

W0. Introduction

W0.1

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

The Asahi Kasei Group operates in the three business sectors of "Material", encompassing fibers & textiles, chemicals and electronic devices businesses, "Homes", covering homes and construction materials businesses, and "Health Care", including pharmaceuticals and medical devices businesses. With "contributing to life and living for people around the world" as our Group Mission, we strive to heighten resource and energy efficiency with outstanding production technology, providing products and services that meet customer needs.

W-CH0.1a

(W-CH0.1a) Which activities in the chemical sector does your organization engage in?

- Bulk organic chemicals
- Bulk inorganic chemicals
- Specialty organic chemicals
- Specialty inorganic chemicals

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	April 1 2022	March 31 2023

W0.3

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

- China
- Germany
- Japan
- Republic of Korea
- Singapore
- Taiwan, China
- Thailand
- 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 financial control is exercised

W0.6

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

Yes

W0.6a

(W0.6a) Please report the exclusions.

Exclusion	Please explain
Our non-manufacturing facilities such as headquarters and sales offices as well as some of our assembly/processing plants, which require a very small amount of water for production, are excluded.	These non-manufacturing facilities are excluded because their water withdrawals and wastewater discharges are considerably small, and hence their water risks are negligible.

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	JP3111200006

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	Important	The availability of sufficient amounts of good quality freshwater is vital for the Asahi Kasei Group, since many of our plants use a significant amount of good quality freshwater for cooling, steam production, and washing. Good quality freshwater is essential for most of our raw materials suppliers as cooling water and boiler feed water, in particular. We believe the availability of sufficient amounts of good quality freshwater will continue to be vital for our direct operations in future, although our dependency on freshwater might slightly diminish as we go through a structural change away from water-hungry petrochemical products production towards high value-added chemical products production. The availability of good quality freshwater will continue to be important for our suppliers in future as well, since boiler feedwater has to be good quality freshwater and certain cooling processes will continue to require freshwater.
Sufficient amounts of recycled, brackish and/or produced water available for use	Not very important	Not very important	Although we rely to some extent on recycled water, we do not use any brackish or produced water, since our plants are located where freshwater resources are abundant. We understand that our raw materials suppliers rarely use recycled, brackish or produced water. The availability of sufficient amounts of recycled, brackish or produced water is therefore not very important for the Asahi Kasei Group and our raw materials suppliers alike. We do not anticipate that we will use brackish water if we consider where we operate, and the possibility of us using any produced water in the future is even much lower because we are not involved in the mining of gas, oil or metals. However, there is a possibility that we and our suppliers will use more recycled water in the future especially in operations where freshwater resources are expected to be more scarcer.

W1.2

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

	% of sites/facilities/operations	Frequency of measurement	Method of measurement	Please explain
Water withdrawals – total volumes	100%	Continuously	Each of our plants measures and monitors the volume of water withdrawal continuously, with flow meters and/or based on invoices.	We regularly measure and monitor the total volume of water withdrawal at all of our plants according to our internal regulations. Each of our plants measures and monitors the volume of water withdrawal continuously, with flow meters and/or based on invoices, and reports the yearly data to the Asahi Kasei headquarters once a year, using our proprietary system. The Asahi Kasei headquarters monitors the group-wide data annually.
Water withdrawals – volumes by source	100%	Continuously	Each of our plants measures and monitors the volume of water withdrawal by source continuously, with flow meters and/or based on invoices.	We regularly measure and monitor the volume of water withdrawal by sources at all of our plants according to our internal regulations. Each of our plants measures and monitors the volume of water withdrawal by source continuously, with flow meters and/or based on invoices, and reports the yearly data to the Asahi Kasei headquarters once a year, using our proprietary system. The Asahi Kasei headquarters monitors the group-wide data annually.
Entrained water associated with your metals & mining and/or coal sector activities - total volumes [only metals and mining and coal sectors]	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>

	% of sites/facilities/operations	Frequency of measurement	Method of measurement	Please explain
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%	Continuously	Each of our plants monitors the quality of water withdrawn to ensure good quality freshwater is always available. The monitoring method and frequency depend on individual plants' facts and circumstances such as legal requirements and types of water withdrawn. Typically, many of our plants continuously monitor the quality of water withdrawn with turbidity and pH meters, and periodically refer to water analysis reports obtained from public water utilities.	We regularly monitor the quality of water used at all of our plants according to our internal regulations. It is principally the responsibility of each of our plants to monitor the quality of water withdrawn to ensure good quality freshwater is always available. When a plant encounters any issues concerning the quality of water withdrawn, that it cannot resolve on its own, it shall seek advice and support from the Asahi Kasei headquarters, by letting it know what has happened and is currently happening. The Asahi Kasei headquarters determines annually whether there have been any issues concerning the quality of water withdrawn.
Water discharges – total volumes	100%	Continuously	Each of our plants measures and monitors the volume of water discharge continuously, typically with flow meters and a flow measurement weir.	We regularly measure and monitor the total volume of water discharge at all of our plants according to our internal regulations. Each of our plants measures and monitors the volume of water discharge continuously, typically with flow meters and a flow measurement weir, and reports the yearly data to the Asahi Kasei headquarters once a year, using our proprietary system. The Asahi Kasei headquarters monitors the group-wide data annually.
Water discharges – volumes by destination	100%	Continuously	Each of our plants measures and monitors the volume of water discharge by destination continuously, typically with flow meters and a flow measurement weir.	We regularly measure and monitor the volume of water discharge by destination at all of our plants according to our internal regulations. Each of our plants measures and monitors the volume of water discharge by destination continuously, typically with flow meters and a flow measurement weir, and reports the yearly data to the Asahi Kasei headquarters once a year, using our proprietary system. The Asahi Kasei headquarters monitors the group-wide data annually.
Water discharges – volumes by treatment method	100%	Continuously	Each of our plants measures and monitors the volume of water discharge by treatment method continuously, typically with flow meters and a flow measurement weir.	We regularly measure and monitor the volume of water discharge by treatment method at all of our plants according to our internal regulations. Each of our plants measures and monitors the volume of water discharge by treatment method continuously, typically with flow meters and a flow measurement weir, and reports the yearly data to the Asahi Kasei headquarters once a year, using our proprietary system. The Asahi Kasei headquarters monitors the group-wide data annually.
Water discharge quality – by standard effluent parameters	100%	Continuously	Each of our plants continuously monitor parameters such as pH and COD with our own analyzers to detect any issues, and ask external laboratories to take and analyze effluent samples periodically, typically one to two times a month.	We regularly measure and monitor the water discharge quality by standard effluent parameters at all of our plants according to our internal regulations. It is principally the responsibility of each of our plants to monitor the quality of water discharge to ensure that it complies with all applicable effluent standards or limits. Many of our plants continuously monitor parameters such as pH and COD with our own analyzers to detect any issues, and ask external laboratories to take and analyze effluent samples periodically, typically one to two times a month to demonstrate that we meet any effluent standards or limits. When a plant encounters any issues concerning the quality of water discharge, that it cannot resolve on its own, it shall seek advice and support from the Asahi Kasei headquarters, by letting it know what has happened and is currently happening. The Asahi Kasei headquarters determines annually whether there have been any issues concerning the quality of water discharge.
Water discharge quality – emissions to water (nitrates, phosphates, pesticides, and/or other priority substances)	100%	Continuously	Each of our plants continuously monitor parameters such as nitrates, phosphates to detect any issues, and ask external laboratories to take and analyze effluent samples periodically, typically one to two times a month, to demonstrate that we meet any effluent standards or limits.	We regularly measure and monitor the water discharge quality by standard effluent parameters at all of our plants according to our internal regulations. It is principally the responsibility of each of our plants to monitor the quality of water discharge to ensure that it complies with all applicable effluent standards or limits. Many of our plants continuously monitor parameters such as nitrates, phosphates to detect any issues, and ask external laboratories to take and analyze effluent samples periodically, typically one to two times a month, to demonstrate that we meet any effluent standards or limits. When a plant encounters any issues concerning the quality of water discharge, that it cannot resolve on its own, it shall seek advice and support from the Asahi Kasei headquarters, by letting it know what has happened and is currently happening. The Asahi Kasei headquarters determines annually whether there have been any issues concerning the quality of water discharge.
Water discharge quality – temperature	100%	Monthly	Each of our plants regularly monitors the effluent temperature with our own thermometers to detect any issues, typically one to two times a month.	We regularly measure and monitor the temperature of water discharge at all of our plants according to our internal regulations. It is principally the responsibility of each of our plants to monitor the temperature of water discharge to ensure that it complies with all applicable requirements. Many of our plants continuously monitor the effluent temperature with our own thermometers to detect any issues, and all the plants ask external laboratories to take and analyze effluent samples periodically, typically one to two times a month, to demonstrate that we meet any relevant requirements. When a plant encounters any issues concerning the temperature of water discharge, that it cannot resolve on its own, it shall seek advice and support from the Asahi Kasei headquarters, by letting it know what has happened and is currently happening. The Asahi Kasei headquarters determines annually whether there have been any issues concerning the temperature of water discharge.
Water consumption – total volume	100%	Continuously	We measure and monitor the total volume of water consumption continuously, based on the water withdrawal and water discharge data collected from our plants. The volume of water withdrawal is measured by flow meters or based on invoices and the volume of water discharge is measured with flow meters and a flow measurement weir.	We measure and monitor the total volume of water consumption continuously, based on the water withdrawal and water discharge data collected from our plants. The volume of water withdrawal is measured by flow meters or based on invoices and the volume of water discharge is measured with flow meters and a flow measurement weir. The method for measurement is the simple subtraction: Water consumption = Water withdrawal - Water discharge.
Water recycled/reused	100%	Continuously	Each of our plants calculates the volume of water recycled/reused, based on the readings of flow meters and some estimates continuously.	We regularly measure and monitor the volume of water recycled/reused at all of our plants according to our internal regulations. Each of our plants calculates the volume of water recycled/reused, based on the readings of flow meters and some estimates, and reports the yearly data to the Asahi Kasei headquarters once a year, using our proprietary system. The Asahi Kasei headquarters monitors the group-wide data annually.
The provision of fully-functioning, safely managed WASH services to all workers	100%	Monthly	Each of our plants to monitors whether we provide fully-functioning, safely managed WASH services to all workers. The monitoring is done through water supply and sanitation facilities inspections conducted at each plant regularly, typically every month.	We regularly monitor whether we provide fully-functioning, safely managed WASH services to all workers at all of our plants according to our internal regulations. It is principally the responsibility of each of our plants to monitor whether we provide fully-functioning, safely managed WASH services to all workers. The monitoring is done through water supply and sanitation facilities inspections conducted at each plant regularly, typically every month. However, when a plant encounters any issues concerning the provision of WASH services, that it cannot resolve on its own, it shall seek advice and support from the Asahi Kasei headquarters, by letting it know what has happened and is currently happening. The Asahi Kasei headquarters determines annually whether there have been any issues concerning the provision of WASH services.

(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	246731	Lower	Increase/decrease in business activity	Lower	Divestment from water intensive technology/process	The total withdrawals decreased by 8.98% compared to the previous fiscal year, because of the sluggish global economic condition. Since the total withdrawals mainly depend on the change in the production amount, we anticipate that it will increase next year with economic recovery.
Total discharges	218674	Lower	Increase/decrease in business activity	Lower	Divestment from water intensive technology/process	The total discharges decreased by 8.33%, due to the decrease of total withdrawals as a result of decrease in production in addition to our challenge to use water efficiently. Because of the change in total discharges depends on the total withdrawals, we anticipate that it will increase next year with economic recovery.
Total consumption	28057	Lower	Increase/decrease in business activity	Lower	Divestment from water intensive technology/process	The total consumption decreased by 13.77%, due to the decrease in production during the sluggish global economic condition in 2022 in addition to our challenge to use water efficiently. Since the change in total consumption depends on change in the total withdrawals, we anticipate that it will increase next year with economic recovery.

W1.2d

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

	Withdrawals are from areas with water stress	% withdrawn from areas with water stress	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Five-year forecast	Primary reason for forecast	Identification tool	Please explain
Row 1	Yes	1-10	About the same	Increase/decrease in business activity	Lower	Increase/decrease in efficiency	WRI Aqueduct	<p>We understand that the plants that are located in areas that are designated as "high" water stress by the WRI Aqueduct.</p> <p>Two plants are in China, one is in South Korea, Thailand, and the U.S.A respectively.</p> <p>The volume of water withdrawn at these plants represents only a tiny fraction of the Asahi Kasei Group's total water withdrawals, but the plants have been striving to reduce their water use. This has contributed to the year-on-year decrease in the volume of water withdrawn at these plants.</p>

W1.2h

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	193953	Lower	Increase/decrease in business activity	Fresh surface water is relevant because many of our plants use a significant amount of good quality freshwater for cooling and washing. Mainly because of decreased production volume by the sluggish global economic condition throughout FY2022, the volume of fresh surface water we withdrew in FY2022 decreased by 7.30% from the previous year.
Brackish surface water/Seawater	Relevant	33000	About the same	Increase/decrease in business activity	Brackish surface water is not relevant since our plants are located where freshwater resources are abundant. Seawater is relevant because several our plants in Japan rely on seawater as water for cooling. The volume of seawater we withdrew in FY2022 increased by 2.88% from the previous year.
Groundwater – renewable	Relevant	17797	Lower	Increase/decrease in business activity	Renewable groundwater is relevant because several of our plants rely on renewable groundwater as water for cooling and washing. Mainly because of decreased production volume affected by the sluggish global economy from the latter half of FY2022, the volume of renewable groundwater we withdrew in FY2022 decreased by 11.00% from the previous year.
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	Non-renewable groundwater is not relevant because none of our plants are located where it is available and has to be relied on. It will continue to be irrelevant for us unless we set up a plant where non-renewable groundwater is available and has to be relied on.
Produced/Entrained water	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	Produced water is not relevant because we are not involved in the mining of gas, oil or metals. It will continue to be irrelevant for us unless we enter into any mining business.
Third party sources	Relevant	1981	Much lower	Increase/decrease in business activity	Water from third party sources is relevant because we use it where drinkable quality water is required. The volume of water from third party sources, mainly municipal water, we withdrew in FY2022 decreased significantly from the previous year. We assume that the main reason for this substantial drop in the volumes of drinking water withdrawal was the rapid rise in telecommuting due to the COVID-19 pandemic.

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	162825	Lower	Increase/decrease in business activity	Fresh surface water is relevant as a wastewater destination because several of our plants discharge wastewater into the fresh surface water. The volume of wastewater discharged into fresh surface water in FY2022 decreased by 8.16% from the previous year. The volume of wastewater discharged into fresh surface water tends to decrease in tandem with the volume of fresh surface water withdrawals.
Brackish surface water/seawater	Relevant	33000	Higher	Increase/decrease in business activity	Seawater is relevant as a wastewater destination because several of our plants use seawater as non-contact cooling water and discharge it directly into the sea. The volume of wastewater discharged into the sea in FY2022 increased by 8.99% from the previous year. The change rate was the same as the change in the volume of sea water withdrawals. (The volume of wastewater discharged into the sea is exactly the same as the volume of water withdrawn from the sea, because there is no evaporation in indirect cooling systems using seawater.)
Groundwater	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	Groundwater is and will continue to be irrelevant as a wastewater destination because none of our plants discharge and will not need to discharge wastewater into groundwater.
Third-party destinations	Relevant	22849	Much lower	Increase/decrease in business activity	The volume of wastewater discharged into third-party destinations in FY2022 decreased by 26.24% from the previous year. We assume that the main reason for this substantial drop in the volumes of drinking water withdrawal and wastewater discharge was the rapid rise in telecommuting due to the COVID-19 pandemic.

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	110664	Lower	Increase/decrease in business activity	51-60	The amount processed decreased by 15.08% compared to the previous year. The basis for selecting the specific processing level: All discharge are subject to increasingly stringent country-specific laws and regulations relating to water pollution and regional regulations aimed at protecting rivers and lakes before being released to receiving water bodies.
Secondary treatment	Relevant	42327	Higher	Increase/decrease in business activity	11-20	The amount processed increased by 53.22% compared to the previous year. The basis for selecting the specific processing level: All discharge are subject to increasingly stringent country-specific laws and regulations relating to water pollution and regional regulations aimed at protecting rivers and lakes before being released to receiving water bodies.
Primary treatment only	Relevant	808	Lower	Increase/decrease in business activity	Less than 1%	The amount processed decreased by 91.32% compared to the previous year. The basis for selecting the specific processing level: All discharge are subject to increasingly stringent country-specific laws and regulations relating to water pollution and regional regulations aimed at protecting rivers and lakes before being released to receiving water bodies.
Discharge to the natural environment without treatment	Relevant	42026	Higher	Increase/decrease in business activity	11-20	The amount processed increased by 4.23% compared to the previous year.
Discharge to a third party without treatment	Relevant	22849	Lower	Increase/decrease in business activity	1-10	The amount processed decreased by 26.24% compared to the previous year.
Other	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	

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	4520	Nitrates Phosphates	<Not Applicable>	The amount processed decreased by 23.65% compared to the previous year mainly due to the process suspension at the Bemberg plant.

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	27264850 00000	246731	11050435.4945264	The water withdrawal efficiency is going to be improved in the near future because of our divestment from water intensive technology/processes in addition to our challenge to use water more efficiently.

(W-CH1.3) Do you calculate water intensity for your activities in the chemical sector?

Yes

W-CH1.3a

(W-CH1.3a) For your top five products by production weight/volume, provide the following water intensity information associated with your activities in the chemical sector.

Product type

Bulk organic chemicals

Product name

Chemical Monomer 1

(We think we should not provide the water intensity for each product because this is confidential information.)

Water intensity value (m3/denominator)

55.78

Numerator: water aspect

Total water withdrawals

Denominator

Ton

Comparison with previous reporting year

Higher

Please explain

We use water unit (m3/t) as one of the parameters for productivity improvement. In the near future, we are actively working to improve water unit, as water shortages and rising water prices are expected and the impact of water on commodity manufacturing costs is expected to be greater than it is now. Compared to the previous year, the water intensity (m3/t) of Chemical Monomer 1 has worsened by 15.05%. The reason is that production volume decreased by 9.26% and production efficiency deteriorated significantly. Large-size chemical plants cannot be stopped once they are put into operation. Therefore, to be honest, it is very difficult for us to improve the water intensity of the specific product listed here in a short period except by rebuilding the plant itself. However, we are devoting ourselves to improving the water intensity and are working diligently on an ongoing basis. Specific approaches to improve the water intensity of the products include the introduction of updated IT technology that enables optimization of plant operation according to production volume, high-efficiency pumps, and measures against water leakage mainly due to pipe deterioration. Our strategy is to continue to aggressively seek ways and measures to improve the water intensity of each product from all aspects. It is expected that the forecast of water units in the future will be gradually improved by implementing the above measures.

Product type

Bulk organic chemicals

Product name

Chemical Monomer 2

(We think we should not provide the water intensity for each product because this is confidential information.)

Water intensity value (m3/denominator)

4.08

Numerator: water aspect

Total water withdrawals

Denominator

Ton

Comparison with previous reporting year

Lower

Please explain

We use water unit (m3/t) as one of the parameters for productivity improvement. In the near future, we are actively working to improve water unit, as water shortages and rising water prices are expected and the impact of water on commodity manufacturing costs is expected to be greater than it is now. Compared to the previous year, the water unit (m3/t) of Chemical Monomer 2 has improved by 6.86%. The reason is that production increased by 12.79% and production efficiency improved. Large-size chemical plants cannot be stopped once they are put into operation. Therefore, to be honest, it is very difficult for us to improve the water intensity of the specific product listed here in a short period except by rebuilding the plant itself. However, we are devoting ourselves to improving the water intensity and are working diligently on an ongoing basis. Specific approaches to improve the water intensity of the products include the introduction of updated IT technology that enables optimization of plant operation according to production volume, high-efficiency pumps, and measures against water leakage mainly due to pipe deterioration. Our strategy is to continue to aggressively seek ways and measures to improve the water intensity of each product from all aspects. It is expected that the forecast of water units in the future will be gradually improved by implementing the above measures.

Product type

Bulk organic chemicals

Product name

Chemical Polymer 1

(We think we should not provide the water intensity for each product because this is confidential information.)

Water intensity value (m3/denominator)

3.38

Numerator: water aspect

Total water withdrawals

Denominator

Ton

Comparison with previous reporting year

Higher

Please explain

We use water unit (m3/t) as one of the parameters for productivity improvement. In the near future, we are actively working to improve water unit, as water shortages and rising water prices are expected and the impact of water on commodity manufacturing costs is expected to be greater than it is now. Compared to the previous year, the water unit (m3/t) of Chemical Polymer 1 has worsened by 9.18% even though production increased by 7.94% and production efficiency improved. Large-size chemical plants cannot be stopped once they are put into operation. Therefore, to be honest, it is very difficult for us to improve the water intensity of the specific product listed here in a short period except by rebuilding the plant itself. However, we are devoting ourselves to improving the water intensity and are working diligently on an ongoing basis. Specific approaches to improve the water intensity of the products include the introduction of updated IT technology that enables optimization of plant operation according to production volume, high-efficiency pumps, and measures against water leakage mainly due to pipe deterioration. Our strategy is to continue to aggressively seek ways and measures to improve the water intensity of each product from all aspects. It is expected that the forecast of water units in the future will be gradually improved by implementing the above measures.

Product type

Bulk organic chemicals

Product name

Chemical Polymer 2

(We think we should not provide the water intensity for each product because this is confidential information.)

Water intensity value (m3/denominator)

2.63

Numerator: water aspect

Total water withdrawals

Denominator

Ton

Comparison with previous reporting year

Higher

Please explain

We use water unit (m3/t) as one of the parameters for productivity improvement. In the near future, we are actively working to improve water unit, as water shortages and rising water prices are expected and the impact of water on commodity manufacturing costs is expected to be greater than it is now. Compared to the previous year, the water unit (m3/t) of Chemical Polymer 2 has worsened by 17.27%. The reason is that production volume decreased by 22.17% and production efficiency deteriorated significantly. Large-size chemical plants cannot be stopped once they are put into operation. Therefore, to be honest, it is very difficult for us to improve the water intensity of the specific product listed here in a short period except by rebuilding the plant itself. However, we are devoting ourselves to improving the water intensity and are working diligently on an ongoing basis. Specific approaches to improve the water intensity of the products include the introduction of updated IT technology that enables optimization of plant operation according to production volume, high-efficiency pumps, and measures against water leakage mainly due to pipe deterioration. Our strategy is to continue to aggressively seek ways and measures to improve the water intensity of each product from all aspects. It is expected that the forecast of water units in the future will be gradually improved by implementing the above measures.

Product type

Specialty organic chemicals

Product name

Chemical Polymer 3

(We think we should not provide the water intensity for each product because this is confidential information.)

Water intensity value (m3/denominator)

89.7

Numerator: water aspect

Total water withdrawals

Denominator

Ton

Comparison with previous reporting year

Lower

Please explain

We use water unit (m3/t) as one of the parameters for productivity improvement. In the near future, we are actively working to improve water unit, as water shortages and rising water prices are expected and the impact of water on commodity manufacturing costs is expected to be greater than it is now. Compared with the previous year, the water unit (m3/t) of Chemical Polymer 3 has improved by 3.84%. The reason is that production volume was increased by 5.68% and production efficiency improved. Large-size chemical plants cannot be stopped once they are put into operation. Therefore, to be honest, it is very difficult for us to improve the water intensity of the specific product listed here in a short period except by rebuilding the plant itself. However, we are devoting ourselves to improving the water intensity and are working diligently on an ongoing basis. Specific approaches to improve the water intensity of the products include the introduction of updated IT technology that enables optimization of plant operation according to production volume, high-efficiency pumps, and measures against water leakage mainly due to pipe deterioration. Our strategy is to continue to aggressively seek ways and measures to improve the water intensity of each product from all aspects. It is expected that the forecast of water units in the future will be gradually improved by implementing the above measures.

W1.4

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

	Products contain hazardous substances	Comment
Row 1	No	

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

No, we do not currently assess the impact of our suppliers, but we plan to do so within the next two years

Considered in assessment

<Not Applicable>

Number of suppliers identified as having a substantive impact

<Not Applicable>

% of total suppliers identified as having a substantive impact

<Not Applicable>

Please explain

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, suppliers have to meet water-related requirements, but they are not 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

Engaging with their suppliers on water security actions

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

<Not Applicable>

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

<Not Applicable>

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

We ask them about how they work on efficient use of water resources and wastewater management in order to understand and manage current and future risks in the supply chain. Information obtained from suppliers is used not only to assess water risks in our supply chain, but also to encourage suppliers to make improvements by providing them with feedback.

W1.5d

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

Type of engagement

Information collection

Details of engagement

Collect water management information at least annually from suppliers

Other, please specify (Providing our procurement guidelines for major suppliers)

% of suppliers by number

51-75

% of suppliers with a substantive impact

<Not Applicable>

Rationale for your engagement

We understand that, the higher the share of our procurement spend, the higher the risk of our operations being affected by a water-related adverse event at a supplier, and that it is very effective and efficient to work together with our supply chain members in order to solve global water issues. That is why we send out a CSR questionnaire to our major suppliers from which we procure a significant amount of products. Specifically, in FY2022, we sent out a CSR questionnaire to those suppliers covering 71% in terms of the number of suppliers and 82% in terms of procurement spend. Information obtained from suppliers is used not only to assess water risks in our supply chain, but also to encourage suppliers to make improvements by providing them with feedback. We believe that this functions as an incentive for our suppliers to respond to a questionnaire.

Impact of the engagement and measures of success

We ask them about how they work on efficient use of water resources and wastewater management in order to understand and manage current and future risks in the supply chain. Information obtained from suppliers is used not only to assess water risks in our supply chain, but also to encourage suppliers to make improvements by providing them with feedback. We measure the success mainly by the response rate.

Comment

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

Rationale for your engagement

The Asahi Kasei Group has set "coexistence with the environment" as a group vision, and positions the challenge of global environmental measures as the most important issue. In particular, the Asahi Kasei Group's policy on global environmental measures stipulates "conservation of water resources" and pledges to contribute to the conservation of water resources worldwide through our business and products. In relation to the business of recycled cellulosic fiber (trade name "BEMBERG"), Asahi Kasei Corporation has been implementing initiatives such as technical and educational support and community development (including purification projects for contaminated rivers) for stakeholders involved in the final product from the procurement of raw materials (cotton linters) in India. This business model also includes improvement of wastewater purification system for industrial use, which is indispensable for the sustainable development of textile industry considering the global environment. Specifically, the company is implementing initiatives with dyeing manufacturers and other stakeholders aimed at achieving zero wastewater at dyeing plants using the hollow fiber membrane "Microza" developed by the company for wastewater treatment generated during fabric dyeing.

Impact of the engagement and measures of success

Asahi Kasei Corp. has been exporting recycled cellulose (cupro textile, trade name BEMBERG), which is used as a raw material for sari, traditional female clothing in India, since 1976.

As of 2021, Asahi Kasei had contracts with about 10 dyeing plants and about 60 garment factories, and the volume of cupro textile handled was about 6,000 tons. Asahi Kasei Corp. started the challenge of the construction of the wastewater purification system for the industry considering the global environment, which is indispensable for the sustainable development of the textile industry, while aiming at the business expansion of BEMBERG and hollow fiber membrane Microza in India. Specifically, it aims to achieve zero wastewater in dyeing plants using Microza for wastewater treatment generated during dough dyeing. This will enable us to conserve valuable natural water resources through environmental conservation and water reuse around our plants and to contribute to the expansion of our business. By 2023 cumulative amount of 40,000 m3/day textile dyeing effluent will be treated and recycled back to the respective textile dyeing process, which is equivalent to saving daily water access to natural water resources for approx. 25,000 households.

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	Asahi Kasei Group classifies chemicals, based on the type and scope of hazards, according to international standards, such as REACH and GHS. Regarding hazardous substances in water systems, in Japan, 28 substances with high toxicity to living organisms and the environment are regulated as hazardous substances in accordance with the Water Pollution Prevention Act. We recognize that the substances regulated by the Water Pollution Prevention Act need to be managed and reduced as the top priority substances for water pollution prevention worldwide. The Asahi Kasei Group takes great care in handling the chemical substances used in product manufacturing. In addition, since we have taken thorough measures to completely prevent the outflow of chemical substances even in the event of an unexpected accident, no violations of laws and regulations have occurred for years.	<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

Other synthetic organic compounds

Description of water pollutant and potential impacts

Our plants release potentially hazardous chemicals into the public water bodies, some of which are suspected to be carcinogenic and/or teratogenic. For example, if the Nobeoka plant accidentally released N,N-dimethylacetamide (DMAc)—suspected to be carcinogenic and teratogenic—into the sea, DMAc could cause cancer and deformities when humans are directly exposed to the chemical, which we assume to be rare. Although there are no effluent quality standards for DMAc, we have been trying to minimize the release of DMAc into the environment.

Value chain stage

Direct operations

Actions and procedures to minimize adverse impacts

Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience

Please explain

The Nobeoka plant collects the wastewater containing DMAc and separates DMAc from the water using three distillation towers; the water is then recovered and reused. The recovery rate is nearly 100% but some of the reflux liquid in the distillation towers has to be removed and released into the sea in order to prevent condensation. This is how we are trying to minimize the amount of DMAc that is released into the sea, thereby reducing its potential impact on aquatic ecosystems. We measure and evaluate the success of our efforts based on the amount of potentially hazardous chemicals released into the environment.

Water pollutant category

Microplastics and plastic particles

Description of water pollutant and potential impacts

There is a growing concern that microplastics in the ocean attract persistent organic pollutants (POPs) such as polychlorinated biphenyls (PCBs), are picked up by plankton, which are then eaten by fish, and finally end up in the human food chain and affect our health. It is feared that these POPs are carcinogenic and endocrine-disrupting, but the complexity of the behavior of microplastics in the environment and how POPs are accumulated in marine species makes it challenging to estimate the scale and magnitude of the impact. That said, if a lot of POP-contaminated microplastics end up in the human food chain, the impact on our health could be huge, given the high bio-accumulation potential of POPs. Microplastics could result from chemical plants and from inappropriate disposal of end-of-life plastic products. The Asahi Kasei Group is trying to tackle this issue as a producer of plastic products.

Value chain stage

Direct operations

Actions and procedures to minimize adverse impacts

Procedure(s) under development/ R&D

Please explain

The Asahi Kasei Group is trying to tackle this issue within our sphere of responsibility and influence. Specifically, we are trying to minimize our impact both as a producer of plastic products and as a generator of plastic waste. We, for example, are actively working to reduce single-use plastics, promote the 3Rs (Reduce, Reuse, Recycle) activities in all of our business areas, and are also trying to eliminate landfill of plastic waste. The success of our efforts will principally be evaluated based on the status of development of such products and the amount of plastic waste landfilled.

W3.3

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

Yes, water-related risks are assessed

W3.3a

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

Value chain stage

Direct operations

Coverage

Full

Risk assessment procedure

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

Frequency of assessment

More than once a year

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

Tools on the market

Databases

Other

Tools and methods used

WRI Aqueduct

Regional government databases

Internal company methods

External consultants

Other, please specify (Publicly accessible databases)

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

Water regulatory frameworks

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

Stakeholders considered

Customers

Employees

Local communities

Regulators

Suppliers

Water utilities at a local level

Other water users at the basin/catchment level

Comment

External consultants: Risk analyses were conducted at approximately 40 domestic and overseas bases for seven hazard items, including water disasters, storm surges, and storm disasters (typhoons), from three perspectives of human injury, the environment, and property damage. "Other" includes: Publicly accessible databases; Information and data provided by governments; Information obtained from individual plants; Case examples from other plants or companies; Communication with other water users, local governments, river basin management authorities and water utility companies; River basin development/management plans; Results of inspections of water supply and sanitation facilities; Tsunami risk assessment; CSR questionnaire.

Value chain stage

Supply chain

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

Databases

Other

Tools and methods used

WRI Aqueduct

Regional government databases

External consultants
 Other, please specify (Tsunami risk assessment)

Contextual issues considered

Water availability at a basin/catchment level
 Water quality at a basin/catchment level
 Implications of water on your key commodities/raw materials
 Water regulatory frameworks

Stakeholders considered

Customers
 Employees
 Local communities
 Regulators
 Suppliers
 Water utilities at a local level

Comment

"Other" includes: Publicly accessible databases; Information and data provided by governments; Information obtained from individual plants; Case examples from other plants or companies; Communication with other water users, local governments, river basin management authorities and water utility companies; River basin development/management plans; Results of inspections of water supply and sanitation facilities; Tsunami risk assessment; CSR questionnaire.

W3.3b

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

	Rationale for approach to risk assessment	Explanation of contextual issues considered	Explanation of stakeholders considered	Decision-making process for risk response
Row 1	We first use WRI Aqueduct to obtain an overall picture of which facilities in the Asahi Kasei Group are potentially exposed to water risks. Now, we not only assess water risks with Aqueduct but also research projected changes in water stress in 2030 and 2040 with Aqueduct. We use WRI Aqueduct because it is an easy-to-use tool that can be used to assess various types of water risks associated with operations globally. Assessment results (risk levels) of Aqueduct are given in 5 levels: Low, Low to medium, Medium to high, High, and Extremely high, but we do not use the assessment results of Aqueduct as they are. We make adjustments with information obtained from individual plants to arrive at the final assessment results. As for water risks in our supply chain, we send out a CSR questionnaire to our major suppliers and ask them about how they work on efficient use of water resources and wastewater management in order to understand and manage current and future risks in the supply chain.	It is hard to conceive that any of the Asahi Kasei Group's plants will be severely hit by a drought in the foreseeable future, but if we should find ourselves in a situation in 2040 and beyond where a sufficient amount of good quality freshwater is no longer available where we operate, as a result of global population and economic growth, there could be a possibility of us being forced to revise our business strategy.	Customers Employees Local communities Regulators Suppliers Water utility companies at a local level	When such water risks become foreseeable, we will first discuss the issue within our Environment, Safety, Health and Quality Assurance (ESH&QA) Committee. If the Committee determines that the issue could affect the Asahi Kasei Group's business strategy, the Strategic Management Council will deliberate the issue, the results of which will then be reflected on our strategy, as necessary.

W4. Risks and opportunities

W4.1

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

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

W4.1a

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

To us, "substantive financial or strategic impact on our business" means any significant impact on our plants' operations, financial performance or the relationship between us and our stakeholders. For example, if a severe drought or flood should hit an Asahi Kasei plant or any of our major suppliers, our operations could be disrupted, which might significantly affect our financial performance, and if any of our plants should release hazardous substances into rivers or the sea, affecting people's health or the fishing industry, it could significantly damage our relationship with stakeholders. Therefore, the definition not only applies to impact resulting from our own operations but also impact resulting from suppliers' operations. It is not always easy to estimate in advance the magnitude and probability of such adverse events, and it is almost impossible to quantify the impact of a decline in stakeholder trust. But because an issue with a potential loss of billions of yen would be discussed by the Board of Directors, this could be considered as a threshold that indicates substantive change. At the Asahi Kasei Group, each of our plants has individually assessed water risks by monitoring trends in laws and regulations applicable to water issues, and communicating with local stakeholders such as local communities, farmers, fishermen and local governments, for example. Apart from this, we conduct a group-wide water risk assessment using WRI Aqueduct. Assessment results (risk levels) of Aqueduct are given in 5 levels: Low, Low to medium, Medium to high, High, and Extremely high, but we do not use the assessment results of Aqueduct as they are. We make adjustments with information obtained from individual plants to arrive at the final assessment results. Basically, we use the adjusted risk levels (Low, Low to medium, Medium to high, High, and Extremely high) as an indicator, and we understand that there is a high possibility that substantive impact will likely occur when the adjusted risk level is High or Extremely high.

W4.1b

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

	Total number of facilities exposed to water risk	% company-wide facilities this represents	Comment
Row 1	2	Less than 1%	

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

Singapore	Other, please specify (The two plants are situated on Jurong Island, which is an artificial island that has no "river basin".)
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Number of facilities exposed to water risk

2

% company-wide facilities this represents

Less than 1%

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

<Not Applicable>

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

<Not Applicable>

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

<Not Applicable>

% company's total global revenue that could be affected

Less than 1%

Comment

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

Singapore	Other, please specify (The two plants are situated on Jurong Island, which is an artificial island that has no "river basin".)
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Type of risk & Primary risk driver

Regulatory	Increased difficulty in obtaining withdrawals/operations permit
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Primary potential impact

Reduction or disruption in production capacity

Company-specific description

Products produced at our two plants in Singapore are some of essential building blocks of the 'Materials' field in our Medium-term management initiative "Be a Trailblazer" aiming to contribute to a sustainable society. Therefore, the operational stability of the two plants in Singapore is very important for the Asahi Kasei Group's business plan. Chemical plants require a lot of water especially for cooling, but Singapore chronically suffers from water shortages because of its small land area and lack of large rivers. Good quality water is being supplied from neighboring Malaysia, but a change in political or other circumstances could lead to instability in water supply. Lobbying activities might become more important and much more care will have to be taken when choosing locations for further expansion of plants.

Timeframe

More than 6 years

Magnitude of potential impact

Low

Likelihood

Exceptionally unlikely

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure - minimum (currency)

10000000

Potential financial impact figure - maximum (currency)

9000000000

Explanation of financial impact

In calculating the financial impact, we assumed a hypothetical situation where the supply of industrial water to Jurong Island is completely halted due to a change in political or other circumstances and the operations of our two plants on the island are suspended for one month. We also used unit prices for all the products included in relevant businesses for confidential reasons. Our estimation of the impact is about 0.37% of the Asahi Kasei Group's sales.

Primary response to risk

Improve monitoring

Description of response

To collect information and intelligence is always the first step in running a good business, regardless of whether it is about water risks or not. We understand that Singapore is a country where environmental regulations are likely to be strengthened quickly. The carbon tax introduced in Singapore in 2019 is just one such example. We recognize that collecting and analyzing information and intelligence are the basic steps for detecting and minimizing water risks. Specifically, we offer Microza, a hollow fiber filtration membrane for water treatment, to the Changgi New Water Plant, Singapore's largest sewage recovery plant. Based on such achievements, there is a close connection to the Singaporean Ministry of Sustainability and the Environment, and information on water administration in Singapore (such as water price trends, water self-sufficiency rate improvement plans, and trends in Malaysia, which is a water import destination) can be obtained in a timely manner. Furthermore, information on the Ministry of Sustainability and the Environment's website and external information providers is monitored at all times. In addition, with regard to water-related regulations, lobbying activities are carried out domestically and overseas through JCIA (Japan Chemical Industry Association).

Cost of response

0

Explanation of cost of response

No observable cost is incurred by information and intelligence collection because this is inseparable from what we do in the normal course of business. We believe that any attempt at separation would be nonsensical.

W4.2a

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

Country/Area & River basin

Japan	Other, please specify (Ocean pollution (Worldwide))
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Stage of value chain

Other, please specify (End-of-Life Treatment phase)

Type of risk & Primary risk driver

Reputation & markets	Changes in consumer behavior
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Primary potential impact

Reduced demand for products and services

Company-specific description

There is a growing concern that microplastics in the ocean attract persistent organic pollutants (POPs) such as polychlorinated biphenyls (PCBs), are picked up by plankton, which are then eaten by fish, and finally end up in the human food chain and affect our health. It is feared that these POPs are carcinogenic and endocrine-disrupting, but the complexity of the behavior of microplastics in the environment and how POPs are accumulated in marine species makes it challenging to estimate the scale and magnitude of the impact. That said, if a lot of POP-contaminated microplastics end up in the human food chain, the impact on our health could be huge, given the high bio-accumulation potential of POPs. Microplastics could result from chemical plants and from inappropriate disposal of end-of-life plastic products. Changes in consumer awareness and behavior towards microplastics or plastics in general could have an impact on our sales, since a certain percentage of our sales comes from businesses related to plastic dust, single use plastics and plastic beads, which are thought to be the main contributors to the microplastics issue.

Timeframe

1-3 years

Magnitude of potential impact

Low

Likelihood

Likely

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure - minimum (currency)

10000000

Potential financial impact figure - maximum (currency)

100000000000

Explanation of financial impact

The estimate range given was calculated based on the sales from our products related to plastic dust, single use plastics and plastic beads, which are thought to be the main contributors to the microplastics issue, and the magnitude and likelihood of the changes in consumer awareness/behavior affecting the sales from such products. The upper end of the range was calculated by assuming the maximum magnitude, which we understand is very unlikely to occur. Even if such a tail risk event should occur, we understand that the financial impact on our business will be limited, because a sizeable portion of our sales comes from the Homes and Health Care business sectors.

Primary response to risk

Direct operations	Develop new products and/or markets
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Description of response

The Asahi Kasei Group is trying to tackle this issue within our sphere of responsibility and influence. Specifically, we are trying to minimize our impact both as a producer of plastic products and as a generator of plastic waste. We are accelerating the development of both chemical recycling technology for plastic waste and material one in collaboration with other companies and academia. As for polyethylene material recycle, for example, we have been developing recycled toiletries bottles in an industry-academia collaboration project funded by NEDO. In addition, we are also establishing a platform to manage and visualize the supply chain based on blockchain technology with an IT company.

Cost of response

800000000000

Explanation of cost of response

This is the total projected amount for capital expenditure for the FY2022–FY2024 3-year period in the Asahi Kasei Group's medium-term management initiative . Some of this budget was allocated for the tackling of this issue.

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

Products and services

Primary water-related opportunity

Increased sales of existing products/services

Company-specific description & strategy to realize opportunity

The global market for microfiltration (MF) and ultrafiltration (UF) systems is growing by about 10% annually, driven by serious environmental water quality issues and water shortages, as well as increasingly stringent global wastewater regulations. Microza holds the leading share of the US market for membrane-process water clarification systems, the world's largest market for such systems. We consider this opportunity strategic because the adoption of Microza has been growing firmly in many countries that face water shortages and have growing needs for improved water quality. In fact, we are trying to shift our focus away from the traditional Japanese and US markets towards countries that face water shortages such as China, Korea, Singapore, Thailand, Indonesia, and Middle Eastern countries. For example, in 2017, Microza was selected for a desalination plant in Kuwait, whose treatment capacity is scheduled to be 610,000 tons per day, representing the largest hollow-fiber filtration membrane order received by Asahi Kasei. Asahi Kasei has contributed, and will continue to contribute, to solutions for a wide range of environmental problems related to water resources by achieving further growth in orders for large-scale water-treatment facilities throughout the world, particularly in Asian countries where the number and scale of such projects is forecasted to increase steadily.

Estimated timeframe for realization

1 to 3 years

Magnitude of potential financial impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

9900000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact

The global market for MF/UF systems reached about USD 450 Million in 2020. Asahi Kasei is the world's leading supplier of MF/UF membranes, with its Microza membranes used at over 1,000 plants worldwide, enjoying a market share of over 20%. Assuming the same market share, the scale of our MF/UF systems business will be around USD 90 Million, or JPY 9,900,000,000.

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)

Country/Area & River basin

Singapore	Other, please specify (The two plants are situated on Jurong Island, which is an artificial island that has no "river basin".)
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Latitude

1.26

Longitude

103.7

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)

84.3

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

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

84.3

Total water discharges at this facility (megaliters/year)

80.2

Comparison of total discharges with previous reporting year

Lower

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

80.2

Total water consumption at this facility (megaliters/year)

4.1

Comparison of total consumption with previous reporting year

About the same

Please explain

Facility reference number

Facility 2

Facility name (optional)

Country/Area & River basin

Singapore	Other, please specify (The two plants are situated on Jurong Island, which is an artificial island that has no "river basin".)
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Latitude

1.27

Longitude

103.66

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)

620.65

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

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

620.65

Total water discharges at this facility (megaliters/year)

0.01

Comparison of total discharges with previous reporting year

Lower

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

620.64

Total water consumption at this facility (megaliters/year)

0.01

Comparison of total consumption with previous reporting year

About the same

[Please explain](#)

W5.1a

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

Water withdrawals – total volumes

% verified
Not verified

Verification standard used
<Not Applicable>

Please explain

Water withdrawals – volume by source

% verified
Not verified

Verification standard used
<Not Applicable>

Please explain

Water withdrawals – quality by standard water quality parameters

% verified
Not verified

Verification standard used
<Not Applicable>

Please explain

Water discharges – total volumes

% verified
Not verified

Verification standard used
<Not Applicable>

Please explain

Water discharges – volume by destination

% verified
Not verified

Verification standard used
<Not Applicable>

Please explain

Water discharges – volume by final treatment level

% verified
Not verified

Verification standard used
<Not Applicable>

Please explain

Water discharges – quality by standard water quality parameters

% verified
Not verified

Verification standard used
<Not Applicable>

Please explain

Water consumption – total volume

% verified
Not verified

Verification standard used
<Not Applicable>

Please explain

W6. Governance

W6.1

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

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

W6.1a

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

	Scope	Content	Please explain
Row 1	Company-wide	Commitment to prevent, minimize, and control pollution Commitment to reduce or phase-out hazardous substances Commitment to safely managed Water, Sanitation and Hygiene (WASH) in the workplace Commitment to water stewardship and/or collective action Acknowledgement of the human right to water and sanitation	Our Environment, Safety, Health and Quality Assurance (ESH&QA) Policy includes the statement "We give full consideration to the global environment, and make efforts to reduce the environmental burden of all operations." For the Asahi Kasei Group, "efforts to reduce the environmental burden" naturally means efforts to pursue the effective use of water resources and reduce the impact in the form of effluent. We also explicitly uphold "ensuring safe and comfortable workplace environments" in our Code of Conduct and promise to strive to prevent occupational accidents, build comfortable workplace environments and maintain and improve employee health. We take it as our responsibility to safeguard employees' access to safe water and sanitation as a human right, which we believe is indispensable to ensure safe and comfortable workplace environments. Our ESH&QA Policy and Code of Conduct apply to the entire Asahi Kasei Group since we believe it is essential for us to approach water-related issues consistently across the Group. AsahiKasei code_of_conduct.pdf

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>The ultimate responsibility for water-related issues in the Group lies with the CEO.</p> <p>In our group, water-related business is one of the most important management issues in terms of risks and opportunities for our business. In terms of risk, many of our Group's plants are located in areas with abundant water resources, but some factories have the risk of depleting water resources, which could have a major impact on factory operations when risks materialize. We recognize that not only current factory responses, but also decisions on future locations are important management issues. In addition, the Board of Directors is also discussing analyses and responses based on the TCFD framework, such as considering necessary responses, assuming the possibility of flooding and the leakage of hazardous materials as weather disasters become more severe due to climate change. On the other hand, from an opportunity perspective, we are considering measures to contribute as a business in anticipation of a shortage of water resources and the increasing uneven distribution of water resources worldwide. These are reflected in the content of the medium-term management plan and the annual management plan that the CEO takes the lead in formulating.</p> <p>Decision-making example: The budget allocation for upgrading and repairing wastewater and wastewater treatment facilities in Singapore, Kawasaki, Fuji, and other locations in 2022 was approximately 1.4 billion yen. The decision-making process for this investment was comprehensively led by the CEO.</p>

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 Reviewing and guiding business plans Reviewing and guiding corporate responsibility strategy Reviewing and guiding major plans of action Reviewing innovation/R&D priorities Setting performance objectives	The Environment, Safety, Health and Quality Assurance (ESH&QA) Committee deliberates ESH&QA plans and results, which include those related to water issues, in annual ESH&QA meetings. The Secretary of the ESH&QA Committee reports the outcomes of the Committee to the Management Council once a year. Most decisions are made within annual ESH&QA meetings and/or the Management Council, but if something comes up that shall be discussed and approved by the Board of Directors, e.g. water-related issues relating to acquisitions and major capital investments as well as important issues relating to water membranes business, a person in charge of the issue explains it to the Board. Apart from this, the Director in charge of ESH&QA activities reports the progress of the Group's ESH&QA activities to the President twice a year. We believe this multi-layered governance system enables the management and the Board of Directors to concentrate on water-related matters with high priority.

W6.2d

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

	Board member(s) have competence on water-related issues	Criteria used to assess competence of board member(s) on water-related issues	Primary reason for no board-level competence on water-related issues	Explain why your organization does not have at least one board member with competence on water-related issues and any plans to address board-level competence in the future
Row 1	Yes	The chairman has been the chairman of the Environmental Committee of Keidanren, the business round table of Japan. Through that experience, he has a wealth of knowledge about the environment, especially climate change and water, and a strong communication path that can convey corporate opinions to the government in formulating environmental policies.	<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
- Conducting water-related scenario analysis
- Managing value chain engagement on water-related issues

Frequency of reporting to the board on water-related issues

Annually

Please explain

The Environment, Safety, Health and Quality Assurance (ESH&QA) Committee is a corporate organ under the direct authority of the President. It is chaired by the President and consists of a Director in charge of ESH&QA activities and ESH&QA managers. It deliberates ESH&QA plans and results, which include those related to water issues, in annual ESH&QA meetings. The Secretary of the Committee reports the outcomes of the Committee to the Management Council once a year. Most decisions are made within annual ESH&QA meetings and/or the Management Council, but if something comes up that shall be discussed and approved by the Board of Directors, e.g. water-related issues relating to acquisitions and major capital investments as well as important issues relating to water membranes business, a person in charge of the issue explains it to the Board. Apart from this, the Director in charge of ESH&QA activities reports the progress of the Group's ESH&QA activities to the President twice a year.

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	Reduction of water withdrawals – direct operations Reduction in water consumption volumes – direct operations Improvements in water efficiency – direct operations Improvements in water efficiency – product use Improvements in wastewater quality – direct operations	In terms of performance-based remuneration, which constitutes a part of the remuneration of executive directors from the perspective of providing incentives to senior management that are tied to business performance and management strategy, the company combines the degree to which financial targets are met, including asset efficiency, and the degree to which non-financial goals are met, taking into account the promotion of sustainability and the achievement of goals by individuals.	<p>The company believes that incentive schemes have various advantages since the results are fairly assessed.</p> <p>This is especially true in the field of sustainability, which was not been given sufficient importance in the past. In addition, rewards can be set according to individual performance, which stimulates the motivation to work within the company.</p> <p>Performance-linked remuneration, which constitutes a part of remuneration for executive directors, shall be calculated based on the degree of achievement of the Group's consolidated financial indicators, such as net sales, operating income, and ROA, as well as a comprehensive judgment based on the degree of achievement of individually established targets, including the promotion of sustainability (ex. water-related measures). Specifically, it is calculated by multiplying the standard amount by position by a coefficient that comprehensively considers the degree of achievement of financial indicators and the degree of achievement of non-financial targets. The above policy on director compensation is disclosed in our corporate governance.</p>
Non-monetary reward	Other, please specify (Employees in non-managerial positions)	Reduction of water withdrawals – direct operations Reduction in water consumption volumes – direct operations Improvements in water efficiency – direct operations Improvements in water efficiency – product use Improvements in wastewater quality – direct operations	<p>The company runs a "merit award" scheme for recognizing the efforts of individuals who have made significant contributions to the circular economy, e.g., by promoting the 3Rs (Reduce, Reuse, Recycle), or to improving the competitiveness of "new value creation" business, e.g., by reducing environmental impact in connection with GHGs or water.</p> <p>When rating the grades of contributions to the company (four grades: Special Grade and Grades 1 to 3), we convert the contribution to business performance to a monetary value, as far as possible, to determine the grade in terms of EVA. In calculating EVA, we use an internal carbon price (CP) of 15,000 yen/ton-CO2e.</p>	We present awards every year to those who have made an outstanding contribution to increased productivity and/or cost reduction, including water efficiency improvement. Different grades are awarded depending on the economic value added (EVA) a project has created. For example, a special award is given to those who have created certain level of EVA.

W6.5

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

- Yes, direct engagement with policy makers
- Yes, trade associations

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?

When public comments are invited on proposed regulations on the environment such as effluent, air pollutants and soil contamination, which we find scientifically ungrounded, too excessive, or inconsistent with existing regulations, we submit our comments individually or collectively through the industry association. When we submit our comments individually, we carefully examine and review our comments internally over and over again in the sense of our water policy, before they are submitted to the government, so that they are fair, balanced, and consistent with our existing policies. If any unfairness, imbalance or inconsistency is found, it should be rectified in this process. When we submit our comments through the industry association, we follow the same steps to prepare our comments, but we then take part in a discussion within the Japan Chemical Industry Association (JCIA) to prepare the JCIA's comments. No single company can control the outcome of the discussion, but we make every effort to have our opinions reflected in the JCIA's comments. The JCIA's comments are often submitted through the Federation of Economic Organizations.

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)
AsahiKasei security report (Japanese).pdf

W7. Business strategy

W7.1

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

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	Yes, water-related issues are integrated	11-15	The Asahi Kasei Group's Vision aimed for "the pursuit of healthy and comfortable lifestyles" and "coexistence with the environment." "Be a Trailblazer", a three-year medium-term management plan launched in FY2022, expresses the Group's stance of contributing to the sustainable development of people and the planet in the future as "Care for People, Care for Earth (thinking about people and the planet)." This is an indication of the Asahi Kasei Group's approach to sustainability. Based on this belief, the Asahi Kasei Group has identified "Promotion of Environment-Contributing Businesses" and "Prevention of Water Pollution" as materiality and is implementing various initiatives. For example, we aim to promote the recycling of sewerage and factory wastewater using hollow fiber membrane filters and the UVC (deep UVC)-LEDs, which we have recently developed as an environmentally friendly device to replace Hg lamps, through our business in China and India, where industrialization is accelerating, or in the Asian region, where the population is rapidly increasing. In this way, we believe that providing state-of-the-art technology and providing clean and safe water to people living in areas where there are concerns about deteriorating water quality will lead to the realization of our Group Vision.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	11-15	According to OECD Environmental OUTLOOK2050 Report, if countries around the world do not engage in more ambitious environmental measures, the number of people suffering from severe water shortages will increase by 2.3 billion in 2050 (approximately 40% of the world's population). In addition, global water demand is reported to increase by 55% for industrial use. In addition, according to another report, the world membrane market is expected to grow by CAGR9.0% through 2019 and 2024 in. By region, the Asia-Pacific region, which is experiencing rapid economic growth (particularly China, India, Indonesia, etc.), is a promising market. We have already formulated a business strategy based on the above trends, and believe that we can enjoy the long-term business benefits of being a hollow fiber filter top company.
Financial planning	Yes, water-related issues are integrated	11-15	According to the ASDReports report "UV Sterilization Market, Global Forecast to Year 2023", the UV fungicide market will grow by an CAGR13 of 7% in 2017-2023 to reach \$4.27 billion in 2023 due to rising demand for safe drinking water in developing countries and increased demand for environmentally friendly fungicidal systems. Under such circumstances, we have newly developed a deep UV UVC-LED "Klaran" that can emit light at wavelengths around 265 nm with high power that can effectively perform sterilization. Using this device, drinking-water can be disinfected more easily, saving people suffering from water-borne illness in developing countries and elsewhere. In addition, since this device does not use any mercury, it can also respond to international mercury use regulations, and it is highly expected to be a light source instead of mercury lamps. Research, application development, and sales expansion costs for this business expansion have already been reflected in financial planning. The Asahi Kasei Group as a whole has prepared a budget of 800 billion yen for investment including this device business expansion.

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)

2.78

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

3

Water-related OPEX (+/- % change)

5.79

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

5

Please explain

CAPEX:

2022 Capital Investment in Water-Related Business

Capital investment related to water was increased compared to the previous year.

In the next fiscal years, the water purification business using UVC (deep UV)-LEDs is also expected to expand, and the amount of R&D investment is expected to increase.

OPEX:

Most of the operating expenses in 2022 were for water quality analysis of wastewater discharged directly into public waters, such as rivers and the sea, and the cost of its neutralizing agents, many of which were used to comply with laws and regulations. As there were no major changes in the number of business establishments analyzed for water quality, the change compared to the previous year was 5.79%.

We expect the next fiscal year to be about the same.

W7.3

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

	Use of scenario analysis	Comment
Row 1	Yes	We use currently the TCFD framework to determine the risks and opportunities of our company and how those could have substantive financial or strategic impact on us. We suppose two scenarios for the climate change and relevant social change, meaning IPCC SSP3-7.0 (+4°C) scenario and IEA NZE 2050 (+1.5°C) scenario. In IPCC SSP3-7.0 scenario, the temperature will rise sharply in accordance with the strengthening typhoons that have heavier rain and stronger wind. In IEA NZE 2050 scenario, the temperature will rise moderately with more strict regulations on CO2 emission and policies that promote more climate-friendly options, such as electric vehicles. We have discussed the impact of both risks and opportunities with people from our three core business sectors, and the corporate division. After this discussion, we had a more comprehensive discussion at the corporate strategy committee meeting and the board meeting to determine the risks and opportunities including water-related issues.

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	According to the IPCC SSP3-7.0 (+4°C) scenarios, drought conditions attributable to climate change will become increasingly common in all regions of our planet in the future. For example, water shortages will become so commonplace in China that during periods of scarcity, local governments will order manufacturing facilities to shut down operations. Conversely, these conditions present a business opportunity for goods and services that contribute to water conservation. The Asahi Kasei Group is competitive in the field of manufacturing technology for filtration/purification membranes “Microza” that incorporate its own proprietary technologies.	Increased revenues resulting from increased demand for products and services: Sales of material segments including filtration membranes will be aimed at 1,530 (billion yen) in FY2024 from 1,210 (billion yen) in FY2021. With the business expansion of highly value added products such as filtration membrane, the operating income margin is targeted at 10.6% in 2024 compared to 8.8% in 2021. This figure is calculated assuming that the high-functional product is doubled from 79.1 billion yen to 140 billion yen and the operating income margin is targeted at 8.5% in 2025. This numerical value is disclosed in IR materials at the business explanatory meeting of the material segment.	The global market for microfiltration (MF) and ultrafiltration (UF) systems is growing by about 10% annually, driven by serious environmental water quality issues and water shortages, as well as increasingly stringent global wastewater regulations. Microza holds the leading share of the US market for membrane-process water clarification systems, the world’s largest market for such systems. We consider this opportunity strategic because the adoption of Microza has been growing firmly in many countries that face water shortages and have growing needs for improved water quality. In fact, we are trying to shift our focus away from the traditional Japanese and US markets towards countries that face water shortages such as China, Korea, Singapore, Thailand, Indonesia, and Middle Eastern countries. Asahi Kasei has contributed, and will continue to contribute, to solutions for a wide range of environmental problems related to water resources by achieving further growth in orders for large-scale global water-treatment facilities, particularly in Asian countries where the number and scale of such projects is forecasted to increase steadily.

W7.4

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

Row 1

Does your company use an internal price on water?

No, and we do not anticipate doing so within the next two years

Please explain

Participation in various workshops and seminars deepened the understanding of the costs of plumbing water. For example, we learned that much of the water we use at our sites is costly to treat for chemical substances that contaminate it during overheating, cooling, and wastewater management, so the cost is up to 40 times higher per m3. We also learned that when water costs are underestimated, it is difficult to see the benefits of water conservation measures and investment.

W7.5

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

	Products and/or services classified as low water impact	Definition used to classify low water impact	Primary reason for not classifying any of your current products and/or services as low water impact	Please explain
Row 1	Yes	The Asahi Kasei Group defines products that contribute to the improvement of the environment over their entire life cycle when compared to products considered to be the standard in the current market, and products that contribute to the improvement of the environment when compared with our existing products, as Environmental Contribution Products. The Group has conducted life cycle assessments (LCAs) for its products to assess their environmental impact over their entire life cycle, and has defined and certified products that can contribute to water reduction at the stage of product use as "Environmental Contribution Products".	<Not Applicable>	Our water-related "Environmental Contribution Products" are as follows: Microza UF/MF: Microza UF and MF hollow fiber products are providing the most advanced membrane filtration technology for water processing, separations and purifications in a global market. Eutec TM: Eutec TM is a filtration system developed by Asahi Kasei using microfilament nonwoven material. Eutec filter systems can meet your needs, for example, oil-water separation, solid-liquid separation, etc.

W8. Targets

W8.1

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

Yes

W8.1a

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

	Target set in this category	Please explain
Water pollution	Yes	<Not Applicable>
Water withdrawals	No, and we do not plan to within the next two years	
Water, Sanitation, and Hygiene (WASH) services	No, and we do not plan to within the next two years	
Other	Yes	<Not Applicable>

W8.1b

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

Target reference number

Target 1

Category of target

Water recycling/reuse

Target coverage

Business division

Quantitative metric

Increase in water use met through recycling/reuse

Year target was set

2019

Base year

2015

Base year figure

540000000

Target year

2025

Target year figure

7590000000

Reporting year figure

5694000000

% of target achieved relative to base year

73.1063829787234

Target status in reporting year

Underway

Please explain

The accumulated water treatment volume with Microza from the base year 2015 to 2022 is 5.694 billion tons. Since the accumulated water treatment volume by the target year 2025 is 7.590 billion tons, the current progress rate is $5.694 / 7.590 \times 100 = 75.02\%$.

Target reference number

Target 2

Category of target

Water pollution

Target coverage

Company-wide (direct operations only)

Quantitative metric

Other, please specify (No breaches or penalties related on standards of Japan's Water Pollution Control Law and the regional regulations)

Year target was set

2022

Base year

2021

Base year figure

0

Target year

2022

Target year figure

0

Reporting year figure

0

% of target achieved relative to base year

<Calculated field>

Target status in reporting year

Achieved

Please explain

Target achievement is based on the existence of violations of water-related environmental laws and regulations.

No breaches or penalties occurred during the period from 1 April 2022 to 31 March 2023 related to the emission standards of Japan's Water Pollution Control Law and the regional regulations in which manufacturing facilities exist.

W9. Verification

W9.1

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

No, we do not currently verify any other water information reported in our CDP disclosure

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	Please select	<Not Applicable>	

W10.2

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

	Impact assessment	Value chain stage	Please explain
Row 1	Please select	<Not Applicable>	

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	Please select	<Not Applicable>	<Not Applicable>	

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	Please select	<Not Applicable>	<Not Applicable>	

W10.5

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

	Activity applies	Comment
Production of plastic polymers	Please select	
Production of durable plastic components	Please select	
Production / commercialization of durable plastic goods (including mixed materials)	Please select	
Production / commercialization of plastic packaging	Please select	
Production of goods packaged in plastics	Please select	
Provision / commercialization of services or goods that use plastic packaging (e.g., retail and food services)	Please select	

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.