Fujitsu Ltd. - Water 2018

W0. Introduction

W0.1

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

"Fujitsu Group has pursued ""operating in harmony with nature"" since its founding in 1935. Environmental conservation is one of our highest priorities, and our environmental management is guided by Corporate Values enshrined in the Fujitsu Way, that ""in all our actions, we protect the environment and contribute to society."" As a global ICT corporation, the Fujitsu Group develops advanced environmental technologies, and makes products and services employing these technologies available throughout the world. Through the pursuit of this mission we not only lessen the environmental burden of our own business activities but also help to reduce the environmental burden of our customers and society."

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 2017	March 31 2018

W0.3

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

China
Germany
Indonesia
Japan
Malaysia
Mexico
Philippines
Republic of Korea
Spain
Taiwan (Province of China)
Thailand
United States of America
Viet Nam

W0.4

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

JPY

W0.5

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

Companies, entities or groups over which operational 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
Tenants without facility management authority (offices)	Of all the facilities owned or rented by Fujitsu Group, tenants with limited ability to gather data and execute plans without any authority over facility management are excluded.

W1. Current state

W1.1

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

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Important	[direct use] We use a large amount of good freshwater to clean substrates of semiconductors and printed circuit boards in the manufacturing process. It is vital to reduce the defect rate of products. Freshwater is also used for cooling towers in data centers. It is vital to ensure reliable IT services for 24/365 a year. Future dependency will be decreased due to the plan to sell out the semiconductor plants to focus our business on IT services, and technology trend to reduce cooling tower loads. [indirect use] Our suppliers of substrates for semiconductors use a large amount of good freshwater to clean substrates in the manufacturing process. It is important to reduce the defect rate of substrates and ensure just-in-time procurement. Future dependency will be decreased due to the plan to sell out the semiconductor plants to shift our core business from manufacturing to IT services, and we will no longer need to procure substrates.
Sufficient amounts of recycled, brackish and/or produced water available for use	Important	Important	[direct use] Semiconductor and printed circuit boards plants which withdraw a large amount of water collect and treat wastewater and reuse it as recycled water to clean them. No brackish water or produced water is used. We consider it important to use recycled water to ensure sustainable use of water resources by reducing withdrawal of freshwater, meet customer demands, and reduce cost. Future dependency will be decreased due to the plan to sell out these semiconductor/printed circuit board plants. [indirect use] Suppliers of substrates which use a large amount of water collect wastewater and re-use to clean them. No brackish water or produced water is used. We consider availability of recycled water important in order to use water resources efficiently to reduce environmental impacts and cost. Future dependency will be decreased due to the plan to sell out the semiconductor plants to shift our core business to IT services, and we will no longer need to procure substrates.

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	100%	In all the facilities, we control water withdrawals by categorizing water into service water, industrial water, groundwater, and recycled water. We monitor the amount of water used which is written in the bills of the Waterworks Bureau (for clean water) and the Enterprise Agency (for industrial water) and which is shown by groundwater withdrawal and recycled water meters installed in the facilities on a monthly basis. For the plants using a large amount of water, water withdrawals are monitored in real time through a building management system. The monitoring data of all the facilities are collected through an in-house system by the Responsible Business Unit on a monthly basis.
Water withdrawals – volumes from water stressed areas	100%	All the areas where all facilities are located are screened using WRI Aqueduct to identify the facilities at water stressed area by extracting them that are located in the areas whose risk score is eight or above. As a result, nine facilities in Japan and ten facilities overseas are extracted. We monitor the amount of water withdrawal in real time through the building management system. The monitoring data of these facilities are collected through an in-house system by the Responsible Business Unit on a monthly basis.
Water withdrawals – volumes by source	100%	In all the facilities, we control water withdrawals by categorizing water into service water, industrial water, groundwater, and recycled water. We monitor the amount of water used which is written in the bills of the Waterworks Bureau (for clean water) and the Enterprise Agency (for industrial water) and which is shown by groundwater withdrawal and recycled water meters installed in the facilities on a monthly basis. The monitoring data of these facilities are collected through an in-house system by the Responsible Business Unit on a monthly basis.
Produced water associated with your metals & mining sector activities - total volumes	<Not Applicable>	<Not Applicable>
Produced water associated with your oil & gas sector activities - total volumes	<Not Applicable>	<Not Applicable>
Water withdrawals quality	100%	"In the plants that produce semiconductors and printed circuit boards, we monitor supplied water quality to check if it meets acceptance criteria of pure water (pH, water temperature, electrical conductivity, FT test (time to pass through filter)) on a daily basis. In all the facilities that collect water withdrawn from the Waterworks Bureau in a water tank (with capacity more than 10m3) and supply it, we monitor the water annually to see if it meets the drinking water safety standards (regarding pH, residual chlorine, bacteria including colon bacilli, heavy metals, disinfection by-products, taste, color, odor, etc.) specified by law."
Water discharges – total volumes	100%	In large facilities, we monitor the amount of water discharged to sewers and rivers in real time using drainage water flow meters installed in the facilities through the building management system. For the facilities that discharge water only to sewers, we monitor the amount of water discharged written in drainage bills of the Sewerage Bureau. The monitoring data of the all facilities are collected through an in-house system by the Responsible Business Unit on a monthly basis.
Water discharges – volumes by destination	100%	In large facilities, we monitor the amount of water discharged to sewers and rivers in real time using drainage water flow meters installed in the facilities through the building management system. For all the rest facilities that discharge water only to sewers, we monitor the amount of water discharged written in drainage bills of the Sewerage Bureau. The monitoring data of the all facilities are collected through an in-house system by the Responsible Business Unit on a monthly basis.
Water discharges – volumes by treatment method	100%	The treatment methods include neutralization, chemical precipitation, purifying tank, and no treatment (for water not in contact with chemical substances such as cooling water). Meters are installed in each treatment facility for daily monitoring. The monitoring data of the all facilities are collected through an in-house system by the Responsible Business Unit on a monthly basis.
Water discharge quality – by standard effluent parameters	100%	For all facilities, we have our own set of standards in place that are stricter than those stipulated in the local authority ordinances, and monitor pH, BOD, COD, etc. on a basis ranging from real-time to semi-annual (depending on the parameter). We measure pH with pH electrodes installed at outlets and conduct real-time monitoring with the building management system. Regarding BOD and COD, a third-party analytical body analyzes sample water for five days and delivers the results in hard copy by snail mail, which are inputted in Microsoft Excel worksheets by the person in charge of each site. The data thus inputted are gathered by the Responsible Business Unit twice a year through an in-house system.
Water discharge quality – temperature	100%	The effluent temperature of water discharged to rivers may affect the ecosystem. Given this, in all facilities that discharge water to rivers, thermometers are installed at the outlets to monitor effluent temperature on a basis ranging from monthly to semi-annual. Facilities equipped with the building management system conduct real-time monitoring of effluent temperature.
Water consumption – total volume	100%	"Evaporation from circulated coolant water in cooling towers installed in all facilities accounts for most of our water consumption. It is impossible to measure the amount of water evaporated (consumed) for cooling towers as they are not equipped with dedicated inflow meters. Thus, we monitor the amount of water consumption through calculation by deducting discharge from withdrawal. Facilities withdrawing a large amount of water conduct real-time monitoring of water consumption derived by deducting discharge from withdrawal via the building management system. In other facilities, the person(s) in charge conducts monthly monitoring by calculating consumption on Excel worksheets. The consumption data are gathered by the Responsible Business Unit every month through an in-house system."
Water recycled/reused	100%	In all the facilities that use recycled water, we have installed meters and monitor it in real time through the building management system. The monitoring data of the facilities are collected through an in-house system by the Responsible Business Unit on a monthly basis.

	% of sites/facilities/operations	Please explain
The provision of fully-functioning, safely managed WASH services to all workers	100%	"We hire an external qualified person(s) to monitor drinking water quality at the ends of pipes where chlorine concentration becomes lowest, pursuant to the Water Supply Act and other legislation in Japan. Test reagents are used once a year to measure pH and residual chlorine at the site where water is sampled. Regarding colon bacilli, external qualified persons bring water samples back for analysis and later delivers the results in hard copy by snail mail, which are inputted in Microsoft Excel worksheets by the person in charge of each site. The Responsible Business Unit confirm the execution of above tests by audit conducted according to the ISO14001-based Environmental Management System. "

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	15543	Lower	"Year on year withdrawal reductions is 7.9% by the departure of Vietnam Plant, printed circuit board manufacturing and one of water dependent plant from consolidated group in FY2017, and 6% reduction through facilities' withdrawal reduction initiatives led mainly by semiconductor plants (Mie Plant in Kuwana City, Mie Prefecture, and Aizu-Wakamatsu Plant in Aizu-Wakamatsu City, Fukushima Prefecture), which collectively account for 25% of total withdrawal of the group, as part of the efforts to meet the targets laid out in the Fujitsu Group Environmental Action Plan Stage VIII. These reductions exceeded the rise in withdrawal caused by the increased production of a semiconductor component at the Shinko Electric Industries Takaoka Plant (Nagano Prefecture). The future prospects are that, in the short term, the decreasing trend is expected to continue because semiconductor plants that account for approx. 25% of total withdrawal (Mie Plant and Aizu-Wakamatsu Plant) are leaving the consolidated group in FY2018 and it is unlikely that other plants will experience significant increases in withdrawal as their production volumes remain at average levels. In the mid- to long-term, the total withdrawal is expected to keep decreasing because, based on our business strategy to shift the business focus from manufacturing to IT services, other water-dependent plants will leave the consolidated group."
Total discharges	14607	Lower	"One of the causes of year on year discharge reductions was the FY2017 departure of Vietnam Plant manufacturing printed circuit boards, which account for 10% of total discharge, from the consolidated group. Another cause was the withdrawal reduction initiatives by semiconductor plants (Mie Plant in Kuwana City, Mie Prefecture, and Aizu-Wakamatsu Plant in Aizu-Wakamatsu City, Fukushima Prefecture), which collectively account for 25% of total discharge, as part of the efforts to meet the targets in the Fujitsu Group Environmental Action Plan Stage VIII. Because almost all of the water withdrawn is discharged after cleaning process, apart from evaporation from cooling towers. This means the less water is withdrawn, the less water is discharged. Due to these causes, the total discharge decreased by 2.4% year on year. Theoretically speaking, the amount of discharge should decrease in the same proportion as withdrawal (7.9%). In practice, however, the amount of water discharged shows a smaller reduction rate (2.4%) because of the poor accuracy of river discharge meters installed at plants that release water into rivers, i.e. Mie Plant, Aizu-Wakamatsu Plant, Nagano Plant, Akashi Facility, and Tatebayashi Facility, whose meter readings are greater than the actual amount of discharge. In future, the amount of discharge will continue decreasing because semiconductor plants that account for approx. 25% of the total discharge (Mie Plant and Aizu-Wakamatsu Plant) are leaving the consolidated group in FY2018 and it is unlikely that other plants will experience significant increases in discharge as their production volumes remain at average levels. Also, in the mid- to long-term, the total discharge is expected to keep decreasing because, based on our business strategy to shift the core business from manufacturing to IT services, other water-dependent plants will leave the consolidated group."
Total consumption	936	Much lower	"Evaporation from circulated coolant water in cooling towers (water-cooled air-conditioning) installed at all facilities accounts for most of our water consumption. It is impossible to measure an amount of water evaporated of cooling towers as they are not equipped with dedicated inflow meters. Thus, we calculate water consumption by deducting discharge from withdrawal ([FY2017 Water consumption of 936 million liters] = [FY2017 Withdrawal of 15,543 million liters] – [FY2017 Discharge of 14,607 million liters]). One of the reasons for the significant year on year decrease in consumption (-51%) was the departure of Vietnam Plant (printed-circuit board manufacturing plant), whose cooling towers are operated at high utilization rates (i.e. greater consumption) due to warm climate, from the consolidated group. Another cause of such a significant decrease would be errors in total discharge data on river discharge meters with inadequate accuracy. The future prospects are that, in the short run, the decreasing trend is expected to continue because semiconductor plants with operating cooling towers (Mie Plant in Kuwana City, Mie Prefecture, and Aizu-Wakamatsu Plant in Aizu-Wakamatsu City, Fukushima Prefecture) are leaving the consolidated group in FY2018. However, depending on the variance in the values measured with outflow meters, the consumption data may not faithfully represent actual increase or decrease. Also, in the mid- to long-term, the total consumption is expected to keep decreasing because, based on our business strategy to shift the business focus from manufacturing to IT services, more manufacturing plants equipped with cooling towers are expected to leave the consolidated group."

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	9	About the same	WRI Aqueduct	"The latitudes and longitudes of all the facilities are input on WRI Aqueduct, and area-by-area physical risk (quantitative/qualitative) and facilities with a total risk score 8 or higher are identified. The results showed nine facilities in Japan and 10 overseas scored 8 or higher, which are then designated as facilities located in water stressed areas. These facilities are either offices or assembly plants, which are not highly dependent on water. On the other hand, all of highly water-dependent facilities (Mie Plant, Aizu-Wakamatsu Plant, Nagano Plant, Takaoka Plant, Wakaho Plant, Arai Plant, Tatebayashi Facility) except Akashi Facility score less than 8. Akashi Facility (Akashi City, Hyogo Prefecture) has no production lines but yet withdraws a relatively large amount of water, entailed high quantitative physical risk, and its deteriorated storage function was a high-risk factor. Thus, we had experts conduct field interviews and carried out research on the Facility's current withdrawal demands and supply status and future outlook based on information published by the Enterprise Agency which supplies industrial water to this facility. As a result, it was found unlikely that the Akashi Facility would be exposed to quantitative risk. Kamata Facility (Ota-ku, Tokyo), which is an office with small dependency on water, was found to entail high qualitative physical risk. Thus, we checked examinations of drinking water for employees in terms of their execution status (twice a year) and results (pH, residual chlorine, colon bacilli and other bacteria, heavy metals, disinfection by-products, taste, color, odor, etc.) and confirmed there was no water quality risk. We assume the results of qualitative physical risk assessment by WRI Aqueduct are based on the results of groundwater quality measurements taken by the Ministry of the Environment. Kamata Facility has no functions such as manufacturing that require withdrawal of a large amount of water and does not have a need to withdraw groundwater now and in the future. Therefore, we confirmed it is very unlikely that the Facility would be exposed to the risk in the future. It was also confirmed that the Facility has no factors to worsen water quality risks (e.g. the use of chemical substances in the location). The departure of Vietnam Plant located outside water stressed areas was one of the causes to the year to year increase in the rate of withdrawal in water stressed areas. Nonetheless, the withdrawal reduction initiative taken by facilities in water stressed areas as part of their efforts to meet the targets set out in the Fujitsu Group Environmental Action Plan Stage VIII resulted in about the same level as the previous reporting year. "

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>	"Because the supply from rainwater is unstable, and withdrawal of water directly from wetlands, rivers, and lakes poses a problem of water rights over the basin, which makes them an unstable supply sources, it is not supposed to be used at manufacturing plants which require a large amount of water withdrawal at all times (Mie Plant, Aizu-Wakamatsu Plant, Nagano Plant, Takaoka Plant, Wakaho Plant, Arai Plant) and also at data centers (Akashi Facility and Tatebayashi Facility) which require stable water supply for cooling towers. Facilities locate in industrial parks operated by local governments, e.g. Mie Plant, Aizu-Wakamatsu Plant and Tatebayashi Facility, and all overseas sites (23 sites) have stable water sources owned by local governments, thus we don't need to directly withdraw from fresh surface water. We do not assume withdrawal from fresh surface water in the future because water supply from local government will continue to be most stable. "
Brackish surface water/seawater	Not relevant	<Not Applicable>	<Not Applicable>	"For our data centers services (Akashi Facility and Tatebayashi Facility), and electronic components manufacturing (Mie Plant, Aize Wakamatsu Plant, Nagano Plant, Takaoka Plant, Wakaho Plant and Arai Plant) which collectively account 80% of total water withdrawal, sodium contamination poses a risk of defects and faults in IT equipment and an inefficient operation of cooling towers and thus should be avoided. To this end, it is not possible to use salt-containing water at this facilities. Thus they are not located in regions where it is possible to withdraw brackish water or sea water. Data centers that sustain our Technology Solutions will increase its importance in our business in future, and therefore, we will continue to stay away from salt-containing water. "
Groundwater – renewable	Relevant	5782	Lower	"Semiconductor and printed circuit board plants use a large amount of water in the cleaning process. Among them, those located in Nagano, Fukushima, or Niigata Prefecture that boast rich groundwater (renewable) and low ground subsidence risk (Nagano Plant, Wakaho Plant, Takaoka Plant, Aizu-Wakamatsu Plant, Arai Plant) use groundwater for water cost reduction purposes. The main reason for the year on year withdrawal decrease is that Takaoka Plant temporarily stopped using groundwater due to maintenance of wells. Withdrawal will continue decreasing in future because semiconductor plants (Mie Plant and Aizu-Wakamatsu Plant) are leaving the consolidated group in FY2018 and other water-dependent plants which use groundwater will leave the consolidated group based on our business strategy to shift the business focus from manufacturing to IT services."
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	"Non-renewable groundwater is an unstable source of water, and therefore, in terms of business continuity, it is highly risky for plants requiring a large volume of water to depend on non-renewable groundwater. Also considering the fact that the Japanese government prohibits use of non-renewable groundwater, we are technically unable to withdraw non-renewable groundwater. To this end, plants requiring use of groundwater (Nagano Plant, Wakaho Plant, Takaoka Plant, Aizu-Wakamatsu Plant , Arai Plant) are all situated in regions with a rich supply of groundwater and renewable (Nagano, Fukushima and Niigata Prefecture that boast rich groundwater (renewable) and low ground subsidence risk) to ensure business continuity. Given these, we do not and will not withdraw non-renewable groundwater now and in the future. "
Produced water	Not relevant	<Not Applicable>	<Not Applicable>	"We produce system products (e.g. main frames, UNIX servers, super computers), network products (e.g. mobile phone station towers, optical transmission system), ubiquitous (e.g. PCs, mobile phones and audio), and devices (e.g. semiconductor packages, optical transmitter and receiver modules) (as of the reporting year). No produced water or processed water is present in the electric/electronic equipment procurement process and in the manufacturing process, respectively. Therefore, we cannot withdraw produced water or process water. Going forward, based on our corporate policy to shift our core business from manufacturing to IT services, we will have our plants leave the consolidated group (i.e. sell out two semiconductor plants [Mie Plant and Aizu-Wakamatsu Plant] in 2018) to focus on service activities, such as software and IT system development. Thus, we will stay away from process water and produce water in the future. "
Third party sources	Relevant	9761	Lower	"Facilities which located in industrial parks run by local governments, such as Mie Plant, Aizu-Wakamatsu Plant and Tatebayashi Facility in Japan, and all overseas sites (23 sites), withdraw water from these local governments (i.e. third-party sources) there. The withdrawal decreased year-on-year as a result of departure of Vietnam Plant, which withdrew from a third-party source in FY2017, and the initiative to reduce total withdrawal led by semiconductor plants (Mie Plant and Aizu-Wakamatsu Plant), etc. that collectively account for 25% of total withdrawal, as part of their efforts to meet the targets in the Environmental Action Plan Stage VIII. Withdrawal will continue decreasing in future because these semiconductor plants (Mie Plant and Aizu-Wakamatsu Plant) are leaving the consolidated group in FY2018, and water dependent plants will leave the consolidated group based on our business strategy to shift our core business from manufacturing to IT services. "

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	12837	Lower	"Facilities with large discharge may exceed the capacity of wastewater treatment facilities of local governments. Thus, Mie Plant, Aizu-Wakamatsu Plant, Nagano Plant, Akashi Facility and Tatebayashi Facility control waste water quality strictly and then discharge to fresh surface water. The cause of year on year reduction was the result of FY2017 withdrawal reduction initiative led by semiconductor plants (Mie Plant and Aizu-Wakamatsu Plant), which collectively account for 25% of total discharge. Almost all the water withdrawn is discharged after cleaning process. This means the less withdrawn, the less discharged. Discharge will continue decreasing because semiconductor plants that discharge into fresh surface water (Mie Plant and Aizu-Wakamatsu Plant) are leaving the consolidated group in FY2018 based on our business strategy to shift our core business from manufacturing to IT services."
Brackish surface water/seawater	Not relevant	<Not Applicable>	<Not Applicable>	"For our data centers services (Akashi Facility and Tatebayashi Facility), and electronic components manufacturing (Mie Plant, Aize Wakamatsu Plant, Nagano Plant, Takaoka Plant, Wakaho Plant and Arai Plant) which collectively account 80% of total water discharge, sodium contamination poses a risk of defects and faults in IT equipment and thus should be avoided. Thus, these facilities are not located in regions where it is possible to withdraw brackish water or sea water. Going forward, as data centers that sustain our Technology Solutions will increase its importance in our business, the use of brackish surface waters and sea water will remain prohibited. Therefore, we do not consider areas that allow withdrawal from/discharge into brackish water or sea water as prospective sites for our business."
Groundwater	Not relevant	<Not Applicable>	<Not Applicable>	In Japan where our major facilities (Mie Plant, Aizu-Wakamatsu Plant, Nagano Plant, Takaoka Plant, Wakaho Plant, Arai Plant, and Akashi Facility) that collectively account for nearly 80% of group-level water discharge are located, underground seepage discharge is basically prohibited by law for environmental considerations. Given this, we never conduct underground seepage discharge in 23 overseas sites, regardless of the law, and this policy will not change in the future.
Third-party destinations	Relevant	1770	Lower	"Facilities including semiconductor plants in Japan (Mie Plant and Aizu-Wakamatsu Plant) and all overseas sites (23 sites) are located in industrial parks. As the local government provide water supply and sewage services there, we discharge water to a third-party destination (local governments' facilities) to an extent that would not exceed the treatment capacity of their facilities. The cause of YoY reduction was the result of FY2017 withdrawal reduction initiative led by semiconductor plants (Mie Plant and Aizu-Wakamatsu Plant), which collectively account for 25% of total discharge. Almost all the water withdrawn is discharged after cleaning process. This means the less withdrawn, the less discharged. Discharge will continue decreasing because semiconductor plants that discharge to third-party destinations (Mie Plant and Aizu-Wakamatsu Plant) are leaving the consolidated group in FY2018 and other water dependent plants will leave based on our business strategy."

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	26-50	Higher	"The proportion of recycled water increased by 5 %, as a result of: departure of Vietnam Plant which had a relatively low proportion of recycled water from the consolidated group; enhanced motivation to curb the rising costs due to the increased withdrawal at Shinko Electric Industries plants, which experienced a year on year increase in incoming orders; and the vigorous promotion of the discharge circulation initiative as part of the efforts to meet the withdrawal reduction targets set out in the Fujitsu Group Environmental Action Plan Stage VIII. Our group company Shinko Electric Industries established withdrawal reduction targets for each plant with large withdrawal. In FY2017, it managed to increase the amount of recycled water by 22% year on year through implementation of various measures including treatment and reuse of acid wastewater in the manufacturing process, which had hitherto been discharged. As a result, Shinko successfully reduced withdrawal by 42,840 m3/year, offering a cost reduction opportunity. The goal for FY2018 is to further increase the amount of recycled water through reuse of water for cleaning manufacturing equipment. These indicate the proportion of recycled water will continue to increase in the future."

W1.4

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

Yes, our suppliers

Yes, our customers or other value chain partners

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

26-50%

% of total procurement spend

76-100

Rationale for this coverage

"We set out conservation of water resources as a requirement in the green procurement standards for suppliers, and requests all suppliers to take actions. Suppliers from which procurement of at least 50 million yen a year is made and those involved with our main products are identified as “major suppliers” (32% of the total number of suppliers and 98% of the total procurement costs) and are subject to survey on environmental activities conducted that includes the annual volume of water withdrawal, status of water related initiatives, and cooperation with stakeholders. The responses to the survey are reflected in the assessment of the supplier and results are fed back to them, requesting to take corrective actions as necessary. Depending on the results of such actions, the suppliers are reconsidered. Based on the contribution to our business and the answers to the survey, letters of appreciation may be awarded. "

Impact of the engagement and measures of success

The annual survey on environmental activities asks suppliers to provide the annual volume of water withdrawal, status of water initiatives, and cooperation with external organizations. Based on their responses, we identify issues and the status of supplier activities and consider what actions to take with regard to our supply chains. We also reflect responses collected for the survey in supplier assessments, give feedback to the suppliers, asking for remedial actions where necessary, and use the results when considering future business terms. The success of the survey is measured by the annual response rate, the threshold of which is 90%. The response rate for FY2017 was 97.8%, and the survey was assessed as successful.

Comment

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
Water management and stewardship is integrated into supplier evaluation processes
Water management and stewardship is featured in supplier awards scheme

% of suppliers by number
26-50

% of total procurement spend
76-100

Rationale for the coverage of your engagement
"For product-related suppliers from which procurement of at least 6 million yen a year is made (47% and 97% of total procurement in terms of number and monitory amount respectively), their business continuity systems against natural disasters including water-related risks such as tsunami, flood, and heavy rainfall are examined every fiscal year. Based on the answers collected, internal assessment is conducted to review the future trading conditions are reviewed and award certain suppliers with letter of appreciation. For suppliers deemed to have a particular risk, preparations are in place to minimize the impact on our business, including multi-source utilization, etc. In addition, field audits are conducted based on the EICC (RBA) Code of Conduct to examine suppliers' responses to water discharge and prevention of water source contamination. Suppliers whose system is deemed to be insufficient through audits are provided with guidance and encouraged for improvements. "

Impact of the engagement and measures of success
"For product suppliers from which at least 6 million yen is procured per year (47% and 97% of total procurement in terms of number and monitory amount respectively), we conduct annual business continuity mechanism survey and use the rate of responses from them as a measure of success in engagement and 90% as the threshold. FY2017 yielded successfully 95.0%. Through this engagement, we develop a list of suppliers' facilities addresses and emergency contacts. In unexpected emergency events (e.g. 2016 Typhoon No.10), we are enabled to manage to quickly confirm the status of suppliers in affected areas to identify and avoid the impacts by making decisions on the availability of products or the possibility of using replacements from other suppliers. The supplier assessment also helped revise business terms, send letters of gratitude to certain suppliers, as it reflects the impacts of water-related risks e.g. tsunami, flood and severer rainstorm in the form of points for steady supply."

Comment

W1.4c

(W1.4c) What is your organization's rationale and strategy for prioritizing engagements with customers or other partners in its value chain?

As a global ICT company, along with mitigation of our business impacts on water resources, we consider it important to play our roles of providing solutions for customers facing water issues. This is the reason to prioritize customer engagement. We have a wide range of knowledge and technologies developed through long-standing efforts to tackle flood damage and control in Japan in collaboration with national and local governments. In other countries of Asia, while growing substantially in urban areas, we start engaging with governments and agencies to address increasingly experiencing water disasters that affect unexpectedly wide areas and damage urban infrastructures due to the recent extreme weather. Our opportunities of engagement lie in mitigating risks of water scarcity and water-related disasters by helping government and agencies to gather disaster and damage information as quickly as possible by ICT solutions. For example, the Jakarta State Disaster Prevention Bureau has adopted our disaster information management system, which was developed based on a wide range of experience in and advanced knowledge on disaster control in Japan, in order to enhance their ability to respond to natural disasters. With this system, the Bureau established a structure to ensure timely and accurate response to natural disasters that that may occur in the future. We designate this kind of ICT-based contributions to the reinforcement of infrastructures and response to flood damage as one of the goals of the Fujitsu Group Environmental Action Plan. In this plan, the number of social contribution projects carried out in a year is designated as a measure of success, and one project per year as the threshold for success. The Jakarta case described above was recognized as a substantial social contribution project and assessed as successful.

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 in an environmental risk assessment

Frequency of assessment

Six-monthly or more frequently

How far into the future are risks considered?

6 to 10 years

Type of tools and methods used

Tools on the market
International methodologies
Databases
Other

Tools and methods used

WRI Aqueduct
Regional government databases
Internal company methods
External consultants
Other, please specify (audit based on EMS of ISO14001)

Comment

Supply chain

Coverage
Full

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

Frequency of assessment
Annually

How far into the future are risks considered?
6 to 10 years

Type of tools and methods used
Enterprise Risk Management
International methodologies
Other

Tools and methods used
Internal company methods
External consultants
Other, please specify (EICC (RBA), business continuity survey)

Comment

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

W3.3b

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

	Relevance & inclusion	Please explain

	Relevance & inclusion	Please explain
Water availability at a basin/catchment level	Relevant, always included	"We use WRI Aqueduct to assess water availability of basin level for all the facilities. The latitudes and longitudes of locations of all facilities are input to WRI Aqueduct, and facilities with a total risk score (including quality and quantity physical risks) 8 or higher are identified as facilities located in water stressed areas. The results showed 9 facilities in Japan and 10 overseas scored 8 or higher, which are facilities with little dependent on water like either offices or assembly plants. Highly water dependent facilities such as Mie Plant, Aizu-Wakamatsu Plant, Nagano Plant, Takaoka Plant, Wakaho Plant, Arai Plant and Tatebayashi Facility are scored less than 8. It was found that the Akashi Facility (Akashi City, Hyogo Prefecture), which has no production lines but yet withdraws a relatively large amount of water, entailed high quantitative physical risk, and its deteriorated storage function was a high-risk factor. Thus, we conducted onsite interviews by experts, and carried out research on the Facility's withdrawal demands and supply status and future outlook based on information from the Enterprise Agency which supplies industrial water to this Plant. As a result, the Akashi Facility would unlikely be exposed to quantitative risk. We use the drought/flood databases issued by the national and local governments to assess the water availability of basin level for data centers including Akashi Facility and Tatebayashi Facility equipped with cooling towers to ensure minimum 72-hour operation in the event of a water supply suspension as a data center requirement. Such assessments are conducted when a data center is built or undergoes operational change. In the case of Tatebayashi Facility for example, the flood/inundation/drought risks to its water source, i.e. Tone River are assessed based on data over the past 10 years issued by the Ministry of Land and Gunma Prefecture."
Water quality at a basin/catchment level	Relevant, always included	"We use WRI Aqueduct to assess water (withdrawals) quality risks of basin level for all the facilities. The latitudes and longitudes of locations of all facilities are input to WRI Aqueduct. As a result, we extracted Kamata Facility located in an area with a higher risk of water quality. As a next step of the screening results, we checked for actual potential risks. First, we checked if the plant have any facilities which have high dependency on water and found no such facilities or functions. Next, we confirmed that water examinations (regarding pH, residual chlorine, pH, bacteria including colon bacilli, heavy metals, disinfection by-products, taste, color, odor, etc.) of service water (drinking water) were conducted once a year and the results of the examinations to confirm the fact that there are no water quality risks for employees at the moment and its evidence. Also, we have confirmed that the wastewater does not have an impact because chemical substances to worsen water quality risks in the location are not used. As for the quality of water discharges, we set in-house standards which are stricter than legal restrictions, and are based on the information we obtained from the on-site audits in each facility based on the ISO14001-based Environmental Management System; and the quality is controlled by specialists in charge of pollution prevention. For example, as for Mie Plant and Akashi Plant which discharge water to closed water areas, namely, Ise Bay and the Inland Sea of Japan respectively, we consult with local governments to establish self-commitment control levels which are stricter than legal standards regarding fluorine, which is biologically toxic, suspended solids, which contribute to water pollution, total nitrogen and phosphorus which cause eutrophication. Based on these levels, we monitor the quality of water discharges regularly and report it to the local governments."
Stakeholder conflicts concerning water resources at a basin/catchment level	Relevant, always included	"If our facilities or some suppliers' facilities discharge wastewater that exceeds the water quality level specified by law, it may cause a conflict with local residents or stakeholders in the river basins. Therefore, we set in-house standards which are stricter than legal restrictions, based on the ISO14001-based Environmental Management System and the information we have obtained from the on-site audits in each facility based on the system; and the quality is controlled by the person in charge of pollution prevention in the facility. For example, as for Mie Plant and Akashi Plant which discharge water to closed water areas, namely, Ise Bay and the Inland Sea of Japan respectively, where there are more stakeholders who will be affected by water than in other areas, we consult with local governments to establish voluntary control levels which are stricter than legal standards regarding fluorine, which is biologically toxic, suspended solids, which contribute to water pollution, total nitrogen and phosphorus which cause eutrophication. Based on these levels, we monitor the quality of water discharges regularly and report it to the local governments. We have never had a conflict with stakeholders regarding water resources so far."
Implications of water on your key commodities/raw materials	Relevant, always included	"Our Device Solution business (including manufacturing of semiconductors and printed-circuit boards), which constitutes 13% of total revenues, accounts for more than half of total water withdrawal. In the production process of semiconductors and printed circuit boards, a large amount of high-quality pure water is used to clean the manufactured products. Any impurities in the water used for cleaning may cause a short circuit in semiconductors, etc. and thus increase the rate of defects, ultimately damaging our cost competitiveness. Therefore, the availability of quality freshwater is vital. In this respect, we carry out WRI Aqueduct-based water quality risk assessment for the regions where our semiconductor plants (Mie Plant and Aizu-Wakamatsu Plant), printed-circuit board plants (Nagano Plant, Takaoka Plant and Wakaho Plant, Arai Plant), and other facilities locate. Furthermore, based on the ISO14001-compliant Environmental Management System and the facility-by-facility information obtained in onsite audits conducted based on that system, we set source acceptance criteria for pure water (pH, water temperature, electrical conductivity and FT test) and conduct daily monitoring. On the other hand, our Technology Solutions business, which constitutes 70% of our revenues, uses water as a coolant for the cooling towers installed at data centers, but the amount of water withdrawn by this business sector is relatively very small. For example, the amount of water withdrawn by the Tatebayashi Facility, one of our largest data centers, accounts for as little as 1% of total withdrawal. Nonetheless, cooling of IT equipment is essential to ensure the stable operation of data centers for 24 hours, 365 days a year. Thus, we carry out drought and flood risk assessment and implement necessary measures upon construction of each data center to confirm it can be operated for at least 72 hours in the event of water supply suspension. "
Water-related regulatory frameworks	Relevant, always included	"In reference to national laws, the Responsible Business Unit requests the consulting company to examine the condition of revision once a month to ascertain the regulatory framework and risk on our business. When there is a pertinent legal revision, the Responsible Business Unit contacts each operation department to review the response to be taken by the company. As for regulations stipulated by the local municipality, the general affairs division of each operation department constantly monitors the regulatory trends in the respective regions, for instance, by attending briefings conducted by the local government. When the guideline value or other values are changed, the changes are reflected in the voluntary management standard, which are applied in the monitoring of the amount of water withdrawal, waste water quality and other matters. The compliance status of the respective operation department is confirmed through monitoring based on ISO14001 Environmental Management System and on-site audit of each facility, which is conducted at least once a year. "

	Relevance & inclusion	Please explain
Status of ecosystems and habitats	Relevant, always included	"Since water discharge into the river may affect ecosystem, ecological impact tests are conducted at large facilities to assess the risk to the ecosystem in the river through company method. For instance, at Mie Plant, Japanese rice fish is chosen as a fish particularly sensitive to contaminants, and are released in a wastewater storage tank to be monitored of their survival status every day. In addition, at all domestic production-related plants, cleaning of peripheral river basins, for example, Akagawa, Shinano, Watarase, and Tamagawa rivers, etc., is conducted several times a year to observe the conditions of the river to which water is discharged. Additionally, as for water discharged to rivers, the drainage water temperature may affect the ecosystem. Therefore, in all facilities that discharge water to rivers, we install thermometers in outlets in order to monitor the drainage water temperature in real time through the building management system."
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always included	"In the ""Fujitsu Group Health and Safety Basic Policy"", we secure the health and safety of all employees, and recognize respecting and securing the human rights for water and health as part of corporate responsibility. The occurrence of health hazards of employees due to insufficient management of water and the occurrence of problems of health and safety of employees are considered as risks. Based on the company's own drinking water management guidelines (company method) on the basis of regulations, we have conducted once a year monitoring to see whether water safety standards (residual chlorine, pH, Escherichia coli, etc.) as prescribed by the law are met, targeted for Mie Plant, Aizuwakamatsu Plant, Aizu Wakamatsu Plant, Akashi Facility, Tatebayashi Facility that supplies water intake from the Waterworks Bureau after storing it in the water reservoir in the premises. Furthermore, we input latitudes and longitudes of locations of the all facilities into the WRI Aqueduct, and we extract the facilities that are located in the areas where the sum total of physical risks (quantity, quality) and comprehensive risks in respective areas is 8 or more. As a result, we identified the Kamata Facility (Ota Ward, Tokyo) as a location with a high qualitative physical risk. Therefore, we checked if the water quality inspection (pH, residual chlorine, bacteria including Escherichia coli, heavy metals, disinfection byproduct, taste, color, smell etc.) of drinking water are conducted once a year, and confirmed these results. As a result we found no water quality risk. It is assumed that the groundwater quality measurement results of the Ministry of the Environment constitute the grounds for the qualitative physical risk assessment of the WRI Aqueduct. Because the Kamata Plant has mainly office function, and is not scheduled to take underground water both now and in the future, we confirmed that employees will be unlikely exposed to risks in the future."
Other contextual issues, please specify	Relevant, sometimes included	"All overseas facilities (23 sites) including Kuala Lumpur in Malaysia and Changzhou, Tsingtao, and Chiangsu in China are located in industrial parks and receive water supply from third parties (local governments). In the future, the jurisdictions of these 23 locations may suddenly raise the clean water charge, which will cause concern over losses and supply of components and parts. For example, the Shinko Electric Industries Malaysia Plant once received a totally unexpected notice of increases in the rates of electricity and water, starting from the following week. This kind of risk is present in other locations, too. Therefore, we perform scenario analysis to study financial impacts by assessing what sort of new capital investment will be required in the event of increases in the rates. As the basis for this scenario analysis, we conduct risk assessment on regions where these suppliers are located, based on our internal knowledge about each country and its legislative movements developed through WRI Aqueduct and the Environmental Management System (EMS). We keep an eye on legislative movements all the time according to the process of EMS to ensure we can act proactively before enforcement of new legislation. Also, being a member of Business Alliance for Water and Climate Change, we obtain information about initiatives to address regional-level water risks."

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	"Damages caused by water disasters at the production sites and the data centers may delay the deliveries of the products to customers, and may pose risks of causing physical damages to the customers' IT system equipment in data centers, failures to the information system itself, and liability for damages to the customers. For example, when floods occurred in Thailand in 2011, the deliveries to the customers associated were delayed, resulting in a reduction of 28 billion yen in net sales. Even in the future, there is a possibility that extreme weather may be increased due to climate change, so the supply of products to the customers may be delayed due to the damages from water disaster etc. at the production sites. As a result, it is estimated that there is a potential risk of the reduction of sales by several tens of billion yen. For this reason, first of all, we conduct screening assessment of flood risks by the WRI Aqueduct, in order to know the degree of risks of the occurrences at each base. As a result, especially in areas evaluated as having high flood risks, we further evaluate the flood risks using the hazard maps issued by national and local governments and take measures depending on each situation. Regarding the data centers, however, we assess flood and drought risks based on the hazard maps and data base issued by governments, regardless of the WRI's assessment and take the corresponding measures. For example, at the Tatebayashi Data Center in Gunma Prefecture, which accepts the customers' systems, flood / submersion risks are evaluated based on the hazard map and data base issued by Gunma Prefecture and the Ministry of Land. We implement measures to protect buildings and customer systems with the structure which will not be submerged, even in the worst case situation when the Tone River overflows or drought, which is the neighboring first-class river. This ensured protection is communicated to customers directly or via website and other media."

	Relevance & inclusion	Please explain
Employees	Relevant, always included	"The occurrence of problems of health and safety of employees due to insufficient management of water are considered as risks. Especially, in the facilities (Mie Plant, Aizuwakamatsu Plant, Aizu Wakamatsu Plant, Akashi Facility, Tatebayashi Facility) which supply drinking water after storing in the water reservoir in the premises to recover water pressure in the pipe (these facilities use large amount of water in manufacturing process which weaken water pressure in pipes which cause trouble to supply drinking water), water quality deterioration in the reservoir may cause health problems of employees. Based on the company's own drinking water management guidelines on the basis of regulations, we conduct once a year monitoring to see whether water safety standards (residual chlorine, pH, Escherichia coli, etc.) as prescribed by the law are met, targeted for those facilities with water reservoir. Furthermore, we input latitudes and longitudes of locations of the all facilities into the WRI Aqueduct, and we extract the facilities that are located in the areas where the sum total of physical risks (quantity, quality) and comprehensive risks in respective areas is 8 or more. As a result, we identified the Kamata Facility (Ota Ward, Tokyo) as a location with a high qualitative physical risk. Therefore, we checked if the water quality inspection (pH, residual chlorine, bacteria including Escherichia coli, heavy metals, disinfection byproduct, taste, color, smell etc.) of drinking water are conducted once a year, and confirmed these results. As a result we found no water quality risk. It is assumed that the groundwater quality measurement results of the Ministry of the Environment constitute the grounds for the qualitative physical risk assessment of the WRI Aqueduct. Because the Kamata Plant has mainly office function, and is not scheduled to take underground water both now and in the future, we confirmed that employees will be unlikely exposed to risks in the future."
Investors	Relevant, always included	"There is a latent risk that investors may evaluate the Company's procurement / production delay, reduction of sales, loss of assets, due to the damages from water disasters etc. at the production sites of the Fujitsu Group, or lack of disclosure of such risks as a negative factor. For example, when floods occurred in Thailand for over three months in Thailand, in 2011, our Thai Plant suffered a great deal of damages. As a result, there occurred the delays of deliveries to the customers associated with the reviews of the production plans and the sales plans, etc., which became one of factors behind the fact that the stock price of our Company dropped by about 30% in the same year. Since there is a possibility of frequent occurrences of extreme weather due to climate change in the future, we believe that there is a latent risk of stock price decline due to lack of responses to such flood risks. For this reason, we have carried out the flood risk assessment according to the WRI Aqueduct, and have taken measures depending on respective situations, particularly for the production bases in areas where risks are concerned. We planned and devised facility design that can avoid risks even if flood of the same size would occur, and set up all the production equipment on the second floor and constructed flood protection embankment in the premise by consultation with the administration. For example, in the integrated report and securities report for fiscal 2017, we have indicated ""Risks of occurrences of earthquakes, floods, fires, demonstrations, operational mistakes, etc. in institutions such as domestic and overseas facilities, factories, data centers"", and besides we are striving to disclose latent risk through this CDP (Carbon Disclosure Program)."
Local communities	Relevant, always included	"If our facilities discharge wastewater that exceeds the water quality level established by law, it may cause a conflict with local residents or stakeholders in the river basins. For example, Mie Plant and Akashi Plant which discharge water to closed water areas, namely, Ise Bay and the Inland Sea of Japan respectively, there are more stakeholders who will be affected by wastewater than in other areas, Therefore, we set in-house standards which are stricter than legal restrictions, based on the ISO14001-based Environmental Management System and the information we have obtained from the on-site audits in each facility based on the system; and the quality is controlled by the person in charge of pollution prevention in each facility. For example, as for Mie Plant and Akashi Plant, we consult with local governments to establish voluntary control levels which are stricter than legal standards regarding fluorine, which is biologically toxic, suspended solids, which contribute to water pollution, total nitrogen and phosphorus which cause eutrophication. Based on the levels, we monitor the quality of water discharges regularly and report it to these local governments who has access to communicate to local communities as an authority of the basin. We have never had a conflict with stakeholders regarding water resources so far."
NGOs	Relevant, always included	"If our facilities discharge wastewater that exceeds the water quality level established by law, it may cause a conflict with NGOs and other groups involved in the security of the river basins or the sea to which wastewater is discharged. For example, Mie Plant and Akashi Plant which discharge water to closed water areas, namely, Ise Bay and the Inland Sea of Japan respectively, there are more stakeholders including NGOs protecting the basin and their activity will be affected by wastewater than in other areas, which may cause risks of conflicts with them. Therefore, we set in-house standards which are stricter than legal restrictions, based on the ISO14001-based Environmental Management System and the information we have obtained from the on-site audits in each facility based on the system; and the quality is controlled by the person in charge of pollution prevention in the facility. For example, as for Mie Plant and Akashi Plant which discharge water to closed water areas, namely, Ise Bay and the Inland Sea of Japan respectively, where there are more stakeholders who will be affected by water than in other areas, we consult with local governments to establish voluntary control levels which are stricter than legal standards regarding fluorine, which is biologically toxic, suspended solids, which contribute to water pollution, total nitrogen and phosphorus which cause eutrophication. Based on the levels, we monitor the quality of water discharges regularly and report it to these local governments who has access to communicate to NGOs involved in the protection of the basins or the sea as an authority of the basin. We have never had a conflict with NGOs regarding water resources so far."
Other water users at a basin/catchment level	Relevant, always included	"If our facilities discharge wastewater that exceeds the water quality level established by law, it may cause a conflict with other water users in the regions including those engaging in fishery in the river basins or the sea to which the wastewater is discharged. For example, Mie Plant and Akashi Plant which discharge water to closed water areas, namely, Ise Bay and the Inland Sea of Japan respectively, other water users will be affected by wastewater than in other areas, which may cause risks of conflicts. Therefore, we set in-house standards which are stricter than legal restrictions, based on the ISO14001-based Environmental Management System and the information we have obtained from the on-site audits in each facility based on the system; and the quality is controlled by in-house administrators in charge of pollution prevention. For example, as for Mie Plant and Akashi Plant which discharge water to closed water areas, namely, Ise Bay and the Inland Sea of Japan respectively, where there are more stakeholders who will be affected by water than in other areas, we consult with local governments to establish voluntary control levels which are stricter than legal standards regarding fluorine, which is biologically toxic, suspended solids, which contribute to water pollution, total nitrogen and phosphorus which cause eutrophication. Based on the levels, we monitor the quality of water discharges regularly and report it to these local governments who has access to communicate to other water users as an authority of the basin. We have never had a conflict with other water users in the regions regarding water resources so far."

	Relevance & inclusion	Please explain
Regulators	Relevant, always included	"There is a risk of a violation of the law from the regulators and loss of credibility from customers and/or investors to our company, if the standard value specified by the regulators (local government) is exceeded. In particular, in Mie Prefecture facing Ise Bay to which Mie Plant discharge its waste water through Osugitani River, and which is a closed water area, the fluorine reference value in wastewater is much more severe than others and we may easily violate the law if without appropriate management. Therefore, we place emphasis on the management of wastewater quality at the facilities in accordance with the regulations prescribed by regulators (local governments), and we conduct dialogues with them and monitoring trends of legal regulations at each facility. And through on-site audits at each facility based on Environmental Management System (EMS) along with ISO 14001, we continuously evaluate the compliance with laws at each facilities. Mie Plant located in Mie Prefecture, after etching the semiconductor insulating film with hydrofluoric acid, the fluorine contained in the wastewater is removed from the wastewater and then the residual wastewater is drained to meet strict standard. In addition, referring to the information obtained from on-the-spot audits of each facility based on EMS, internal standards that are stricter than lows are set, and its management is carried out by pollution control managers in the facility. For example, the Mie Plant mentioned above and the Akashi Plant (Akashi City, Hyogo Prefecture) that drains to the Seto Inland Sea, which is a closed water area through the Akane River, hold consultations with respective regulators, and set the agreement values stricter than legal standard, with respect to fluorine having biotoxicity, SS (suspended solids), total nitrogen and total phosphorous, and internal pollution control administrators perform regularly monitoring of the quality of wastewater and report the results to the regulators."
River basin management authorities	Relevant, always included	"River basin management authorities are local governments, which are also regulators. There is a risk of a violation of the law from the authorities and loss of credibility from customers and/or investors to our company, if the standard value specified by the authorities is exceeded. In particular, in Mie Prefecture facing Ise Bay to which Mie Plant discharge its waste water through Osugitani River, and which is a closed water area, the fluorine reference value in wastewater is more severe than others and we may easily violate the law if without appropriate management. Therefore, we place emphasis on the management of wastewater quality at the facilities in accordance with the regulations prescribed by authorities, and we conduct dialogues with them and monitoring trends of legal regulations at each facility. And through on-site audits at each facility based on EMS along with ISO 14001, we continuously implement evaluations of the compliance. In particular, Mie Plant, after etching the semiconductor insulating film with hydrofluoric acid, the fluorine contained in the wastewater is removed from the wastewater and then the residual wastewater is drained to meet strict standard. In addition, referring to the information obtained from on-the-spot audits of each facility based on EMS, internal standards that are stricter than laws are set, and its management is carried out by pollution control managers in the facility. For example, the Mie Plant mentioned above and the Akashi Plant (Akashi City, Hyogo Prefecture) that drains to the Seto Inland Sea, which is a closed water area through the Akane River, hold consultations with respective authorities, and set the agreement values stricter than legal standard, with respect to fluorine having biotoxicity, SS (suspended solids), total nitrogen and total phosphorous, and internal pollution control administrators perform regularly monitoring of the quality of wastewater and report the results to the authorities."
Statutory special interest groups at a local level	Relevant, always included	"If our facilities discharge wastewater that exceeds the water quality level established by law, it may cause a conflict with other special interest groups in the regions including fishery cooperatives working in the river basins or the sea to which the wastewater is discharged. For example, Mie Plant and Akashi Plant which discharge water to closed water areas, namely, Ise Bay and the Inland Sea of Japan respectively, more stakeholders including fishery cooperatives are exposed to the influence of wastewater than in other areas, which may cause risks of conflicts with them. Therefore, we set in-house standards which are stricter than legal restrictions, based on the ISO14001-based Environmental Management System and the information we have obtained from the on-site audits in each facility based on the system; and the quality is controlled by in-house administrators in charge of pollution prevention. For example, as for Mie Plant and Akashi Plant which discharge water to closed water areas, namely, Ise Bay and the Inland Sea of Japan respectively, where there are more stakeholders who will be affected by water than in other areas, we consult with local governments to establish voluntary control levels which are stricter than legal standards regarding fluorine, which is biologically toxic, suspended solids, which contribute to water pollution, total nitrogen and phosphorus which cause eutrophication. Based on the levels, we monitor the quality of water discharges regularly and report it to these local governments who has communication access to fishery cooperatives as an authority of the basin. We have never had a conflict with other special interest groups regarding water resources so far."
Suppliers	Relevant, always included	"As an example of the supplier risks, when the Chao Phraya River in Thailand overflowed its banks in 2011, the factories in the supply sources stopped their operations, which affected our businesses. This impact was calculated as a reduction of 28 billion yen in sales (including a decrease in revenue associated with reviews of production plans and sales plans due to floods, trial calculation of rough impact values such as cost increases etc., delay in parts procurement and price increase, impact values caused by production adjustment of clients). We assume such risks of water-related disasters are existing. In order to avoid such risks of supply chain disruption due to natural disasters such as tsunami, flood, and heavy rainfall, for products suppliers from which procurement of at least 6 million yen a year is made, their business continuity systems against water-related risk such as tsunami, flood, and heavy rainfall are examined and assessed every fiscal year, and preparations are in place to minimize the impact on our business, including multi-source utilization, utilizing a list of suppliers compiling their base locations and emergency contacts, investigating the situations of suppliers in the case of unexpected emergencies, and determining the possibility of securing necessary items and using replacements from other companies and the necessity of transferring production lines, etc. Furthermore, for examining the efforts of suppliers and potential water-related risks, we have started participating in the CDP Water Supply Chain program this year. "

	Relevance & inclusion	Please explain
Water utilities at a local level	Relevant, always included	"Since the semiconductor plants (Mie Plant, Aizuwakamatsu Plant) use large quantities of high-quality pure water, the quality of the water supplied from water utilities at a local level may not meet the pure water standards of the semiconductor plants. In such a case, it becomes impossible to accept water supply. For example, at the Aizuwakamatsu Plant, turbidity exceeded our standard value in the FT test, so we stopped accepting water for several hours. In this case, although it was able to avoid a big impact on the production plan, there is anticipated a risk that a situation where a big impact is given on the production plan will occur in the future. For this reason, we implement risk assessment of stable supply of large amount of pure water for semiconductor plants (Mie Plant, Aizuwakamatsu Plant) using WRI Aqueduct and internal knowledge on regional laws. We input latitudes and longitudes of locations of all the facilities into the WRI Aqueduct and we extract the facilities that a total sum of scores of the physical risks (quantity, quality) and overall risks in respective areas is equal to or more than 8. As a result, it was found that the areas (Kuwana City of Mie Prefecture, Aizuwakamatsu City of Fukushima Prefecture) where the semiconductor plants are located had a score less than the threshold value. Furthermore, with reference to the information obtained from on-the-spot audit of each facility based on the Environmental Management System along with ISO 14001, we set the internal water quality standard values (PH, water temperature, conductivity, FT Test) with respect to the pure water supplied from water utilities at local, and carried out monitoring on a daily basis. In addition, buffer tanks are provided in the Mie Plant and the Aizuwakamatsu Plant, in preparation for cases where the pure water exceeds the reference value and supply from the local water utilities cannot be accepted."
Other stakeholder, please specify	Relevant, sometimes included	To obtain knowledge over what has been discussed on water-related issues around the world and to prepare our new potential risks, we have a dialogue with experts from academia, private and public sectors and media by inviting them to our Environmental Dialogue held in our office several times a year, more than 30 times with 80 experts in total since 2011, with a support from external consultant who is the specialist of environmental issues and appointed to several committees in the government. Theme to be dealt with in the Dialogue include water related issues such as how to address water stress issues in the world with the local municipality who is the authority and supplier of water near Tokyo, and innovative water environmental engineering company who utilize ICT tools to maintain water facilities. Through the Dialogue, we nurture company internal knowledge over trends and findings on water issues and prepare to our potential risks in future.

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.

For direct operations, we assess through the audit of all facilities based on ISO 14001 on legal obedience, responses to stakeholders and management relevant to water, once a year from the 1990s as it enables fine-grain assessment of facilities located in all over the world. Regional government databases are used to assess water supply and disaster risks at the time of constructions of all data centers since 2013 for ensuring 72-hour operation at events of water supply stoppage. The WRI Aqueduct was added in 2016 because various water risks on a global scale can be assessed in a bird's eye view. It assesses physical and reputation risks over the present and future decades, for all facilities (87 sites) to identify water stressed. If we find important risks, we report to the Risk Management and Compliance Committee where the CEO as the chair decide on measures. For the supply chain, we use internal company method to assess environmental engagement of each suppliers every year from fiscal 2013. With respect to "the major business partners (98% of total procurement)" related to procurement of over 50 million yen annually and our main products, we collect their engagements including annual amount of water withdrawal, their efforts to reduce it, and reflect the results to supplier evaluation and request improvements. We carry out annually from 2015, audits based on the Code of Conduct of EICC (RBA) to complement the internal company method. We choose 9 companies in 2017 among 'the major business partners'. We investigate wastewater treatment and provide guidance to them. As part of enterprise risk management, we conduct a business continuity survey against natural disasters including water disasters every year since 2006, for product suppliers with more than 6 million yen procurement per year (97% of total procurement). When we find high potential risks, we report to the top of purchasing division to take decisions for risk avoidance measures such as multi-resourcing.

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?

No

W4.1a

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

Risk and Compliance Committee, established under the board to manage important risks, define a measurement method of "risk amount" (substantive change) related to both direct operation and supply chain, as at "Risk Amount = Influence degree x possibility of occurrence". The influence degree includes a qualitative influence (e.g. " have influence on the survival of Fujitsu Group") or a monetary influence (e.g. over 100 billion yen), both of which are rated at five ranks. The probability of occurrence is indicated in the form of, for example, "the possibility of occurrence is high (several times occur a year)" and is evaluated in 5 ranks. If the "amount of risk" multiplied by each rank is equal to or higher than the threshold value of 15, it is evaluated as substantive financial or strategic impact on our business. In the case of direct operation, for example, in the semiconductor plants (Mie Plant, Aizuwakamatsu Plant) where water intake source is only supply from the local governments, the financial influence due to the reduction in the amount of production, which is anticipated when the water supplied from the local governments is restricted by 10% for one month, due to the lowering of the water source dam, is estimated to be a scale of several billion yen. It is assumed that In the case of direct operation, for example, in the semiconductor plants (Mie Plant, Aizuwakamatsu Plant) where water intake source is only supply from the local governments, the financial influence due to the reduction in the amount of production, which is anticipated when the water supplied from the local governments is restricted by 10% for one month, due to the lowering of the water source dam, is estimated to be a scale of several billion yen. It is assumed that such a water intake restriction occurs at a level of once every ten years, taking into consideration that such water intake restriction has not occurred to date since factory establishments. These assumptions are evaluated in 5 ranks, and the "amount of risk" obtained is less than 15, so it is not evaluated as substantive financial or strategic impact. As an example of the supply chain, when the Chao Phraya River in Thailand overflowed its banks in 2011, the factories in the supply sources stopped their operations, which affected our businesses. This impact was calculated as a reduction of 28 billion yen in sales (including a decrease in revenue associated with reviews of production plans and sales plans due to floods, trial calculation of rough impact values such as cost increases etc., delay in parts procurement and price increase, impact values caused by production adjustment of clients). We assume that flood damage of the same level occurs at a level of once a decade. Flood damage equivalent to floods in Thailand will not be evaluated as substantive financial or strategic impact because these financial impacts and occurrence frequency will be evaluated in 5 ranks and the "risk amount" obtained will be equal to or less than 15. However, if the events of extreme weather occur more frequently than today due to climate change, the rank of possibility of occurrence will increase and the risk amount will be 15 or more, identified as a substantive impact.

W4.2b

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

	Primary reason	Please explain
Row 1	Risks exist, but no substantive impact anticipated	"Since a large volume of water is used to manufacture substrates of semiconductors and printed circuit boards, and stable water supply is needed to ensure providing data center service for 24/365 where overheating of IT equipment is avoided by cooling towers, the events where the pure water withdrawal is limited can bring a substantive impacts. At present, however, substantive impacts can be avoided because the following assessments and risk management have been undertaken. For all 87 sites including high water dependent facilities such as Mie Plant, Aizuwakamatsu Plant (semiconductors), Nagano Plant, Takaoka Plant, Wakaho Plant, Arai Plant (printed circuit boards), Akashi Facility, Tatebayashi Facility (data center with cooling towers) assessments are conducted on legal compliance, responses to stakeholders, and the status of water management activities every year through internal audits based on ISO 14001. We also conduct the risk assessment by WRI Aqueduct for all 87 sites and we found that the scores for 19 sites exceed the threshold as water stress area located. However, all of which are sales offices or assembly plants with low degree of dependency on water. The scores for the sites with high dependency did not exceed the threshold except Akashi Facility. We conduct future detailed investigations for it and found substantive impacts can be avoided. For all data centers including Akashi and Tatebayashi Facility, flood and drought risk are assessed for ensuring 72-hour operation in case of water supply interruption, using databases provided by the governments and measures to avoid risks were taken. As we are shifting our core business from highly water dependent manufacturing to less water dependent IT services based on our business strategy, substantive impacts are not anticipated in the future as well."

W4.2c

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

	Primary reason	Please explain
Row 1	Risks exist, but no substantive impact anticipated	"Since our supplier of substrate for semiconductors use large volumes of water, events where water supply is limited can lead to procurement risk and substantive impact on sales. For instance, in Thailand floods in 2011 which hit 80 sites of our suppliers including semiconductor parts and in Taiwan water source contamination from gallium, indium, and arsenic in 2006, causing significant impacts on semiconductor suppliers depending on high-quality pure water that led loss of sales. Furthermore, suppliers imposing excessive loads on water basin through water consumption and discharge can be a risk of losing credibility from our customers and other stakeholders. However, that substantive impacts from these risks can be avoided because the following assessments and measures have been undertaken. We assess environmental engagement of suppliers through the annual survey where ""the major business partners (32% of total suppliers, 98% of total procurement costs)"" related to procurement of over 50 million yen annually and our main products are asked to answer their engagements including annual amount of water withdrawal and their efforts to reduce it. We reflect the results to our supplier evaluation and request improvements if necessary. We also carry out annually on-the-spot audits based on the Code of Conduct of EICC (RBA) to complement the survey. We choose 9 suppliers in 2017 based on local water risks among 'the major business partners' to investigate wastewater treatment and provide guidance. As the result, no high risk is found. We also conduct a business continuity survey against natural disasters including water disasters every year, for product suppliers with more than 6 million yen procurement per year (97% of total procurement) through the standard form of JEITA. For suppliers deemed to have a high risk, we take measures to minimize it. A list of suppliers' sites locations and emergency contacts is managed to avoid impacts in the case of unexpected events."

W4.3

(W4.3) Have you identified any water-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes, we have identified opportunities, and some/all are being realized

W4.3a

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

Type of opportunity
Efficiency

Primary water-related opportunity
Cost savings

Company-specific description & strategy to realize opportunity
"A large volume of water is used in the manufacture of semiconductors and printed circuit boards, accounting for an important portion of the production costs. Therefore, reduction in the volume of water withdrawals and associated cost reduction are considered an opportunity. For this reason, the targets for volume of water consumed are set in the Environmental Action Plan of the Fujitsu Group, and manufacturing process improvements, including recycling purified water, have been promoted at each plant. It is estimated that by achieving the target of the Environmental Action Plan (for 2016-2018) at 128,000 m3, we can have an opportunity to reduce water consumption costs by approximately 9 million yen. For instance, our group company Shinko Electric Industries established target levels for plants that withdraw a large volume of water to promote relevant activities. In FY2017, the volume of water withdrawal was reduced by 42,840 m3 a year at Takaoka Plant by taking such measures as recycling acid wastewater after processing that has previously been discharged, providing an opportunity to reduce costs by approximately 3 million yen by estimate. The goal for FY2018 is to reduce the volume of water consumed by approximately 30,000 m3/year by using recycled water for washing manufacturing equipment which, we expect, will provide a further opportunity to reduce costs by least 2 million yen."

Estimated timeframe for realization
Current - up to 1 year

Magnitude of potential financial impact
Low

Potential financial impact
19000000

Explanation of financial impact
"FY2017 results of the Environmental Action Plan shows that reduction in the volume of water withdrawals was 108,000 m3. Multiplying this by the unit price (simple average of water intake costs at all facilities) gives a reduction of approximately 7.5 million yen. The cost reduction effect of achieving the target of the Environmental Action Plan (for 2016-18) at 128,000 m3 is estimated to be approximately 9 million yen by the same calculation. However, since the cumulative progress rate up to FY2017 was rising 1.9 times faster, the cost reduction effect of the Action Plan is now expected to increase up to 19 million yen. "

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 Reference to international standards and widely-recognized water initiatives Company water targets and goals Commitment to align with public policy initiatives, such as the SDGs Commitments beyond regulatory compliance Commitment to water-related innovation Commitment to stakeholder awareness and education Commitment to water stewardship and/or collective action Acknowledgement of the human right to water and sanitation Recognition of environmental linkages, for example, due to climate change	"As we strive for protection of the environment and contribution to the society in all our actions in Fujitsu Way, which provides a common direction for all employees in the group, we show the Environment Policy to realize elements of the Fujitsu Way. Because a large volume of water is used in the production, the goals of reducing use of water and impacts are provided in Environmental Action Plan. Our Green Procurement Standards are set to engage and raise awareness of suppliers to reduce their water impacts. We announced our support for global initiatives to show our commitment to sustainability including water. As the climate change will increase the risk of customers by flood and drought, our intention to provide support them and contribute achieving SDGs through ICT is integrated in the Fujitsu Climate & Energy Vision, and Fujitsu Technology & Service Vision. The Guidelines for Respecting Human Rights in Employment pledge to build a good working environment in secured and hygiened fujitsu-technology-and-service-vision-en.pdf https___bafwac.pdf http___www.fujitsu5.pdf http___www.fujitsu2.pdf http___www.fujitsu1.pdf http___www.fujitsu4.pdf Fujitsu_Group_Green_Procurement_Direction_V7.1_English.pdf

W6.2

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

Yes

W6.2a

(W6.2a) Identify the position(s) of the individual(s) on the board with responsibility for water-related issues.

Position of individual	Please explain
Chief Executive Officer (CEO)	"As the company president and Representative Director, the CEO chairs the Risk Management and Compliance Committee to identify and prevents important risks in our business, including risks of water-related disasters and of reputation risks by failure on controlling waste water quality, and respond to the impacts by appointing the person responsible for executing measures. He takes the position because it handles high priority corporate issues for whole Group. The CEO also chairs the Environmental Management Committee to discuss med/long-term issues and formulates the policies for reducing fresh water withdrawal and engagement to suppliers and customers. The CEO takes the position to make decisions from diversified points of view such as business strategy, market opportunities, and supplier management and so on. He is also responsible for reporting to the Board after deliberating them at the Management Council."

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 Reviewing innovation/R&D priorities Setting performance objectives Other, please specify (Review supply chain management strategy)	"The governance mechanisms selected are conducted in the Committees chaired by the president and Representative Director, the CEO, who is granted decision-making powers in business execution to the extent deemed appropriate by the Board, briefs the Board on the outcome of these Committees such as; the risk identified and its management policies including the risks of water-related disasters in the Risk Management and Compliance Committee, and policies and strategies of use of water reductions, water pollution prevention, supplier engagement, and research and development and provisions of solutions towards SDGs including water issues in the Environmental Management Committee. Furthermore, the CEO briefs the Board of the business strategies and divestiture of relatively high water dependent businesses including semiconductor manufacturing, the results of the "President's Award", which is the highest level employee incentive system within the company to commend efforts that gained valuable achievements in a wide range of business activities and technology development that response to water issues. The CEO briefs in particular Outside Directors on the Board to receive their feedback including challenges to be addressed. For example, they pointed out enforcement of communication to raise awareness on what Fujitsu has achieved, and business strategy to put company resources on targeted markets in SDGs. "

W6.3

(W6.3) Below board level, provide the highest-level management position(s) or committee(s) with responsibility for water-related issues.

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

Responsibility
Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues
Half-yearly

Please explain
"The CEO chairs the Risk Management and Compliance Committee, established directly under the Board, to identify and prevents important risks in our business, including risks of water-related disasters, and respond to the impacts by appointing the person responsible for executing measures, and he report the outcome of the Committee to the Board twice a year. The CEO also chairs the Environmental Management Committee to discuss med/long-term issues and formulates the policies for reducing fresh water withdrawal and engagement to suppliers and customers. The CEO takes the position to make decisions from diversified points of view such as business strategy, market opportunities, and supplier management and so on. He is also responsible for reporting to the Board after deliberating them at the Management Council. CEO's outcome is reported to the Board as well, mainly to external board members to receive their feedback from the point of view out of Fujitsu."

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, 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?

Responsible Business Unit (RBU) oversees group's environmental management engage in lobbying activities, and also ensure consistency with the group's strategy by following procedures. Our Environmental Action Plan defines the group's objectives and targets regarding dependency on water resources, their impact on business and reduction of water use. All employees including government affairs divisions must undergo training through e-learning once every three years. Facilities and business groups with high dependency on water supply for their business are assigned as a member of the issue-specific committees, which report to the Environmental Management Committee chaired by the CEO, to discuss over water related issues and actions when inconsistency occurred. RBU also monitor national policy and risks for our business and contacts relative department to review the response to be taken by the company and work on policies as necessary. As for local policies, the general affairs division of each site constantly monitors the regulatory trends in regions, for instance, by attending briefings of the local government. When the regulations are changed, the changes are reflected in the in-house standard. Also, an annual audit of all sites is carried out based on ISO14001 to check the local laws and response and the result of audit is reviewed by the RBU.

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	> 30	"Fujitsu Group has set FUJITSU Climate Energy Vision, a medium- and long-term environmental vision until 2050, to aim to achieve our zero emissions of CO2 and decarbonized society and to contribute to the adaptation to climate change measures, by providing technologies to support digital innovation to our customers. A contribution to adaptation to climate change measures means measures against water disasters such as floods and water shortage which are caused by unusual weather. This Vision sets a goal of zero emissions as a company that contributes to the achievement of the world's long-term targets including what is called the 2-degree goal of Paris Agreement and Japan's 2050 target to achieve an 80% reduction, which is the reason to set 2050 as a milestone. Another reason is that, based on our development history as a company that has supported social infrastructure including communication networks since the foundation in 1935, we show our vision to continue to provide strong social infrastructure against the impact of climate change, which is supposed to expand in the long term from now."
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	11-15	"We set the achievement of “connecting services” as the basis for growth strategy and aims to establish global ecosystem with not only customers but also stakeholders such as academia and international organizations. Against this backdrop, we recognize that the SDGs 2030, is an important factor in focusing on the universal goals with stakeholders which, we believe, will provide opportunities for creating social values at a larger scale in ecosystem. For this reason, we position SDGs as a factor of ecosystem toward achieving “connecting services”, our growth strategies, and regard solving the social issues derived from SDGs as a new business chance, which makes 2030 a milestone year. As for water-related issues, adaptation to climate change such as prevention of large-scale water-related disasters due to extreme weather through our “connecting services” is included. Since our role is to building social infrastructure since our establishment, strategies and partnerships based on a long-term perspective (up to 2030 and beyond) are essential. For this reason, United Nations Development Programme (UNDP), International Research Institute for Disaster Science of Tohoku University, and we have established a partnership aimed at achieving seven targets by 2030 set in the Sendai Framework for Disaster Risk Reduction 2015-2030, which is included in Target 11.b of SDGs 11. We will utilize our comprehensive strength in ICT to support the establishment and operation of global database."
Financial planning	Yes, water-related issues are integrated	11-15	"Business opportunities in solving the social issues derived from SDGs including water disaster prevention measures due to extreme weather and weather prediction solutions are integrated. We recognize that the SDGs 2030, is an important factor in focusing on the universal goals with stakeholders which will provide opportunities for creating social values through a wide range of partnerships with other organizations, including international organizations, governments of various nations of the world, private enterprises, and NGOs, etc. Therefore, water-related issues are reflected in financial planning as investments toward establishing partnerships and for developing new technologies for quickly finding optimal solutions from massive amounts of data (quantum computing technologies, AI) to solve the social issues containing complex factors. For instance, UNDP, etc. and the Fujitsu Group have reflected the budget for designing and building database on disasters, including floods due to abnormal weather, in the financial planning to establish a partnership toward achieving seven targets by 2030 set in the Sendai Framework for Disaster Risk Reduction 2015-2030, which is included in Target 11.b of SDGs 11. The reason we have chosen “11 to 15 years” was that we position SDGs as a factor of ecosystem toward achieving “connecting services”, one of our growth strategies, and regard solving the social issues derived from SDGs as a new business change, which makes 2030 a milestone year."

W7.2

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

	Water-related CAPEX (+/- % change)	Anticipated forward trend for CAPEX (+/- % change)	Water-related OPEX (+/- % change)	Anticipated forward trend for OPEX (+/- % change)	Please explain
Row 1	472	-83	-13	-2	"In FY 2017, we made a large investment for the improvement of wastewater treatment equipment. In FY 2018, as we do not make this investment, it is supposed to significantly decrease. Operating expenditure will not change significantly. "

W7.3

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

	Use of climate-related scenario analysis	Comment
Row 1	Yes	

W7.3a

(W7.3a) Has your organization identified any water-related outcomes from your climate-related scenario analysis?

No

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

We examine whether to adopt internal water pricing, considering the possibility of a rise in water prices in the countries where our bases are located, especially in Asian countries.

W8. Targets

W8.1

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

	Levels for targets and/or goals	Monitoring at corporate level	Approach to setting and monitoring targets and/or goals
Row 1	Company-wide targets and goals Business level specific targets and/or goals Activity level specific targets and/or goals Site/facility specific targets and/or goals	Targets are monitored at the corporate level Goals are monitored at the corporate level	"Fujitsu Group, based on its original idea since the foundation, ""Manufacturing in harmony with nature,"" has set out FUJITSU Way corporate guidelines and the Fujitsu Group Environmental Policy regarding environmental management. In order to promote environmental management, we have established the Environmental Management System (EMS) in compliance with ISO 14001. We develop and utilize an information gathering system to monitor performance of sites and repeat the PDCA cycle. Specifically, Environmental Management Committee chaired by the CEO, develop a three-year Environmental Action Plan which sets three year goals and targets (2016-18) of the entire the group in order to respond to important environmental issues, including reduction of water withdrawals and engagement to suppliers and customers, and it is approved by and reported to the Management Council and the Board. According to the Plan, each section and department sets their goals and targets related to their operations. Furthermore, Issue-Specific Committees, set under the Environmental Management Committee address important issues across the group, including effective and efficient use of water resources. Plant managers and the Corporate Purchasing Unit play an active role in setting goals and targets and in managing progress from viewpoints of our company and suppliers. Progress towards goals and targets that have been set by each section and department are monitored and analyzed by the Responsible Business Unit through the in-house information gathering system in a quarterly basis. Also, in issue-specific committees, experts at the Responsible Business Unit monitor progress in particularly important departments through the in-house information gathering system on a monthly basis. Follow-up is provided to sites as necessary. The Issue-Specific Committees report gathered information to the Environmental Management Committee and approved by and reported to the Management Council and the Board."

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
"Following the Fujitsu Group Environmental Policy, which promotes environmental management, we develop the Fujitsu Group Environmental Action Plan Stage VIII in the Environmental Management Committee chaired by the CEO and it is approved by and reported to the Management Council and the Board. Regarding water resources, we set a goal of reducing the environmental loads of our business activities and a target of a reduction in water withdrawals by 128,000 m3 in total (from 2016 to 18) compare to 2013. We use a large amount of high quality pure water in the manufacturing plants of semiconductors and printed circuit boards in cleaning process. Including them, all facilities are covered by the target. Water withdrawals of manufacturing plants fluctuate significantly depending on the output. Therefore, the amount of water withdrawals reduced (m3) is set as a target unit based on the water withdrawals in FY 2013, which is less susceptible to the fluctuation of the output."

Quantitative metric
Absolute reduction in total water withdrawals

Baseline year
2013

Start year
2016

Target year
2018

% achieved
84

Please explain
" Actual result of FY2017 was 108,000 m3, 84% achieved against 2018 target (128,000 m3), which is bigger than expected rate (80% = (2017-2013)*100/2018-2013). While the single-year target for FY2017 was set to approximately 50,000 m3, the actual result was two times faster."

W8.1b

(W8.1b) Provide details of your water goal(s) that are monitored at the corporate level and the progress made.

Goal
Engagement with suppliers to help them improve water stewardship

Level
Company-wide

Motivation
Reduced environmental impact

Description of goal
"Starting with the manufacturing of switchboards at the time of its foundation in 1935, our company has been developing as a highly public company which supports communications infrastructure in Japan. Therefore, we recognize contribution to global sustainability and show our commitment in our corporate philosophy FUJITSU Way to be a reliable partner for governments and also customers in private sector and stakeholders. To realize it, it is important to reduce environmental loads of our business activities including supply chain, and developed the Green Procurement Standards. In the Fujitsu Group Environmental Action Plan, we set a goal of reducing our environmental loads through our supply chains and ask all suppliers to work on water resource preservation (control on water withdrawals, prevention of water pollution, water source protection, etc.). We selected suppliers from which we procure items for at least 50 million yen a year and which are involved in our major products, and positioned them as our major suppliers. They are subjects of our environmental activity survey for supplier assessment on annual water withdrawals and water resource preservation activities conducted every fiscal year. In this way, we urge our suppliers to play an active role. "

Baseline year
2015

Start year
2016

End year
2018

Progress
"Since FY 2016, we have used the fiscal year's response rate of our major suppliers (suppliers from which we procure items for at least 50 million yen a year and suppliers involved in our major products) as a reference index and have determined that a 90% or more response rate is a successful value. In FY 2017, we obtained understanding of, and agreement to our purpose from many suppliers, and we achieved a 97.8% response rate and an approximately 109% progress rate, which was a success. Because we had achieved a 97.4% response rate (an approximately 108% progress rate) in FY 2016, we exceeded a 100% progress rate in two consecutive years. Therefore, we aim at closer to a 100% response rate for the next fiscal year. Also, we will have more engagement in information provision concerning water risk analysis or other tools in order to improve our water stewardship with suppliers. "

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
Other, please specify (risk of exceeding water quality criteria)

Description of linkage/tradeoff
"To meet the standards of discharge water quality, we need to reduce the density of airborne particles and chemical substances by discharging a large amount of water for dilution. On the other hand, if we succeed in reducing the water withdrawals by increasing the efficiency of water use and recycling of wastewater in order to achieve our target of reducing the water withdrawals by 128,000 m3 from 2016 to 2018, the water to be discharged after water withdrawal will also decrease. Then it contributes to increasing the density of airborne particles and chemical distances in the discharged water, and to increase the risk of exceeding the water quality limits. In Mie Plant, we measure impact by total nitrogen effluent in waste water and amount of water withdrawals. In FY 2017, Mie Plant installed ammonium removal equipment and achieved both the total nitrogen effluent standards and reduced the water withdrawals by 10,800 m3 and thus it reduced the impact of the trade-off. "

Policy or action
"We specify compliance with law as a code of conduct shown in our Fujitsu Way, and the Risk Management and Compliance Committee under the Board controls the compliance. Violation of law including waste water quality standards from our plants is positioned as an important risk in our business strategy. Therefore, each plant sets even stricter voluntary standards than the standards of the local government in order to avoid violence of law. In the Environmental Action Plan, we have a target of reducing water withdrawals by 128,000 m3 in total from 2016 to 2018. However, this is based on the premise that we ensure the obedience of law including local governments' water quality standards. Therefore, it depends on the business strategy of each plant how they reduce water withdrawals while meeting the water quality standards. For example, Mie Plant determined that it is necessary to make investment for installing ammonium removal equipment as a business strategy because there are not only for standards for the total nitrogen concentration but also for the total amount of total nitrogen in the water discharged to rivers leading to Ise Bay, which is a closed water area. As a result, we were able to meet the water quality standard and reduced water withdrawals at the same time."

W10. Verification

W10.1

(W10.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1d)?
Yes

W10.1a

(W10.1a) Which data points within your CDP disclosure have been verified, and which standards were used?

Disclosure module	Data verified	Verification standard	Please explain
W1. Current state	Water withdrawals- total volumes、Water withdrawals- volume by sources	ISAE3000	Because it is within the scope of the Environmental Action Plan, it is subjected to the verification of BV. ISAE3000 is certified standards for environmental reports. In consultation with BV, we have determined that the standards are appropriate and we use them.

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	Representative Director President (CEO)	Chief Executive Officer (CEO)

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

SW. Supply chain module

SW0.1

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

	Annual revenue
Row 1	

SW0.2

(SW0.2) Do you have an ISIN for your organization that you are willing to share with CDP?

No

SW1.1

(SW1.1) Have you identified if any of your facilities reported in W5.1 could have an impact on a requesting CDP supply chain member?

No, CDP supply chain members do not buy goods or services from facilities listed in W5.1

SW1.2

(SW1.2) Are you able to provide geolocation data for your site facilities not already reported in W5.1?

No, this is confidential data

SW2.1

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

Requesting member
Please select

Category of project
Please select

Type of project
Please select

Motivation

Estimated timeframe for achieving project
Please select

Details of project

Projected outcome

SW2.2

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

SW3.1

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

Product name

Water intensity value

Numerator: Water aspect
Please select

Denominator: Unit of production

Comment
When calculating the intensity, we recognize it as an issue to be considered, how to associate water consumption of specific facility and shipment of each product with each individual customer.

Submit your response

In which language are you submitting your response?
English

Please confirm how your response should be handled by CDP

	Public or Non-Public Submission	I am submitting to	Are you ready to submit the additional Supply Chain Questions?
I am submitting my response	Public	Investors Customers	Yes, submit Supply Chain Questions now

Please confirm below

I have read and accept the applicable Terms