Ono Pharmaceutical Co., Ltd. - Water Security 2019

W0. Introduction

W0.1

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

[Company name] Ono Pharmaceutical Co., Ltd.
[Representative] Gyo Sagara, President, Representative Director, and CEO
[Headquarters] 8-2, Kyutaromachi 1-chome, Chuo-ku, Osaka, Japan

We manufacture and sell pharmaceutical drugs. Our financial summary is as follows.

Year and month of settlement	March 2017	March 2018	March 2019
Revenue (unit: one million yen)	244,797	261,836	288,634
Operating profit (unit: one million yen)	72,284	60,684	62,010
Operating profit margin (%)	29.5	23.2	21.5
Profit for the current year (unit: one million yen)	55,793	50,284	51,539
Total assets (unit: one million yen)	617,461	609,226	655,056

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 2018	March 31 2019

W0.3

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

Japan

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
Small business sites other than the headquarters, the head office, our own buildings, plants, and research institutes	The total water consumption of small business sites other than the headquarters, the head office, our own buildings, plants, and research institutes is excluded because it is estimated at less than 1% of our water consumption.

W1. Current state

W1.1

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

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Vital	[Direct use] Fresh water of good quality is supplied. Water quality is inspected by the government (local governments), and water that meets the standards of the Water Supply Act is supplied. The water is offered as drinking water for employees, and it is used as an important raw material for manufacturing pharmaceuticals at plants. Thus, the water is indispensable for our operations. The quality of water for pharmaceutical production is determined by the Japanese Pharmacopoeia. We periodically conduct analysis specified in the Japanese Pharmacopoeia and assess the quality before using the water for manufacturing. We consider that the city water used at our plant significantly affects safety in particular because it is used to manufacture pharmaceuticals. For this reason, we endeavor to ensure rigorous control in our daily operations. In research, water is mainly used to conduct experiments, as drinking water for laboratory animals, to wash and sterilize rearing cages for laboratory animals, and to wash instruments. Deterioration of quality and decrease in quantity of fresh water used for these purposes may undermine the reliability of the experiment data and may cause a significant delay in the research schedule. To continuously market pharmaceuticals, the use of fresh water of sufficient quantity and good quality is indispensable for our operations. [Indirect use] The fresh water of good quality is used by contractors that manufacture our products or undertake research. Water quality is inspected by the government (local governments), and water that meets the standards of the Water Supply Act is supplied. About 40% of our products are manufactured by contractors (suppliers). Water is one of the essential raw materials in manufacturing pharmaceuticals. Water quality analysis specified in the Japanese Pharmacopoeia is periodically conducted by the manufacturing contractors, and the water quality is assessed before the water is used for manufacturing. In research, the use of fresh water of sufficient quantity and good quality is indispensable for operations to ensure the reliability of data. Our contractors periodically conduct water quality inspections and use water after assessing the water quality. We periodically audit contractors and confirm that the water is managed properly. We will remain dependent on fresh water of good quality to ensure safety and reliability. Fresh water of good quality will be permanently indispensable for both direct and indirect use.
Sufficient amounts of recycled, brackish and/or produced water available for use	Not important at all	Not important at all	No brackish water or recycled water is used directly or indirectly in our production and research activities. Thus, the water is not important. However, recycled water is used for utilities not directly related to research (i.e., flushing toilets and watering) at one business site (Fukui Research Institute). The consumption is small and does not have a significant impact. We consider that brackish water will remain unimportant. Regarding utility equipment that is not directly related to production and research, it is necessary to increase the use of recycled water to reduce dependency on fresh water.

W1.2

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

	% of sites/facilities/operations	Please explain
Water withdrawals – total volumes	76-99	The sources of our water withdrawal are city water, industrial water and underground water. The consumption of city water and industrial water is monitored by checking the meter reading slip issued by the government at least every two months and noting the water meter value. In the case of underground water, the water withdrawal volume is measured by our staff members in charge of facilities at least once a year. Regarding small business sites other than the headquarters, the head office, our own buildings, plants, and research institutes, the percentage of our overall water consumption is estimated to be small based on their activities. Thus, periodic monitoring is not conducted. The percentage subject to monitoring is less than 100%.
Water withdrawals – volumes from water stressed areas	100%	There is no water withdrawal from water stressed areas. Water withdrawals sourced from water stressed areas are assessed using WRI Aqueduct at least once a year. We confirm that there is no water withdrawal from water stressed areas. Thus, the percentage of target facilities is 100%.
Water withdrawals – volumes by source	76-99	The sources of our water withdrawal are city water, industrial water and underground water. The consumption of city water and industrial water is monitored by checking the meter reading slip issued by the government at least every two months and noting the water meter value. In the case of underground water, the water withdrawal volume is measured by our staff members in charge of facilities at least once a year. Regarding the use of city water at small business sites other than the headquarters, the head office, our own buildings, plants, and research institutes, most of the employees work outside the business sites, and the percentage of our overall water consumption is estimated to be small. Thus, periodic monitoring is not conducted. The percentage subject to monitoring is less than 100%, but we identify the overall water withdrawal volume.
Entrained water associated with your metals & mining sector activities - total volumes [only metals and mining sectors]	<Not Applicable>	<Not Applicable>
Produced water associated with your oil & gas sector activities - total volumes [only oil and gas sector]	<Not Applicable>	<Not Applicable>
Water withdrawals quality	100%	City water and underground water that are withdrawn are analyzed by an external analytical laboratory at least once a year. The staff members in charge of facilities check the analysis results to determine whether the water quality standards are being met. We do not conduct in-house analysis of the quality of drinking water for employees or industrial water not used for experiments. The staff members in charge of facilities check the water quality inspection results released by the government once a month.
Water discharges – total volumes	76-99	At the Fujiyama Plant and Fukui Research Institute, the water discharge volume is monitored by checking the meter reading slip issued by the government, which reads the wastewater meter once a month. At the Fujiyama Plant and Yamaguchi Plant, wastewater is treated in wastewater treatment equipment before being discharged into a river. At other business sites, wastewater is discharged into the public sewerage systems. Regarding the water discharge volume at the Joto Plant, Minase Research Institute, and Tsukuba Research Institute, we were instructed by the government to report “water discharge volume = water withdrawal volume.” The water discharge volume is not directly measured but is checked by the government based on meter reading once a month. Regarding the small business sites other than the headquarters, the head office, our own buildings, plants, and research institutes, the percentage of our overall water consumption is estimated to be small based on their activities. Thus, periodic monitoring is not conducted. The percentage subject to monitoring is less than 100%.
Water discharges – volumes by destination	100%	The Fujiyama Plant and Yamaguchi Plant discharge wastewater into a river after treatment in the wastewater treatment equipment. At the Fujiyama Plant, the staff members in charge of facilities monitor the water discharge volume by reading the wastewater meter. At the Yamaguchi Plant, the water discharge volume is automatically measured at the outlet of the discharge tank, and the measurement data is sent to the central monitoring unit. However, an accurate value has not been obtained because the water discharge volume is still small in the test run phase. Thus, we regard the water withdrawal volume as the water discharge volume. Wastewater is discharged into the public sewerage systems by the headquarters, the head office, our own buildings, the Minase Research Institute, the Fukui Research Institute, the Tsukuba Research Institute, and the Joto Plant. We were instructed by the government to report “water discharge volume = water withdrawal volume.” The water discharge volume is not directly measured but is checked by the government based on meter reading once a month.
Water discharges – volumes by treatment method	76-99	The Fujiyama Plant and Yamaguchi Plant treat wastewater in the wastewater treatment equipment. At the Fujiyama Plant, staff members in charge of facilities read the wastewater meter to monitor the water discharge volume. At the Yamaguchi Plant, the water discharge volume is automatically measured at the outlet of the discharge tank, and the measurement data is sent to the central monitoring unit. However, an accurate value has not been obtained because the water discharge volume is still small in the test run phase. Thus, we regard the water withdrawal volume as the water discharge volume. At other business sites (the headquarters, the head office, our own buildings, the Minase Research Institute, the Fukui Research Institute, and the Tsukuba Research Institute), the wastewater meets the wastewater standards in accordance with the Sewerage Act. The wastewater is discharged directly into the public sewerage systems without treatment. The water withdrawal volume is checked by the government based on meter reading in accordance with the government guidance of “water discharge volume = water withdrawal volume” at least every

		two months.

	% of sites/facilities/operations	Please explain
Water discharge quality – by standard effluent parameters	100%	The water discharge quality is analyzed by an analysis contractor at each business site at least once a month. It is confirmed that the water quality meets the water discharge quality standards established by the local government authorities each month based on a measurement certificate. Small business sites other than the headquarters, the head office, our own buildings, plants, and research institutes do not emit harmful substances from their activities. Thus, periodic monitoring is not performed.
Water discharge quality – temperature	100%	The temperature must be less than 45°C in accordance with the Sewerage Act. At our business sites, measurement is conducted by an analysis contractor each month to determine whether the standards are being met. The results are confirmed based on a measurement certificate.
Water consumption – total volume	76-99	The water consumption is calculated at least every two months based on the formula “water consumption = water withdrawal volume − water discharge volume.” At the Fujiyama Plant and Fukui Research Institute, the water withdrawal volume and water discharge volume are measured. “Water consumption = water withdrawal volume − water discharge volume” is monitored indirectly. At the Yamaguchi Plant, the water withdrawal volume and water discharge volume are automatically measured at the outlet of the discharge tank, and the measurement data is sent to the central monitoring unit. However, an accurate value of the water discharge volume has not been obtained because the water discharge volume is still small in the test run phase. Thus, we regard the water withdrawal volume as the water discharge volume. We monitor “water consumption = water withdrawal volume − water discharge volume” indirectly. The water withdrawal volume is measured at the Joto Plant, Minase Research Institute, and Tsukuba Research Institute. The water discharge volume is reported as “water discharge volume = water withdrawal volume.” “Water consumption = water withdrawal volume − water discharge volume” is monitored indirectly at least every two months. Regarding small business sites other than the headquarters, the head office, our own buildings, plants, and research institutes, the percentage of our overall water consumption is estimated to be small based on their activities. Thus, periodic monitoring is not conducted. The percentage subject to monitoring is less than 100%.
Water recycled/reused	100%	Recycled water is used only at one business site (the Fukui Research Institute). It is mainly used to water plants and flush toilets. Some of the water is used to fight fires and melt snow. The water meter value is recorded and measured directly once a month.
The provision of fully-functioning, safely managed WASH services to all workers	100%	We provide safely managed WASH services at all of our facilities (100%). Only city water is offered to employees. The water quality is analyzed by an analysis contractor at least twice a year to confirm whether the standard value of the Water Supply Act is being met. We periodically clean the water storage tanks and pass the periodic inspection required by the government. Safe water is offered to all employees at all of our business sites. Water supply equipment is installed to supply safe water.

W1.2b

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

	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Total withdrawals	347.97	Higher	The sources of our water withdrawal are city water, industrial water and underground water only. Regarding city water and industrial water, we identify the consumption based on measurement conducted by the government at least every two months. We identify the balance as “total water withdrawal volume = total water discharge volume + total consumption.” Regarding the underground water withdrawn at the Fujiyama Plant, the water withdrawal volume is measured and monitored at least once a year. The total water withdrawal volume is expected to increase in the future due to the increase in production volume of our product (OPDIVO) and the commencement of full-scale operation of the Yamaguchi Plant. The product production volume in the reporting year has not changed significantly from the last fiscal year. However, the total water withdrawal volume increased from the previous fiscal year due to a test run of the water equipment for pharmaceutical production in line with the modification project at the No. 1 plant of the Fujiyama Plant and construction of the Yamaguchi Plant.
Total discharges	259.87	Higher	At the Fujiyama Plant and the Fukui Research Institute, measurement and monitoring are conducted to identify the water discharge volume. At the Fujiyama Plant and the Yamaguchi Plant, wastewater is treated at a wastewater treatment facility before being discharged into a river. At other business sites, wastewater is discharged into the sewerage systems. Regarding the water discharge volume at the Joto Plant, Minase Research Institute, and Tsukuba Research Institute, we were instructed by the government to report “water discharge volume = water withdrawal volume.” The water discharge volume is not directly measured. The water discharge volume increased from last year due to the modification project at the No. 1 plant of the Fujiyama Plant and the construction project at the Yamaguchi Plant. The total water discharge volume is expected to increase in the future due to the increase in production volume of our product (OPDIVO) and the commencement of full-scale operation of the Yamaguchi Plant.
Total consumption	88.1	About the same	We perform calculation based on the formula “water consumption = water withdrawal volume − water discharge volume.” At the Fujiyama Plant and Fukui Research Institute, the water withdrawal volume and water discharge volume are measured. “Water consumption = water withdrawal volume − water discharge volume” is monitored indirectly. At the Yamaguchi Plant, the water withdrawal volume and water discharge volume are automatically measured, and the measurement data is sent to the central monitoring unit. However, an accurate value of the water discharge volume has not been obtained because the water discharge volume is still small in the test run phase. Thus, we regard the water withdrawal volume as the water discharge volume. We monitor “water consumption = water withdrawal volume − water discharge volume” indirectly. At the headquarters, Joto Plant, Minase Research Institute, and Tsukuba Research Institute, the water withdrawal volume is measured. The water discharge volume is reported as “water discharge volume = water withdrawal volume.” “Water consumption = water withdrawal volume − water discharge volume” is monitored indirectly. Water withdrawal volume (347.97) = water discharge volume (259.87) + water consumption (88.10). The balance of reported values matches. The production volume in the reporting year has not changed significantly from the previous fiscal year. The total consumption remains almost the same, but it is expected to increase in the future due to the increase in the production volume of our product (OPDIVO) and the commencement of full-scale operation of the Yamaguchi Plant.

W1.2d

(W1.2d) Provide the proportion of your total withdrawals sourced from water stressed areas.

	% withdrawn from stressed areas	Comparison with previous reporting year	Identification tool	Please explain
Row 1	0	About the same	WRI Aqueduct	We periodically check at least once a year, by using WRI Aqueduct, that our business sites do not operate in areas which are classified as water stressed areas (extremely high risk) based on the classification of WRI Aqueduct and that no water withdrawals are sourced from water stressed areas. Like other business sites that we operate, the Yamaguchi Plant (our newly added business site) does not operate or withdraw water from water stressed areas, either. There has been no change in the locations of other business sites. Accordingly, we do not operate or withdraw water from water stressed areas as in the case of last fiscal year. The water withdraw rate from water stressed areas is zero.

W1.2h

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Not relevant	<Not Applicable>	<Not Applicable>	We need to use water of good quality for pharmaceutical production and research. Thus, these water sources are not used as withdrawals for pharmaceutical production and experiments.
Brackish surface water/Seawater	Not relevant	<Not Applicable>	<Not Applicable>	We need to use water of good quality for pharmaceutical production and research. Thus, these water sources are not used as withdrawals. We need water of good quality. Thus, we will not withdraw brackish water or seawater as before. In the last fiscal year, no brackish water was withdrawn. The water withdrawal volume is also zero for the reporting year (equivalent to that of the last fiscal
Groundwater – renewable	Relevant	26.19	Lower	At the Fujiyama Plant, underground water is stored in a pond in front of the main building for firefighting. We report the annual water withdrawal volume to the government (Fujinomiya City) once a year. In the reporting year, we adjusted the volume of water replenished to the pond as we did in the previous year. Thus, in the reporting year, the volume decreased by more than 10% from the reported volume in the previous fiscal year. We do not plan to change the usage of the underground water in the future. We assume that the consumption will not change (previous year: 34.56 million L/year).
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	We need to use water of good quality for pharmaceutical production and research. Thus, these water sources are not used as withdrawals. The water withdrawal volume was zero in the last fiscal year, and it is also zero for the reporting year (equivalent to that of the last fiscal year). We need to use water of good quality into the future. We will not withdraw water from this source.
Produced/Entrained water	Not relevant	<Not Applicable>	<Not Applicable>	We need to use water of good quality for pharmaceutical production and research. Thus, these water sources are not used as withdrawals. The water withdrawal volume was zero in the last fiscal year, and it is also zero for the reporting year (equivalent to that of the last fiscal year). We need to use water of good quality into the future. We will not withdraw water from this source.
Third party	Relevant	321.78	Higher	We need to withdraw water of good quality for pharmaceutical production (to manufacture products) and research (to conduct research). Our operations require city water of good quality supplied from a third-party source (local government) at the locations of the respective business sites. Such city water of good quality accounts for almost 100% of our water withdrawals. The production volume of products has not changed significantly from the previous fiscal year to the reporting year. However, the consumption increased from the previous fiscal year due to a test run in line with the modification project at the No. 1 plant of the Fujiyama Plant and construction project at the Yamaguchi Plant. The water withdrawal volume from a third-party source is expected to increase in the future due to the increase in the production volume of our product (OPDIVO) and the commencement of full-scale operation of a new plant.

W1.2i

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water	Relevant	186.61	Higher	No public sewerage system is in place around the Fujiyama Plant. Wastewater is discharged directly into a river, which is relevant and important as the discharge destination. The wastewater is treated at the wastewater treatment facility on the premises of the Fujiyama Plant before being discharged into the river. We comply with the regulations for discharging wastewater into the river, confirm whether the standard value is being met, and report it to the regulatory authorities. Wastewater discharged by the Yamaguchi Plant flows through special piping in the industrial park into the Yuragawa River and the Doroishigawa River and eventually flows into Yamaguchi Bay. Thus, the rivers and bay are relevant and important as discharge destinations. We analyze wastewater once a month to check that the value is within the limit set by the Act on Special Measures concerning Conservation of the Environment of the Seto Inland Sea and within the value agreed upon with the City of Yamaguchi. The production volume has not changed significantly from the last fiscal year to the reporting year. However, the water discharge volume increased due to the modification project at the No. 1 plant of the Fujiyama Plant and construction project at the Yamaguchi Plant. At the Fujiyama Plant, the production volume is expected to decrease and the water discharge volume is also expected to decrease in line with the increase in the production volume of our product (OPDIVO) and full-scale operation of the Yamaguchi Plant. Nevertheless, with wastewater from these two plants combined, the total water discharge volume of our company is expected to increase.
Brackish surface water/seawater	Not relevant	<Not Applicable>	<Not Applicable>	Our wastewater is discharged into the public sewerage systems and rivers. We do not discharge wastewater into brackish water and seawater, which are irrelevant and unimportant as the discharge destinations. We did not discharge wastewater into brackish water and seawater in the last fiscal year and the reporting year. Thus, the discharge volume in the reporting year was equivalent to that in the last fiscal year. We do not plan to discharge wastewater into brackish water and seawater.
Groundwater	Not relevant	<Not Applicable>	<Not Applicable>	Our wastewater is discharged into the public sewerage systems and rivers. We do not discharge wastewater into brackish water and seawater, which are irrelevant and unimportant as the discharge destinations. We did not discharge wastewater into brackish water and seawater in the last fiscal year and the reporting year. Thus, the discharge volume in the reporting year was equivalent to that in the last fiscal year. We do not plan to discharge wastewater into brackish water and seawater.
Third-party destinations	Relevant	73.26	Lower	Our wastewater is discharged into the public sewerage system operated by a third-party organization (local government), which is relevant and important as the discharge destination. The volume of wastewater discharge decreased from last year due to the decrease in the volume of washing water in line with the decrease in the number of experiment animals kept at the Fukui Research Institute and replacement of the demineralizer for air conditioning and humidification at the Minase Research Institute. We plan to continue to discharge wastewater into the public sewerage systems, but we will reduce the volume of wastewater discharged to a third-party destination based on efforts such as reduction of the washing water through change from the use of automatic washing and caring machines for experiment animals to caring by bedding and installation of recycled-water equipment.

W1.2j

(W1.2j) What proportion of your total water use do you recycle or reuse?

	% recycled and reused	Comparison with previous reporting year	Please explain
Row 1	1-10	Lower	To reduce dependency on fresh water, we use part of the wastewater at the Fukui Research Institute as recycled water (16,067 m^3) for watering plants, flushing toilets, and melting snow. The percentage of recycled water is about 4.6% of the total water withdrawal volume and 6.2% of the total water discharge volume. There was no increase or decrease in the number of staff members and plants on the premises of the Fukui Research Institute from the previous fiscal year to the reporting year. However, the recycling rate dropped because the volume of recycled water used for melting snow decreased due to a small snowfall attributed to a warm winter. Dependency on fresh water is reduced by using recycled water. We will install recycled water production facilities at research institutes and plants other than the Fukui Research Institute to increase the use of recycled water and reduce dependency on fresh water.

W1.4

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

Yes, our suppliers

W1.4a

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

Row 1

% of suppliers by number

1-25%

% of total procurement spend

26-50

Rationale for this coverage

To receive reports from our main production contractors, we select top suppliers (about 1–25%) whose transaction amount is high in procurement cost, based on a judgment of influence on our production schedule. The suppliers can gain trust by making reports. A guarantee for a long-term contract is included in the business plan.

Impact of the engagement and measures of success

The effect of reducing water-related risks is expected for services offered by suppliers within the scope of reporting. We receive reports from suppliers about the quality of water for research and pharmaceutical production. We utilize the information to judge whether we can ensure the reliability of manufactured products. We measure the results regarding the success of cooperation by checking the reported information, compliance with our CSR procurement policy (*1), and that no water-related problems have arisen (*1).

(1) Compliance with relevant laws and regulations
We will comply with relevant laws and regulations in Japan and other countries, and we will conduct fair transactions based on high ethical standards.

(2) Respect for human rights
We will respect fundamental human rights and perform our duties without unjust discrimination in our procurement activities.

(3) Economic rationality
We will perform sufficient evaluations of the quality of goods and services and the management stability of suppliers, and we will select suppliers based on proper standards.

(4) Fair distribution of opportunities
We will provide opportunities for all suppliers to compete in a fair and transparent manner.

(5) Consideration of the environment
We will be conscious of the protection of resources and the conservation of the environment in our procurement activities.

(6) CSR procurement
We will promote CSR activities in all of our procurement activities as part of our efforts to promote CSR activities throughout the ONO PHARMACEUTICAL Group.

Comment

We will continue to select suppliers based on the CSR procurement policy. Currently, our suppliers can use a sufficient amount of safe water. None of our suppliers are located in areas with high water risks. However, the water risks may increase due to environmental changes in the future. We will request main suppliers to report their water management status.

W1.4b

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

Type of engagement

Incentivizing for improved water management and stewardship

Details of engagement

Offer financial incentives to suppliers improving water management and stewardship across their own operations and supply chain

% of suppliers by number

1-25

% of total procurement spend

76-100

Rationale for the coverage of your engagement

We implement the supplier engagement method in two phases. In the first phase, we identify the water resources management status at suppliers based on the information released by respective companies. In the second phase, an EcoVadis assessment is conducted to create an opportunity to propose corrective action to suppliers. Main suppliers can be covered by including about 80% of the transaction amount within the scope. We assume that engagement can be ensured for most of our transactions.

Impact of the engagement and measures of success

Influence of engagement: We propose specific corrective action through engagement. This helps suppliers plan reduction of water consumption.
Measure of success: The EcoVadis score of suppliers that implemented corrective action is used as the measure of success. We keep track of the improvement of scores.
Motivation of stewardship: We will cooperate with EcoVadis in their assessment and promote transactions with companies whose score is high. The EcoVadis assessment score can also be checked by other companies that use EcoVadis. Improvement in the assessment score helps increase transactions with us and create new business opportunities. We assume that water use management serves as an incentive.

Comment

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?

No

W3. Procedures

W3.3

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

Yes, water-related risks are assessed

W3.3a

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

Direct operations

Coverage
Full

Risk assessment procedure
Water risks are assessed as part of an enterprise risk management framework

Frequency of assessment
Annually

How far into the future are risks considered?
>6 years

Type of tools and methods used
Tools on the market
Databases
Other

Tools and methods used
WRI Aqueduct
Other, please specify (local government's databases, tools or standards specific to the country, in-house methods)

Comment
At our plants and research institutes, the trend of changes in water quality is monitored by comparing the results of analysis of water withdrawals used for business with past data. We assume that it is possible to predict the future status (from several years to about 10 years in the future) by using data accumulated in the past and our in-house knowledge on the condition that there is no significant change in the environment around the business sites. Periodic check of the quality analysis data of the supplied water (which is released based on the water quality inspection plan of local governments) is included in the water risk assessment procedure regarding water for research and pharmaceutical production. The Fujiyama Plant is located near Mt. Fuji. If Mt. Fuji becomes volcanically active, there are risks that the supply of water of good quality may be interrupted or production activities may be affected. We plan to establish a new plant in Yamaguchi Prefecture and start operations in 2020 in order to distribute geographical risks. We also checked the level of geographical water risks of the respective business sites by using a water risk assessment tool (WRI Aqueduct). Meanwhile, according to the Synthesis Report on Observations, Projections and Impact Assessments of Climate Change, 2018 published by the Ministry of the Environment, the precipitation amount will change, but the risks of significant environmental changes that make water withdrawals difficult will be low in the medium term. We consider that the possibility of our business being significantly affected is low. Regarding the procedure to assess the water risks, our in-house environment committee assesses the timing, probability, scope of influence, and measures for respective risks and determines the priority. We place top priority on risks that significantly influence our direct operations and whose countermeasures are highly cost-effective.

Supply chain

Coverage
Full

Risk assessment procedure
Water risks are assessed as part of an enterprise risk management framework

Frequency of assessment
Annually

How far into the future are risks considered?
3 to 6 years

Type of tools and methods used
Tools on the market
Other

Tools and methods used
WRI Aqueduct
National-specific tools or standards

Comment
We use a water risk assessment tool (WRI Aqueduct) to check whether production facilities are located in countries whose water risk is high (extremely high risk) in the entire supply chain (including manufacturing contractors) in order to identify the water risk of respective production facilities in the supply chain. In the reporting year, there is no production facility in the supply chain that is located in countries whose water risk is high. In Japan, according to the Synthesis Report on Observations, Projections and Impact Assessments of Climate Change, 2018 published by the Ministry of the Environment, the precipitation amount will change, but the risks of significant environmental changes that make water withdrawals difficult will be low in the medium term. We consider that the possibility of our supply chain being significantly affected is low. Regarding the procedure to assess the water risks, our in-house environment committee assesses the timing, probability, scope of influence, and measures for respective risks and determines the priority. We place top priority on risks that significantly influence our direct operations and whose countermeasures are highly cost-effective.

Other stages of the value chain

Coverage
None

Risk assessment procedure
<Not Applicable>

Frequency of assessment
<Not Applicable>

How far into the future are risks considered?
<Not Applicable>

Type of tools and methods used
<Not Applicable>

Tools and methods used
<Not Applicable>

Comment
We use a water risk assessment tool (WRI Aqueduct) to check whether production facilities are located in countries whose water risk is high (extremely high risk) in the entire supply chain in order to identify the water risk of respective production facilities in the supply chain. In the reporting year, there is no production facility in the supply chain that is located in countries whose water risk is high. In Japan, we use a water risk assessment tool (WRI Aqueduct) to check for geographical water risks in terms of locations in the supply chain.

According to the Synthesis Report on Observations, Projections and Impact Assessments of Climate Change, 2018 published by the Ministry of the Environment, the precipitation amount will change but the risks of significant environmental changes that make water withdrawals difficult will be low in the medium term. We consider that the possibility of our supply chain being significantly affected is low. Regarding the procedure to assess the water risks, our in-house environment committee assesses the timing, probability, scope of influence, and measures for respective risks and determines the priority. We place top priority on risks that significantly influence our direct operations and whose countermeasures are highly cost-effective.

W3.3b

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

	Relevance & inclusion	Please explain
Water availability at a basin/catchment level	Relevant, always included	We conduct research and development and manufacture pharmaceuticals. For this reason, it is indispensable to continuously ensure availability of water of good quality. Notably, OPDIVO (our main product) is an injection, and unavailability of water of good quality may significantly affect the product quality. For this reason, the water quality in the river basin and catchment area is included in the risk assessment. For the risk assessment procedure, we periodically obtain and confirm city water quality results released by the local government (city) that supplies the city water. To understand the test data of the water used, we use our in-house knowledge to make comparisons with past data and analyze the trends. A water risk assessment tool (WRI Aqueduct) is used to confirm that there are no geographical water risks.
Water quality at a basin/catchment level	Relevant, always included	We conduct research and development and manufacture pharmaceuticals. For this reason, it is indispensable to meet the water quality standard regarding the water for pharmaceutical production. Notably, OPDIVO (our main product) is an injection, and we need water of good quality. Deterioration of water quality may significantly affect the product quality. Regarding the risk assessment procedure, we compare the results of quality analysis of city water withdrawn at the plants and research institutes with past data to analyze the trends. Based on the analysis results, we confirm that no problems have arisen attributable to water quality in the production and research activities using our in-house knowledge.
Stakeholder conflicts concerning water resources at a basin/catchment level	Relevant, sometimes included	At present, there is no conflict with stakeholders regarding water resources in the river basin and catchment area. Regarding the risk assessment procedure, we analyze water quality at least once a year to confirm that the water quality standards are met at a catchment level. We also analyze wastewater once a month to make an assessment and determine whether there is no influence (e.g., pollution at a basin level) by using our in-house knowledge (e.g., past data and changes in the water quality), thereby building a good relationship with stakeholders in the catchment area and basin.
Implications of water on your key commodities/raw materials	Relevant, always included	We conduct research and development and manufacture pharmaceuticals. For this reason, we need to ensure continuous availability of water of good quality and to permanently meet the water quality standard for water for pharmaceutical production. Notably, OPDIVO (our main product) is an injection, and unavailability of water of good quality may significantly affect the product quality. Thus, water is the most important resource for us. Regarding the risk assessment procedure, the quality of city water withdrawn is analyzed at our research institutes and plants that we directly operate to confirm that the quality of water is appropriate for production and experiments. To understand the water test data to be used, our in-house knowledge and knowhow are used to make comparisons with accumulated past data and analyze the trends. Meanwhile, we check the level of water risk using WRI Aqueduct in areas where contract manufacturers, contract research institutes, and joint research partners are located. We have not been adversely affected due to water.
Water-related regulatory frameworks	Relevant, always included	Fujinomiya City, where our Fujiyama Plant is located, has regulations regarding withdrawals of underground water. There is an obligation to periodically notify the government of our consumption. The Fujiyama Plant uses city water for drinking and manufacturing. The withdrawal volume of underground water is about 20% of that of city water. Our research institutes and plants are required to meet the water discharge quality regulations. The water quality is analyzed periodically to confirm compliance with the regulations. In simulating the water discharge quality data, we make comparisons with past data, analyze the trends, and use our in-house knowledge.
Status of ecosystems and habitats	Relevant, always included	In managing water of good quality as water for pharmaceutical production, it is indispensable to include the ecosystem of the basin from which water is withdrawn and the condition of the habitat environment for animals and plants in risk assessment. In terms of risk assessment techniques, we analyze wastewater once a month and check that the wastewater from our business sites meets the wastewater standards specified by the government. Regarding the influence on the ecosystem in the area, we make comparisons with past data and analyze the trends using the wastewater analysis data. We assess the influence on the ecosystem at a basin level by using in-house knowledge.
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always included	Based on the belief that "People make the company," we have been promoting efforts to create an in-house environment for achieving harmony between the company and employees and to ensure safety and sanitation. In maintaining a sanitary environment, it is indispensable to make sure that employees can use safely managed sanitation facilities. In terms of the risk assessment techniques, we use WRI Aqueduct to assess risks of research institutes and plants. We also inspect the quality of the withdrawn city water, and we clean the water storage tanks and receive statutory inspections from the local governments once a year. Our staff members also inspect the water storage tank equipment once a week and measure the concentration of residual chlorine in the withdrawn water. If the concentration of residual chlorine in the withdrawn water decreases, there are risks of proliferation of microorganisms in the water. The concentration of residual chlorine is measured using a reagent to determine the volume of residual chlorine. Only safe water that meets the standard value of residual chlorine is offered to employees. All employees can access
Other contextual issues, please specify	Please select	

W3.3c

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

	Relevance & inclusion	Please explain
Customers	Relevant, always included	To manufacture the product that is our main product and that we solely manufacture and sell in Japan, we use water as a raw material. It is important for us to maintain the water quality and ensure the continuous and stable supply of products to customers. Thus, water is always included in assessment. Deterioration of the water quality poses the risks of unavailability of water as a raw material, suspension of production of products, and failure to ensure a stable supply to customers. Eventually, the lives of individuals may be at stake. We will establish a new plant in Yamaguchi Prefecture to ensure the stable supply of products. We release information about the assessment of and response to water risks through our CSR report and on our website.
Employees	Relevant, always included	It is important to prevent water pollution in the catchment area because it helps prevent health risks for all employees who use water for drinking. To prevent water quality pollution caused by wastewater, we comply with laws and regulations about wastewater control. In-house regulations regarding wastewater management are in place, and we share the information with employees. We also clean the water storage tanks periodically. Safely managed sanitation facilities are offered to all employees at all business sites. At plants, education is offered on the importance of water to raise the awareness and deepen the understanding of employees about water management through education about the environmental management system (ISO 14001).
Investors	Relevant, always included	OPDIVO, which is our main product, is an injection, and its raw material is water of good quality. Thus, release of information to investors about our response to water risks and the environmental load based on the water withdrawal volume and water discharge volume also constitutes useful information to investors. Each year, we report the status of use of water in the CSR report to investors based on the data of the water withdrawal volume, water discharge volume, and BOD (biochemical oxygen demand) load in the wastewater.
Local communities	Relevant, always included	It is important to use water resources of the basin from which water is withdrawn for pharmaceutical production and research and to prevent pollution by wastewater in ensuring harmony with local communities with which we share resources. We consider local communities as important stakeholders as we continue to conduct research and development and manufacture high-quality pharmaceuticals. We share the information about the status of water use with local communities on our website and in the CSR report. We release the data of the water withdrawal volume, water discharge volume, and BOD (biochemical oxygen demand) load in the wastewater. To preserve the limited water resources, we are engaged in cleanup activities in cooperation with local communities.
NGOs	Relevant, sometimes included	Our research and production activities may be affected by water shortage and deterioration of water quality in the future. Environment committee meetings are held to assess water risks and implement measures. As part of the process, we are studying the possibility of cooperating with NGO experts by exchanging opinions in the future. We release information about the assessment of and response to water risks in the CSR report and on our website.
Other water users at a basin/catchment level	Relevant, always included	We consider other water users in the basin from which water is withdrawn (including local communities) as important stakeholders because they are likely to be related to risks in terms of reputation in particular when we conduct our risk assessment. To hold discussions, we are affiliated with councils, etc. that consist of companies in areas where our research institutes and plants are located. Pollution of the river basin is likely to pose risks in terms of regulations and reputation. Thus, we confirm that the water quality meets the water quality standards specified by the government authorities of the area. Our business sites comply with the wastewater standards specified by local governments where these business sites are located. They have not caused wastewater problems to date. The water discharge quality will be continuously managed into the future. We release information to users about our assessment and response to water risks in the CSR report and on our website.
Regulators	Relevant, always included	The water discharge quality related to the pollution of the basin and underground water is subject to laws and regulations of the regulatory authorities of the respective local governments. For this reason, local governments are included as stakeholders. To prevent pollution of the basins and sea areas, we have established wastewater management regulations, have concluded pollution prevention agreements with local governments, and meet the wastewater standards. We analyze the water discharge quality every month to confirm that we meet the regulation values. We report the water quality analysis results to the regulatory authorities in writing based on the prefectural ordinances and pollution prevention agreements.
River basin management authorities	Relevant, always included	The water discharge quality related to the pollution of the basin and underground water is subject to laws and regulations of the regulatory authorities of the respective local governments, which include river basin management authorities. To prevent pollution of the basins and sea areas, we have established wastewater management regulations, have concluded pollution prevention agreements with local governments, and meet the wastewater standards. We analyze the water discharge quality every month to confirm that we meet the regulation values. We report the water quality analysis results to the regulatory authorities in writing based on the prefectural ordinances and pollution prevention agreements.
Statutory special interest groups at a local level	Relevant, sometimes included	We may cooperate in the assessment of potential risks of water problems in the area and water conservation/water use by exchanging opinions with statutory special interest groups at a local level.
Suppliers	Relevant, always included	When manufacturing pharmaceuticals, the quality of water for research and pharmaceutical production is very important. There is concern about risks of quality deterioration due to water pollution. The water risk assessment of suppliers to which experiments and manufacture of pharmaceuticals are contracted out is very important. We share the required water quality with suppliers. Regarding suppliers that are engaged in the manufacture of pharmaceuticals or important raw materials, we conduct quality audits periodically and assess the use of water of appropriate quality.
Water utilities at a local level	Relevant, always included	Water utilities are important stakeholders because they are the source of supply of water of good quality for research and water for pharmaceutical production. Notably, OPDIVO (our main product) is an injection that requires water of good quality. Suspension of supply of water of sufficient volume and good quality leads directly to a delay in experiments and production. We confirm the data of water quality offered by water utilities and the volume of water stored in dams to respond to potential risks, such as deterioration of the water quality and water shortage. When water utilities limit the water withdrawal volume due to shortage or other factors, we cooperate by accepting the request.
Other stakeholder, please specify	Please select	

W3.3d

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

Shortage of water resources and water pollution would adversely affect our process to manufacture pharmaceuticals, in which water for pharmaceutical production is used as a raw material. The lives of individuals may be at stake if manufacture of pharmaceuticals is delayed and a stable supply cannot be ensured due to shortage of water resources and deterioration of water quality, which are serious problems. Our corporate image may also be undermined significantly. For this reason, we identify water risks. We use WRI Aqueduct and databases of local governments in the identification process. WRI Aqueduct is a tool that offers a world map (indicating water risks) and information free of charge. We use WRI Aqueduct to assess risks because it is freely accessible on the web. The information can be viewed by designating not only our business sites but also suppliers' locations. We selected the tool mainly because (i) the information can be viewed by designating the country, area and field of our business facilities and suppliers; (ii) respective indices can be customized; and (iii) global and comprehensive information can be obtained regarding water resources. We use this tool to assess water risks at the locations of the main business sites of our company and suppliers. We assess risks using the tool at least once a year.

We recognize the environmental issues related to water shortage and water pollution as being among the serious issues that affect the company's foundation along with the problem of climate change. We assigned the responsibility for environmental management to a director (who is responsible for the company's foundation) and appointed a director in charge of the environment. The director in charge of the environment organizes the environment committee, which is in charge of our environmental management, and the CSR committee, which supervises the overall CSR, including environmental issues, and the director serves as the chairperson of these committees. Based on the results of water risk assessments, we assess the timing, probability, scope of influence, and measures for respective risks and determine the priority in biannual environment committee meetings. We discuss water consumption reduction and capital expenditure, assess and manage risks and opportunities, and set targets, among other objectives, by using our in-house knowledge (e.g., how to use equipment for the production and treatment of water).
The assessment targets are risks of roughly six years ahead (see 3.3a). The results are reported to and studied by the CSR committee, and final decisions are made in the management meetings, which consist of directors, including the director in charge of the environment. The reports of the content of seminars that our employees attended to collect environment-related information are circulated as needed by environmental committee members, including the officer in charge of the environment. Information is shared even during the period in which the environment committee is not held.

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?

Substantive financial impact is defined as suspension of operations of all our plants for five business days (one week). Suspension of operations for five business days (one week) is equivalent to a loss of about 2% of annual production of products. Annual revenue (FY2018: 288,634 million yen) would decrease by about 2% (FY2018: 5,773 million yen). Our plants and plants of contract manufacturers manufacture more than 90% of all the product items. We are highly dependent on plants that manufacture many products. However, we make unique arrangements. Specifically, we have a product inventory equivalent to three months of annual volume in circulation for all the products in our logistics warehouses for an anticipated period, from suspension of plant operations due to a disaster, etc. to restoration. Suspension of operations of all our plants for five days (one week) is unlikely to affect the supply of products to customers.

Substantive strategic impact is defined as suspension of operations of all our research institutes for five business days (one week). Suspension of operations for five days (one week) translates into a loss equivalent to about 2% of our annual research and development costs. It also prevents breeding of experiment animals and requires collection of new data due to interruption of a long-term stability test on the formulation under development. There is a risk of a significant delay in the application for approval/sales plan of new pharmaceuticals. Suspension of operation of all our research institutes for five days (one week) would cause a delay in the schedule of new pharmaceuticals development/application but would not directly decrease the sales of existing products. The immediate impact on our business performance is insignificant.

These definitions apply to both direct operations and the supply chain. For example, when the Great East Japan Earthquake struck in 2011 (which was likely to have a significant impact on our business), none of our business sites suspended overall operations because our plants and plants of production contractors were remotely located from the epicenter.

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	7	1-25	When the water supply stops, seven business sites, including plants and research institutes, are exposed to water-related risks and cannot continue business operations (manufacture and research of pharmaceuticals). They account for about 12% in terms of the number of business sites. If all of our plants cannot operate, it is necessary to restore the operations and resume the pharmaceutical production activities before the inventory (for three months) at the logistics center (where we maintain a stable inventory of pharmaceuticals) is consumed.

W4.1c

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

Country/Region
Japan

River basin
Yodo

Number of facilities exposed to water risk
3

% company-wide facilities this represents
1-25

Production value for the metals & mining activities associated with these facilities
<Not Applicable>

% company's annual electricity generation that could be affected by these facilities
<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities
<Not Applicable>

% company's total global revenue that could be affected
1-25

Comment
The impact of operations on the total revenue per business site (e.g., research institute, plant) is less than 25%.

Country/Region
Japan

River basin
Other, please specify (Fuji River)

Number of facilities exposed to water risk
1

% company-wide facilities this represents
1-25

Production value for the metals & mining activities associated with these facilities
<Not Applicable>

% company's annual electricity generation that could be affected by these facilities
<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities
<Not Applicable>

% company's total global revenue that could be affected
1-25

Comment
The impact of operations on the total revenue per business site (plant) is less than 25%.

Country/Region
Japan

River basin
Other, please specify (Kuzuryu River)

Number of facilities exposed to water risk
1

% company-wide facilities this represents
1-25

Production value for the metals & mining activities associated with these facilities
<Not Applicable>

% company's annual electricity generation that could be affected by these facilities
<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities
<Not Applicable>

% company's total global revenue that could be affected
1-25

Comment
The impact of operations on the total revenue per business site (research institute) is less than 25%.

Country/Region
Japan

River basin
Other, please specify (Lake Kasumigaura)

Number of facilities exposed to water risk
1

% company-wide facilities this represents
1-25

Production value for the metals & mining activities associated with these facilities
<Not Applicable>

% company's annual electricity generation that could be affected by these facilities
<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities
<Not Applicable>

% company's total global revenue that could be affected
1-25

Comment
The impact of operations on the total revenue per business site (research institute) is less than 25%.

Country/Region
Japan

River basin
Other, please specify (Fushino River)

Number of facilities exposed to water risk
1

% company-wide facilities this represents
1-25

Production value for the metals & mining activities associated with these facilities
<Not Applicable>

% company's annual electricity generation that could be affected by these facilities
<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities
<Not Applicable>

% company's total global revenue that could be affected
1-25

Comment
The impact of operations on the total revenue per business site (plant) is less than 25%.

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/Region
Japan

River basin
Yodo

Type of risk
Physical

Primary risk driver
Declining water quality

Primary potential impact
Increased operating costs

Company-specific description
Water quality deterioration poses a risk of restricting activities to manufacture pharmaceuticals and conduct research. Different responses are likely to be required depending on the impact of water quality deterioration. If the impact of water quality deterioration is minor, we may be able to respond by improving the water quality using our purification equipment. If the impact of water quality deterioration is significant, we must find a new source of water withdrawal. For example, we may respond by digging a well to use underground water. If the impact of water quality deterioration is serious, it is unavoidable to choose to relocate business sites.

Timeframe
More than 6 years

Magnitude of potential impact
Medium-low

Likelihood
Unlikely

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

Potential financial impact figure (currency)
4240000000

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

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

Explanation of financial impact
The potential financial impact figure is 4,240 million yen (about 106 million yen per day based on the annual fixed cost, response period: two months in terms of operating days).

Primary response to risk
Infrastructure maintenance

Description of response
Water quality deterioration is likely to increase the frequency of replacement of filters for systems to produce water for pharmaceutical production and pure water for research. Research institutes where ultrafiltration systems are in place may respond by extending the system operation time to improve the water quality. If the impact of water quality deterioration is significant, we must find a new source of water withdrawal. For example, we may respond by digging a well to use underground water.

Cost of response
770000000

Explanation of cost of response
We estimated the cost based on the in-house actual values. The cost to replace consumables, such as filters, due to water quality deterioration (about twice a year) was estimated at 20 million yen in total, and the increase in operation cost for ultrafiltration systems at research institutes was estimated at 150 million yen in total. When underground water is used as a new source of water withdrawal, it is expected to cost about 100 million yen to dig a well and install purification equipment per location. Depending on the scale and demand of business sites, it is expected to cost 600 million yen to dig six wells and install purification equipment at six locations at the maximum. It is expected to take about two months to secure alternative water sources.

Country/Region
Japan

River basin
Other, please specify (Fuji River)

Type of risk
Physical

Primary risk driver
Declining water quality

Primary potential impact
Increased production costs

Company-specific description
Water quality deterioration is likely to pose a risk of restricting the manufacture of pharmaceuticals. Different responses are likely to be required depending on the impact of water quality deterioration. If the impact of water quality deterioration is minor, we may be able to respond by improving the water quality using our purification equipment. If the impact of water quality deterioration is significant, we must find a new source of water withdrawal. For example, we may respond by digging a well to use underground water. If the impact of water quality deterioration is serious, it is unavoidable to choose to relocate business sites. At our Fujiyama Plant, we used underground water as water for pharmaceutical production previously. Underground water can be used to manufacture pharmaceuticals by performing purification treatment depending on the water quality.

Timeframe
More than 6 years

Magnitude of potential impact
Medium

Likelihood
Unlikely

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

Potential financial impact figure (currency)
504000000

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

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

Explanation of financial impact
The potential financial impact figure is 12.6 million yen per day based on the annual fixed cost and 504 million yen for the response period of two months in terms of operating days.

Primary response to risk
Infrastructure maintenance

Description of response
Water quality deterioration is likely to increase the frequency of replacing filters for water production systems for pharmaceutical production. We may respond by extending the operation time of water production facilities for pharmaceutical production and pure water production systems for analysis. If the impact of water quality deterioration is significant, we must find a new source of water withdrawal. For example, we may respond by digging a well to use underground water.

Cost of response
1240000000

Explanation of cost of response
We estimated the cost based on the in-house actual values. The cost to replace consumables, such as filters, due to water quality deterioration (about 24 times per year) was estimated at 240 million yen in total. When underground water is used as a new source of water withdrawal, it is expected to cost about 100 million yen to dig a well and install purification equipment per location. Depending on the scale and demand of business sites, it is expected to cost 1,000 million yen to dig 10 wells and install purification equipment at 10 locations at the maximum. It is expected to take about two months to secure alternative water sources.

Country/Region
Japan

River basin
Other, please specify (Kuzuryu River)

Type of risk
Physical

Primary risk driver
Declining water quality

Primary potential impact
Increased operating costs

Company-specific description
Any water shortage, water quality deterioration, or restricted supply of city water would prevent us from conducting research activities on pharmaceuticals. Water quality deterioration poses a risk of restricting research activities. Different responses are likely to be required depending on the impact of water quality deterioration. If the impact of water quality deterioration is minor, we may be able to respond by improving the water quality using our purification equipment. If the impact of water quality deterioration is significant, we must find a new source of water withdrawal. For example, we may respond by digging a well to use underground water. If the impact of water quality deterioration is serious, it is unavoidable to choose to relocate business sites.

Timeframe
More than 6 years

Magnitude of potential impact
Medium-low

Likelihood
Unlikely

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

Potential financial impact figure (currency)
220000000

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

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

Explanation of financial impact
The potential financial impact figure is 5.5 million yen per day based on the annual fixed cost and 220 million yen for the response period of two months in terms of operating days.

Primary response to risk
Infrastructure maintenance

Description of response
Water quality deterioration is likely to increase the frequency of replacing filters for pure water production systems for research. We may respond by extending the operation time of the pure water production systems. If the impact of water quality deterioration is significant, we must find a new source of water withdrawal. For example, we may respond by digging a well to use underground water.

Cost of response
360000000

Explanation of cost of response
We estimated the cost based on the in-house actual values. The cost to replace consumables, such as filters, due to water quality deterioration (about six times a year) was estimated at 60 million yen in total. When underground water is used as a new source of water withdrawal, it is expected to cost about 100 million yen to dig a well and install purification equipment per location. Depending on the scale and demand of business sites, it is expected to cost 300 million yen to dig three wells and install purification equipment at three locations at the maximum. It is expected to take about two months to secure alternative water sources.

Country/Region
Japan

River basin
Other, please specify (Lake Kasumigaura

Type of risk
Physical

Primary risk driver
Declining water quality

Primary potential impact
Increased operating costs

Company-specific description
Water quality deterioration poses a risk of restricting research activities. Different responses are likely to be required depending on the impact of water quality deterioration. If the impact of water quality deterioration is minor, we may be able to respond by improving the water quality using our purification equipment. If the impact of water quality deterioration is significant, we must find a new source of water withdrawal. For example, we may respond by digging a well to use underground water. If the impact of water quality deterioration is serious, it is unavoidable to choose to relocate business sites.

Timeframe
More than 6 years

Magnitude of potential impact
Medium-low

Likelihood
Unlikely

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

Potential financial impact figure (currency)
320000000

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

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

Explanation of financial impact
The potential financial impact figure is eight million yen per day based on the annual fixed cost and 320 million yen for the response period of two months in terms of operating days.

Primary response to risk
Infrastructure maintenance

Description of response
Water quality deterioration is likely to increase the frequency of replacing filters for pure water production systems for research. We may respond by extending the operation time of pure water production systems. If the impact of water quality deterioration is significant, we must find a new source of water withdrawal. For example, we may respond by digging a well to use underground water.

Cost of response
220000000

Explanation of cost of response
We estimated the cost based on the in-house actual values. The cost to replace consumables, such as filters, due to water quality deterioration (about twice a year) was estimated at 20 million yen in total. When underground water is used as a new source of water withdrawal, it is expected to cost about 100 million yen to dig a well and install purification equipment per location. Depending on the scale and demand of business sites, it is expected to cost 200 million yen to dig two wells and install purification equipment at two locations at the maximum. It is expected to take about two months to secure alternative water sources.

Country/Region
Japan

River basin
Other, please specify (Fushino River [Yamaguchi Prefecture])

Type of risk
Physical

Primary risk driver
Declining water quality

Primary potential impact
Increased production costs

Company-specific description
Water quality deterioration is likely to pose a risk of restricting the manufacture of pharmaceuticals. Different responses are likely to be required depending on the impact of water quality deterioration. If the impact of water quality deterioration is minor, we may be able to respond by improving the water quality using our purification equipment. If the impact of water quality deterioration is significant, we must find a new source of water withdrawal. For example, we may respond by digging a well to use underground water. If the impact of water quality deterioration is serious, it is unavoidable to choose to relocate business sites.

Timeframe
More than 6 years

Magnitude of potential impact
Medium-low

Likelihood
Unlikely

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

Potential financial impact figure (currency)
68000000

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

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

Explanation of financial impact
The potential financial impact figure is 1.7 million yen per day based on the annual fixed cost and 68 million yen for the response period of two months in terms of operating days.

Primary response to risk
Infrastructure maintenance

Description of response
Water quality deterioration is likely to increase the frequency of replacing filters for water production systems for pharmaceutical production. We may respond by extending the operation time of water production facilities for pharmaceutical production and pure water production systems for analysis. If the impact of water quality deterioration is significant, we must find a new source of water withdrawal. For example, we may respond by digging a well to use underground water.

Cost of response
600000000

Explanation of cost of response
We estimated the cost based on the in-house actual values. The cost to replace consumables, such as filters, due to water quality deterioration (about 10 times a year) was estimated at 100 million yen in total. When underground water is used as a new source of water withdrawal, it is expected to cost about 100 million yen to dig a well and install purification equipment per location. Depending on the scale and demand of business sites, it is expected to cost 500 million yen to dig five wells and install purification equipment at five locations at the maximum. It is expected to take about two months to secure alternative water sources.

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/Region
Japan

River basin
Yodo

Stage of value chain
Supply chain

Type of risk
Physical

Primary risk driver
Declining water quality

Primary potential impact
Increased operating costs

Company-specific description
Any water shortage, water quality deterioration, or restricted supply of city water would prevent us from producing pharmaceuticals. In response to water quality deterioration, we may be required to upgrade the purification equipment in-house and improve the water quality. This may result in a significant delay in the production plan. Water quality deterioration is likely to pose a risk of restricting the manufacture of pharmaceuticals. Different responses are likely to be required depending on the impact of water quality deterioration. If the impact of water quality deterioration is minor, we may be able to respond by improving the water quality using our purification equipment. If the impact of water quality deterioration is significant, we must find a new source of water withdrawal. For example, we may respond by digging a well to use underground water. If the impact of water quality deterioration is serious, it is unavoidable to choose to relocate business sites.

Timeframe
>6 years

Magnitude of potential financial impact
Medium

Likelihood
Unlikely

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

Potential financial impact figure (currency)
560000000

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

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

Explanation of financial impact
The potential financial impact figure is 14 million yen per day based on the annual fixed cost and 560 million yen for the response period of two months in terms of operating days.

Primary response to risk
Infrastructure investment

Description of response
Water quality deterioration is likely to increase the frequency of replacement of filters for systems to produce water for pharmaceutical production. We may respond by extending the operation time of water production facilities for pharmaceutical production. If the impact of water quality deterioration is significant, we must find a new source of water withdrawal. For example, we may respond by digging a well to use underground water.

Cost of response
282700000

Explanation of cost of response
We estimated the cost based on the in-house actual values. At the plants, the cost to replace consumables, such as filters, due to water quality deterioration (about 10 times a year) was estimated at 100 million yen in total. When underground water is used as a new source of water withdrawal, it is expected to cost about 100 million yen to dig a well and install purification equipment per location. Depending on the scale and demand of business sites, it is expected to cost 1,000 million yen to dig 10 wells and install purification equipment at 10 locations at the maximum. It is expected to take about two months to secure alternative water sources. Of this amount, we estimated our substantive burden at 280 million yen based on the revenue ratio.

Country/Region
Japan

River basin
Other, please specify (Jinzu River basin)

Stage of value chain
Supply chain

Type of risk
Physical

Primary risk driver
Declining water quality

Primary potential impact
Increased operating costs

Company-specific description
Any water shortage, water quality deterioration, and restricted supply of city water would prevent us from producing pharmaceuticals. In response to water quality deterioration, we may be required to upgrade the water treatment equipment in-house and improve the water quality. This may result in a significant delay in the production plan. Water quality deterioration is likely to pose a risk of restricting the manufacture of pharmaceuticals. Different responses are likely to be required depending on the impact of water quality deterioration. If the impact of water quality deterioration is minor, we may be able to respond by improving the water quality using our purification equipment. If the impact of water quality deterioration is significant, we must find a new source of water withdrawal. For example, we may respond by digging a well to use underground water. If the impact of water quality deterioration is serious, it is unavoidable to choose to relocate business sites.

Timeframe
>6 years

Magnitude of potential financial impact
Medium

Likelihood
Unlikely

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

Potential financial impact figure (currency)
1880000000

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

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

Explanation of financial impact
The potential financial impact figure is 47 million yen per day based on the annual fixed cost and 1,880 million yen for the response period of two months in terms of operating days.

Primary response to risk
Infrastructure investment

Description of response
Water quality deterioration is likely to increase the frequency of replacement of filters for systems to produce water for pharmaceutical production. We may respond by extending the operation time of water production facilities for pharmaceutical production. If the impact of water quality deterioration is significant, we must find a new source of water withdrawal. For example, we may respond by digging a well to use underground water.

Cost of response
20900000

Explanation of cost of response
We estimated the cost based on the in-house actual values. At the plants, the cost to replace consumables, such as filters, due to water quality deterioration (about 10 times a year) was estimated at 100 million yen in total. When underground water is used as a new source of water withdrawal, it is expected to cost about 100 million yen to dig a well and install purification equipment per location. Depending on the scale and demand of business sites, it is expected to cost 1,000 million yen to dig 10 wells and install purification equipment at 10 locations at the maximum. It is expected to take about two months to secure alternative water sources. Of this amount, we estimated our substantive burden at 20.9 million yen based on the revenue ratio.

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
New R&D opportunities

Company-specific description & strategy to realize opportunity
Regarding water-related business opportunities, we promoted research on and development of pharmaceuticals that can be used without water and succeeded in selling new products. Pharmaceuticals that do not need water in use include dosage forms such as patches and orally disintegrating tablets (OD tablets). Our products include RIVASTACH patches (a remedy for Alzheimer-type dementia) and STAYBLA OD tablets (a remedy for an overactive bladder). In the current fiscal year, we obtained approval to make partial changes to approved matters to manufacture and sell the RIVASTACH patches with a new base formulation. Meanwhile, research on formulations is underway for orally disintegrating tablets (a theme under development).

Estimated timeframe for realization
Current - up to 1 year

Magnitude of potential financial impact
Medium

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

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
100000000

Potential financial impact figure – maximum (currency)
2800000000

Explanation of financial impact
Based on the results in the reporting year for these products (revenue: 1,400 million yen), a 10% increase in the prescription volume is expected to increase the revenue by about 1,400 million yen. We expect 2,800 million yen as the maximum estimated increase (20%) in revenue.

W5. Facility-level water accounting

W5.1

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

Facility reference number
Facility 1

Facility name (optional)
Headquarters

Country/Region
Japan

River basin
Yodo

Latitude
34.680486

Longitude
135.506785

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)
8.31

Comparison of withdrawals with previous reporting year
About the same

Total water discharges at this facility (megaliters/year)
8.31

Comparison of discharges with previous reporting year
About the same

Total water consumption at this facility (megaliters/year)
0

Comparison of consumption with previous reporting year
About the same

Please explain
The water withdrawal, discharge, and consumption volumes in the reporting year did not change significantly from those of the previous fiscal year. They were almost the same as those of the previous year.

Facility reference number
Facility 2

Facility name (optional)
Minase

Country/Region
Japan

River basin
Yodo

Latitude
34.88413

Longitude
135.661531

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)
41.2

Comparison of withdrawals with previous reporting year
Lower

Total water discharges at this facility (megaliters/year)
41.2

Comparison of discharges with previous reporting year
Lower

Total water consumption at this facility (megaliters/year)
0

Comparison of consumption with previous reporting year
About the same

Please explain
The water withdrawal volume decreased by 20% from the previous fiscal year due to the replacement of the air conditioning, humidification, and pure water production systems. The water discharge volume also decreased.

Facility reference number
Facility 3

Facility name (optional)
Joto

Country/Region
Japan

River basin
Yodo

Latitude
34.676657

Longitude
135.555064

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)
5.98

Comparison of withdrawals with previous reporting year
About the same

Total water discharges at this facility (megaliters/year)
5.98

Comparison of discharges with previous reporting year
About the same

Total water consumption at this facility (megaliters/year)
0

Comparison of consumption with previous reporting year
About the same

Please explain
The water withdrawal, discharge, and consumption volumes in the reporting year did not change significantly from those of the previous fiscal year. They were almost the same as those of the previous year.

Facility reference number
Facility 4

Facility name (optional)
Fujiyama

Country/Region
Japan

River basin
Other, please specify (Fuji River)

Latitude
35.264972

Longitude
138.612003

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)
240.22

Comparison of withdrawals with previous reporting year
Higher

Total water discharges at this facility (megaliters/year)
178.43

Comparison of discharges with previous reporting year
Higher

Total water consumption at this facility (megaliters/year)
57.98

Comparison of consumption with previous reporting year
About the same

Please explain
The water withdrawal volume increased by 17% from the previous fiscal year due to a test run of equipment to produce water for pharmaceutical production in the No. 1 plant modification project. The water discharge volume also increased by 23% from the previous fiscal year for the same reason. Consumption was almost the same as that of the previous year.

Facility reference number
Facility 5

Facility name (optional)
Fukui

Country/Region
Japan

River basin
Other, please specify (Kuzuryu River)

Latitude
36.195293

Longitude
136.135237

Primary power generation source for your electricity generation at this facility
<Not Applicable>

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
31.32

Comparison of withdrawals with previous reporting year
Lower

Total water discharges at this facility (megaliters/year)
5.02

Comparison of discharges with previous reporting year
Lower

Total water consumption at this facility (megaliters/year)
26.3

Comparison of consumption with previous reporting year
Lower

Please explain
The water withdrawal volume decreased by 20% from the previous fiscal year due to the decrease in consumption of water for washing cages for experiment animals in line with the decrease in the number of experiment animals reared. Similarly, the water discharge volume decreased (by 3.5%) from the previous fiscal year. Consumption decreased by 20% from the previous fiscal year due to the decrease in the volume of water for melting snow (recycled water) in the warm winter.

Facility reference number
Facility 6

Facility name (optional)

Tsukuba

Country/Region
Japan

River basin
Other, please specify (Lake Kasumigaura)

Latitude
36.16422

Longitude
140.054523

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)
6

Comparison of withdrawals with previous reporting year
Lower

Total water discharges at this facility (megaliters/year)
6

Comparison of discharges with previous reporting year
Lower

Total water consumption at this facility (megaliters/year)
0

Comparison of consumption with previous reporting year
About the same

Please explain
The water withdrawal volume and water discharge volume decreased by 25% from the previous fiscal year due to replacement of the boiler and its accessory equipment. Consumption in the reporting year did not change significantly from that of the previous fiscal year. It was almost the same as that of the previous year.

Facility reference number
Facility 7

Facility name (optional)
Yamaguchi

Country/Region
Japan

River basin
Other, please specify (Water is withdrawn from the Fushino River, and wastewater is discharged into the Yuragawa River.)

Latitude
34.038002

Longitude
131.317631

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)
8.18

Comparison of withdrawals with previous reporting year
This is our first year of measurement

Total water discharges at this facility (megaliters/year)
8.18

Comparison of discharges with previous reporting year
This is our first year of measurement

Total water consumption at this facility (megaliters/year)
0

Comparison of consumption with previous reporting year
This is our first year of measurement

Please explain
Consumption increased due to construction of a new plant.

Facility reference number
Facility 8

Facility name (optional)
Contractor

Country/Region
Japan

River basin
Yodo

Latitude
34.699516

Longitude
135.562066

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)
23.5

Comparison of withdrawals with previous reporting year
About the same

Total water discharges at this facility (megaliters/year)
23.5

Comparison of discharges with previous reporting year
About the same

Total water consumption at this facility (megaliters/year)
0

Comparison of consumption with previous reporting year
About the same

Please explain
The water withdrawal, discharge, and consumption volumes in the reporting year did not change significantly from those of the previous fiscal year. They were almost the same as those of the previous year.

Facility reference number
Facility 9

Facility name (optional)
Contractor

Country/Region
Japan

River basin

Other, please specify (Jinzu River)

Latitude
36.656713

Longitude
137.202194

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)
97.1

Comparison of withdrawals with previous reporting year
About the same

Total water discharges at this facility (megaliters/year)
97.1

Comparison of discharges with previous reporting year
About the same

Total water consumption at this facility (megaliters/year)
0

Comparison of consumption with previous reporting year
About the same

Please explain
The water withdrawal, discharge, and consumption volumes in the reporting year did not change significantly from those of the previous fiscal year. They were almost the same as those of the previous year.

W5.1a

(W5.1a) For each facility referenced in W5.1, provide withdrawal data by water source.

Facility reference number
Facility 1

Facility name
Headquarters

Fresh surface water, including rainwater, water from wetlands, rivers and lakes
0

Brackish surface water/seawater
0

Groundwater - renewable
0

Groundwater - non-renewable
0

Produced/Entrained water
0

Third party sources
8.31

Comment
The water withdrawal volume is larger than that of the previous fiscal year. The third-party sources of water are local governments.

Facility reference number

Facility 2

Facility name
Minase

Fresh surface water, including rainwater, water from wetlands, rivers and lakes
0

Brackish surface water/seawater
0

Groundwater - renewable
0

Groundwater - non-renewable
0

Produced/Entrained water
0

Third party sources
41.2

Comment
The water withdrawal volume decreased by 20% from the previous fiscal year due to replacement of the demineralizer for air conditioning and humidification. The water withdrawal volume in the reporting year did not change significantly from that of the previous fiscal year. It was almost the same as that of the previous year. The third-party sources of water are local governments.

Facility reference number
Facility 3

Facility name
Joto

Fresh surface water, including rainwater, water from wetlands, rivers and lakes
0

Brackish surface water/seawater
0

Groundwater - renewable
0

Groundwater - non-renewable
0

Produced/Entrained water
0

Third party sources
5.98

Comment
The water withdrawal volume in the reporting year did not change significantly from that of the previous fiscal year. It was almost the same as that of the previous year. The third-party sources of water are local governments.

Facility reference number
Facility 4

Facility name
Fujiyama

Fresh surface water, including rainwater, water from wetlands, rivers and lakes
0

Brackish surface water/seawater
0

Groundwater - renewable
26.19

Groundwater - non-renewable

0

Produced/Entrained water
0

Third party sources
214.03

Comment
The water withdrawal volume increased by 17% from the previous fiscal year due to a test run of equipment to produce water for pharmaceutical production in the No. 1 plant modification project. The third-party sources of water are local governments.

Facility reference number
Facility 5

Facility name
Fukui

Fresh surface water, including rainwater, water from wetlands, rivers and lakes
0

Brackish surface water/seawater
0

Groundwater - renewable
0

Groundwater - non-renewable
0

Produced/Entrained water
0

Third party sources
31.32

Comment
The water withdrawal volume decreased by 20% from the previous fiscal year due to the decrease in consumption of water for washing cages in line with the decrease in the number of experiment animals reared. The third-party sources of water are local governments.

Facility reference number
Facility 6

Facility name
Tsukuba

Fresh surface water, including rainwater, water from wetlands, rivers and lakes
0

Brackish surface water/seawater
0

Groundwater - renewable
0

Groundwater - non-renewable
0

Produced/Entrained water
0

Third party sources
6

Comment
The water withdrawal volume decreased by 25% from the previous fiscal year due to replacement of the boiler and its accessory equipment. The third-party sources of water are local governments.

Facility reference number
Facility 7

Facility name
Yamaguchi

Fresh surface water, including rainwater, water from wetlands, rivers and lakes
0

Brackish surface water/seawater
0

Groundwater - renewable
0

Groundwater - non-renewable
0

Produced/Entrained water
0

Third party sources
8.18

Comment
Consumption increased due to construction of a new plant. The third-party sources of water are local governments.

W5.1b

(W5.1b) For each facility referenced in W5.1, provide discharge data by destination.

Facility reference number
Facility 1

Facility name
Headquarters

Fresh surface water
0

Brackish surface water/Seawater
0

Groundwater
0

Third party destinations
8.31

Comment
The water discharge volume in the reporting year did not change significantly from that of the previous fiscal year. It was about the same as that in the previous year. As instructed by the local government, we report the water withdrawal volume as the water discharge volume. Wastewater is discharged into the sewerage systems of the local governments for treatment.

Facility reference number
Facility 2

Facility name
Minase

Fresh surface water
0

Brackish surface water/Seawater
0

Groundwater
0

Third party destinations
41.2

Comment

The water discharge volume decreased by 20% from the previous fiscal year due to replacement of the demineralizer for air conditioning and humidification. We report the value of the water withdrawal volume as the value of the water discharge volume based on guidance of the local governments. Wastewater is discharged into the sewerage systems of the local governments for treatment.

Facility reference number

Facility 3

Facility name

Joto

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

5.98

Comment

The water discharge volume in the reporting year did not change significantly from that of the previous fiscal year. It was almost the same as that of the previous year. We report the value of the water withdrawal volume as the value of the water discharge volume based on guidance of the local governments. Wastewater is discharged into the sewerage systems of the local governments for treatment.

Facility reference number

Facility 4

Facility name

Fujiyama

Fresh surface water

178.43

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

0

Comment

The water discharge volume increased from the previous fiscal year. The water discharge volume is obtained directly from the measurement value.

Facility reference number

Facility 5

Facility name

Fukui

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

5.02

Comment

The water discharge volume decreased by 10% from last year due to the decrease in consumption of water for washing cages in line with the decrease in the number of experiment animals reared. The water discharge volume is obtained directly from the measurement value.

Facility reference number
Facility 6

Facility name
Tsukuba

Fresh surface water
0

Brackish surface water/Seawater
0

Groundwater
0

Third party destinations
6

Comment
The water discharge volume decreased by 25% from the previous fiscal year due to replacement of the boiler and its accessory equipment. We report the value of the water withdrawal volume as the value of the water discharge volume based on guidance of the local governments. Wastewater is discharged into the sewerage systems of the local governments for treatment.

Facility reference number
Facility 7

Facility name
Yamaguchi

Fresh surface water
8.18

Brackish surface water/Seawater
0

Groundwater
0

Third party destinations
0

Comment
We have a system to measure the volume of discharged water, but the water discharge volume was small due to the test run phase in FY2018. The water withdrawal volume was regarded as the water discharge volume because an accurate value was unavailable.

W5.1c

(W5.1c) For each facility referenced in W5.1, provide the proportion of your total water use that is recycled or reused, and give the comparison with the previous reporting year.

Facility reference number
Facility 1

Facility name
Headquarters

% recycled or reused
None

Comparison with previous reporting year
About the same

Please explain
No recycled water is used.

Facility reference number
Facility 2

Facility name
Minase

% recycled or reused
None

Comparison with previous reporting year
About the same

Please explain
No recycled water is used.

Facility reference number
Facility 3

Facility name
Joto

% recycled or reused
None

Comparison with previous reporting year
About the same

Please explain
No recycled water is used.

Facility reference number
Facility 4

Facility name
Fujiyama

% recycled or reused
None

Comparison with previous reporting year
Please select

Please explain
No recycled water is used.

Facility reference number
Facility 5

Facility name
Fukui

% recycled or reused
51-75%

Comparison with previous reporting year
About the same

Please explain
We use some of the wastewater at the Fukui Research Institute as recycled water (16,067 m^3). The recycling rate increased by 4% from last year.

Facility reference number
Facility 6

Facility name
Tsukuba

% recycled or reused
None

Comparison with previous reporting year
About the same

Please explain
No recycled water is used.

Facility reference number
Facility 7

Facility name
Yamaguchi

% recycled or reused
None

Comparison with previous reporting year
This is our first year of measurement

Please explain
No recycled water is used.

W5.1d

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

Water withdrawals – total volumes

% verified
76-100

What standard and methodology was used?
Our data was verified by a third-party organization in accordance with ISAE 3000 (International Standards on Auditing).

Water withdrawals – volume by source

% verified
Not verified

What standard and methodology was used?
Our data will be verified in the next fiscal year.

Water withdrawals – quality

% verified
Not verified

What standard and methodology was used?
Water whose water quality is ensured is supplied by the waterworks bureau. Thus, there is no need to have our data externally verified.

Water discharges – total volumes

% verified
76-100

What standard and methodology was used?
Our data was verified by a third-party organization in accordance with ISAE 3000 (International Standards on Auditing).

Water discharges – volume by destination

% verified
Not verified

What standard and methodology was used?
Our data will be verified in the next fiscal year.

Water discharges – volume by treatment method

% verified
Not verified

What standard and methodology was used?
Our data will not be verified.

Water discharge quality – quality by standard effluent parameters

% verified
Not verified

What standard and methodology was used?
Our data will not be verified.

Water discharge quality – temperature

% verified
Not verified

What standard and methodology was used?
Our data will not be verified.

Water consumption – total volume

% verified
Not verified

What standard and methodology was used?
Our data will not be verified.

Water recycled/reused

% verified
Not verified

What standard and methodology was used?
Our data will not be verified.

W6. Governance

W6.1

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

W6.1a

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

	Scope	Content	Please explain
Row 1	Company-wide	Description of business dependency on water Description of business impact on water Description of water-related performance standards for direct operations Description of water-related standards for procurement Company water targets and goals Commitment to stakeholder awareness and education Acknowledgement of the human right to water and sanitation Recognition of environmental linkages, for example, due to climate change	• In business operations, including production of products and research activities, it is indispensable to use fresh water of good quality. We are dependent on the use of safe and sanitary fresh water. • Of the wastewater that is discharged from production of products at plants and research activities at research institutes, all the wastewater that contains hazardous substances is recovered and treated properly by a waste treatment company to ensure management without an environmental impact. • At our Fukui Research Institute, efforts have been made to reduce the water withdrawal volume by using recycled water. At two other research institutes, water-saving equipment is installed in the replacement projects to reduce the water withdrawal volume. • Regarding procurement of water for production of products and research activities, the water is supplied from waterworks managed by the local governments. We check the data released by the local governments to determine whether the water meets the standards established by the local governments in accordance with the Waterworks Act. We also collect specimens to check whether the water quality meets the standards. • We set a quantitative target to reduce the water consumption by 15% per production volume unit by FY2030 compared to FY2017. We set a qualitative target to meet the wastewater standards established by the local governments that have jurisdiction over our business sites. • We release information in the CSR report. The Ono Pharmaceutical Codes of Conduct stipulate that we fulfill social responsibility for all the stakeholders and contribute to sustainable development of society. To ensure legal compliance and take action in accordance with high ethical standards, we educate employees and endeavor to upgrade the company-wide compliance system on an ongoing basis. • Recognizing that use of safe water (waterworks) and sanitary sewerage systems is a prerequisite for human rights, we offer safe water and sanitary sewerage system equipment to all employees. • Torrential rains and floods due to extreme weather caused by climate change as well as water shortages attributed to long-lasting high-temperature weather are likely to have a direct impact on the water environment. They may affect corporate business operations, citizens' lives, and the ecosystem. Climate change must be linked with water-related issues for consideration.

W6.2

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

Yes

W6.2a

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

Position of individual	Please explain
Director on board	We recognize environmental issues, including water conservation, as being among the serious issues that affect our company's foundation. Thus, we assigned the responsibility for environmental management, including water conservation, to the Member of the Board of Directors, Senior Executive Officer/Executive Director, General Administration Headquarters, who was appointed as the director in charge of the environment. The director in charge of the environment serves as the chairperson of the environment committee, which consists of persons in charge of main facilities, to study measures for environmental management, including water conservation, every six months. Decisions made by the environment committee are reported to the CSR committee, which supervises and manages overall CSR activities, including environmental management (e.g., water conservation), and the management meeting, which consists of the members of the board of directors, including the director in charge of the environment, every six months and are reviewed by respective committees.

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 and divestiture Overseeing major capital expenditures Providing employee incentives Reviewing and guiding annual budgets Reviewing and guiding business plans Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding strategy Reviewing and guiding corporate responsibility strategy Setting performance objectives	• Regarding performance of duties related to water-related issues and monitoring of the results, we assigned the responsibility for environmental management to the Member of the Board of Directors, Senior Executive Officer/Executive Director, General Administration Headquarters, who is the director in charge of the environment. The director in charge of the environment serves as the chairperson of the company-wide environment committee to perform duties related to environmental issues and monitor and assess the results in the environment committee every six months. • Acquisitions or divestitures of any water-related businesses are reported by the director in charge of the environment to the management meeting, which consists of the members of the board of directors. They are then approved by the board of directors, and a resolution is proposed at a shareholders meeting to obtain approval. • For a major capital expenditure, the environment committee drafts a budget for the cost related to water-related issues. The director in charge of the environment reports to the management meeting, etc. and approval is obtained by the board of directors before the budget execution. • Regarding employees who are engaged in environment-related activities, including water-related issues, and achieve results, both departments and persons in charge are entitled to receive commendation from the President, Representative Director, and Chief Executive Officer. • Regarding reviewing and guiding the annual budgets, business plans, and major plans of action for water-related issues, discussions are held by the company-wide environment committee. Subsequently, the director in charge of the environment reviews and guides the annual budgets, business plans, and major plans of action. • Regarding reviewing and guiding the risk management policies, strategy, and corporate responsibility strategy for environment-related activities, including water-related issues, discussions are held by the company-wide environment committee. Subsequently, the director in charge of the environment reviews and guides the risk management policies, strategy, and corporate responsibility strategy. • Regarding setting performance objectives for water-related issues, discussions are held by the company-wide environment committee. The director in charge of the environment conducts a review to set the objectives.

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)

Other C-Suite Officer, please specify (Member of the Board of Directors, Senior Executive Officer/Executive Director, General Administration Headquarters)

Responsibility

Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

More frequently than quarterly

Please explain

We recognize the environmental issues, including water conservation, as being among the serious issues that affect the company's foundation. Thus, we assigned the responsibility for environmental management to the Member of the Board of Directors, Senior Executive Officer/Executive Director, General Administration Headquarters, who was appointed as the director in charge of the environment. The director in charge of the environment organizes the environment committee, which manages environmental issues, including water conservation, and the CSR committee, which manages the overall CSR activities, including environmental issues. The director in charge of the environment serves as the chairperson of these committees. An environment committee meeting is held every six months to identify, analyze, and assess risks that are likely to have an impact on our business. The risks and opportunities identified and assessed by the environment committee are further studied in a CSR committee meeting that is held on a quarterly basis. The targets set by the environment committee and the progress status are reported by environment committee members and studied by the management meeting, which consists of members of the board of directors, including the director in charge of the environment.

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?

We attend seminars organized by the Ministry of the Environment as well as technology exchange meetings organized by the Japan Pharmaceutical Manufacturers Association (JPMA) to obtain the latest information. If there are any changes in the content, we create a report and circulate it among the environment committee members. Important items are discussed as the agenda of the environment committee to check for consistency with our water strategy. If inconsistency is found, we discuss it immediately at the environment committee. If corrective measures are required, we discuss them at the CSR committee and the management meeting and implement the measures. If we are in favor of a public policy, we make necessary internal arrangements to follow it. If we are against a public policy, we express our view as a member of the JPMA, an industry organization, and recommend a policy to the public administration indirectly through the industry organization.

W6.6

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

No, but we plan to do so in the next two years

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	Regarding our long-term water-related objectives, we set an objective to reduce the water consumption by 15% per production volume unit by FY2030 (compared to FY2017). We consider the water-related long-term objectives, reduction of water withdrawal volume, and prevention of pollution by wastewater as water-related issues. During the period of this plan until FY2030, we will reduce the water withdrawal volume by increasing the use of recycled water and installing water-saving equipment. At the same time, to prevent water pollution due to wastewater, we will collect the whole amounts of toxic substances and make in-house measurements and attain the objective to make sure that our wastewater quality level falls within the regulation range.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	11-15	We consider depletion of water resources as a company-wide issue that has a significant impact on our business. All of our business sites have been working to reduce the water withdrawal volume. We set a company-wide long-term objective to reduce the water consumption by 15% per production volume unit by FY2030 (compared to FY2017). We have a strategy to reduce the water withdrawal volume by installing equipment with high water-saving performance and sanitary equipment and apparatuses when newly installing or replacing equipment. We also have a strategy to attain the objective based on a long-term plan to reduce the water withdrawal volume by expanding the use of recycled water and newly installing recycled water equipment.
Financial planning	Yes, water-related issues are integrated	11-15	In this fiscal year, the water subcommittee, a subordinate body of the in-house environment committee, started discussions about capital expenditure to reduce water consumption to attain the water reduction plan. In the next fiscal year (FY2020), the details of capital expenditure will be discussed to draft a budget. Installation of recycled-water equipment and other equipment will start in

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)

-29.8

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

-77.2

Water-related OPEX (+/- % change)

16.7

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

0

Please explain

In the reporting year, a demineralizer for producing water for humidification was replaced at the Minase Research Institute. The quality of water for humidification was reviewed, and the conventional KCDI water production system was replaced by an RO water production system. The production efficiency improved from 25% to 50%, and the water withdrawal volume decreased by 2.04 ML. In the next fiscal year, no major capital expenditure is planned, so the capital expenditure will decrease. Regarding the trend of the water-related operating expenditure, the operating expenditure increased due to commencement of the operation of the Yamaguchi Plant in the reporting year, and the number of business sites increased from six to seven. Thus, the following formula applies:
(7/6)*100 ≈ 16.7%.

W7.3

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

	Use of climate-related scenario analysis	Comment
Row 1	No, but we anticipate doing so within the next two years	We will analyze scenarios of water management in line with scenario analysis on climate change risks.

W7.4

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

Row 1

Does your company use an internal price on water?

No, but we are currently exploring water valuation practices

Please explain

The water subcommittee, a subordinate body of the environment committee, has been studying the water pricing. We will set an internal price on water within two years.

W8. Targets

W8.1

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

	Levels for targets and/or goals	Monitoring at corporate level	Approach to setting and monitoring targets and/or goals
Row 1	Company-wide targets and goals Business level specific targets and/or goals Site/facility specific targets and/or goals	Targets are monitored at the corporate level	We set a company-wide quantitative target to reduce the water consumption by 15% per production volume unit by FY2030 (standard year: FY2017). When setting the target, in-house divisions related to the environment cooperated to discuss our ideal situation and the status surrounding our business operations and set a long-term target in a four-month project to formulate an environment strategy in FY2018. Regarding monitoring, we check the water consumption of respective business sites based on the monthly meter reading slips. The annual water consumption is checked by adding up the volume at the end of the fiscal year. Regarding the business level specific qualitative targets, we set a target to recover and incinerate the whole amounts of hazardous wastewater that contains highly physiologically active drugs generated at plants and ensure that such wastewater is not discharged into the public sewerage systems and rivers. Regarding facility-specific qualitative targets, the Minase Research Institute has a target to deactivate the water used in experiments in which genetically modified organisms, pathogens, etc. are handled and treat it as special controlled industrial waste instead of discharging the wastewater into the public sewerage systems. Such efforts are made because an agreement was concluded with the local government regarding genetic modification experiments, etc. to protect the health of local residents and preserve a good living environment. Regarding the discharge water quality, we check that the wastewater standards for respective discharge destinations are met at least once a month.

W8.1a

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

Target reference number
Target 1

Category of target
Water withdrawals

Level
Company-wide

Primary motivation
Reduced environmental impact

Description of target
We reduce the water withdrawal volume by 15% per production volume unit.

Quantitative metric
% reduction in total water withdrawals

Baseline year
2017

Start year
2018

Target year
2030

% achieved
0

Please explain
The water withdrawal volume increased by 8.7% per production volume unit compared to FY2017. In the current fiscal year, we have not been able to reduce the water withdrawal volume. This is partly attributed to the increase in the water withdrawal volume due to completion of a project to modify the equipment for clinical trial drugs for injections and a test run to obtain data for checking the operation performance.

W9. Linkages and trade-offs

W9.1

(W9.1) Has your organization identified any linkages or tradeoffs between water and other environmental issues in its direct operations and/or other parts of its value chain?
Yes

W9.1a

(W9.1a) Describe the linkages or tradeoffs and the related management policy or action.

Linkage or tradeoff
Tradeoff

Type of linkage/tradeoff
Increased GHG emissions

Description of linkage/tradeoff
Use of good-quality water is indispensable for production at our plants and experiments at our research institutes. Withdrawn water that does not meet the quality criteria for use in production or experiments requires enhancement of water purification equipment, increases the frequency of replacement of purification treatment filters and other parts, and thereby increases greenhouse gas emissions. This represents a tradeoff.

Policy or action
We regularly analyze water quality, make comparisons with the past analysis results, and monitor trends, thereby making sure that water quality is stable and controlling unnecessary equipment enhancement and the frequency of parts replacement. In the reporting year, the withdrawn water had good quality, and we had no additional capital expenditure. We will regularly check the water quality information from the third-party organizations (local governments) that supply water to us, and we will strategically analyze the water quality data to check whether we are receiving a continuous stable supply of good-quality water.

Linkage or tradeoff
Linkage

Type of linkage/tradeoff
Environmental restoration

Description of linkage/tradeoff
In the future, we will be able to utilize a small amount of groundwater by increasing plantings on the premises of our plants and research institutes and recharging groundwater. We assume that there is a linkage. We practically do not depend on groundwater at present, but we will consider planting more trees on our business premises. We believe that we will benefit from the use of renewable groundwater in coping with water shortages, which may occur in the future.

Policy or action
As a measure to reduce the risk of water shortages, we will preserve plantings on the premises of our plants and research institutes so that groundwater can be recharged and made available to us. In the reporting year, we made efforts to preserve the plantings in order to contribute to groundwater recharge. We will continue to strategically maintain and preserve the plantings on the premises of our business sites.

Linkage or tradeoff
Linkage

Type of linkage/tradeoff
Environmental restoration

Description of linkage/tradeoff
To prevent groundwater quality deterioration, we clean up the neighboring area around which we withdraw water. We assume that there is a linkage. This cleanup activity in the surrounding areas of our business premises is expected to help maintain water quality as well as to improve communication with local residents. We will continue activity that contributes to groundwater conservation.

Policy or action
We can prevent water quality deterioration by strengthening our cleanup activity in the area around which we withdraw water. We conducted this activity in the reporting year, and we will continue it strategically.

W10. Verification

W10.1

(W10.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1d)?
No, but we are actively considering verifying within the next two years

W11. Sign off

W-FI

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

W11.1

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

	Job title	Corresponding job category
Row 1	Member of the Board of Directors, Senior Executive Officer/Executive Director, General Administration Headquarters	Director on board

W11.2

(W11.2) Please indicate whether your organization agrees for CDP to transfer your publicly disclosed data on your impact and risk response strategies to the CEO Water Mandate's Water Action Hub [applies only to W2.1a (response to impacts), W4.2 and W4.2a (response to risks)].

Yes

Submit your response

In which language are you submitting your response?

Japanese

Please confirm how your response should be handled by CDP

	Public or Non-Public Submission	I am submitting to
I am submitting my response	Public	Investors

Please confirm below

I have read and accept the applicable Terms