127.2

Comparison of total consumption with previous reporting year
Higher

Please explain
In 2022, water withdrawal increased 6.4% (48,509.8 to 51,619.4 ML) compared to 2021. This was caused by a 70% increase in water turbidity (from 13.1 NTU in 2021 to 22.3 NTU in 2022), leading to an increased loss of water during the water treatment process. To illustrate, turbidity was higher than 30 NTU during five months in 2022 compared to only two months in 2021. The mill's production also increased by approximately 1%. Since the main reason for the increase in water withdrawal was the loss of water during treatment, there was no impact on the volume of water discharged, which remained about the same compared to 2021. On the other hand, water consumption was 23% higher (13,863.5 ML to 17,127.2 ML) due to the increase in water withdrawal.

Water withdrawal and water discharge volumes are determined by direct and continuous measurement at the mill's water treatment plant and wastewater treatment plant, respectively. The water consumption volume is calculated by subtracting the water discharge volume from the water withdrawal volume. According to the WRI Aqueduct Water Risk Atlas, water stress in the area is currently low (<10%). Water is withdrawn from the Mucuri River.

Due to the significant impact of variations of up to 30% in our specific water withdrawal target, we decided to standardize the rates: Much lower: < 30% Lower: 1 – 30%; About the same ~ 0%, Higher: 1 – 30% and Much higher: > 30%

Facility reference number
Facility 2

Facility name (optional)
Suzano Mill

Country/Area & River basin

Brazil	Other, please specify (Alto Tietê)

Latitude
-23.54

Longitude
-46.27

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)
28034

Comparison of total withdrawals with previous reporting year
Lower

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
28034

Withdrawals from brackish surface water/seawater
0

Withdrawals from groundwater - renewable
0

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)
22173

Comparison of total discharges with previous reporting year
Lower

Discharges to fresh surface water
22173

Discharges to brackish surface water/seawater
0

Discharges to groundwater
0

Discharges to third party destinations
0

Total water consumption at this facility (megaliters/year)
5861.01

Comparison of total consumption with previous reporting year
Higher

Please explain
The water withdrawal from 2021 to 2022 was slightly lower (28,419.1 ML to 28,034.0 ML). As water withdrawal was lower, water discharged also was 2.9% lower (22,839.3 ML to 22,173.0 ML). The water consumption increased in 5%, from 5,579.7 ML (2021) to 5,861.0 ML. The water withdrawal and water discharge volumes are obtained by direct and constant measures - respectively, at the industrial unit's water treatment station and effluent treatment station. Water consumption volume is calculated by subtracting Water Discharge Volume from Water Withdrawal Volume. According to the Aqueduct Water Risk Analysis tool, Suzano (SP) unit is located in an area with a high level of water stress (between 40-80%), once they are in the city of Suzano (high rate of urbanization - close to the city of São Paulo).

Variations up to 30% significantly impact our specific water withdrawal target, so we decide to standardize the scale: Much lower: < 30% Lower: 1 – 30%; About the same < 1%, Higher: 1 – 30% and Much higher: > 30%

W5.1a

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

Water withdrawals – total volumes

% verified
76-100

Verification standard used
Both the Mucuri and Jacareí mills have ISO 14001 certification issued by a third-party verifier, Bureau Veritas. (https://storage.googleapis.com/stateless-site-suzano-en/2020/01/7822d2ad-e-certificate-br039529-item-1-8wcqwt2-iso-14-eng.pdf). Therefore, 100% of their water withdrawal has been verified. Also, Suzano's environmental KPIs, included in the company's Annual Sustainability Report, were audited by Price Waterhouse according to ISAE 3000 (2022 Annual Report: https://stszprdscentind.blob.core.windows.net/site/documents/d03ca384-ra-suzano-2022-informacoes-complementares-en.pdf). Additionally, monitoring reports are requested periodically by Brazilian State Environmental Agencies to verify compliance with technical requirements.

Please explain
<Not Applicable>

Water withdrawals – volume by source

% verified
76-100

Verification standard used
Both the Mucuri and Jacareí mills have ISO 14001 certification issued by a third-party verifier, Bureau Veritas. (https://storage.googleapis.com/stateless-site-suzano-en/2020/01/7822d2ad-e-certificate-br039529-item-1-8wcqwt2-iso-14-eng.pdf). Therefore, 100% of their water withdrawal has been verified. Also, Suzano's environmental KPIs, included in the company's Annual Sustainability Report, were audited by Price Waterhouse according to ISAE 3000 (2022 Annual Report: https://stszprdscentind.blob.core.windows.net/site/documents/d03ca384-ra-suzano-2022-informacoes-complementares-en.pdf). Additionally, monitoring reports are requested periodically by Brazilian State Environmental Agencies to verify compliance with technical requirements.

Please explain
<Not Applicable>

Water withdrawals – quality by standard water quality parameters

% verified
76-100

Verification standard used
Both the Mucuri and Jacareí mills have ISO 14001 certification issued by a third-party verifier, Bureau Veritas. (https://storage.googleapis.com/stateless-site-suzano-en/2020/01/7822d2ad-e-certificate-br039529-item-1-8wcqwt2-iso-14-eng.pdf). Therefore, 100% of their water withdrawal has been verified. Also, Suzano's environmental KPIs, included in the company's Annual Sustainability Report, were audited by Price Waterhouse according to ISAE 3000 (2022 Annual Report: https://stszprdscentind.blob.core.windows.net/site/documents/d03ca384-ra-suzano-2022-informacoes-complementares-en.pdf). Additionally, monitoring reports are requested periodically by Brazilian State Environmental Agencies to verify compliance with technical requirements. Sample analyses are carried out by a third-party company hired by Suzano.

Please explain
<Not Applicable>

Water discharges – total volumes

% verified
76-100

Verification standard used
Both the Mucuri and Jacareí mills have ISO 14001 certification issued by a third-party verifier, Bureau Veritas. (https://storage.googleapis.com/stateless-site-suzano-en/2020/01/7822d2ad-e-certificate-br039529-item-1-8wcqwt2-iso-14-eng.pdf). Therefore, 100% of their water withdrawal has been verified. Also, Suzano's environmental KPIs, included in the company's Annual Sustainability Report, were audited by Price Waterhouse according to ISAE 3000 (2022 Annual Report: https://stszprdscentind.blob.core.windows.net/site/documents/d03ca384-ra-suzano-2022-informacoes-complementares-en.pdf). Additionally, monitoring reports are requested periodically by Brazilian State Environmental Agencies to verify compliance with technical requirements. Sample analyses are carried out by a third-party company hired by Suzano.

Please explain
<Not Applicable>

Water discharges – volume by destination

% verified
76-100

Verification standard used
Both the Mucuri and Jacareí mills have ISO 14001 certification issued by a third-party verifier, Bureau Veritas. (https://storage.googleapis.com/stateless-site-suzano-en/2020/01/7822d2ad-e-certificate-br039529-item-1-8wcqwt2-iso-14-eng.pdf). Therefore, 100% of their water withdrawal has been verified. Also, Suzano's environmental KPIs, included in the company's Annual Sustainability Report, were audited by Price Waterhouse according to ISAE 3000 (2022 Annual Report: https://stszprdscentind.blob.core.windows.net/site/documents/d03ca384-ra-suzano-2022-informacoes-complementares-en.pdf). Additionally, monitoring reports are requested periodically by Brazilian State Environmental Agencies to verify compliance with technical requirements. Sample analyses are carried out by a third-party company hired by Suzano.

Please explain
<Not Applicable>

Water discharges – volume by final treatment level

% verified
76-100

Verification standard used
Both the Mucuri and Jacareí mills hold ISO 14001 certification from Bureau Veritas, a third-party verifier to meet the required standards (https://storage.googleapis.com/stateless-site-suzano-en/2020/01/7822d2ad-e-certificate-br039529-item-1-8wcqwt2-iso-14-eng.pdf)
The monitoring program complies not only with CONAMA's (Brazilian National Environmental Council) Resolution 430 from 2011, which sets the conditions and standards for the discharge of effluents, but also with the technical requirements set by Brazilian State Environmental Agencies. Effluent sample analyses are carried out by a third-party company hired by Suzano and reported to these agencies. We continuously monitor the quality of effluents, including parameters such as pH, temperature and dissolved oxygen. We also monitor parameters such as COD, color and suspended solids on a daily basis. Additionally, we monitor AOX, BOD, nitrogen, phosphorus, acute and chronic toxicity, and the presence of dioxins and furans, among several other parameters. We evaluate aquatic communities (phytoplankton and benthic communities), in addition to the toxicity of the treated effluent to preserve the quality of the river. Finally, Suzano's environmental KPIs, included in the company's Annual Sustainability Report, were audited by Price Waterhouse according to ISAE 3000 (2022 Annual Report: https://stszprdscentind.blob.core.windows.net/site/documents/d03ca384-ra-suzano-2022-informacoes-complementares-en.pdf).

Please explain
<Not Applicable>

Water discharges – quality by standard water quality parameters

% verified
76-100

Verification standard used
Both the Mucuri and Jacareí mills hold ISO 14001 certification from Bureau Veritas, a third-party verifier to meet the required standards (https://storage.googleapis.com/stateless-site-suzano-en/2020/01/7822d2ad-e-certificate-br039529-item-1-8wcqwt2-iso-14-eng.pdf)
The monitoring program complies not only with CONAMA's (Brazilian National Environmental Council) Resolution 430 from 2011, which sets the conditions and standards for the discharge of effluents, but also with the technical requirements set by Brazilian State Environmental Agencies. Effluent sample analyses are carried out by a third-party company hired by Suzano and reported to these agencies. We continuously monitor the quality of effluents, including parameters such as pH, temperature and dissolved oxygen. We also monitor parameters such as COD, color and suspended solids on a daily basis. Additionally, we monitor AOX, BOD, nitrogen, phosphorus, acute and chronic toxicity, and the presence of dioxins and furans, among several other parameters. We evaluate aquatic communities (phytoplankton and benthic communities), in addition to the toxicity of the treated effluent to preserve the quality of the river. Finally, Suzano's environmental KPIs, included in the company's Annual Sustainability Report, were audited by Price Waterhouse according to ISAE 3000 (2022 Annual Report: https://stszprdscentind.blob.core.windows.net/site/documents/d03ca384-ra-suzano-2022-informacoes-complementares-en.pdf).

Please explain
<Not Applicable>

Water consumption – total volume

% verified
76-100

Verification standard used
Both the Mucuri and Jacareí mills have ISO 14001 certification issued by a third-party verifier, Bureau Veritas. (https://storage.googleapis.com/stateless-site-suzano-en/2020/01/7822d2ad-e-certificate-br039529-item-1-8wcqwt2-iso-14-eng.pdf), certifying their water withdrawal and water discharge. And since water consumption is the difference between water withdrawal and water discharge ("water withdrawal volume minus water discharge volume"), 100% of water consumption is verified. In addition, Suzano's environmental KPIs, included in the company's Annual Sustainability Report, were audited by Price Waterhouse according to ISAE 3000 (2022 Annual Report: https://stszprdscentind.blob.core.windows.net/site/documents/d03ca384-ra-suzano-2022-informacoes-complementares-en.pdf).

Please explain
<Not Applicable>

W6. Governance

W6.1

(W6.1) Does your organization have a water policy?
Yes, we have a documented water policy that is publicly available

W6.1a

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

	Scope	Content	Please explain
Row 1	Company-wide	Description of business dependency on water Description of business impact on water Commitment to safely managed Water, Sanitation and Hygiene (WASH) in local communities Commitment to water stewardship and/or collective action	Suzano's Corporate Environmental Management Policy guides the way Suzano operates, aiming that the eco-efficiency of its operations may generate value for the business and its stakeholders. Specifically to water, the policy addresses and defines, in its principles, the use of water in a balanced way. Suzano promotes the conservation of biodiversity and the eco-efficiency of its operations, optimizing the use of resources and applying the best environmental management practices on an ongoing basis: - Conserve ecosystems and their biodiversity, in the sense that there is no net loss, but rather, generate a net positive impact; With this policy, Suzano intends to guarantee the continuity of its operations without impacts due to deficit or poor water quality and, above all, guarantee the availability of water in the quantity and quality necessary for the communities in the regions where it operates. It also includes participation in Watershed Committees also supporting improved sanitation in these regions.

W6.2

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

W6.2a

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

Position of individual or committee	Responsibilities for water-related issues
Board-level committee	The company has a Sustainability Committee, a collegiate advisory and instructional body, established by the Board of Directors responsible for defining the management on sustainability strategy and analysing and monitoring the implementation of the defined objectives, tactical indicators and targets. The Committee periodically oversees the assessment and mitigation initiatives of all material issues, one of which is water resource management. A recent water-related decision taken by the Sustainability Committee was the long-term goals announced in the 2020 Annual Report: 1) Increase water availability in all critical watersheds were Suzano operates and 2) Reduce industrial water withdrawal intensity per ton of product. The Sustainability Committee is also responsible for monitoring and reporting the progress on these targets. Thereby, the Sustainability Committee: (i) advises the Board of Directors through analysis and recommendation on the inclusion of the sustainability dimension and water issues in the Company's strategic, as well as on the risks, opportunities and measures associated with socio-environmental issues that may have relevant impact on the business in short, medium and long term; (ii) reviews and makes recommendations on long-term sustainability targets, annually evaluating performance against these objectives; (ii) periodically reviews the strategies, actions, projects and the company's sustainability; and (iv) evaluates the actions and the quality of the relationship with stakeholders. Also, the Risk Management area monitors the evolution and mitigation of priority risks through the definition of action plans and controls, with report to the Board at least once a year.

W6.2b

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

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Scheduled - some meetings	Monitoring implementation and performance Overseeing major capital expenditures Overseeing the setting of corporate targets Reviewing and guiding corporate responsibility strategy Reviewing and guiding risk management policies Reviewing and guiding strategy Reviewing innovation/R&D priorities Setting performance objectives	The Board of Directors and the Sustainability Committee, which reports directly to the Board, are key to integrating water-related issues in business, reviewing and guiding corporate responsibility strategy, risk management, innovation and performance monitoring regarding water resource management. The Committee meet at least three times a year, in accordance with the annual calendar approved, and extraordinarily, if necessary. The definition of agenda of the meetings are based on the principal duties of the Committee. The establishment of the CEO and others executives' goals are aligned with the company's strategic planning and are submitted for approval by the company's Board of Directors. In 2022, the Sustainability Committee had as its agenda, for example, the commitment to analyse and follow the Commitments to Renewing Life Project that have a goal of increase water availability in all critical watersheds in the areas where Suzano operates by 2030 and reduce the intensity of withdrawal for industrial operations by 15% by 2030. In fact, the long-term goals regarding reducing water consumption at the mills and improving water availability in the forests were reviewed, deliberated and validated at the Board level.

W6.2d

(W6.2d) Does your organization have at least one board member with competence on water-related issues?

	Board member(s) have competence on water-related issues	Criteria used to assess competence of board member(s) on water-related issues	Primary reason for no board-level competence on water-related issues	Explain why your organization does not have at least one board member with competence on water-related issues and any plans to address board-level competence in the future
Row 1	No, but we plan to address this within the next two years	<Not Applicable>	Important but not an immediate priority	Currently the Sustainability Committee made up of nine (9) members with some of them have the knowledge and expertise in climate-related issues, however, does not have any board member specialized and with a specific competence on water-related issues, but we plan to address this within the next years.

W6.3

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

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

Chief Sustainability Officer (CSO)

Water-related responsibilities of this position
Assessing future trends in water demand
Assessing water-related risks and opportunities
Managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues
Quarterly

Please explain
The Chief Sustainability Officer (CSO) is responsible on overseeing strategic guidelines to embed sustainability into business strategy including water-related issues, which includes the responsibility for monitoring water performance and corporate risks including those related to water availability in the regions we operate.
Suzano's CSO reports periodically to the CEO and quarterly to the Sustainability Committee, a board-level committee, coordinated by the Chairman of the Board of Directors. In these meetings topics such as the integration of water-related issues in business, water risk management, innovation, and water resource management are discussed. A recent water-related decision taken by the Sustainability Committee was the long-term goals announced in 2020:

1) Increase water availability in all critical watersheds where Suzano operates;

2) Reduce water withdrawal intensity in industrial operations.

Name of the position(s) and/or committee(s)
Chief Executive Officer (CEO)

Water-related responsibilities of this position
Assessing future trends in water demand
Assessing water-related risks and opportunities

Frequency of reporting to the board on water-related issues
Quarterly

Please explain
Economic, environmental and social aspects are a responsibility of all company executives, which report to the CEO, who in turn, reports to the Board of Directors. Water is one of the issues identified in Suzano's materiality and is managed by several teams that report to the CEO. Suzano also launched two long-term goals regarding water management in 2021 and these are overseen by the CEO and the Sustainability Committee.

Name of the position(s) and/or committee(s)
Chief Operating Officer (COO)

Water-related responsibilities of this position
Managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues
Quarterly

Please explain
The Chief Pulp Operation Officer seeks to improve practices and processes at the mill in order to ensure ecoefficiency. Each mill is tasked with an environmental team that looks at ecoefficiency regarding water, waste and energy, as well as compliance to legislation.
The Chief Pulp Operation Officer for the Pulp Business is also tasked with overseeing, monitoring and accompanying the evolution of the long-term water target regarding pulp mills.

Name of the position(s) and/or committee(s)
Other C-Suite Officer, please specify (Chief Forestry Officer)

Water-related responsibilities of this position
Managing water-related risks and opportunities
Conducting water-related scenario analysis

Frequency of reporting to the board on water-related issues
Quarterly

Please explain
The Chief Forestry Officer seeks to improve practices and processes in the forest to ensure forest productivity. One of the teams that report to this position is tasked with investigating water impacts in the field as well the impacts of climate change on water availability and impact on forest productivity. He is also tasked with overseeing, monitoring and accompanying the evolution of the long-term water target regarding forests.

Name of the position(s) and/or committee(s)
Other C-Suite Officer, please specify (Chief Executive Officer of Paper and Packaging)

Water-related responsibilities of this position
Managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues
Quarterly

Please explain
Oversees paper operations including ecoefficiency at the paper plant level. The Executive Officer of Paper and Packaging for the Paper Business is also tasked with overseeing, monitoring and accompanying the evolution of the long-term water target regarding paper mills.

Name of the position(s) and/or committee(s)
Other committee, please specify (Statutory Audit Committee)

Water-related responsibilities of this position
Assessing future trends in water demand
Assessing water-related risks and opportunities

Frequency of reporting to the board on water-related issues
Annually

Please explain
This Committee oversees corporate risks including those related to water availability in the regions in which we operate. These corporate risks are identified, monitored and assessed periodically.

W6.4

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

	Provide incentives for management of water-related issues	Comment
Row 1	Yes	As a company priority, the individual annual targets of Suzano executives include ESG targets that are established and agreed upon at the start of each performance review cycle. These targets are monitored periodically to assess the achievement of the goals established and to adjust action plans, if needed. Achieving the established goals directly impacts the annual compensation of company executives since, as per the nature of the program, their reward can be increase or reduced depending on the results in this area. In 2022, we mapped out best practices with respect to water use in our units and other market participants. As a result, we improved our water use management and governance practices. These actions contributed to the reduction of specific water withdrawal in 2022. To reinforce the topic's governance priority, we defined targets linked to variable remuneration to the Chief Operating Officer, Industrial Officers and lower positions.

W6.4a

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

	Role(s) entitled to incentive	Performance indicator	Contribution of incentives to the achievement of your organization's water commitments	Please explain
Monetary reward	Chief Operating Officer (COO)	Reduction of water withdrawals – direct operations Reduction in water consumption volumes – direct operations Improvements in water efficiency – direct operations	The variable compensation program mostly aims at leveraging business and results, encouraging employees to effectively contribute to the Company's growth, strengthening the commitment to sustainable results, while making the short and long-term visions compatible, enabling that the Company's growth results in a financial compensation, as well as retaining employees. These targets are set following a strict monitoring and auditing control. In this way, employees are encouraged to contribute effectively to the Company's sustainable growth, enabling the attraction and retention of high-performance professionals. It is a strategy to reward results in the short or long term and also encourage the achievement of pre-defined objectives. The configuration of the Variable Compensation model provides for the establishment of collective and individual goals that are aligned with the company's strategic planning and that guide employees towards achieving the defined objectives. Individual performance is directly linked to the business result, allowing the management of employee recognition and meritocracy. Suzano values the good practice of corporate governance, therefore, the definition and verification of goals follow a strict control of monitoring and auditing, guaranteeing the accuracy of the information.	Suzano seeks to incorporate ESG aspects into its operations, implementing new technologies and innovating processes, in order to provide the company's sustainable growth, preserving and caring for the environment. Suzano's Variable Compensation Program has the important objective of leveraging business, results and aligning the model with the interests of shareholders that include Water challenges. The variable compensation program mostly aims at leveraging business and results, encouraging employees to effectively contribute to the Company's growth, strengthening the commitment to sustainable results, while making the short- and long-term visions compatible, enabling that the Company's growth results in a financial compensation, as well as retaining employees. Targets are set following a strict monitoring and auditing control. C-suite salary multiplier is tied in accordance to target achievement. Some of these goals are milestones towards the achievement of company's long-term targets. The Pulp Chief Operating Officer has a water-related target linked to the achievement of the company's long-term goal to reduce industrial water withdrawal intensity per ton of product. Variable remuneration is linked to the annual progress towards this goal.
Non-monetary reward	No one is entitled to these incentives	<Not Applicable>	<Not Applicable>	

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
Yes, trade associations
Yes, funding research organizations
Yes, other

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?

In Brazil, river basin committees ("CBHs") are forums in which different stakeholder groups (government, civil society and users) discuss public policies affecting each river basin. Suzano represents users of the industrial sector in these CBHs (including the Paraíba do Sul River Basin Integration Committee, or "CEIVAP"; the Piracicaba, Capivari and Jundiaí Basin Committee, or "PCJ"; and the Rio Doce Basin Committee), through consultative participation and voting power. It is important to point out that Suzano representatives are trained on the company's Environmental Management Policy, which addresses its water stewardship commitments. The different positions defended at CBH meetings are previously discussed with the leaders of the represented participants to ensure that the decisions consider Suzano's commitments. All decisions made at these meetings are recorded and made available to the different stakeholders. If any inconsistency is found in the decisions made by the representatives (which is uncommon, given that they are previously discussed), the leader analyzes the inconsistency and proposes improvements to be implemented by the CBH.

W6.6

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

Yes (you may attach the report - this is optional)

20-F.pdf

Pages 13, 14 and 175

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	Suzano considers as time horizons: Short-term (1-3), Medium-term (3-10) and Long-term (10-15). The efficient and responsible use of water is critical for us since this is an essential resource for the balance of ecosystems and the perpetuity of our business throughout the entire value chain. Challenged by Suzano's Board of Directors to go further and establish bold commitments in the industrial environment, the Committee set bold long-term goals for water and waste. Regarding water, we found that the units have different curves for reducing water withdrawal in the next 10 years, considering that they have different realities. However, we consolidated all operations into a single goal: to reach 25.3 m3 per ton of product (pulp and paper), which corresponds to international best practices according to the Integrated Pollution Prevention and Control (IPPC). For forest, the intelligent use of water is a priority in Suzano's investments, as we understand that this is an important natural resource for the balance of the ecosystems and for the continuity of our business. In this sense, we perform regular measurements of qualiquantitative parameters of the main watersheds in which we operate and adopt forest management technologies that favors the efficient use of water resources within these watersheds, which helps us reduce the risks of water shortage in neighboring operations and communities.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	11-15	Suzano considers as time horizons: Short-term (1-3), Medium-term (3-10) and Long-term (10-15). Suzano has a commitment to increase water availability in 100% of critical watersheds. Parameters such as specific water withdrawal and quality of treated effluents are monitored daily and reported monthly. Some units also participate in local river basin committees that bring together representatives of the government, companies, and civil society to discuss local water resource management. In addition, conducted since 2017 by Suzano, the project called Nascentes do Mucuri that encourages the protection of the springs of the Mucuri River and its surroundings, thereby promoting the perpetuity of this water resource. To mitigate the effects of climate change, Suzano structured a long-term project, called DryMax, which aims to develop forest management and genetic materials that are resilient to different climatic conditions. In this project, we identified areas with greater environmental variability to include actions to incorporate genes from non-traditional Eucalyptus species into breeding populations. We will identify physiological parameters that allow the identification of materials most suitable for the different abiotic stresses in each different climatic environment in Suzano's area (2040 horizon).
Financial planning	Yes, water-related issues are integrated	11-15	Water issues in forest and industrial operations across our value-chain are part of what we call Total Operation Disbursement (TOD), which includes all disbursement from Forest to client. Then, our current consumption and its economics, but also the expected improvements in water usage, are reflected in our strategic/financial planning, considering that TOD is one of the major KPIs that we consider in our integrated financial and strategic. In Cerrado project, our new pulp mill under construction with R$ 22,2 billion in investments, the "state of art" technologies will be implemented, including Water and Wastewater Treatment plants. Such sustainable industrial plant will contribute to the optimized usage of water and dis-charge, among best practices in market. Considering existing industrial operations, an example of relevance in financial planning is the investment of a new effluent treatment station in Mucuri mill, that improves the process of returning water to Mucuri river. This plant started-up in July 2017, with a total investment of R$100 million. Regarding M&A moves, our investment in a joint-venture operation with Spinnova is building a commercial plant in Finland to make a sustainable textile fiber from wood, with lower usage of water and chemicals compared to other fibers (such as viscose and cotton). Considering they´re industrial assets, the expected lifetime of such plants are more than 10 years, with sustaining investments to keep optimal operation level.

W7.2

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

Row 1

Water-related CAPEX (+/- % change)

207

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

-60

Water-related OPEX (+/- % change)

27

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

30

Please explain

Suzano's water-related environmental investments (CAPEX) in2022 were +207% higher than in 2021, due to the Water Treatment Station of Suzano's mill construction. It cost R$ 18,000,000. The other projects realized last year were related to reducing water withdrawn and regular maintenance in water and wastewater treatment stations. Environmental operating costs (OPEX) were 27% higher than 2021, due to the rise in commodity prices, which raised the variable costs of water and wastewater treatment. So, chemical products used in treatment plants got higher as well as the fuel to transport it for our mills. The variable cost of water and wastewater stations represents about 95% of water-related OPEX. Furthermore, it's included in OPEX the annual water fee paid to Water National Agency (ANA in Portuguese) by the Aracruz mill.

W7.3

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

	Use of scenario analysis	Comment
Row 1	Yes	Suzano currently considers IPCC (Intergovernmental Panel onf Climate Change) scenarios to predict the risk of forest productivity losses in the face of unpredictable future climate conditions. Suzano is also focused on understanding the effects of climate change on water availability and their impact in its processes. As part of our analysis model, we developed a comprehensive hydrological study to identify the river basins within our areas that are critical and manageable, based on the balance between water supply and demand and the vulnerability of local communities. This will enable us to implement management actions in forests within critical river basins. Other ways through which climate-related scenario analysis connects to our business strategy include the incorporation of water assumptions into the strategic plan for wood supply, changes in Suzano's forest management practices in critical river basins, and environmental education regarding soil conservation, among others.

W7.3a

(W7.3a) Provide details of the scenario analysis, what water-related outcomes were identified, and how they have influenced your organization's business strategy.

	Type of scenario analysis used	Parameters, assumptions, analytical choices	Description of possible water-related outcomes	Influence on business strategy

	Type of scenario analysis used	Parameters, assumptions, analytical choices	Description of possible water-related outcomes	Influence on business strategy
Row 1	Water-related Climate-related	We are aware of the climate risks to which Suzano operations are subject. Our risk analyses use climate scenarios that have been carefully selected after reviewing existing models and downscaling techniques, most of them from IPCC. To better understand the effects of climate change, in 2006 Suzano started evaluating the impact of increased CO2 on most of its planted genotypes by measuring several physiological variables. In 2009, Suzano further investigated climate changes using five global models (CSIRO, NCAR, HadGEM, MRI and MIROC), based on IPCC scenarios (A1, B1, A2 and B2), and identified risks in scenarios RCP 2.6, 6.0 and RCP 8.5. In 2022, Suzano carried out studies to assess risks in four IPCC global warming scenarios (SSP1-2.6, SSP2-4.5, SSP3-7.0 and SSP5-8.5) in nine global climate models. These analyses resulted in projections for the 2021-2100 period. Considering the current scientific updates on global carbon emissions, Suzano has chosen to base its decisions related to forest production on pessimistic scenarios (RCP 8.5). Additionally, Suzano is committed to understanding the effects of climate change on water availability and their impact on its processes. In 2022, we developed a robust climate system ("climate fingerprint"), through which we have mapped climate effects in 100% of Suzano's areas. Artificial intelligence models were developed to generate indicators that explain the influence of climate on forest production and support Suzano's forest planning. Another important strategy is related to clonal allocation. By considering different climate zones, our system is able to rank productivity risks and classify clones based on adaptability to the environment, resilience to water stress and uncertainties resulting from measurements. In 2022, Suzano used this system to carry out clonal allocation in more than 190,000 hectares. To better understand climate-related impacts on the watersheds within Suzano areas, we have been using the Soil & Water Assessment Tool (SWAT), a well-established and recognized resource that can be scientifically adjusted for Suzano areas (https://swat.tamu.edu/)	Water shortage is a priority risk for Suzano. The company uses IPCC scenarios to assess CO2 emissions and atmospheric concentration, and water availability. By 2030, the company aims to manage all critical watersheds. Currently, 44 out of 2,006 watersheds are classified as critical. By incorporating specific management principles into strategic forestry planning, Suzano works to increase water availability in watersheds. The company uses satellite imagery and statistical models to measure forest water use and determine the volume of water available in critical watersheds. Although progress has been made in water monitoring, further research is needed to improve accuracy and water availability indicators. In industrial operations, scenarios are used as references to reduce water withdrawal. During periods of extreme water scarcity, Suzano implements customized adaptation plans at each mill. For example, the Imperatriz mill has a floating module for water collection to ensure the minimum needed water volume during periods of significant river flow decrease. In our forest operations, the initiatives align with the eucalyptus' 5- to 7-year growth cycle. If any critical productivity loss scenario were to materialize, Suzano would need five to seven years to recover its production levels, potentially needing to increase the extension of its planted area.	Suzano considers water-related issues as part of its goal of "Continuing to be an industry benchmark in efficiency, profitability and sustainability, from the forests to customers." Therefore, we have created specific roadmaps to ensure the implementation of industrial and forestry best practices, which include water usage. Whenever necessary, we will make investments to maintain our operational excellence. This includes retrofitting water and effluent treatment equipment, retrofitting equipment that reduces water use and implementing closed loop processes. Additionally, our 2030 Sustainability Commitments related to water use are fully aligned with our company's strategic planning.

W7.4

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

Row 1

Does your company use an internal price on water?

Yes

Please explain

In 2022, Suzano defined the internal price of water in its operations. This figure includes all the variable costs necessary for the use and treatment of water and wastewater (including the costs of withdrawal water and disposing of treated wastewater). This internal price is used in feasibility studies developed for projects related to water use (water savings).

W7.5

(W7.5) Do you classify any of your current products and/or services as low water impact?

	Products and/or services classified as low water impact	Definition used to classify low water impact	Primary reason for not classifying any of your current products and/or services as low water impact	Please explain
Row 1	Yes	The water footprint in this context should be understood as the amount of water captured and retained in the process to produce a given unit of product mass. Thus, the smaller the amount of water withdrawn and, consequently, the amount of water consumed to produce a given amount of product, the smaller is the water footprint of this product. In addition, with regard to water withdrawal, the company operates within the reference limits of international best practices, such as the IPPC – Integrated Pollution Prevention and Control and IFC – International Finance Corporation, which stipulate limits ranging from a minimum of 25 m³/tsa to 50 m³/tsa. Yet, from 2018 to 2022, we reduced by 13.1% the volume of water withdrawn in our industrial units (reaching the value of 25.9 m3 /t), which contributes to our products having a lower water footprint. Total water withdrawal by Suzano in 2022 is in line with the volume reported in 2021. We had a 1.5% reduction in absolute capture and reached a specific capture of 25.9 m³/t, accumulating a 13% reduction since 2018. Representing an 87% achievement of our Commitment to Renewing Life, that is, 3.9 m³/t of reduction in industrial withdrawal. Considering the specific values. the specific water consumption in the reported period was 6.1 m³/t, in line with the specific consumption of 2021 (6.0 m³/t), and meeting the target set for water consumption of up to 6.5 m³/ton.	<Not Applicable>	Suzano's industrial units operate as “Sustainable Water Reservoirs”, since around 85% of the water collected is recirculated within the production process itself before being treated and returned to the environment. The concept of "reservoirs" originates in the process of capturing water from the environment, through surface rivers (receiving bodies), passing through treatment in a water treatment plant for its suitability for industrial use, distribution and recirculation of water in the production process. and, finally, treatment of the effluents within the adequate conditions foreseen in the Brazilian environmental legislation. The term “sustainable reservoir” refers to the recirculation capacity within the production process, where more than 85% of the water captured is reused before being released into the environment. This recirculation occurs as a result of a series of internal reuse of industrial water, including cooling water, hot water etc.

W8. Targets

W8.1

(W8.1) Do you have any water-related targets?

Yes

W8.1a

(W8.1a) Indicate whether you have targets relating to water pollution, water withdrawals, WASH, or other water-related categories.

	Target set in this category	Please explain
Water pollution	No, and we do not plan to within the next two years	Besides wastewater treatment is important to our operations, Suzano already operates in accordance with the standards required by Brazilian law and provided for in the references of the best available technologies of the IPPC and IFC. So, water pollution is not an issue for our business.
Water withdrawals	Yes	<Not Applicable>
Water, Sanitation, and Hygiene (WASH) services	No, and we do not plan to within the next two years	This target category is not relevant for our business.
Other	Yes	<Not Applicable>

W8.1b

(W8.1b) Provide details of your water-related targets and the progress made.

Target reference number

Target 1

Category of target

Water withdrawals

Target coverage

Company-wide (direct operations only)

Quantitative metric

Reduction in withdrawals per product

Year target was set

2019

Base year

2018

Base year figure

29.8

Target year
2030

Target year figure
25.3

Reporting year figure
25.9

% of target achieved relative to base year
86.6666666666667

Target status in reporting year
Underway

Please explain
In 2020, Suzano established a long-term goal of reducing water withdrawal per tonne of product (m^3/t) for industrial operations by 15% by 2030, compared to the 2018 base year. To achieve this goal by 2030, the company set annual targets. Projects implemented in different mills led to a 1.5% reduction in Suzano's specific water withdrawal, in line with the long-term goal. Total water withdrawal in 2022 was 25.9 m3/tonne, while the target set for the year had been 26.3 m3/tonne.
In 2022, Suzano achieved a 3.9 m3/tonne reduction compared to the baseline (2018). This represents a progress of 87% in relation to the base year (2018) and the goal set for 2030.

Target reference number
Target 2

Category of target
Watershed remediation and habitat restoration, ecosystem preservation

Target coverage
Company-wide (direct operations only)

Quantitative metric
Increase in watershed remediation and habitat restoration, ecosystem preservation activities

Year target was set
2020

Base year
2020

Base year figure
0

Target year
2030

Target year figure
100

Reporting year figure
8.2

% of target achieved relative to base year
8.2

Target status in reporting year
Underway

Please explain
We believe that ensuring the water renewal cycle is essential for life on the planet and for our production process. Our forests cover more than two million hectares in Brazil, and we know that some areas are subject to water shortages due to natural characteristics. The effort to care for this resource is everyone’s responsibility.

In 2020, Suzano established a long-term goal of increasing water availability in all critical watersheds in areas where Suzano operates by 2030, compared to the 2020 base year. To achieve this goal, we mapped all watersheds in areas where Suzano operates and selected three main criteria for classifying them as critical: historical hydrological monitoring data, complaints from local communities and relevance of the company’s presence in the basin. We selected and assessed 44 critical watersheds to incorporate technical recommendations for management initiatives that directly impact the water balance. This process covered a total of 88,400 hectares where Suzano sites are located.

Key initiatives included demobilizing Suzano’s operations in some areas, implementing age mosaic to reduce the pressure of water demand, and reducing planting density by lowering the number of trees in the same area. In 2022, the key initiatives implemented at Suzano sites involved changes in the arrangement of forest plantations to reduce the density of trees in areas of critical watersheds.

In addition, we worked during the year to ensure the inclusion of specific management parameters in the company’s Strategic Forestry Planning to increase water availability in the basins. We expanded our studies to measure the use of water from the forest using medium- and high-resolution satellites and statistical models to estimate the amount of water available in critical watersheds. Despite the progress in water monitoring resulting from the use of this technology, more research is needed to improve and increase the accuracy of water availability standards.

W9. Verification

W9.1

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

Yes

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
W8 Targets	Long-term sustainability goals	ISAE 3000	As described in the statement issued by Bureau Veritas, the independent assurance of Suzano's long-term sustainability goals (also called Commitments to Renewing Life, or CPRV in Portuguese), corresponding to the year 2022, included the following activities: 1. Interviews with the parties responsible for the CPRV content; 2. Analysis of documentary evidence provided by Suzano for the period between January 1 and December 31, 2022; 3. Evaluation of the systems used to compile data; 4. Evaluation of the initiatives, programs and policies created to help the company's meet its CPRV. The reasonable assurance was provided in accordance with the ISAE3000 standard, which is incorporated by Bureau Veritas into its internal assurance protocols. This information is available at: http://centraldesustentabilidade.suzano.com.br/en/sustainability-at-suzano/commitments-to-renewing-life/
W8 Targets	Assurance of water indicators (impacts, management, water withdrawal)	ISAE 3000	As described in the statement issued by PwC, the independent assurance of the standards included in the GRI index and Suzano's 2022 Sustainability Report included the following activities: a) planning, considering the relevance, amount of quantitative and qualitative information and the operational and internal control systems that served as the basis for the preparation the 2022; Sustainability Report. (b) a review of the calculation methodology and procedures for compiling indicators through inquiries to the managers responsible for providing the information; (c) analysis of the quantitative information and inquiries about the qualitative information and its correlation with the indicators detailed in the 2022 Sustainability Report; (d) for cases in which non-financial data correlate with indicators of a financial nature, comparison of these indicators with the financial statements and/or accounting records; The limited assurance process also included the analysis of compliance with the guidelines and criteria of the Global Reporting Initiative (GRI Standards) and with the information included in the preparation base produced by the company and applicable in the preparation of the content of the 2022 Sustainability Report. More information is available at: https://stszprdscentind.blob.core.windows.net/site/documents/25ab2912-ra-suzano-2022-informacoes-complementares-en.pdf (assurance statement available on pages 78 and 79).

W10. Plastics

W10.1

(W10.1) Have you mapped where in your value chain plastics are used and/or produced?

	Plastics mapping	Value chain stage	Please explain
Row 1	Not mapped – but we plan to within the next two years	<Not Applicable>	

W10.2

(W10.2) Across your value chain, have you assessed the potential environmental and human health impacts of your use and/or production of plastics?

	Impact assessment	Value chain stage	Please explain
Row 1	Not assessed – and we do not plan to within the next two years	<Not Applicable>	Not material. Beyond shared responsibilities with other stakeholders, companies can demonstrate their commitment to sustainability by committing to ensuring that the majority of their product portfolio is recyclable, reusable, or biodegradable. Evaluating the portfolio of Suzano's Paper and Packaging Business Unit (UNPE, in Portuguese acronym), it can be seen that 100% of the products fit one or more of the attributes mentioned above. Thus, it can be said that 100% of UNPE's sales revenue falls under this indicator. This position is related to the fact that we are mainly a biobased company, which uses renewable raw materials, a great differential for single-use and packaging applications. When evaluating Suzano's Consumer Goods Business Unit (UNBC, in Portuguese) portfolio, it can be seen that 99% of the volume of its products, including toilet paper, napkins, and paper towels, meet one or more of the attributes mentioned above.

W10.3

(W10.3) Across your value chain, are you exposed to plastics-related risks with the potential to have a substantive financial or strategic impact on your business? If so, provide details.

	Risk exposure	Value chain stage	Type of risk	Please explain
Row 1	Not assessed – but we plan to within the next two years	<Not Applicable>	<Not Applicable>	Not material for us.

W10.4

(W10.4) Do you have plastics-related targets, and if so what type?

	Targets in place	Target type	Target metric	Please explain
Row 1	Yes	Plastic packaging	Other, please specify (Make 10 million tons of products available from renewable sources that can replace plastic and other petroleum-based products - from zero to 10 million by 2030.)	We know that, from the tree, we can have other products due to its essentially renewable origin, biodegradable in different environments, and with great versatility. These products can potentially impact the reduction of carbon emissions, which is fundamental to combat the climate crisis and the pressure on natural resources. Products of renewable origin are those made from resources that come from nature, such as eucalyptus pulp, and that can be regenerated in a short period. Increasing the availability of renewable products, as well as those we have traditionally produced in our business, is to enable a transition economy and strengthen a regenerative economy. Offer renewable products that can substitute plastic and other petroleum derivatives. All products offered by Suzano are of renewable origin, but, for this target, we will only consider products resulting from the innovation process, such as paperboard packaging, cups, straws, lignin, and microfibrillated cellulose (MFC), among others. In 2022, we offered about 45,000 tons of renewable products, resulting in an accumulation of about 77,000 tons. We achieved record sales of products to replace plastics, advancing in routes already consolidated, as is the case of products aimed at the markets of cups, straws, and cardboard. Moreover, we launched new products, such as the Greenpack® line, which seeks to address new paper options for the packaging markets. Also, in 2022, we implemented an MFC plant in Limeira (SP), as well as MFC and textile fiber plants in Finland with 1,000 tons of capacity with our partner Spinnova. Both plants are in the startup phase for production throughout 2023.

W10.5

(W10.5) Indicate whether your organization engages in the following activities.

	Activity applies	Comment
Production of plastic polymers	No	
Production of durable plastic components	No	In search of the substitution of fossil products, several projects are underway to produce Bio-Oil (a fuel of 100% renewable source that can be used as co-processing in oil refineries, producing gasoline and other fuels with a smaller carbon footprint), Bio-Additives (such as Lignin, used in several sectors, such as cosmetics, civil construction, plastics and elastomers, among others), bio-composites (made by incorporating up to 50% of cellulosic fibers in the composition of common plastics), and Microfibrillated Cellulose (MFC), from which we can produce paper with greater competitiveness, apart from being raw material for the textile, paint, and coatings sectors. All of the above based on eucalyptus forests.
Production / commercialization of durable plastic goods (including mixed materials)	No	
Production / commercialization of plastic packaging	No	
Production of goods packaged in plastics	No	The Research and Development (R&D) projects carried out in 2022 were driven by the concepts of innovation and sustainability (innovativeness), concepts which are already in Suzano's innovation DNA. As such, within the product development line for plastic substitutes, we highlight improvements in new generations of packaging papers for food contact (Greenpack®, LIN, Bluecup Bio®, Loop® and Loop+®) as well as the primary and secondary Flowpack packaging line, designed for the hygiene and cosmetics industry, such as Greenpack® for flaconettes for clients such as O Boticário. We also launched paper wrap for the Cut Size Reporter A4 line and Paperpack, the paper wrap for the Mimmo® double sheet line.
Provision / commercialization of services or goods that use plastic packaging (e.g., retail and food services)	No	

W11. Sign off

W-FI

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

NA

W11.1

(W11.1) Provide details for the person that has signed off (approved) your CDP water response.

	Job title	Corresponding job category
Row 1	Chief Financial and Investor Relations Officer, leading the areas of Treasury, M&A, Legal, Investor Relations, Controllership, Shared Services, Taxes, Planning, Risk Management and Compliance.	Chief Financial Officer (CFO)

SW. Supply chain module

SW0.1

(SW0.1) What is your organization's annual revenue for the reporting period?

	Annual revenue
Row 1	49830000000

SW1.1

(SW1.1) Could any of your facilities reported in W5.1 have an impact on a requesting CDP supply chain member?

Yes, CDP supply chain members buy goods or services from facilities listed in W5.1

SW1.1a

(SW1.1a) Indicate which of the facilities referenced in W5.1 could impact a requesting CDP supply chain member.

Facility reference number

Facility 4

Facility name

Mucuri (Bahia)

Requesting member

Ambev S.A

Description of potential impact on member

Reduction or disruption in production capacity - At the Mucuri mill, Suzano collects water through the Mucuri river (51,619,416 m³ of water withdraw by 2022). The river originates in the northeast of Minas Gerais, and flows into southern Bahia, covering a total of 446 kilometers in an area of approximately 15,400square kilometers with a population of 537,000. During 2015, the region faced 67 days without rain and an annual average rainfall of 552mm, which represents an average of 55% of the last 5 years. Considering a negative material impact scenario, a sensitivity analysis performed by the Company indicated that Suzano was going to have less water available to supply its water reservoirs, which could directly impact water supply for the industrial operation. Such impact could bring a reduction of 8-12% of annual production and sales volume.

Comment

We adopted a series of actions to mitigate potential impacts such as future partial production stoppage:
- Reduce water intake / consumption per tonne of produced pulp
- Installation of a new ETS (Effluent treatment station) to adequate BOD levels;
- acquisition of small hydropower plant (Mucuri), allowing regulation of the river flow in periods of drought (according to ANA resolutions and ONS) .

We invested on a new effluent treatment station, built with technology from Veolia Water Technologies, a world leader in the provision of services related to the treatment of water and effluents, it has the capacity to treat 2,900 m³ / h and has improved the process of returning water to the Mucuri River. In addition, Mucuri small hydropower plant is already part of Suzano's strategy for providing sustainable energy and also guarantee production in its pulp mill (R$53.5M investment) .

SW1.2

(SW1.2) Are you able to provide geolocation data for your facilities?

	Are you able to provide geolocation data for your facilities?	Comment
Row 1	Yes, for all facilities	

SW1.2a

(SW1.2a) Please provide all available geolocation data for your facilities.

Identifier	Latitude	Longitude	Comment
1 - Belem	-1.33	-5.41	1. Belem -1.3380564983518672, -48.412295563129774
2 - Imperatriz	-5.41	-47.56	2. Imperatriz -5.41642222382144, -47.56480545181702
3 -Maracanaú	-3.87	-38.6	3. Maracanaú -3.8722762005683284, -38.605571775998264
4. Mucuri	-18.04	-39.91	4. Mucuri -18.04219935985306, -39.91965946222105
5. Aracruz	-19.84	40.07	5. Aracruz -19.842855865375412, -40.079830929626105
6. Cachoeiro do Itapemirim	-20.92	41.09	6. Cachoeiro do Itapemirim -20.922876659723777, -41.090901052871665
7. Suzano	-23.54	-46.27	7. Suzano -23.541222655588268, -46.273622744839905
8. Rio Verde	-23.49	-46.33	8. Rio Verde -23.49794650911567, -46.33108934669295
9. Jacareí	-23.37	-46.02	9. Jacareí -23.371803059771413, -46.0286238797689
10. Limeira	-22.7	-47.32	10. Limeira -22.709302146478816, -47.32421547555807
11. Três Lagoas	-20.99	-51.79	11. Três Lagoas -20.996807918920005, -51.794812197048756

SW2.1

(SW2.1) Please propose any mutually beneficial water-related projects you could collaborate on with specific CDP supply chain members.

Requesting member
Ambev S.A

Category of project
Promote river basin collective action

Type of project
Invite customer to collaborate with other users in their river basins to reduce impact

Motivation
Suzano has collaboration opportunities with Ambev, in line with the Bacias & Florestas program in areas of water stress.

Estimated timeframe for achieving project
Other, please specify (To be defined with Ambev)

Details of project
Suzano works to engage its partners and achieve positive results for the environment, recognizing that the solution, especially for the water crisis, involves several lines of work, including the efficient use and management of natural resources.

Projected outcome
We developed an in-company method that incorporates regional government databases and standards, national tools, analysis by external consultants, and hydrological modeling. By 2030, the company will manage 100% of the watersheds considered critical by its studies. Currently, out of a total of 2,006 basins where Suzano operates, 44 are classified as critical. Suzano uses technology to make recommendations to reduce water use in critical areas and, more importantly, to confirm the effectiveness of these recommendations. The company expanded its “open-air laboratory,” a long-term program that intensively monitors water, carbon, nutrient, and biodiversity cycles in 11 watersheds. The collected data creates parameters and validates different forecasting models. Internationally renowned NGOs and research institutes are our partners in several doctoral theses.

Requesting member
Ambev S.A

Category of project
New product or service

Type of project
New product or service that reduces customers products/ services water consumption and/or water-related impacts

Motivation

Estimated timeframe for achieving project
Please select

Details of project

Projected outcome

SW2.2

(SW2.2) Have any water projects been implemented due to CDP supply chain member engagement?
No

SW3.1

(SW3.1) Provide any available water intensity values for your organization's products or services.

Product name
All saleable pulp and paper from all Suzano's industrial units

Water intensity value
25.9

Numerator: Water aspect
Water withdrawn

Denominator
Total withdrawal (m^3) per ton of saleable pulp and paper from all Suzano's industrial units

Comment
A recent water-related decision taken by the Sustainability Committee was the long-term goal announced in 2020: Reduce industrial water withdrawal intensity per ton of product. We understand that reducing water consumption in our operations is fundamental to reducing the water footprint of our products and helping reduce the risk of water shortage in the regions where we operate.
Ambition: Reduce by 15% the industry's water withdrawal per ton of product - from 29.8 m^3/t to 25.3 m^3/t by 2030.

Submit your response

In which language are you submitting your response?
English

Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

Please indicate your consent for CDP to share contact details with the Pacific Institute to support content for its Water Action Hub website.
Yes, CDP may share our Main User contact details with the Pacific Institute

Please confirm below
I have read and accept the applicable Terms