

W0. Introduction

W0.1

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

Kao. The Company is a Japan-based company that operates through two business segments: Consumer Product and Chemical. The Consumer Product segment has four divisions. The Hygiene and Living Care Business offers fabric care products including detergents for apparel use, and home care products including detergents for kitchen use and hygiene products and paper diapers. The Health and Beauty Care Business offers premium skincare products such as face washes, as well as premium hair care products including shampoos, hair styling products and hair coloring products, among others. The Life Care Business provides food and beverage products such as drinks and professional use products. The Cosmetic Business provides cosmetics such as lotion, foundation and lipstick. The Chemical Business provides oil and fat products such as fatty acids; functional materials products such as surfacants and additives for plastic use, as well as specialty chemical products such as essences, among others.

The Hygiene and Living Care Business accounted for 33.3% of total turnover in fiscal 2022; The Health and Beauty Care Business, 23.8%; The Life Care Business, 3.6%; The Cosmetic Business, 15.8%; and The Chemical Business, 23.1%. The Company reported JPY 1,551.1 b in revenues and 35,411 permanent employees at December 31, 2022.

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.

Australia Austria Belgium Canada China Czechia Denmark Finland France Germany
Hong Kong SAR, China Indonesia
Italy Japan Malaysia Mexico
Netherlands New Zealand Norway Philippines
Republic of Korea Russian Federation Singapore
South Africa Spain Sweden Switzerland Taiwan, China Thailand
United Kingdom of Great Britain and Northern Ireland United States of America
Viet Nam

W0.4

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

JPY

W0.5

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

Companies, entities or groups over which 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	JP320580000

W1. Current state

W1.1

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

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Vital	<p>As Kao plans to increase sales to reach the 2030 goal, production will rise accordingly, leading to higher water consumption.</p> <p>. Primary use of freshwater in direct operation Freshwater is consumed not only as a raw material of our products, such as liquid laundry detergents, body washing products, and household products including shampoos and conditioners, but also chemicals products, and that is indispensable to produce steam and cooling water used in the production process at our plants. It is also used as drinking water and water for sanitation for our employees.</p> <p>. Primary use of freshwater in indirect operation Freshwater is used as a raw material of our suppliers' products</p>

			<p>and is indispensable to produce steam and cooling water used in the production process at our suppliers' plants. It is also used as drinking water and water for sanitation for their employees.</p> <p>. Why the chosen importance rating was selected for freshwater in direct operations Main products of our company include products used on human bodies, or body washing products. That is why our factories require pure water with a certain quality as a material. Fresh water is also needed for safety of drinking water for our employees. As Kao has set a goal of reducing water strength in direct operations, Kao's water dependence in direct operations will weaken for the future. Kao is working to achieve the goal.</p> <p>. Why the chosen importance rating was selected for freshwater in indirect operations Main products of our company include products used on human bodies, or body washing products. That is why our suppliers' factories require pure water with a certain quality as a material. Fresh water is also needed for safety of drinking water for their employees. Therefore, it is rated as Vital for our operation. As Kao has set a goal of reducing water strength in indirect operations, Kao's water dependence in indirect operations will weaken for the future. Kao is working to achieve the goal.</p>
Sufficient amounts of recycled, brackish and/or produced water available for use	Vital	Not important at all	<p>According to Kao's business plan until 2030, we plan to increase sales and the production volume at our Mexico Plant, which uses recycled water. Our Mexico plant has been improving its water footprint per product unit, but again, a production increase is planned, and water consumption during production will exceed the amount saved through the improvement effort. Consumption of recycled water will therefore increase.</p> <p>. Primary use in direct operation At our Mexico Plant, recycled water is essential for operation because it is difficult to obtain enough amount of fresh water. We receive water recycled at another facility, purify it, and use it to produce steam and cooling water. Therefore, it is rated as Vital for our operation.</p> <p>. Primary use in indirect operation None of our suppliers use non-freshwater. The products handled in the Hygiene & Living Care Business, Health & Beauty Care Business, Cosmetics Business, and Life Care Business are for the body, require high quality water, and cannot use recycled water. These businesses account for about 80% of sales.</p> <p>. Why the chosen importance rating was selected for their direct operation Since it is difficult to obtain fresh water, recycled water is essential for Mexico Plant to operate. Our Mexico plant has been improving its water footprint per product unit, but again, a production increase is planned, and water consumption during production will exceed the amount saved through the improvement effort. Future dependency of recycled water will therefore increase.</p> <p>. Why the chosen importance rating was selected for their indirect</p>

			<p>operation</p> <p>Since we know from our surveys that none of Kao's suppliers use, and intend to use in future, non-freshwater, non-freshwater is not, and will not be, important at all for our suppliers. Kao believes that the dependence of recycled water in the future will not change.</p>
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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%	Monthly	Invoice showing flow meter readings installed by a third party	We consider the water withdrawals volume as the amount appearing on invoice, etc. that shows the measurement by the flowmeter installed by a third party when water is supplied from that third party. When ground water is pumped at each site by the relevant base, we consider the water withdrawals volume to be the amount of water pumped as measured by the flowmeter. The person in charge at each site enters the water withdrawals volume into the database operated by the Kao Group once every month or two. The person in charge at the head office then checks the values entered into the database every month; if this person identifies any significant data fluctuation, he or she confirms the cause with the relevant base.
Water withdrawals – volumes by source	100%	Monthly	Invoice showing flow meter readings installed by a third party	We consider the water withdrawals volume by source as the amount appearing on invoice, etc. that shows the measurement by the flowmeter installed by a third party when water is supplied from that third party. When ground water is pumped at each site by the relevant base, we consider the water withdrawals volume to be the amount of water pumped as measured by the flowmeter. The person in charge at each site enters the water withdrawals volume for each source into the database operated by the Kao Group once every month or two. The person in charge at the head office then checks the values entered into the database every month; if this person identifies any significant data fluctuation, he or she confirms the cause with the relevant base.
Entrained water associated with your metals & mining and/or	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>

coal sector activities - total volumes [only metals and mining and coal sectors]				
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	Check the color of the water against the color chart and check the odor	The person in charge at each base checks the water withdrawals quality like as color, odor and temperature every day. The person in charge at each production site checks the water color by comparing it against the color chart, and also checks the smell. If there were any problems, the person in charge report to the water supplier to solve it.
Water discharges – total volumes	100%	Daily	Voluntarily installed flow meter	At each production site, the volume of water discharge is measured daily with a voluntarily installed flowmeter. The person in charge there inputs monthly results in the database managed by the Kao Group. At the Head Office, the person responsible checks the inputted data every month and, if data fluctuates significantly, checks with relevant sites about the cause.
Water discharges – volumes by destination	100%	Daily	Voluntarily installed flow meter	At each production site, the volume of water by discharge destination is measured daily with a voluntarily installed flowmeter. The person in charge there inputs monthly results by destination in the database managed by the Kao Group. At the Head Office, the person responsible checks the inputted data every month and, if data fluctuates significantly, checks with the relevant sites about the cause.
Water discharges – volumes by treatment method	100%	Daily	Voluntarily installed flow meter	At each production site, the volume of effluent by treatment method is measured daily with a voluntarily installed flowmeter. The person in charge there inputs monthly results in the database managed by the Kao Group. At the Head Office, the person responsible checks the inputted data every month and, if data fluctuates significantly, checks with the relevant sites about the cause. The person responsible at the Head Office tabulates data

				by treatment method and annually checks whether each production site has changed its effluent treatment method.
Water discharge quality – by standard effluent parameters	100%	Daily	Automatic evaluation equipment, manual evaluation equipment, third-party evaluation equipment, checks with standard values set by each site	The person in charge at each base checks the water discharge quality by standard effluent parameters every day. He or she check them by using automatic evaluate equipment or by manual or third party evaluate equipment or under the standard on each base. They also input the measurement results of water quality (COD etc,) of the discharge into the database operated by Kao group every month. Headquarters personnel check the values entered in the database monthly. If this person identifies a significant data change, he or she will check the cause on a relevant basis.
Water discharge quality – emissions to water (nitrates, phosphates, pesticides, and/or other priority substances)	100%	Other, please specify (The frequency of measurement is determined according to the laws and regulations of the country in which each plant operates.)	The frequency of measurement is determined based on the laws and regulations of the country in which each plant operates.	At our plants in Germany, Spain, and the United Kingdom in the EU, monitoring is conducted for priority substances as necessary based on the EU Water Framework Directive. In addition, the concentration of substances in wastewater is regularly measured at plants in other countries as required by their respective laws and regulations to ensure that the results are below the reference values. The number of plants subject to the measurement of concentrations by law or regulation is used as the denominator of fraction, and the ratio of compliance with the law is indicated.
Water discharge quality – temperature	Not relevant	<Not Applicable>	<Not Applicable>	At Kao's plants, high-temperature water is generated at cogeneration power facilities, incinerators, chemical reaction facilities, air conditioning. All of these hot water is cooled in a closed-loop cooling tower, and heat is released into the atmosphere. Kao also recognizes the following. The effluent at each site is discharged externally after it is returned to room temperature at the wastewater treatment facilities in the plant. Therefore, it is rated as Not relevant, as there is no impact on the ecosystem due to the temperature of the discharged water. The Kao Group is expanding its business as a corporate group, and it is expected that the scale of wastewater treatment equipment will be expanded accordingly. However, there is no change in our basic direction of returning wastewater to room temperature, thus it is not considered to have

				any impact on the ecosystem and continues to be no relevant in the future.
Water consumption – total volume	76-99	Monthly	Difference between intake and discharge	Since Kao considers the amount of water consumption to be the difference between the amount of water withdrawals and the amount of water discharge, monitoring the amount of water withdrawals and the amount of water discharge achieves monitoring of the amount of water consumption. The person in charge at each base checks the amount of water withdrawals and the amount of water discharge every month or every other month and enters the relevant data for each intake source into a database managed by the Group. The person in charge at the head office checks the values entered into the database every month; if this person identifies any significant data fluctuation, he or she confirms the cause with the relevant base. However, at some business sites, the rainwater that has fallen inside the sites is drained to the outside, so the monitoring ratio is not 100%.
Water recycled/reused	100%	Daily	Estimated from the capacity and operating time of the flow meter and pump	At facilities where water is recycled, the facility operation status is monitored to measure the volume of water recycled every day by using a flowmeter or by estimating the pump capabilities and operation time. Note that in order to check which production sites actually do recycle water, the person responsible at the Head Office conducts an annual survey with all group companies to examine whether production sites that did not recycle water still do not recycle or reuse it.

	% of sites/facilities/operations	Frequency of measurement	Method of measurement	Please explain
The provision of fully-functioning, safely managed WASH services to all workers	100%	Monthly	On-site audit, comparison of responses with Sedex survey, and employee questionnaire	In accordance with the basic policy on environmental safety, we provide a fully-equipped water, sanitation and hygiene (WASH) service to all workers at all our bases. At each base, a committee run by each base (for example, the Safety and Health Committee) checks them every month. Providing fully-functioning, safely managed WASH services to all workers. Every year, the Head Office checks for water or hygiene problems in services by conducting on-site audits, comparing responses against the Sedex survey, and conducting employee surveys.

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	16516	About the same	Increase/decrease in business activity	Higher	Increase/decrease in business activity	If fluctuation in the water withdrawals volume in a year is within 5% when compared with the previous year, Kao regards the water withdrawals volume in both years as about the same in its management of water withdrawals. We set 5%, which is below 8%, as the criterion because we need to continue growing our operation by about 8% per year to achieve the sales target for 2030. Although total revenues of Kao increased by 9.3% from 2021 to 2022, total water withdrawals decreased by 4.5% from 2021 to 2022, which is less than 5% decrease compared to the previous year. Therefore, we rated as About the same. First, total revenue in 2022 increased compared to the previous year, but actual total production volume was 2.7% lower than last year. In 2022, the rate of decline in water withdrawal exceeded the rate of decline in total production volume due to the following reasons. Water withdrawal at Wakayama Plant, which accounts for about 35% of the Group's total water consumption, decreased by more than 10% from the previous year due to contractual reasons with the municipality. Apart from this, Kao promotes group-wide water conservation activities. For example, although production volume of Fuji Plant in 2022 was about the same as the previous year, the volume of water withdrawal was reduced by more than 8% from the previous year due to faster operating speeds of the paper-making facilities. However, the Kao Group is in the process of growing business as a corporate group and the total volumes of water withdrawals is expected to increase accordingly. Therefore, "Higher" is selected as the forecast for the next five years,
Total discharges	10536	Lower	Increase/decrease in business activity	Higher	Increase/decrease in business activity	If fluctuation in the water discharge volume in a year is within 5% when compared with the previous year, Kao regards the water discharge volume in both years as about the same in its management of water discharges. In order to achieve the sales target for 2030, it is necessary to continue business growth at an annual rate of about 8%, so we set the standard at 5%, which is below 8%. Kao's total sales increased by 9.3% from 2021 to 2022, while total discharge decreased by 7.8% from 2021 to 2022. We

						<p>chose "Lower" because it is a decrease of little over 5% compared to the previous year. First, total revenue in 2022 was up over the previous year, but actual total production was 2.7% lower than the previous year. One of the reasons why the rate of decrease in total wastewater was higher than the rate of decrease in total amount of water used was that during the production troubles in FCM (Malaysia), cooling water continued to flow and the amount of wastewater increased even though production was stopped in 2021, but this incident was sorted out. In the future, it is expected that the total amount of water withdrawal and total wastewater discharge will increase in the process of expanding the business as a corporate group. Therefore, "Higher" is selected as the forecast for the next five years.</p>
Total consumption	5980	About the same	Increase/decrease in efficiency	Higher	Increase/decrease in business activity	<p>If fluctuation in the water consumption volume in a year is within 5% when compared with the previous year, Kao regards the water consumption volume in both years as about the same in its management of water consumption. The total water consumption is 16,516, total wastewater discharge: 10,536 → total water consumption: 16,516- 10,536 = 5,980 ((thousand tons)). Sales have increased by 9.3% since 2021, but total water consumption has increased by 2.1% from 2021. We chose "About the same" because the increase from the previous year is less than 5%. In the case of Kao, total consumption greatly depends on the sales situation of products that contain a lot of water. We are in the stage of expanding our business as a corporate group, and it is expected that the total amount of water used will increase in the future. Therefore, "Higher" is selected as the forecast for the next five years.</p>

(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.

	With draws are from areas with water stress	% with drawn 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	11-25	About the same	Increase/decrease in business activity	Higher	Increase/decrease in business activity	WRI Aqueduct	<p>-Why or why not the percentage of water withdrawn from stressed areas has changed from the previous reporting year? Kao manages the volume of water withdrawals by considering that it is about the same as the previous year if it is in the range of 5% difference. We chose 5% as the reference since it is lower than 8%, which is the target percentage for annual growth we need in order to achieve the 2030 sales target. In 2022, the total water withdrawals rate in the areas with high water stress to the total water withdrawals was 17.6%, a increase of 0.5% from 17.1% compared to the previous year. Since it is less than 5%, we rated it as "About the same". Since we are in the process of expanding our business as a corporate group, and water withdrawals are expected to increase in the future, "Higher" is selected as the forecast for the next five years. -How the selected tool was applied to evaluate whether the water has been withdrawn from stressed areas? Kao is a consumer product manufacturer and its plants are located near sites of consumption. Most sites of consumption are large cities around the world. In these cities the population is predicted to further increase, and we recognize that this will lead to water supply risk. For this reason, Kao uses the WRI Aqueduct, whose indicators include future water risk, as an assessment tool. We check Baseline water stress and identify areas rated "High" and "Extremely high" as areas with high water stress.</p>

(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	2	Lower	Other, please specify (It is estimated that this was due to less precipitation than the previous year.)	In 2020, we built a new office building on the premises of the Sumida Plant. We started using the rainwater that fell on the roof of this building in the toilet, and in 2021, we recorded a large amount of usage, so we reported it for the first time. At the Sumida Plant, an underground storage tank for rainwater has been installed as an emergency response such as a fire in the site, and some rainwater was used for watering the green space in the site. Therefore, it was not included in the amount of water intake and drainage.
Brackish surface water/Seawater	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	Main products of our company include products used on human bodies, or body washing products. That is why our factories require pure water with a certain quality as a material. Therefore we don't use non-fresh water including brackish surface water/seawater. We think that the possibility of using it in the future is low so far.
Groundwater – renewable	Relevant	5417	About the same	Increase/decrease in business activity	Kao uses groundwater if there is abundant supply and if the company concludes that water withdrawals will not affect residents in neighboring areas or those who are downstream of underwater channels. Kao uses groundwater at seven plants, and its volume accounts for approximately 30% of the total volume of water withdrawals. Kao manages the volume of water withdrawals by considering that it is about the same as the previous year if it is in the range of 5% difference. In 2022, groundwater consumption increased by 0.1% compared to previous year, but since it is less than 5%, we chose “about the same”. Since Kao plans to increase sales to achieve the 2030 target, production at plants using groundwater will increase, and groundwater withdrawals will also grow.
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	Kao has a policy of not using non-renewable groundwater as it was suggested by third-party experts to suspend the use of such water because it is precious. In this regard, non-renewable groundwater is not relevant. We will not change this policy in the future, so we will not take water from non-renewable groundwater either in the future.
Produced/Entrained water	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	Main products of our company include products used on human bodies, or body washing products. That is why our factories require pure water with a certain quality as a material. Therefore we don't use non-fresh water including produced/entrained water. We think that the possibility of using it in the future is low so far.

Third party sources	Relevant	11097	Lower	Other, please specify (Decrease in water intake volume due to convenience of contract with local government)	Main products of our company include products used on human bodies, or body washing products. That is why our factories require pure water with a certain quality as a material. To secure quality water, we purchase 70% of our total water withdrawal from local water utilities. Kao manages the volume of water withdrawals by considering that it is about the same as the previous year if it is in the range of 5% difference. In 2022, the amount of water taken from third-party water sources at the Wakayama Plant, which accounts for approximately 35% of the water usage of the entire Group, has decreased by more than 10% from the previous year. The total amount of water intake from third-party water sources decreased by 6.5% (more than 5%) from the previous year, so we rated it as "lower." Since we plan to increase sales to achieve the 2030 target, production at plants that bring in water from third-party sources will increase, and water withdrawal from third-party sources will also increase.
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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	2842	About the same	Increase/decrease in efficiency	At 4 plants of Kao Group, used water is purified by the plant's purification equipment before being discharged to nearby rivers, so the Group's business is related to fresh surface water. So Kao manage it as the important factor to influent the environment around our factory. Kao manages the volume of effluent by considering that it is about the same as the previous year if it is in the range of 5% difference. In 2022, the Odawara plant increased 11% in wastewater discharges to river. On the other hand, the Fuji Plant's amount of wastewater discharged into river decreased by 11%. The Kao Group's overall discharge to surface water decreased by 2.1% from the previous year, which is less than 5%, so we selected 'almost the same'. Kao plans to increase sales in order to achieve the 2030 target, so production at plants that discharge wastewater to surface water will increase and so will emissions.
Brackish surface water/seawater	Relevant	4991	Much lower	Other, please specify (Decrease in water intake volume)	At 6 plants and some offices in Kao Group, used water is purified by the plant's purification equipment before being discharged into the adjacent sea, so the Group's business is related to sea water. Kao is aware that the amount and quality of water discharged directly affect sea water quality. So Kao manage it as the important factor to influent the environment around our plants. Kao manages the volume of effluent by considering that it is about the same as the previous year if it is in the range of 5% difference. The volume of water withdrawal of

				due to convenience of contract with local government)	the Wakayama Plant which accounts for about 90% of Kao Group's drainage to the sea, significantly decreased from the previous year. As a result, the volume of wastewater to the sea decreased by 13% and the total amount of wastewater to the sea after purification decreased by 12% from the previous year, which is more than 10%, so "Much lower" is selected.
Ground water	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	Kao Group's business is not related to groundwater, as there are no plants or offices draining underground. We have never done drainage to groundwater and we will not do it in the future.
Third-party destinations	Relevant	2703	Lower	Increase/decrease in business activity	Many Kao plants discharge wastewater into sewer. Therefore, Kao is aware that the amount and quality of water discharged from such plants matter because they impact the quality of wastewater discharged from processing facilities run by other organizations located downstream of the sewer. For this reason, Kao manages discharging of wastewater to other organizations as one of the company's critical environmental load items. Kao manages the volume of effluent by considering that it is about the same as the previous year if it is in the range of 5% difference. In 2022, as a result of a decrease in total production volume and the efforts of Kao Group sites in water reduction activities, the amount of wastewater discharged to third parties decreased by 5.9% from the previous year. Since it is more than 5%, we chose "Lower."

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	Relevant	481	Lower	Other, please specify (In 2021, the amount of wastewater increased due to the expansion of facilities at the Kawasaki Plant, but in 2022, the amount of wastewater decreased as	1-10	At plants where secondary treatment is not enough to meet strict emission standards for wastewater such as COD, nitrogen, phosphorus, wastewater passes through additional facilities (tertiary treatment) before discharging. For example, at Toyohashi Plant, COD is discharged in the cleaning process and nutrient nitrogen is added in the biological treatment process of wastewater treatment, thus this treatment is necessary. The treatment includes biological nitrification denitrification and activated carbon treatment. Since Kao periodically conducts water quality inspections, the concerned plants meet all the effluent standards and voluntary standards.

				the situation returned to normal.)		In 2021, at Kawasaki Plant, which is one of the target plants, the amount of wastewater increased due to the increase in wastewater from filtration equipment, etc. due to the expansion of pure water production equipment, resulting in an increase of 12.8% compared to the previous year. However, wastewater decreased by 7.3% in 2022 from the previous year as the plant returned to normal operations. The total amount of wastewater at all the target plants decreased by 5.6% in 2020 compared to the previous year. Since it is more than 5%, "Lower" is selected.
Secondary treatment	Relevant	9609	Lower	Other, please specify (Decrease in water intake volume due to convenience of contract with local government)	61-70	In plants that do not meet effluent standards with only primary treatment, wastewater goes through secondary treatment facilities (biological treatment, coagulation sedimentation, etc.). For example, at Kashima Plant, COD, BOD, and SS are discharged in the reaction and cleaning processes, thus this treatment is necessary. The treatment is coagulation or biological treatment. For plants that meet water quality standards without removing phosphorus, nitrogen, and heavy metals from wastewater, we also carry out secondary treatment. Kao conducts water quality inspections on a regular basis, and most of the plants meet all the effluent standards and voluntary standards. We are currently considering applicable equipment for plants which may exceed the standards, in addition to the enhancement of operational management. One of the target plants, Wakayama Plant, which accounts for 45% of the total, had a significant decrease in water consumption in 2022 from the previous year, resulting in an 8.6% decrease in wastewater in 2022 compared to the previous year at the target plants. Since it is more than 5%, "Lower" is selected.
Primary treatment only	Relevant	128	Much higher	Change in accounting methodology	1-10	In plants that can meet the wastewater standards only by the primary treatment, the wastewater is discharged after passing through the primary treatment facility (physical treatment). For example, in a plant in Germany (KCG) discharges acid/alkali wastewater in the reaction process, which must be treated. The treatment includes pH adjustment. Kao conducts water quality inspections on a regular basis, and the plant meets all wastewater standards and voluntary standards. In addition, even if the pH of the wastewater after the primary treatment is adjusted and the wastewater is outsourced to a third party, the water quality is regularly inspected to confirm that it complies with the

						acceptance standards of the third party. For KCG, one of the target plants, which accounts for more than 98% of the total, the amount of wastewater was previously only from production, but from 2022, the operation was changed to include wastewater from sanitation facilities and a de-ironing plant (a plant that removes iron from well water that is used to cool production plants), resulting in a 39% increase in wastewater from the previous year. As a result, the amount of wastewater at the target plants increased 37% compared to the previous year. Since it is more than 10%, "Much higher" is selected.
Discharge to the natural environment without treatment	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	All the business sites directly operated by Kao, which discharge wastewater to the natural environment conduct wastewater treatment. Therefore, this category, discharge to the natural environment without treatment, is not relevant to the group.
Discharge to a third party without treatment	Relevant	318	About the same	Increase/decrease in business activity	11-20	Partially, some plants discharge wastewater directly into sewage, because they meet effluent standards without their own wastewater treatment facilities. Ehime Plant, for example, discharges only domestic wastewater and is deemed not to require industrial wastewater treatment. Although the amount of wastewater discharged at the target plants increased by 1.2% in 2022 compared to the previous year, it still remains below 5%. Therefore About the same is selected.
Other	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	None of the Kao Group's business sites are not relevant to this as all the Kao Group's business sites are applicable to one of the aforementioned selections.

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	35.8	Nitrates Phosphates	<Not Applicable>	Kao manufactured and sold phosphorus-containing surfactants and other phosphorus-containing compounds. As the raw wastewater contained phosphorus, we discharged in compliance with the standards set out in laws and regulations through appropriate monitoring and treatment. Production and use of surfactants containing phosphorus was discontinued in 2012 due to concerns about their impact on human health and the environment. Currently, Kao manufactures and sells nitrogen-containing compounds such as cationic surfactants. As a result, the raw wastewater contains nitrogen, which is discharged in compliance with the standards stipulated by laws and regulations through appropriate monitoring and treatment. On the other hand, in biological wastewater treatment, nitrogen and phosphorus are added as nutrients for micro-organisms, which in many cases remain in the effluent as nitrate and phosphate. To ensure compliance with the discharge standards set out in laws and regulations and to avoid nutrient deficiencies, monitoring and treatment is ongoing, taking local biodiversity into account.

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	15510590000	16516	93912509.0821022	Kao is conducting reduction activities with the goal of reducing the total amount of water intake per sales. Therefore, it is expected that the water intake efficiency will tend to improve in the future.

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	Yes	<Not Applicable>

W1.4a

(W1.4a) What percentage of your company's revenue is associated with products containing substances classified as hazardous by a regulatory authority?

Regulatory classification of hazardous substances	% of revenue associated with products containing substances in this list	Please explain
Annex XVII of EU REACH Regulation	Less than 10%	Products containing substances included in the Annex XVII of REACH regulation accounted for 0% of sales in 2022.
Candidate List of Substances of Very High Concern for Authorisation above 0.1% by weight (EU Regulation)	Less than 10%	Products containing substances on the Candidate List of Substances of Very High Concern (EU Regulation) that accounted for more than 0.1% of the total sales were 3% of the total sales in 2022.

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)	Yes	<Not Applicable>	<Not Applicable>

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

Supplier dependence on water Supplier impacts on water availability Procurement spend

Number of suppliers identified as having a substantive impact

128

% of total suppliers identified as having a substantive impact

1-25

Please explain

Kao identified 176 of its direct raw material suppliers as essential in the value chain for water risk considerations, based on internal criteria that took into account the volume and price of purchases. These 176 suppliers are asked to respond to water security through the SCP SC program and their responses are evaluated to determine if they have a substantial impact. Suppliers that were determined to be inadequate according to the Kao criteria, such as those that did not respond to or were not able to respond to the questions of "Identify your water risk sites" and "Identify water withdrawal, wastewater discharge, and consumption and the changes," were determined as suppliers with potential substantial impacts. In the 2022 survey, 128 suppliers were listed to have potential substantial impacts. This constitutes 4% of all suppliers. Therefore, 1-25% is selected. We send the evaluation results as a feedback to suppliers to promote their engagement.

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

Supplier self-assessment

Response to supplier non-compliance with this water-related requirement

Retain and engage

Comment

Kao discloses its "Partnership Requirements for Suppliers," which calls for suppliers to engage in activities that contribute to our ESG vision, "Walking the Right Path", "Making Thoughtful Choices for Society", and "Making the World Healthier & Cleaner". In "Walking the Right Path", the company requests suppliers to implement measures to ensure compliance with laws and regulations and social norms. Moreover, in one of the items under "Making the World Healthier & Cleaner", the company requests suppliers their voluntary management including for water conservation and effective water usage.

Water-related requirement

Reporting against a sustainability index with water-related factors (e.g., DJSI, CDP Water Security questionnaire, etc.)

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

26-50

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

26-50

Mechanisms for monitoring compliance with this water-related requirement

Supplier scorecard or rating

Response to supplier non-compliance with this water-related requirement

Retain and engage

Comment

Through the CDP SC program, we are demanding answers to water security. In 2022, we requested responses from 176 companies. This is 40% of the raw material procurement cost. For each of the responses from 176 companies, we rated the activity level of disclosure level, awareness level, management level, and leadership level, and provided feedback on the results.

W1.5d

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

Type of engagement

Incentivization

Details of engagement

Water management and stewardship is featured in supplier awards scheme

% of suppliers by number

76-99

% of suppliers with a substantive impact

76-99

Rationale for your engagement

Since Kao requests the plants of all suppliers to participate in Sedex, which allows us to survey water-related and other matters, respond to questions, and set data access rights in accordance with the Kao Guidelines for Supplier's Assessment, the coverage for both the number of suppliers and the purchase amount is 100%.

Impact of the engagement and measures of success

-Details of the engagement activity's beneficial outcomes

We believe that, as our suppliers improve their Sedex performance, their ability to respond to ESG issues including water management will improve. This will make our supply chain more resilient.

-A clear description of how success of supplier engagement is measured

By the end of 2021, suppliers of raw materials that had necessary settings in place that allow Kao to check their Sedex performance accounted for 88% of the total amount purchased by Kao. We consider that the first stage of success is the ability to check the activity status of all suppliers. In 2022, we evaluated Sedex performance on a five-point scale, specifically S, A, B, C, and No access right. Evaluation criteria are set in-house. Non-responding suppliers were assigned a No access right and suppliers with their response to a new SAQ at less than 80% were assigned a C. The new SAQ response

rate was 80% or higher and the management control score (0-5, the higher the value, the better the management) based on the Sedex assessment tool was rated as B for less than 2.0, A for 2.0 to 3.0, and S for 3.0 or higher. The evaluation results indicated that 62% of suppliers were rated either S or A. For Kao, the ultimate level of success is all suppliers gain an S or A rating.

Comment

Kao will continue to engage with all suppliers using Sedex.

W1.5e

(W1.5e) Provide details of any water-related engagement activity with customers or other value chain partners.

Type of stakeholder

Customers

Type of engagement

Education / information sharing

Details of engagement

Educate and work with stakeholders on understanding and measuring exposure to water-related risks. Share information about your products and relevant certification schemes.

Rationale for your engagement

The percentage of water consumption for each life cycle stage of Kao products is ascertained as follows. 88% is in the use stage, 11% in the raw material procurement stage, and 1% in the manufacturing stage. Therefore, Kao is working together with consumers, suppliers, and various other stakeholders involved in the plants to carry out a variety of activities. However, encouraging behavioral change among customers, who are most involved in the usage stage, which accounts for 88% of total usage, is effective in reducing tertiary water consumption. For this reason, we offer a program to instill the habit of conserving water whereby elementary schools could make use of the program in their classes. Our target is that the program is used in the classes of more than 400 schools each year, and that is taken as a success indicator of the program. In 2022, we gave lessons in 435 schools. The program encourages customers of all ages to conserve water by passing on the habits that elementary school students have developed to their parents at home.

Impact of the engagement and measures of success

We offer a program to instill the habit of conserving water whereby elementary schools could make use of the program in their classes. Our target is that the program is used in the classes of more than 400 schools each year, and that is taken as a success indicator of the program. In 2022, we gave lessons in 435 schools. The program encourages customers of all ages to conserve water by passing on the habits that elementary school students have developed to their parents at home.

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>	

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	<p>Kao utilize a wide range of chemical and home-use products products, and we continue to implement activities to minimize the negative impacts of chemical substances at every stage from development to post-use disposal.</p> <p>In our Basic Principle and Basic Policies on Environment and Safety, we undertake to "assess environment and safety aspects throughout the entire lifecycle of the products, from manufacture through disposal, when developing products and technologies" and to "offer products with a lower environmental burden."</p> <p>Under the ESG Managing Committee, chaired by the President & CEO, the SAICM Promotion Committee, established in 2012 as a committee to strategically address international goals related to chemicals management, is the main activity body. There are two ways to classify water pollutants in manufacturing and product development.</p> <p>In manufacturing, water pollutants are identified in compliance with the laws and regulations of the country or region in which the site is located. For example, the Water Pollution Prevention Act applies to Japanese manufacturing sites. In cases where there are differences among countries or regions in voluntary standards, pollutants are identified by applying or verifying examples of laws and regulations in other countries. In product development, at the time of product design, the company conducts risk assessment in order to control ingredients that are expected to be discharged into domestic wastewater.</p>	<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

Microplastics and plastic particles

Description of water pollutant and potential impacts

Some cleansers, body washes, and toothpastes contain scrubbing agents for the purpose of exfoliate pores or cleaning. One type of such scrubbing agent is "microplastic beads," which are solid plastic particles less than 5 mm in diameter.

When these microplastics are released into rivers and oceans where they are washed up, they do not decompose and remain in the environment, causing marine organisms to mistake them for food and eat them, leading to death in some cases and loss of biodiversity. There are also concerns that people may eat marine organisms that have ingested microplastics, which may cause health problems.

Value chain stage

Product use phase

Actions and procedures to minimize adverse impacts

Reduction or phase out of hazardous substances

Please explain

Products such as face washes, body washes, and toothpastes are products that may contain microplastics. Considering the situation related to microplastic beads, it is necessary to switch microplastic beads to alternative materials. Therefore, the complete switch from microplastic beads to alternative materials, and the absence of the use of microplastic beads in our products, was set as a success indicator. This initiative was completed at the end of 2016. All cleansers, body washes, and toothpastes produced and shipped in 2022 were microplastic beads free.

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

Annually

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

Tools on the market
International methodologies
and standards Other

Tools and methods used

WRI Aqueduct
Life Cycle
Assessment
Internal
company
methods
External
consultants

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

Custo
mers
Emplo
yees
Invest
ors
Local
communitie
s NGOs
Regulat
ors
Supplie
rs
Water utilities at a local level
Other water users at the basin/catchment level

Comment

Value chain stage

Supply chain

Coverage

Full

Risk assessment procedure

Water risks are assessed as a standalone issue

Frequency of assessment

Annually

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

Tools on the market

International methodologies

and standards Other

Tools and methods used

WRI Aqueduct

Life Cycle

Assessment

Internal

company

methods

Contextual issues considered

Water availability at a basin/catchment level

Stakeholder conflicts concerning water resources

at a basin/catchment level Water regulatory

frameworks

Status of ecosystems and habitats

Access to fully-functioning, safely managed WASH services for all employees

Stakeholders

considered

Local

communities

Suppliers

Water utilities at a local level

Other water users at the basin/catchment level

Comment

Value chain stage

Other stages of the value chain

Coverage

Partial

Risk assessment procedure

Water risks are assessed as part of an established enterprise risk management framework

Frequency of assessment

Annually

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

Tools on the market
International methodologies
and standards Other

Tools and methods used

WRI Aqueduct
Life Cycle
Assessment
Internal
company
methods

Contextual issues considered

Water availability at a basin/catchment level
Stakeholder conflicts concerning water resources
at a basin/catchment level Water regulatory
frameworks
Status of ecosystems and habitats
Access to fully-functioning, safely managed WASH services for all employees

Stakeholders considered

Local
communities
Suppliers
Water utilities at a local level
Other water users at the basin/catchment level

Comment

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
R o	Water is not only used in Kao’s products, but also that is needed during	Kao	-customer	In addition, once a year, an audit by the Responsible Care Promotion Committee

W 1	<p>production. Therefore, water risk needs to be assessed in Kao's all five businesses such as Hygiene & Living Care, Health & Beauty Care, Cosmetics, and Chemicals. Therefore, Kao uses Aqueduct for water risk assessment at all of its global production sites. If any one of the three items in the current drought risk survey results and the "water stress forecast" for 2030 and 2040 fell into the "Extreme high" category, the site was rated as a site with water risk as a primary evaluation. On the other hand, sites whose production volume is less than 1% of Kao's total are omitted as they will not have a significant impact. This is the primary assessment of water stress.</p> <p>External consultant investigates the details of water stress in the watershed, including production sites estimated to be highly water stressed in accordance with CBWT's guidelines. Sites that have not yet been evaluated by a consultant are designated as water risk sites, taking over the results of the primary evaluation.</p> <p>The sites where water-related risks have materialized in the past 30 years due to water withdrawal restrictions or water quality issues were assessed as having water risk. This is an internal method.</p> <p>LC-H2O is calculated annually over the product life cycle. Identify the high water use stage in raw material procurement, production, transportation, product use, and disposal.</p>	<p>identifies, evaluates, and addresses water-related risk every year.</p>	<p>Consumers are the most important stakeholder in assessing water risk. Consumer water consumption during product use accounts for approximately 90% of water consumption throughout the product life cycle.</p> <p>-employee</p> <p>Kao is a company that has a high affinity with water.</p> <p>-Investor & Community</p> <p>Kao requires a large amount of water for products, and we understand that gaining investor and community support is one of the requirements for sustainable corporate activities.</p> <p>-Regulatory authority</p> <p>It is essential to understand the trends of the regulatory authorities in charge of emission control and take necessary measures to continue stable operation of the factory.</p> <p>-supplies</p> <p>Kao's products use a wide variety of chemical substances and paper containers, and these raw materials are used in the three business fields that use the most water in Japan (chemical, steel, paper / paper processing / manufacturing).</p>	<p>Secretariat confirms the status of water risks such as short-term droughts, floods, and tsunamis. As criteria for assessing water risk, we use the primary drought risk assessment using Aqueduct, which was identified through risk analysis results, and a water stress assessment of the watershed by an external consultant. In a yearly audit, Kao confirms this assessment flow once a year. A long-term response plan is developed at each production site, depending on the level of risk.</p> <p>The officer responsible for SCM, the Responsible Care Promotion Committee Secretariat, and others check and determine the response and action for each production site. If the action and responses are found to be insufficient, the Responsible Care Promotion Committee requests improvement and gives guidance.</p>
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		<p>Therefore, we understand that most suppliers are highly dependent on water, and suppliers are important stakeholders when dealing with water risks.</p> <p>-Regional level water companies The water used in many factories is supplied by the local water system, but in this case, understanding the water management policy is the stability of the factory.</p> <p>-Other water users at the basin / catchment level We believe that it is important to use water within the range where Kao can coexist with other water users in the basin / catchment area.</p>	
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W4. Risks and opportunities

W4.1

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

Yes, only within our direct operations

W4.1a

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

- A definition of substantive financial or strategic impact is given

We define an event as having a substantive impact if the amount of financial damage exceeding 1 billion yen (or equivalent to roughly 0.1% of the sales figure) is expected to appear within ten years and continue for several years. We recognize that the relevant risk no longer exists if a measure for preventing the existence of the relevant risk has been developed and implemented.

We review the validity of this definition every year and correct it as necessary.

- The measure(s), metric(s) or indicator(s) used to identify substantive change

Kao evaluates substantial changes in terms of financial aspects and the continuity of direct operation.

- The threshold or amount of change in the metric/measure/indicator which indicates substantive change

We define an event as a substantive change if it is expected that the amount of financial damage will exceed 1 billion yen and a suspension of our operation in terms of direct operation for one day or more will appear within ten years. We define our production bases in areas marked with a high water risk level or higher either in 2030 or 2040 by Aqueduct, as potential changes. We recognize that the relevant risk ceases to exist if a measure has been developed and implemented to prevent the existence of the relevant risk.

We review the validity of this definition every year and correct it as necessary.

- Whether the definition applies to direct

operations, or supply chain, or both The above

definition applies to both direct operation and

the supply chain.

- At least one example of substantive impact considered

In Japan, which accounts for over 60% of Kao's sales, torrential downpours hightide occurring due to climate change and natural disasters causing devastating damage, though in a limited area, are becoming apparent nowadays.

There are following risks to direct operation:

If such a torrential downpour hightide occurs in an area where there is a Kao plant or logistics base, we may need to suspend the production and supply of products, which would lead to not only a decrease in sales, but also reduced profit due to the cost of repairs incurred. For example, the book value of the facilities at the Wakayama Plant is 48 billion yen. If about 2% of the facility is damaged with the storm surge, it is equivalent to 1 billion yen, which Kao defines as the amount that will have a substantial impact on businesses. Based on our scenario analysis on climate change, Wakayama Plant is expected to be more likely to suffer from storm surges due to global warming. Therefore, the person in charge in the site is currently considering measures to reduce risks such as seawalls.

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
R o w 1	8	1-25	We recognize that many of the sites in Asia which make up the majority of Kao's bases have water risks.

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

China	Yangtze River (Chang Jiang)
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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

Country/Area & River basin

Philippines	Other, please specify (Cabulig)
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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

Country/Area & River basin

Thailand	Other, please specify (Bang Pakong)
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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

Country/Area & River basin

Indonesia	Other, please specify (Saluran Irigasi Kali Malang and Sungai Bekasi)
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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

Country/Area & River basin

Taiwan, China	Other, please specify (Touqian River)
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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

Country/Area & River basin

Mexico	Balsas
--------	--------

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

Country/Area & River basin

Spain	Other, please specify (El Besos)
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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

Country/Area & River basin

Japan	Other, please specify (Toyokawa)
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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

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

China	Yangtze River (Chang Jiang)
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Type of risk & Primary risk driver

Chronic physical	Water stress
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Primary potential impact

Constraint to growth

Company-specific description

Water resources are becoming increasingly scarce in China, which is due to the declining trend in precipitation and groundwater levels. In particular, China's business and industrial centers have very large populations and high industrial production, making water resources scarce. According to WRI Aqueduct Water Stress Projections, the water supply in the area where Kao Corporation Shanghai operates will be under strong stress in 2040. At the same time, interviews with plant employees have indicated that the number of residents will be on an upward trend in this area and the quality of water for daily living is predicted to deteriorate.

Meanwhile, Kao has a sales target of 2.5 trillion yen (161% of the 2022 target) for 2030. China is one of the extremely important regions for the Kao Group to achieve this target, and it is essential to increase production at the Chinese plants.

From the information described above, Kao has concluded that the risk to water availability and quality will increase in China, thus limiting future growth or profit increases for these plants. Production cannot increase if water availability will not rise or the efficiency of water use inside the plants does not increase. If this happens, production will remain the same even though it actually needs to increase by 61%, and resulting production will fall 38% short ($((100/161) - 1) * 100 = -38\%$).

Timeframe

More than 6 years

Magnitude of potential impact

Medium

Likelihood

More likely than not

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

90871000000

Potential financial impact figure - minimum (currency)

<Not Applicable>

Potential financial impact figure - maximum (currency)

<Not Applicable>

Explanation of financial impact

In 2018, sales in China were 135.629 billion yen. If sales in China grow at the same rate as that needed for the Kao Group to achieve the 2030 sales target, sales in China in 2030 will be 226.5 billion yen. If this sales growth does not become a reality due to water risk, the impact is forecast to be 90.871 billion yen ($90.871 = 226.5 - 135.629$)

Primary response to risk

Establish site-specific targets

Description of response

Kao has set a goal to improve the water usage efficiency in the entire Group by 45% by 2030. To achieve this, we set company-wide goals on a yearly basis. Based on this company-wide goals, each business site in each country sets a goal every year. In order to achieve the goal, we reuse water for boilers and cooling, recover steam after use, purify and reuse water used in processes, and effectively use rainwater. Since the area where Kao Corporation Shanghai operates has a particularly high risk of water supply in the future, the company is ambitiously working on to improve water consumption efficiency and continues to reduce the risk of hindering business growth. At the plant of Kao Corporation Shanghai, it is promoting activities to improve water efficiency, such as leak prevention measures and the introduction of water-saving equipment, water withdrawal in 2022 increased by 2.0% compared to the previous year.

Cost of response

8000000

Explanation of cost of response

The volume of water intake by Kao Corporation Shanghai, a plant that stands in a river basin, was 51.88 million liters in 2022. If this plant's production increases at the same rate as that needed for the Kao Group to achieve the 2030 sales target, but the intensity of water use remains the same, the volume of water intake will increase by

31.74 million liters. The cost of recycling effluent generated from this additional amount of water has been calculated obtained. At one particular manufacturer, the annual running cost of an effluent recycling facility with a water-treatment capacity of 25 million liters per year is 6.3 million yen. When applying this running cost to our case, the necessary cost will be 8.00 million yen (8.00 = 6.3/25*31.74).

W4.2c

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

	Primary reason	Please explain
Row 1	Risks exist, but no substantive impact anticipated	<p>Kao identified 176 of its direct raw material suppliers as essential in the value chain for water risk considerations, based on internal criteria that took into account the volume and price of purchases. These 176 suppliers are asked to respond to water security through the SCP SC program and their responses are evaluated to determine whether significant water risks exist in Kao's value chain. Based on the answers to the questions "Conduct a survey of water risk locations" and "Determine the amount of water withdrawn, discharged, consumed, and changes in consumption," it was determined that no suppliers are exposed to significant water risk. In other words, based on these results, we recognize that plants of suppliers are significantly affected by water risk financially or strategically.</p> <p>The flow of activities and results are managed by the Risk and Crisis Management Committee. Many of Kao's products require large amounts of water at the time of use during the life cycle of the product. Many of Kao's products require large amounts of water at the time of use during the life cycle of the product. If water infrastructure is not installed at a pace commensurate with the GDP growth rate of the countries and regions where Kao is expected to dramatically increase sales in the future, product sales may be at risk. A person in charge investigate the water infrastructure. As a result, at this time, we do not expect any significant financial or strategic impact during the product use phase.</p>

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

Cost savings

Company-specific description & strategy to realize opportunity

Kao has set a target of reducing the amount of water consumption in direct operations by 45% compared to 2005 by 2030. In addition, as a milestone, we have set a goal of reducing 43% by 2025. At each Kao plant, we are working on reduction activities to achieve the company-wide target set at the end of the previous year (2022 target: 41% reduction). Each plant uses water for compounding products and cleaning and cooling equipment. In order to continue stable operation of plants and conserve the ecosystem of the basin where the plants operate, we set a reduction target for water consumption every year and work on water consumption reduction and reuse from the viewpoint of 3R (Reduce, Reuse, Recycle). For example, Kao Thailand has reduced the amount of water consumption by making efforts to improve the efficiency of pure water production. In 2022, the total water consumption of the Kao Group was reduced by 17% compared to 2005. If this reduction is achieved, 1.480billion yen will be reduced. This reduction estimate is greater than the value which Kao determines to have a material impact. Therefore, activities to increase water efficiency in direct operations are viewed as strategic opportunities.

Estimated timeframe for realization

Current - up to 1 year

Magnitude of potential financial impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

1250000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact

The sales target for Kao products for 2030 is 2.5 trillion yen. If the cost of water required to manufacture such products accounts for 0.1% of sales, the cost of water will be 2.5 billion yen. Thus, it can be expected that improving the water usage efficiency by 50% will reduce the cost by 1.25 billion yen.

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)

Kao Corporation Shanghai

Country/Area & River basin

China	Yangtze River (Chang Jiang)
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Latitude

31.03815

Longitude

121.38262

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)

51.88

Comparison of total withdrawals with previous reporting year

About the same

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

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

51.88

Total water discharges at this facility (megaliters/year)

42.48

Comparison of total discharges with previous reporting year

About the same

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

42.48

Total water consumption at this facility (megaliters/year)

9.4

Comparison of total consumption with previous reporting year

About the same

Please explain

In 2022, production decreased by 16% compared to the previous year, but water intake increased by 2.0%, discharged water increased by 3.2%, and water usage decreased by 2.8%. One of the causes is the change in product composition. While production of beauty care and household products decreased, production of sanitary products, which use a lot of water, increased. In addition, during the lockdown due to the spread of the new coronavirus infection, more than 100 employees stayed at the factory and continued production, so the consumption of domestic water increased.

Facility reference number

Facility 2

Facility name (optional)

Pilipinas Kao, Incorporated

Country/Area & River basin

Philippines	Other, please specify (Cabulig)
-------------	---------------------------------

Latitude

8.652755

Longitude

124.756451

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)

1144.06

Comparison of total withdrawals with previous reporting year

About the same

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

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

1144.06

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)

191.93

Comparison of total discharges with previous reporting year

Higher

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

191.93

Discharges to groundwater

0

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year)

952.13

Comparison of total consumption with previous reporting year

About the same

Please explain

In 2022, production will decrease by 6.0% compared to the previous year, but water intake will increase by 2.0%, wastewater will increase by 9.5%, and water consumption will increase by 1.1%. The increase in water withdrawals and water usage is due to the high water usage due to the hydraulic testing of the new storage tanks in 2022. The increase in wastewater discharge is also due to the addition of rainwater to the normal wastewater discharge from the factory due to the many heavy rains in the second half of 2022.

Facility reference number

Facility 3

Facility name (optional)

Kao Industrial (Thailand) Co., Ltd.

Country/Area & River basin

Thailand	Other, please specify (Bang Pakong)
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Latitude

13.326396

Longitude

101.003311

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)

617.88

Comparison of total withdrawals with previous reporting year

About the same

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

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

617.88

Total water discharges at this facility (megaliters/year)

467.37

Comparison of total discharges with previous reporting year

About the same

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

467.37

Total water consumption at this facility (megaliters/year)

150.51

Comparison of total consumption with previous reporting year

Lower

Please explain

In 2022, production volume will increase by 1.2% compared to the previous year, but water intake volume will increase by 0.5% year-on-year, wastewater volume will increase by 3.9% year-on-year, and water consumption volume will decrease by 8.7% year-on-year. This is the result of water reduction activities implemented in 2022.

Facility reference number

Facility 4

Facility name (optional)

PT. Kao Indonesia Chemicals

Country/Area & River basin

Indonesia	Other, please specify (Saluran Irigasi Kali Malang and Sungai Bekasi)
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Latitude

-6.219573

Longitude

107.065754

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)

32.41

Comparison of total withdrawals with previous reporting year

Much lower

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

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

32.41

Total water discharges at this facility (megaliters/year)

255.56

Comparison of total discharges with previous reporting year

Much lower

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

255.56

Total water consumption at this facility (megaliters/year)

176.85

Comparison of total consumption with previous reporting year

About the same

Please explain

In 2022, although the production volume decreased by 17% compared to the previous year, the amount of water intake decreased by 12% compared to the previous year, the amount of wastewater decreased by 20%, and the amount of water used increased by 3.9%. The reason why the rate of decrease in wastewater discharge exceeded the rate of decrease in water intake was that in 2021, rainwater mixed with the WWT increased the amount of wastewater discharged, but in 2022, the amount of rainwater mixed in was low. As a result, the amount of water used (= amount of water intake - amount of wastewater) appears to be increasing, but it is actually decreasing.

Facility reference number

Facility 5

Facility name (optional)

Kao (Taiwan) Corporation

Country/Area & River basin

Taiwan, China	Other, please specify (Touqian River)
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Latitude

24.803945

Longitude

120.964686

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)

185.72

Comparison of total withdrawals with previous reporting year

About the same

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

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

185.72

Total water discharges at this facility (megaliters/year)

81.7

Comparison of total discharges with previous reporting year

About the same

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

81.7

Total water consumption at this facility (megaliters/year)

104.72

Comparison of total consumption with previous reporting year

Higher

Please explain

In 2022, production decreased by 7.8% compared to the previous year, but water intake increased by 3.1% compared to the previous year. This was due to a 6.6% year-on- year increase in water usage due to an increase in the ratio of products containing a large amount of water. In addition, as a result of promoting activities to reduce cleaning water used in production lines, the amount of wastewater decreased by 1.0% compared to the previous year.

Facility reference number

Facility 6

Facility name (optional)

Quimi-Kao S.A. de C.V.

Country/Area & River basin

Mexico	Balsas
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Latitude

19.947483

Longitude

-101.640844

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)

204.79

Comparison of total withdrawals with previous reporting year

Lower

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

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

175.18

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

129.32

Total water discharges at this facility (megaliters/year)

123.62

Comparison of total discharges with previous reporting year

Much lower

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

123.62

Total water consumption at this facility (megaliters/year)

80.88

Comparison of total consumption with previous reporting year

Much higher

Please explain

In 2022, production decreased by 5.3% compared to the previous year, water intake decreased by 5.6% compared to the previous year, but water discharge decreased by 15% compared to the previous year. In 2021, due to deterioration in the quality of reclaimed water purchased from an external wastewater treatment plant, a large amount of water was rejected because it did not meet internal water quality standards. This is because the amount of rejected water has been greatly reduced by starting to purchase osmotic membrane-treated water directly.

In 2021, we reduced the intake of reclaimed water purchased from external sources and increased the intake of groundwater. water intake is decreasing.

Facility reference number

Facility 7

Facility name (optional)

Kao Corporation S.A. Mollet plant

Country/Area & River basin

Spain	Other, please specify (El Besos)
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Latitude

41.525107

Longitude

2.213861

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)

148.97

Comparison of total withdrawals with previous reporting year

About the same

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

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

148.97

Total water discharges at this facility (megaliters/year)

107.83

Comparison of total discharges with previous reporting year

About the same

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

107.83

Total water consumption at this facility (megaliters/year)

41.14

Comparison of total consumption with previous reporting year

Lower

Please explain

In 2022, the production volume decreased by 17.5% compared to the previous year, but the amount of

water intake decreased by 4.7% compared to the previous year, the amount of discharged water decreased by 2.6% compared to the previous year, and the amount of water used decreased by 9.9% compared to the previous year. As a baseline, there is water usage (e.g. steam generation, cleaning, etc.) that does not depend on changes in production volume, so the rate of decrease in water intake and wastewater is smaller than the rate of decrease in production volume.

Facility reference number

Facility 8

Facility name (optional)

Kao Corporation, Toyohashi plant

Country/Area & River basin

Japan	Other, please specify (Toyokawa)
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Latitude

34.708937

Longitude

137.322836

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)

178.88

Comparison of total withdrawals with previous reporting year

About the same

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

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

178.88

Total water discharges at this facility (megaliters/year)

97.58

Comparison of total discharges with previous reporting year

About the same

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

97.58

Discharges to groundwater

0

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year)

81.29

Comparison of total consumption with previous reporting year

Higher

Please explain

In 2022, the production volume will increase by 2.3% compared to the previous year, the amount of water intake will increase by 3.5% compared to the previous year, and the amount of wastewater will decrease by 1.0% compared to the previous year. On the other hand, the amount of water used increased by 9.5% from the previous year, but this was due to the increase in the amount of water used for products, as well as the large amount of industrial water used for the warehouse construction work on the premises.

(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

ISAE3000, limited assurance

Please explain

<Not Applicable>

Water withdrawals – volume by source

% verified

76-100

Verification standard used

ISAE3000, limited assurance

Please explain

<Not Applicable>

Water withdrawals – quality by standard water quality parameters

% verified

Not verified

Verification standard used

<Not Applicable>

Please explain

This is not a company-wide management target item.

Water discharges – total volumes

% verified

76-100

Verification standard used

ISAE3000, limited assurance

Please explain

<Not Applicable>

Water discharges – volume by destination

% verified

76-100

Verification standard used

ISAE3000, limited assurance

Please explain

<Not Applicable>

Water discharges – volume by final treatment level

% verified

Not verified

Verification standard used

<Not Applicable>

Please explain

This is not a company-wide management target item.

Water discharges – quality by standard water quality parameters

% verified

76-100

Verification standard used

ISAE3000, limited assurance

Please explain

<Not Applicable>

Water consumption – total volume

% verified

Not verified

Verification standard used

<Not Applicable>

Please explain

This is not a company-wide management target item.

W6.1

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

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

W6.1a

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

	Scope	Content	Please explain
Row 1	Company-wide	<p>Description of business dependency on water</p> <p>Description of business impact on water</p> <p>Commitment to align with international frameworks, standards, and widely-recognized water initiatives</p> <p>Commitment to prevent, minimize, and control pollution</p> <p>Commitment to reduce or phase-out hazardous substances</p> <p>Commitment to reduce water withdrawal and/or consumption volumes in direct operations</p> <p>Commitment to reduce water withdrawal and/or consumption volumes in supply chain</p> <p>Commitment to water stewardship and/or collective action</p> <p>Commitments beyond regulatory compliance</p> <p>Reference to company water-related targets</p> <p>Acknowledgement of the human right to water and sanitation</p> <p>Recognition of environmental linkages, for example, due to climate change</p>	<p>Kao's products such as liquid laundry detergents and shampoos use water as one of raw materials, and Kao's business relies heavily on water. Raw material stage accounts for about 10% of the amount of water consumed throughout the product life cycle. And Kao's business has a great impact on local water risks, as the amount of water consumed at the use stage accounts for about 90%.</p> <p>Water- and environment-related policies are included in the following 6 policies. All policies apply to the entire Kao Group. Kirei Lifestyle Plan as our ESG strategy</p> <ul style="list-style-type: none"> -Company water targets and goals: Kao reduces its lifecycle water consumption per unit of production by 10% (target year: 2030, base year: 2017). -Commitment to align with public policy initiatives, such as the SDGs: Kao's water targets are related to SDGs 6, 12, 15 and 17. -The company aims to achieve a 1% reduction in water withdrawal in direct operations each year. Environmental Declaration -Commitment to water-related innovation: Kao has set a target of reducing water (in Japan) of overall Kao Group product lifecycles by 10% in the medium-term target for the year 2030 (per unit of sales, 2017 base year) Design for Environment Guidelines -Commitment to water stewardship and/or collective action: Kao is checking reduce water amount at use phase in Design for Environment Guidelines. Responsible Care Policy -Commitments beyond regulatory compliance: Kao shall comply with all relevant laws, regulations, and agreements in all aspects of its business activities, and shall establish and faithfully implement voluntary standards of conduct. -The company strives to continue to reduce environmental impact by optimizing the use of water, raw materials, and other resources; promoting resource recycling by reducing,

			<p>reusing, and recycling waste, including plastics; and disposing of wastewater and waste gas appropriately.</p> <p>Purchasing guidelines</p> <ul style="list-style-type: none"> .Description of water-related standards for procurement .Reference to international standards and widely-recognized water initiatives .In the Partnership Requirements for Suppliers, the company requests suppliers their voluntary management including for water conservation and effective water usage. <p>Human rights policy ; following content apply to WASH</p> <ul style="list-style-type: none"> .Acknowledgement of the human right to water and sanitation: Kao provides a safe and pleasant working environment. <p>Responsible Chemicals Management Promotion Policy</p> <ul style="list-style-type: none"> .Minimize environmental impact throughout the product life cycle
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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
Chief Executive Officer (CEO)	<p>Water-related risks are managed by the RC Committee and the Risk Crisis Committee under the jurisdiction of the Internal Control Committee(chaired by the CEO). Persons (executive officer) to deal with each identified risk are assigned. The person in charge shall formulate and implement countermeasures and report the status of the measures to the committee.</p> <p>Opportunities for water are managed by the ESG Management Committee. A person in charge (executive officer) shall be appointed for each identified opportunity. The person in charge shall formulate and implement the implementation of the KPI and the overall promotion plan, and the committee shall report on the progress. The CEO serves as the chairman of the committee.</p> <p>The activities of the above committees are being oversight by the board. Accordingly, the CEO has all responsibility and authority for Kao's water issues.</p> <p>Case Study: In 2022, the Board of Directors has decided that there is no need to revisit the water target of "10% reduction in full-lifecycle water use per unit of sales (Base year: 2017)" because the target is on track and achieving the target would contribute to avoiding water risks in society. Therefore, the CEO has</p>

	all responsibility and authority of Kao to comply with water-related laws and regulations and to set and achieve water reduction targets.
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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 acquisitions, mergers, and divestitures Overseeing major capital expenditures Providing employee incentives Reviewing and guiding annual budgets Reviewing and guiding business plans Reviewing and guiding corporate responsibility strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and	The Risk and Crisis Management Committee holds a meeting at least four times per year and the Responsible Care Promotion Committee checks the status of activities at bases every month. Both committees are under the Internal Control Committee, which is under the control of the Board of Directors, and manage water-related risks. The ESG Management Committee, which is under the control of the Board of Directors, holds a meeting at least four times per year and manages water-related opportunities. The status of activities of these committees is explained to the Board of Directors by the secretary-general of each committee. Since water-related issues have an impact on Kao's business and thus must be supervised as one of the business management issues, they are under the oversight of the Internal Control Committee and the ESG Committee, with the CEO serving as chairperson.

	guiding strategy Reviewing innovation/R&D priorities Setting performance objectives	
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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
R o w 1	Yes	Worked in R&D that is responsible for the development of water-related products for one year or more, or in divisions related to water risk management such as the ESG Division and the Supply Chain Management Division, or served as a member of the Risk & Crisis Management Committee.	<Not Applicable>	<Not Applicable>

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 Executive Officer (CEO)

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

Under the Board of Directors is the Internal Control Committee(ICC). Risk and Crisis Management Committee(RCMC) and Responsible Care Promotion Committee(RCPC), both under the ICC, manage water-related risk, while ESG Committee, under the Board, manages water-related opportunities. CEO chairs RCMC and RCPC. Under CEO's direction, these committees report on goals, plans, and results for water-related issues and revision proposals for plans (if necessary) to the Board once a year or more.

This means water-related issues are reported to the Board four or more times a year.

RCMC has established a system for managing water risk and a plan for operating the system, and RCPC checks that the plan is carried out properly at all divisions, subsidiaries, and affiliated companies. ESG Committee is responsible for setting the direction of activities and promoting them. CEO is responsible for water risk management system developed by RCMC, its operational plans and implementations checked by RCPC.

W6.4

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

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

W6.4a

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

	Role(s) entitled to incentive	Performance indicator	Contribution of incentives to the achievement of your organization's water commitments	Please explain
Monetary reward	Director on board Corporate executive team Chief Procurement Officer	Reduction of water withdrawals – direct operations Reduction of water withdrawal	Kao's directors and executive officers can receive long-term incentive compensation according to ESG strength metrics, including performance of water activities. The evaluation of the ESG strength evaluation index is determined by the evaluation by external indicators such as DJSI, CDP, Climate Change, Water Security, and Forest, as well as by the degree of achievement of goals such as "10% reduction in full lifecycle water use per unit of sales (Base year: 2017)" and others. Long-term incentive rewards are paid 0-40% of the basic reward depending on the outcome.Kao's Chief Procurement Officer (CPO) are eligible to receive long-term incentive compensation according to ESG	Our Policies for Procurement states that "We strive to fulfill our corporate social responsibilities aiming to contribute to the achievement of a sustainable society by giving full consideration to preservation of resources and the environment, safety, human rights and other social issues. We exchange necessary information with suppliers and evaluate mutually with sincerity trading conditions, mutual behavior and so forth in transactions, striving to improve both sides." Also, our Partnership Requirements for Suppliers states voluntary management

		<p>and/or consumption volumes – supply chain Improvements in water efficiency – supply chain Improvements in water efficiency – product use Improvements in wastewater quality – direct operations Improvements in wastewater quality – supply chain Supply chain engagement</p>	<p>strength metrics, including performance of water activities. The evaluation of the ESG strength evaluation index is determined by the evaluation by external indicators such as DJSI, CDP, Climate Change, Water Security, and Forest, as well as by the degree of achievement of goals such as “10% reduction in full lifecycle water use per unit of sales (Base year: 2017)” and others. In addition, CPO is eligible to receive short-term incentive compensation based on individual performance related to stable procurement of raw materials, such as reduction of water withdrawal and consumption in the supply chain, water efficiency improvements and wastewater improvements, and supplier engagement. Individual performance for short-term incentive compensation ranges from 0-25% of base compensation, depending on performance.</p>	<p>including for water conservation and effective water usage. Therefore, Kao's Chief Procurement Officer's (CPO) long-term and short-term incentive compensation includes reductions in supply chain water withdrawal and consumption, water efficiency improvements and wastewater improvements, and supplier engagement.</p>
Non-monetary reward	No one is entitled to these incentives	<Not Applicable>	<Not Applicable>	Kao does not grant C-Suite employees or board members recognition (non-monetary).

W6.5

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

Yes, direct engagement with policy makers

W6.5a

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

At each Kao site, we regularly check public policies and regulations in the relevant areas regarding water risk every year. Significant changes in public policies will be reported to the Risk & Crisis Management

Committee (RCMC). RCMC confirms the impact of policy changes on all business sites, and if there is any inconsistency, proposes changes to their policies and targets. These proposals will be deliberated and approved by the ESG Managing Committee chaired by the CEO. And then, Kao supports the Water Project activities of Japan's policy makers who are working on communicating the importance of water used in Japan. To support their activities, the secretariat of the ESG Managing Committee, which manages water-related opportunities, consults with the relevant policy makers to understand the objective and details of such activities. The secretary-general of the ESG Managing Committee determines whether the details are consistent with Kao's policies and how Kao should support such activities. If there is any inconsistency with Kao's policies, Kao will report it to the policy makers and ask for the inconsistency to be resolved. If the inconsistency is not resolved, Kao will suspend the support for such activities based on the decision of the secretary-general of the ESG Managing Committee.

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)

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	In 2019, Kao declared that the Kao Group will make a major shift to ESG-driven management as it takes on new challenges to build the foundation for enabling sustainable growth in 2025, 2030, and beyond. We are promoting activities that embody the Kirei Lifestyle Plan (KLP), an environmental, social, and governance (ESG) strategy announced in April 2019. In the KLP, Kao aims to realize three commitments by 2030. Of these, water conservation is included in Kao's actions, as the company has declared that by 2030, 100% of our products will leave a full life cycle environmental footprint that science says our natural world can safely absorb. In 2019, we set a target for water conservation: "10% reduction in full-lifecycle water use per unit of sales by 2030 (Base year: 2017)." Achievement of this goal is a success indicator of activities related to water conservation. The "11- 15"year period is selected, given that we have set a 2030 target in 2019.

Strategy for achieving long-term objectives	Yes, water-related issues are integrated	11-15	We have set as a mid- to long-term goal for water conservation that by 2030, 100% of our products will leave a full lifecycle environmental footprint that science says our natural world can safely absorb. In 2019, we have set a target of 10% reduction in full-lifecycle water use per unit of sales by 2030 (Base year: 2017). As the product use stage accounts for around 90% of total lifecycle water usage for Kao products, it is necessary to develop water-saving products. Since the development period for new products that will contribute to achieving the target is set at 11-15 years, the “11-15” year period is selected.
Financial planning	Yes, water-related issues are integrated	11-15	We have set as a mid- to long-term goal for water conservation that by 2030, 100% of our products will leave a full lifecycle environmental footprint that science says our natural world can safely absorb. In 2019, we have set a target of 10% reduction in full-lifecycle water use per unit of sales by 2030 (Base year: 2017). As the product use stage accounts for around 90% of total lifecycle water usage for Kao products, it is necessary to develop water-saving products. Since the development period for new products that will contribute to achieving the target is set at 11-15 years, and R&D expenses for this purpose are allocated each year.

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)

13

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

5

Water-related OPEX (+/- % change)

7.9

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

5

Please explain

CAPEX and OPEX are calculated annually. CAPEX is the annual tally of investments made in relation to water abstraction and wastewater treatment, including measures to reduce water abstraction, improve wastewater treatment capacity (e.g. updating equipment related to wastewater treatment facilities) and prevent wastewater spillages (e.g. updating pipes and gate valves), etc. CAPEX in 2021 was JPY 571 million, compared with JPY 645 million in 2022. The increase was $(645-571)/571 = 13\%$. And operational costs (e.g. wastewater chemical costs, etc.) for maintaining and managing water intake and wastewater-related facilities are counted each year as OPEX. OPEX in 2021 was JPY 216 million, while in 2022 it was JPY 233 million, resulting in an increase of $(233-216)/216 = 7.9\%$. Next year, both CAPEX and OPEX are expected to increase by 5%, as water-related capital investment is expected to increase in line with the increase in production facilities due to the increase in production volumes.

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

	Use of scenario analysis	Comment
Row 1	Yes	

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
Row 1	Climate-related	Parameters Future temperature rise Assumption Changes in precipitation patterns due to rising temperatures Analytical choice 2 °C and 4 °C	We reviewed published literature to assess the impact of climate change on palm grown in Malaysia and Indonesia, where Kao's purchase palm oil from. As a result, we confirmed that the increase in temperature is likely to decrease palm yields, such as the decline in the number of areas suitable for cultivation as the temperature rises, and the reduction of yields by about 10% in Malaysia as the temperature rises by an additional one degree Celsius (about 2 degrees Celsius above the pre-industrial level). The reason for this is that as the temperature rises, the rainfall conditions change, so that the period of time for growing palm that does not satisfy the required amount of precipitation will be longer throughout the year. For example, climate change increases the risk of poor crops of palm oil, which is one of Kao's main ingredients, and that can lead to high prices and difficulty in purchasing. If about 500,000 tons of palm oil cannot be purchased, not only will it make us unable to sell chemical products such as	If the procurement of palm oil is delayed, it will affect the business that accounts for 96% of our sales, excluding the Life Care Business. To prevent this, Kao aims to procure 100% RSPO (Roundtable on Sustainable Palm Oil)-certified oil for the palm oil used by the Kao Group by 2025. RSPO certified oil does not impact to deforestation. The ratio of the certified oil purchase was 34% in 2022. In addition, Kao is implementing the SMILE program to support smallholders to improve perishability and obtain RSPO certification, with the aim of expanding production of RSPO-certified oil. Moreover, we have joined a leading sustainable materials company Geno and Unilever as founding members of a venture company that aims to commercialize plant-derived raw materials as an alternative to those derived from palm oil. Kao has made an investment in the venture as an addition to a US\$120 million (approximately 17 billion yen) investment that has already been announced by Geno and Unilever. This venture will stabilize and strengthen the supply chain in the \$652 billion global home and personal care market as demand for sustainably sourced palm oil increases worldwide, and will provide socially and

	scenarios RCP1.9, RCP2.6, RCP8.5 Quantitative, qualitative or mixed mixed	surfactants, but we will also become impossible to manufacture household products such as detergents and cleaning agents. This is expected to impact businesses that account for 80% of our sales.	environmentally responsible and responsibly sourced palm oil alternatives to the market. We are also committed to supplying socially and environmentally responsible and responsibly sourced palm oil substitutes to the market.
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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

At Kao plants, we use water in different quality levels according to the requirement of the facility and product. Since improving the water quality requires additional processes, we indicate water costs according to the water quality level and manage them as one of manufacturing cost items.

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	Products that use less water when used than products that have been widely used in the area.	<Not Applicable>	As a result of investigating the amount of water consumption in Kao products for each phase, it was found that 90% of the total is related to the product use phase. Therefore, Kao is developing products with the goal of reducing the amount of water consumption when using the products.

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	Yes	<Not Applicable>
Water withdrawals	Yes	<Not Applicable>
Water, Sanitation, and Hygiene (WASH) services	No, but we plan to within the next two years	Kao is considering setting targets related to WASH services.
Other	No, and we do not plan to within the next two years	

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

Other, please specify (Percentage of reduction in total water intake per unit of sales)

Year target was set

2013

Base year

2005

Base year figure

0

Target year

2030

Target year figure

45

Reporting year figure

47.8

% of target achieved relative to base year

106.222222222222

Target status in reporting year

Underway

Please explain

With 2005 as the base year, Kao's water intake (all sites) reached 16.5 million m³, with a reduction rate of 47.8% on a per-unit basis in 2022. The absolute volume decreased from 17.3 million m³ in 2021.

Target reference number

Target 2

Category of target

Water withdrawals

Target coverage

Business activity

Quantitative metric

Reduction in withdrawals per revenue

Year target was set

2018

Base year

2017

Base year figure

0

Target year

2030

Target year figure

10

Reporting year figure

3

% of target achieved relative to base year

30

Target status in reporting year

Underway

Please explain

Water usage over the entire product life cycle was 2984 million m³, an increase of 23 m³ compared to 2017. We released water-saving shampoos, etc., but the cause was that sales of dish detergent, etc. increased.

Y2017(Base year) 2961m³ Sales 1489.4 billion yen

Unit sales 0.198m³/100 million yen. Y2022 2984m³

Sales 1551.1 billion yen Unit sales 0.192m³/100 million yen.

$(1 - 0.192 / 0.198) * 100 = 3\%$

Target reference number

Target 3

Category of target

Water pollution

Target coverage

Business activity

Quantitative metric

Reduction of hazardous substance use

Year target was set

2012

Base year

2012

Base year figure

100

Target year

2018

Target year figure

0

Reporting year figure

0

% of target achieved relative to base year

100

Target status in reporting year

Achieved

Please explain

Kao aimed to complete the switch to alternative materials for the microplastic beads it had been using. Kao has set a target of 0% of applicable products by using alternative materials in all products compared to 100% of applicable products in 2012 standards. The replacement of microplastic beads has been completed, and there will be no use in 2022, so the rate is 0%.

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	Water withdrawal (all sites) , water consumption during product use(Kao Group in Japan) , Water consumption across the entire product lifecycle (Kao Group), COD pollution load(all production site), Water withdrawal amount by source, Wastewater discharge by destination	ISAE 3000	The status of water-related items that Kao has set as goals is reviewed every year by a third party. We disclose the results in our Sustainability Data Book 2022.

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	Yes	Direct operations Supply chain Product use phase	

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	Yes	Product use phase	

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	Yes	Direct operations	Regulatory Reputational Technology	An increase in the amount of waste generated from business sites accompanying the manufacture of new products, failure to develop technology to reduce the amount of plastic used and technology to use recycled plastic, etc. Rise in treatment costs due to an increase in the amount of waste generated that exceeds the amount that can be treated in society as a whole, changes in consumer preferences, virgin Sanitary product containers due to rising costs of plastic and recycled plastic, and increased awareness of hygiene among consumers due to the corona crisis Usage increases, etc. Criticism of industries and individual companies, rising concerns from stakeholders, changes in consumer preferences, etc.

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 Microplastics	Reduce the total weight of plastic packaging used and/or produced Reduce the total weight of virgin content in plastic packaging Increase the proportion of renewable content from responsibly managed sources in plastic packaging Eliminate the primary use of microplastics and plastic particles	

W10.5

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

	Activity applies	Comment
Production of plastic polymers	Yes	
Production of durable plastic components	No	
Production / commercialization of durable plastic goods (including mixed materials)	Yes	
Production / commercialization of plastic packaging	Yes	
Production of goods packaged in plastics	Yes	
Provision / commercialization of services or goods that use plastic packaging (e.g., retail and food services)	Yes	

W10.6

(W10.6) Provide the total weight of plastic polymers sold and

indicate the raw material content. Row 1

Total weight of plastic polymers sold during the reporting year (Metric tonnes)

Raw material content percentages available to report

Please select

% virgin fossil-based content

<Not Applicable>

% virgin renewable content

<Not Applicable>

% post-industrial recycled content

<Not Applicable>

% post-consumer recycled content

<Not Applicable>

Please explain

W10.7

(W10.7) Provide the total weight of plastic durable goods/components

sold and indicate the raw material content. Row 1

Total weight of plastic durable goods/components sold during the reporting year (Metric tonnes)

Raw material content percentages available to report

Please select

% virgin fossil-based content

<Not Applicable>

% virgin renewable content

<Not Applicable>

% post-industrial recycled content

<Not Applicable>

% post-consumer recycled content

<Not Applicable>

Please explain

W10.8

(W10.8) Provide the total weight of plastic packaging sold and/or used, and indicate the raw material content.

	Total weight of plastic packaging sold / used	Raw material content	% virgin fossil-	% virgi	% post-industrial	% post-consume	Ple ase
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	during the reporting year (Metric tonnes)	percentages available to report	based content	n renewable content	recycled content	r recycled content	explain
Plastic packaging sold	90800	% virgin fossil-based content	96.6	<Not Applicable>	<Not Applicable>	<Not Applicable>	
Plastic packaging used		Please select	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	

W10.8a

(W10.8a) Indicate the circularity potential of the plastic packaging you sold and/or used.

	Percentages available to report for circularity potential	% of plastic packaging that is reusable	% of plastic packaging that is technically recyclable	% of plastic packaging that is recyclable in practice at scale	Please explain
Plastic packaging sold	Please select	<Not Applicable>	<Not Applicable>	<Not Applicable>	
Plastic packaging used	Please select	<Not Applicable>	<Not Applicable>	<Not Applicable>	

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.

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	President and Chief Executive Officer	Chief Executive Officer (CEO)