

W0. Introduction

W0.1

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

In April 2016, Tokyo Electric Power Company (TEPCO) transitioned to a holding company system by reorganizing into three independent businesses: fuel & thermal power generation, general power transmission and distribution, and retail electricity. In 2019, integrated the fuel procurement and thermal power generation business with JERA Co., Ltd. The group currently consists of operating companies that are responsible for the renewable energy and nuclear energy power generation businesses, power transmission and distribution businesses, and retail businesses. TEPCO Group is responsible for the energy supply infrastructure centered on the Tokyo metropolitan area including the capital Tokyo. The amount of electricity sold by TEPCO is about one-third that of Japan as a whole, and it is one of the largest electric power companies in Japan. We have been supporting the economic activities of the Tokyo metropolitan area and the lives of local customers for about 70 years.

W-EU0.1a

**(W-EU0.1a) Which activities in the electric utilities sector does your organization engage in?**

- Electricity generation
- Transmission
- Distribution
- Other, please specify (Gas transport and distribution)

W-EU0.1b

**(W-EU0.1b) For your electricity generation activities, provide details of your nameplate capacity and the generation for each technology.**

	Nameplate capacity (MW)	% of total nameplate capacity	Gross electricity generation (GWh)
Coal – hard	0	0	0
Lignite	0	0	0
Oil	58	0.31	159
Gas	0	0	0
Biomass	0	0	0
Waste (non-biomass)	0	0	0
Nuclear	8212	45.14	0
Fossil-fuel plants fitted with carbon capture and storage	0	0	0
Geothermal	0	0	0
Hydropower	9878	54.27	11722
Wind	21	0.12	26
Solar	30	0.16	29
Marine	0	0	0
Other renewable	0	0	0
Other non-renewable	0	0	0
Total	18199	100	11936

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 2020	March 31 2021

W0.3

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

- Japan

W0.4

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

JPY

## W0.5

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

Companies, entities or groups over which financial control is exercised

## W0.6

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

Yes

## W0.6a

(W0.6a) Please report the exclusions.

Exclusion	Please explain
Overseas Offices (Washington, London, Beijing)	Due to the small leased office space (about 10 employees), the total amount of water used is as small as about 1,000 tons per year, which is only about 0.1% of the amount of total company-wide water used in Japan, so the water risk of these three offices is very small.

## W1. Current state

### W1.1

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

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Important	Important	As for direct use, sufficient amounts of freshwater are important for our direct operations because they are necessary for electricity production. Freshwater is directly used in hydroelectric power plants, which consists 98% of the TEPCO Group's electricity generation in FY2020. In the future, we promote renewable energy to be a main energy sources, and hydropower plants are expected to reinforce output. Amount of fresh water used in nuclear power plants is small because we use sea water for cooling generation facilities and if we use fresh water we treat and recycle it. Regarding indirect use, in April 2019, TEPCO Fuel & Power Co., Ltd. transferred the fuel receiving, storage, gas transportation, and thermal power generation businesses to JERA Co., Ltd., which is a major supplier for TEPCO Energy Partner, a retail company. As a result, the use of water from thermal power generation has shifted from direct operation to indirect use, but its importance has not changed. Since the use of water is essential for watering pure water for boiler steam and coal stockyards, we continue to consider it important to have sufficient fresh water available. About water quality, we manage radioactive contaminated water in Fukushima Daiichi Nuclear Power Station decommissioning process. Our company has been treating contaminated water generated by the Fukushima Daiichi Nuclear Power Plant accident properly and has stored it in tanks. At hydroelectric power plants, maintaining the quality of withdrawals is important not only to maintain the ecosystem and natural environment, but also to avoid collisions with stakeholders such as local river authorities and nearby residents.
Sufficient amounts of recycled, brackish and/or produced water available for use	Important	Vital	The nuclear power plant is currently out of operation, but if it is restarted, the boiler water used for the steam turbine will be reused and it is necessary for power generation, so we judge it to be important. Regarding indirect use, the reuse of boiler water that was being carried out at thermal power plants will be treated as indirect use due to the transfer of the thermal power generation business to JERA. Although it has been decided not to be implemented, it is used for steam turbines in thermal power generation and is indispensable for operation, and it is expected that it will be used to the same extent in the future.

### 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%	Water withdrawals are measured and monitored at all of our power plants and offices every fiscal year as INPUT/OUTPUT material flow in our environmental management system. At all of our hydroelectric power plants, we submit data of yearly water withdrawals based on the agreement with national or prefectural governments depended on river manager where they are located. Total volumes of water withdrawals are always monitored by watching water level, flow meters, and operation hours of pumps.
Water withdrawals – volumes by source	100%	Water withdrawals per each sources are measured and monitored at all of our power plants and offices every fiscal year as INPUT/OUTPUT material flow in our environmental management system. At all of our hydroelectric power plants power plants, we submit data of yearly water withdrawals based on the agreement with national or prefectural governments depended on river manager where they are located. Total volumes of water withdrawals are always monitored by watching water level, flow meters, and operation hours of pumps.
Entrained water associated with your metals & mining sector activities - total volumes [only metals and mining sector]	<Not Applicable>	<Not Applicable>
Produced water associated with your oil & gas sector activities - total volumes [only oil and gas sector]	<Not Applicable>	<Not Applicable>
Water withdrawals quality	100%	At hydroelectric power plants, the turbidity of the water taken in is constantly monitored by a turbidity meter. At nuclear power plants (when in operation), seawater temperature is constantly measured by thermistors during water intake used for indirect cooling facilities. This data is useful for grasping temperature of the sea water difference between withdrawals and discharges.
Water discharges – total volumes	100%	Water discharges are measured and monitored at all of our power plants and offices every fiscal year as INPUT/OUTPUT material flow in our environmental management system. At all of our hydroelectric power plants, we submit data of yearly water discharges based on the agreement with national or prefectural governments depended on river manager where they are located. Total volumes of water discharges are always monitored by watching water level, flow meters, and operation hours of pumps.
Water discharges – volumes by destination	100%	Water discharges by destination are measured and monitored at all of our power plants and offices every fiscal year in our environmental management system. At all of our hydroelectric power plants power plants, we submit data of yearly water discharges based on the agreement with national or prefectural governments depended on river manager where they are located. Total volumes of water discharges are always monitored by watching water level, flow meters, and operation hours of pumps.
Water discharges – volumes by treatment method	100%	Water discharges by treatment method are measured and monitored at all of our power plants and offices every fiscal year as INPUT/OUTPUT material flow in our environmental management system. At all of our hydroelectric power plants, we submit data of yearly water discharges based on the agreement with national or prefectural governments depended on river manager where they are located. Volume of wastewater from the treatment facility is constantly monitored by flow meters in nuclear power plants (if they are working).
Water discharge quality – by standard effluent parameters	100%	The quality of water discharges is measured and monitored on regular basis at all of our power plants and offices based on standards effluent parameters in our environmental management system. Regarding water quality monitoring, based on laws and administrative guidelines, pH, COD, oil film, etc. are constantly monitored with water quality measuring equipment such as pH meters, and heavy metals are chemically analysed every year.
Water discharge quality – temperature	100%	In nuclear power plants (if they are working), the temperature of discharged water to the sea which is used for the indirect cooling is constantly monitored by the thermistor. On the other hand, there is no obligation to constantly monitor the water temperature at hydroelectric power plants.
Water consumption – total volume	100%	Water consumption is measured and monitored at all of our power plants and offices every fiscal year in our environmental management system. It is calculated by the difference between withdrawals and discharges which are monitored on regular basis.
Water recycled/reused	100%	Some offices recycle rainwater and use it to drain toilets, and every year, the amount of rainwater recycled is constantly measured with a water meter and reported to the municipalities.
The provision of fully-functioning, safely managed WASH services to all workers	100%	We continuously monitor if we are providing safe drinking water and sanitation to all of our employees at all of our facilities. We respect our employees' character and individuality and are committed to providing them with a good working environment. Drinking water is provided from the public waterworks bureau, and residual chlorine concentration data etc. are confirmed every day.

**W-EU1.2a**

**(W-EU1.2a) For your hydropower operations, what proportion of the following water aspects are regularly measured and monitored?**

	% of sites/facilities/operations measured and monitored	Please explain
Fulfillment of downstream environmental flows	100%	At all of our hydroelectric power plants, we submit data of yearly water discharges based on the agreement with national or prefectural governments depended on river manager where they are located, and discharge water in compliance with river maintenance flow. And also facilities to detect the oil film are installed, and when it is detected it is collected so as not to affect the downstream area.
Sediment loading	100%	We measure the sediment loading at all hydroelectric power plants on regular basis. We carry out dredging of volume sediment in dam as needed.
Other, please specify	100%	For measures of heavy rainfall, we manage and check the equipment near the river more than once / year and increase the priority of replacement and detoxification treatment so as not to flow out oils when the river flood occurs.

**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	47420373	About the same	In FY2020, freshwater surface water, which accounts for a large proportion of the total water intake, increased slightly compared to the previous year, and the total water intake also increased slightly, but it was evaluated to be about the same because it fluctuated within 10%. This was due to a decrease in water intake due to the suspension of operations at some hydroelectric power plant facilities due to heavy rain caused by typhoons in FY2019, but increased due to stable weather in FY2020. This difference is about 3%, and the operation of hydroelectric power plants tends to be stable. At hydroelectric power plants, the amount of freshwater intake and the amount of drainage are the same, and they are not consumed at the facility.
Total discharges	47420242	About the same	In FY2020, freshwater surface water, which accounts for a large proportion of the total amount of wastewater, increased compared to the previous year, but it was evaluated to be about the same as the total amount of water intake. This is because the amount of wastewater from some hydroelectric power plants decreased in FY2019 due to heavy rain caused by the typhoon, but the rate of increase from FY2020 when the weather was stable was about 3%, which is a stable operation.
Total consumption	131	About the same	In FY2020, there was no change in the business form as in the previous year, and we were able to reduce consumption from 166 mega liters in the previous year by devising equipment operations and saving water. This tendency for low consumption is expected to continue in the future.

**W1.2d**

**(W1.2d) Indicate whether water is withdrawn from areas with water stress and provide the proportion.**

	Withdrawals are from areas with water stress	% withdrawn from areas with water stress	Comparison with previous reporting year	Identification tool	Please explain
Row 1	No	<Not Applicable>	<Not Applicable>	WRI Aqeduct	Our hydroelectric power plants are located in Tochigi, Gunma, Kanagawa, Yamanashi, Shizuoka, Fukushima, Niigata and Nagano prefectures, central part of Honshu island of Japan and we have confirmed whether we have water stress in these areas. For confirming water stress, WRI Aqeduct widely used as a water risk assessment method is adopted. If Aqeduct tells the evaluation as High or Extremely high, over 40% of water stress, we judge there are water stressed area. According to the evaluation by Aqeduct, the hydroelectric power generation area is evaluated as Medium-high (water stress 20-40%) at the maximum. So there is no power plants located in water stressed area and there is no water intake from the drought area. Not only water intake, but also water discharge we consider water risks. We secure the maintenance flow rate prescribed by the Ministry of Land, Infrastructure and Transport at all hydropower plants, so there is no water competition with the downstream area. Since last fiscal year this risk situation has not changed. We continually collect information on the fact that power plants are not located in stressed areas.

**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	Relevant	47419391	About the same	Freshwater surface water intake is highly relevant to the business as it is used for power generation at hydroelectric power plants. The same amount of this intake water is drained without being consumed. The amount of freshwater surface water in 2020 increased from the previous year's result of 46,014,462 mega liters, but it was evaluated to be about the same. This was not affected by the amount of water intake from hydroelectric power plants, which account for the majority of freshwater surface water, and the decline in operations of hydroelectric power plants due to typhoons, etc., as in the previous year. However, the increase was about 3%, which was within 10% of the standard. Since hydropower is as important as the role of renewable energy, TEPCO plans to strengthen the capacity of hydropower plants, but is challenging to innovate more efficient equipment and operations. Therefore, water consumption is expected to remain at the same level in the future.
Brackish surface water/Seawater	Relevant	0	About the same	Seawater intake is highly relevant to the business as it is used for indirect cooling of condensers at nuclear power plants. In addition, the same amount of this taken water is drained to the sea area without being consumed. After the 2011 Fukushima Daiichi nuclear power plant accident, all nuclear power plants have been shut down, so the amount of seawater intake is 0. This seawater is used as indirect cooling water and plays a role in cooling the steam transfer in the condenser.
Groundwater – renewable	Relevant	154	Lower	Groundwater accounts for a large proportion of the inflow to the reactor building at the Fukushima Daiichi Nuclear Power Station. Therefore, this reduction in the amount of water means a reduction in the amount of water contaminated by radioactive substances, so it can be said that it is relevant to the decommissioning business. The amount of groundwater decreased from 205 mega liters in the previous year due to the progress of measures such as the impermeable wall to control the inflow to the reactor building of the Fukushima Daiichi Nuclear Power Station. This also contributes to reducing the amount of water contaminated with radioactive substances. This amount has decreased from about 470m3/day (FY2014 average) to about 140m3 / day (2020), and we plan to reduce it to about 100m3 / day by 2025.
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	We do not use any non-renewable groundwater now and in the future because there are no processes and facilities using non-renewable groundwater in our electric power systems.
Produced/Entrained water	Not relevant	<Not Applicable>	<Not Applicable>	We do not use any produced water now and in the future because there are no processes and facilities using produced water in our electric power systems.
Third party sources	Relevant	828	About the same	Water of third party sources is relevant because it is used for power generation in island internal combustion power plans and for drinking in all offices. In 2020, the amount of water taken from the municipal water supply was almost the same as that of 825 mega liters in 2019. This reflects the employees' awareness of saving water when using domestic water.

**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	47419231	About the same	The water used for power generation at hydroelectric power plants is drained to the surface water of fresh water, so it is highly relevant to the business. The same amount of this intake water is drained without being consumed. The amount of wastewater discharged is almost the same as the amount of water taken from the hydroelectric power plant approved by the Ministry of Land, Infrastructure, Transport and Tourism. Although the amount of wastewater in 2020 increased from 46,014,244 mega liters in the previous year, the change was about 3%, which was within 10%, and it is evaluated that it was not a big change from the previous year. Since hydropower is as important as the role of renewable energy, TEPCO plans to strengthen the capacity of hydropower plants. Therefore, water consumption is expected to remain at the same level in the future.
Brackish surface water/seawater	Relevant	352	Lower	The water used for indirect cooling of the condenser at the nuclear power plant is drained to seawater, so it is highly relevant to the business. The same amount of this intake water is drained without being consumed. We use seawater for making it steam and indirectly cooling condensers at nuclear power plants, then discharge to the sea. However after the accident of Fukushima Daiichi nuclear power plant in 2011, all the nuclear power plants have been shut down, so the amount of seawater withdrawals at nuclear power plants is 0. On the other hand, some of the water used for cooling at the island internal-combustion power plant is drained to the sea area after treatment. This amount of wastewater has decreased from the previous year's 432 mega liter / year.
Groundwater	Not relevant	<Not Applicable>	<Not Applicable>	There is no plants and facilities which penetrate and drain water into the ground now. And we do not introduce these systems in the future.
Third-party destinations	Relevant	826	Lower	Since wastewater to a third party used for domestic water is a pay-as-you-go rate, saving water contributes to cost reduction in addition to consideration for water resources, and is related to our business. We continue saving domestic use of water, and the volume of discharge to third-party destinations will be almost the same in the future.

**W1.2j**

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

	Relevance of treatment level to discharge	Volume (megaliters/year)	Comparison of treated volume with previous reporting year	% of your sites/facilities/operations this volume applies to	Please explain
Tertiary treatment	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	Because there is no facility that applies the applicable processing method.
Secondary treatment	Relevant	352	Lower	1-10	In the nuclear power plant by the sea, the internal-combustion power generation plants of the island, and the urban office, the wire water is drained after the BOD etc. is reduced by the merger type disposal turning tank.
Primary treatment only	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	Because there is no facility that applies the applicable processing method.
Discharge to the natural environment without treatment	Relevant	47419231	About the same	31-40	The water intended from the river etc. at the hydroelectric power plant is released to the river as it is and there is no change in water quality.
Discharge to a third party without treatment	Relevant	660	About the same	61-70	Amount of water discharged to a third party (public sewerage bureau) that can treat wastewater for water used in offices, etc
Other	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	Because there is no facility that applies the applicable processing method.

**W-EU1.3**

**(W-EU1.3) Do you calculate water intensity for your electricity generation activities?**

Yes

**W-EU1.3a**

**(W-EU1.3a) Provide the following intensity information associated with your electricity generation activities.**

Water intensity value (m3)	Numerator: water aspect	Denominator	Comparison with previous reporting year	Please explain
5.6	Other, please specify (Water withdrawals for Hydropower generation)	Other, please specify (Hydropower generation kWh in FY2020)	About the same	The amount of water intake (m3) per hydropower generation (kWh) was 5.6 in FY2020. And intensity in FY2020 is almost same level as in FY2019, 5.5. This is because the soundness of the equipment was maintained by renovating the equipment of small and medium-sized hydroelectric power plants over the years . In the future, in the hydroelectric power generation sector, ・ Achieving both increased power generation and improved equipment reliability by refurbishing equipment over time ・ Shortening the work suspension period through improvement activities ・ Preventing troubles by utilizing digital technology and data, and reducing losses through integrated water system operation As a result, we are aiming to increase the amount of power generated by 100 million kWh / year or more in 2023 compared to the actual results in 2018 (however, excluding the effects of suspension and flood rate due to equipment repair work of aged equipment). In this way, we assume that this intensity will be decreased in the future because of the improvement of hydroelectric power equipment.

**W1.4**

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

Yes, our suppliers

## W1.4a

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**(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

76-100

#### % of total procurement spend

76-100

#### Rationale for this coverage

We request all suppliers to considerate efficient use of water and resources by the procurement basic policy and green procurement guidelines, explained by the president and presented on websites. We purchase products and services considering various environmental burdens over the full product life cycle from resource extraction to disposal. Also we positively accept "eco-proposals" from suppliers according to the guidelines. As a result, the environment-friendly products including hydroelectric power equipment which uses water more efficiently are purchased with the highest priority, which is beneficial to suppliers. We also require consolidated subsidiaries that make up the value chain to submit water usage. Through this, we disclose data related to water use by the entire TEPCO Group and clarify consideration for water resources as a supply chain. In addition, we ask consolidated subsidiaries to report water risks and these responses at engagements about environmental management. In near future, we plan to release supply chain's data, and we think this would be an incentive for us and also consolidated subsidiaries known as an environmentally-friendly group to the society.

#### Impact of the engagement and measures of success

For increasing cooperate value of both TEPCO and corporations affiliated equity-method, we work on environmental consideration measures at supply chains. We also require consolidated subsidiaries that make up the value chain to submit water usage. Through this, we disclose data related to water use by the entire TEPCO Group and clarify consideration for water resources as a supply chain. This disclosure clarifies consideration for the sustainability of water resources as a supply chain and improves ESG evaluation as a company. In addition, we ask consolidated subsidiaries to report water risks and these responses at engagements about environmental management. For example, an affiliated company, TEPCO Town Planning Co. Ltd, have managed and renovated the printing method of electric pole advertisement of their suppliers so that they reduce water consumption from 4,600 liters per a year to 0. In addition, the printing process renovation work not only to reduce the amount of water used, but also to eliminate to use chemicals (organic solvents) and the need to use protective masks. It contribute the surrounding environment protected and employees making it easier to work. Moreover, it has been improved productivity due to process changes also improved earnings. In this way, we feedback the total volume of water consumptions of consolidated subsidiary, and share the importance of considering water resources. Good practice is shared by TEPCO group company e-mail magazine.

#### Comment

## W1.4b

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

#### Type of engagement

Incentivizing for improved water management and stewardship

#### Details of engagement

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

#### % of suppliers by number

76-100

#### % of total procurement spend

76-100

#### Rationale for the coverage of your engagement

We present procurement basic policy and green procurement guidelines to all suppliers, we request all corporations affiliated equity-method to submit actual results of water consumptions. We present basic procurement policies and green procurement guidelines to all suppliers, and require all suppliers to consider water resources. We are also asking consolidated subsidiaries, which are also in the supply chain, for actual water consumption. In addition, we ask consolidated subsidiaries to report water risks and these responses at engagements about environmental management.

#### Impact of the engagement and measures of success

For increasing cooperate value of both TEPCO and corporations affiliated equity-method, we work on environmental consideration measures at supply chains. We feedback the total volume of water consumptions of corporations affiliated equity-method, and share the importance of considering water resources. In the "Basic Procurement Policy", as an environmental consideration, by promoting the priority purchase of materials and equipment with less environmental impact, we will contribute to low carbonization, conserve biodiversity, and use resources and water efficiently. Through this, we clearly state that we will strive to build a sustainable society, confirm our efforts for environmental management systems in our engagement with our business partners, and reduce the risks associated with water resources. Evaluations are made using check sheets and evaluation sheets regarding water consumption, etc. provided by the supply chain. As items, we evaluate whether the proper flow rate of the river used is maintained and the status of compliance with environmental standards such as drainage standards. The results of these evaluations determine the success of engagement with the supply chain.

#### Comment

## W2. Business impacts

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### W2.1

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

Yes

**(W2.1a) Describe the water-related detrimental impacts experienced by your organization, your response, and the total financial impact.****Country/Area & River basin**

Japan	Tone
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**Type of impact driver & Primary impact driver**

Physical	Flooding
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**Primary impact**

Impact on company assets

**Description of impact**

Due to the heavy rain of Typhoon No. 19 that occurred in October 2019, the Agatsuma river of the Tone river system and the Chikuma river of the Shinano river system were flooded, so that inundation occurred at nine of our hydroelectric power plants. Approximately 60,000 kW of power generation facility was stopped, but the supply and demand could have been adjusted by other power sources, so the impact on supply and demand due to the suspension of the hydropower plants was minor. However, there was damage to the facility of hydroelectric power plants and about 3.5 billion yen was recorded as extraordinary loss related to typhoon disasters in FY2019. The repair costs were recorded for restoration of nine hydroelectric power plants due to flooding, of which at the Otsu power plant, transformers and switches were damaged.

**Primary response**

Develop flood emergency plans

**Total financial impact**

350000000

**Description of response**

Based on the damage caused by Typhoon No. 19 in October 2019, at the "Examination Meeting for Strengthening Flood Control Function of Existing Dams", which was composed of related ministries such as Ministry of Land, Infrastructure, Transport and Tourism and Ministry of Economy, Trade and Industry, led by the Prime Minister's Office In December 2019, the basic policy of flood control cooperation of water utilization dams was announced. We believe that the government's efforts will contribute to regional disaster prevention and coexistence with the community, and concluded a flood control agreement for 40 dams (6 river systems) owned by TEPCO Renewable Power. After that, the guideline for pre-release was prepared in consultation with the Kanto Regional Development Bureau, Ministry of Land, Infrastructure, Transport and Tourism, which is the river administrator for each dam. As a result of this effort, the flood control capacity of our company was 210 million m3 for all 40 dams. In recent years, with typhoon and heavy rain damage becoming the norm, in order to contribute to mitigating the damage, we will further strengthen cooperation with river managers, other dam managers, related water users and related local governments. We would like to carry out flood control cooperation. However, there was damage to the facility of hydroelectric power plants and about 3.5 billion yen was recorded as extraordinary loss related to typhoon disasters in FY2019.

**Country/Area & River basin**

Japan	Tone
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**Type of impact driver & Primary impact driver**

Physical	Flooding
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**Primary impact**

Reduced revenues from lower sales/output

**Description of impact**

In September 2015, three hydroelectric power plants in Tochigi Prefecture (Kinugawa power plant (127,000 kW), Michiyahara power plant (1,900 kW), Akakawa power plant (1,100 kW)) were submerged due to heavy rain caused by the passage of a typhoon, and stopped power generation. In addition, the bank of the Kinugawa River in the Tone River broke, and it was necessary to stop power distribution so as not to interfere with rescue operations, resulting in a power outage of 11,000 households, which took six days to recover. The financial impact was JPY 14,225,640, when the lost electricity sales were estimated from the average electricity consumption per household. In addition to this, labour costs (total 1300 staff members work for 7 days) and equipment restoration costs for resuming power transmission after a power failure occurred.

**Primary response**

Develop flood emergency plans

**Total financial impact**

14225640

**Description of response**

At Tokyo Electric Power Grid Co., Ltd., the Ryugasaki branch office confirmed the heavy rain special warning, prepared the equipment needed for the flood, and confirmed the power supply network on the assumed flood area map. Although there were no large-scale blackouts due to heavy rain, it was necessary to shut off the electricity so that it would not interfere with the restoration. By checking the distribution network in advance, the blackout area was minimized. After the water was drained, 38 employees and vehicles in other branch were supported, priority was given, power transmission was resumed, and efficient restoration work was performed. The establishment of a system for recovery from floods and lessons learned from the responses obtained through these restoration operations are horizontally spread throughout the company and used for future flood control. Total financial impact was calculated as follows. The average monthly electricity consumption per household was 248 kWh, and the amount used for six days when a power failure occurred was 49.74 kWh. The unit price of the electricity charge was 26 yen, which is the unit price of the two-stage charge (more than 120 kWh and up to 300 kWh) in the plan of the metered lamp B. The number of household outages was 11,000. From the above, Total financial impact is 49.74 kWh × 26 yen × 11,000 houses = 14,225,640 yen.

**(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

W-EU3.1

**(W-EU3.1) How does your organization identify and classify potential water pollutants associated with your business activities in the electric utilities sector that could have a detrimental impact on water ecosystems or human health?**

Through our environmental management system, we ascertain emissions volumes, consumption volumes, and retention volumes for PCB (polychlorinated biphenyl) waste, toxic substances subject, ozone depleting substances, and asbestos. Substances subject to management are managed appropriately in accordance with applicable laws and we work towards emissions reduction by promoting switching to products not containing applicable substances. Through the environmental management system, we grasp the amount of PCB (polychlorinated biphenyl) waste, target harmful substances, ozone-depleting substances, asbestos emissions, consumption, and retention. Controlled substances are properly controlled in accordance with applicable laws, and we are working to reduce emissions by promoting the switch to products that do not contain applicable substances. If a hydroelectric power plant is damaged by flood damage caused by heavy rain, there is a risk that PCBs in products and waste will flow out into rivers. This is due to the fact that PCBs have chemical stability such as high no flammability and high electrical insulation, so they are used in transformers, capacitors, ballasts, etc., and also in electrical equipment. In order to prevent such outflow, we are promoting the early treatment of PCB waste, including the supply chain, based on the PCB Special Measures Law. In the unlikely event that it becomes apparent, the risk of leakage can be sufficiently reduced by installing a waterproof barrier, etc., and an oil film detection shutoff valve, etc. In addition, we are strictly handling leakage countermeasures and waste disposal appropriately for our power producers in the value chain as well as our company.

W-EU3.1a

**(W-EU3.1a) Describe how your organization minimizes the adverse impacts of potential water pollutants associated with your activities in the electric utilities sector on water ecosystems or human health.**

Potential water pollutant	Description of water pollutant and potential impacts	Management procedures	Please explain
Other, please specify (PCB)	Since PCB has chemically stable properties such as high incombustibility and high electrical insulation, it is used for transformers, capacitors, ballasts, etc., and we use them for the electrical equipment. If a hydroelectric power plant is damaged by flood damage caused by heavy rain, there is a risk that PCBs in products and waste will flow out into rivers. This is due to the fact that PCBs have chemical stability such as high no flammability and high electrical insulation, so they are used in transformers, capacitors, ballasts, etc., and also in electrical equipment.	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Community/stakeholder engagement Emergency preparedness	Through our environmental management system, we ascertain emissions volumes, consumption volumes, and retention volumes for PCB (polychlorinated biphenyl) waste, toxic substances subject, ozone depleting substances, and asbestos. Substances subject to management are managed appropriately in accordance with applicable laws and we work towards emissions reduction by promoting switching to products not containing applicable substances. By installing waterproof barrier etc. and installing oil film detection shutoff valves etc., leakage risk is sufficiently reduced. In addition, we are strictly handling leakage countermeasures and waste disposal appropriately for our power producers in the value chain as well as our company. According to ISO14001, the PCB leak response procedure assuming an emergency is tested once a year to confirm that it works in an emergency, and the progress of the procedure and the implementation status of the test are confirmed in the internal environmental audit. According to ISO14001, emergency PCB leak response procedures are tested annually to ensure that they work in an emergency. The results are evaluated by confirming the effectiveness of the procedure in an internal environmental audit.

W3.3

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

Yes, water-related risks are assessed

W3.3a

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



## Direct operations

### Coverage

Full

### Risk assessment procedure

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

### Frequency of assessment

More than once a year

### How far into the future are risks considered?

More than 6 years

### Type of tools and methods used

Tools on the market  
International methodologies  
Databases

### Tools and methods used

WRI Aqueduct  
WWF Water Risk Filter  
Environmental Impact Assessment  
Life Cycle Assessment  
Regional government databases  
Other, please specify (Cabinet Office, Central disaster prevention meeting September 6, 2012, (2) About metropolitan area large-scale flood measures general rules [decision matter]. )

### Comment

We make use of various methods and databases to assess water-related risks in our direct operations and supply chain.

## 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?

3 to 6 years

### Type of tools and methods used

International methodologies  
Databases

### Tools and methods used

Environmental Impact Assessment  
Life Cycle Assessment  
Regional government databases

### Comment

We make use of various methods and databases to assess water-related risks in our direct operations and supply chain.

## 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

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

	Relevance & inclusion	Please explain
Water availability at a basin/catchment level	Relevant, always included	Sufficient amounts of freshwater are important for our direct operations because they are necessary for electricity production. We always obtain information on water availability of each region from WRI Aqueduct, regional government databases, and assesses its impact on our business.
Water quality at a basin/catchment level	Relevant, always included	Sufficient amounts and quality of freshwater are important for our direct operations because they are necessary for electricity production. We always obtain information on water availability and quality of each region from regional government databases, and assesses its impact on our business. With regard to the quality of stored water and effluent water, in the conditioning ponds of hydroelectric power plants, conduct environmental impact assessments (EIA) at all times (at least 4 times a year) and during floods (at any time) based on the Environmental Basic Law and the survey guidelines. The survey involves sampling of items such as water temperature, transparency, light colour, pH, COD, BOD, turbidity, and so on. The survey points are upstream of the dam, in the reservoir, and downstream of the dam. As the evaluation of the survey results varies in measurement value due to the influence of the season, rainfall, etc., the trend in the long cycle is grasped. In addition to the EIA, in order to prevent the outflow of machine oil used in the hydroelectric power plants, an oil detection devices are deployed and constantly monitored. Furthermore, some power plants, like Yuzawa hydroelectric power plant, have replaced generators to reduce the amount of lubricating oil and pressure oil used in power generators and reduce the risk of oil leakage. In the pumped storage hydro-power plant, we monitor the turbidity from the upstream and the like constantly so that there is no oil outflow to the downstream. Even if it is detected, an adsorbing mat, etc. are installed so as not to flow into the downstream area. In Agatsuma river, water quality deterioration and bad smell have occurred by reproduction of algae. We have improved the environment so that aquatic life can live in cooperation with river management authority.
Stakeholder conflicts concerning water resources at a basin/catchment level	Relevant, always included	Sufficient amounts of freshwater are important for our direct operations because they are necessary for electricity production, and any stakeholder conflicts concerning water resources including fishery resources may have some negative impact on our business. We keep collecting information on potential conflicts from various sources, especially our internal company knowledge accumulated in our power plants, and prepare to deal with them as our risk management.
Implications of water on your key commodities/raw materials	Relevant, always included	Hydroelectric power accounts for 98% of our main products, electric power, and in the future, the meaning of water is very significant in making renewable energy the main power source. And for hydroelectric power plants, we evaluate its potential water risks using our internal company knowledge, i.e. influence on power generation accompanying in precipitation changes, and regional government databases (precipitation data, etc.). We understand that a certain amount of freshwater is used by some of our suppliers, especially coal producers. They need lots of water to extract and wash coal, and in avoiding fire accident in stockyards. We use our internal company knowledge (location of our suppliers, etc.) to assess potential water risks of these suppliers. Results of the assessment is used as a part of our risk scenario analysis.
Water-related regulatory frameworks	Relevant, always included	The amount of water withdrawals and discharge in hydroelectric power generation are regulated by the River Act, and the operation is carried out to protect the respective flow rates. We constantly measure that the amount of maintenance water has cleared the regulation with a water meter, and we have built and operate a mechanism to adjust the amount of water taken into the hydroelectric power plant so that the regulation value can be complied with. We are also paying close attention to regulatory revision trends. We need to pay attention to national standards as to whether or not to implement them.
Status of ecosystems and habitats	Relevant, always included	If the health of the ecosystem is compromised, it will affect the operation of the hydroelectric power plant and is relevant to the business. For example, In Agatsumagawa River, water quality deterioration and bad smell have occurred by reproduction of algae. We have improved the environment so that aquatic life can live in cooperation with river management authority. Consideration for biodiversity is indispensable for the operation of hydroelectric power plants. In the Agatsumagawa River, the breeding of algae caused deterioration of water quality and foul odors, so we worked with river management authorities to improve the water quality and improved the environment so that aquatic organisms could live.
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always included	TEPCO is committed to creating a fair and secure working environment to all employees, and helps them maintain and improve their health. Since such consideration for human rights is indispensable for business operations, it is highly relevant and is subject to evaluation. And we ensure the safety of water by providing fully-functioning WASH services at all power plants and offices. The tap water quality standards are stipulated by the Ministry of Health, Labour and Welfare based on the law, and we use water that satisfies this standard. We continuously monitor if we are providing all of our employees at all of our facilities with safe drinking water and sanitation. Monitoring is conducted using the internal company method of water quality management. Failure to do so will entail significant risk. We take into account the information gained through this monitoring when we evaluate water-related risks.
Other contextual issues, please specify	Relevant, always included	Heavy rainfalls may have risks of flooding our electrical equipment. These physical risks can cause major blackouts and we correspond with water related risk assessment of climate change. Heavy rain can flood electrical equipment. Since these physical risks can cause large-scale power outages, the flood inundation area on the hazard map of the Ministry of Land, Infrastructure, Transport and Tourism is used as a reference for risk assessment and reflected in the facility plan.

**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	Customers are concerned about the risk of stop electricity when the river would break due to a natural disaster such as heavy rain, causing a flood, and the electrical equipment would be flooded. Moreover, facing electricity deregulation in Japan, TEPCO needs to prevent customers from defecting. Since our water issues (especially contaminated water issues) may have some impact on our reputation, we are working on collecting opinions from customers on water issues and improving transparency of information disclosed so that our credibility is enhanced. For example, we hold a tour of the Fukushima Daiichi Nuclear Power Station, have customers check on measures against contaminated water (such as the amount of reduction in production and the status of treatment), and conduct direct dialogues.
Employees	Relevant, always included	TEPCO promises to provide a fair and safe working environment with the aim of giving consideration to the human rights of all employees, and supports the maintenance and improvement of employee health. These considerations are becoming more important and we value them as relevant. We recognize that if consideration for human rights is impaired, corporate value may be impaired. We also ensure water safety by providing fully functional cleaning services at all power plants and offices. The Health and Safety Committee confirms the working environment in order to reduce the risks related to employee health and ensure the safety related to water. Specifically, we continually monitor the provision of safe drinking water and sanitation to all employees at all facilities. In addition, the Waterworks Bureau of Tokyo, etc., where drinking water is purchased, measures the residual chlorine in drinking water every day and regularly checks the water quality to ensure the quality. In addition, based on the work environment questionnaire conducted by the labour union, the interactive communication can be conducted with the president on the working environment of employees including water use. Although the public waterworks bureau measures residual chlorine of drinking water every day, we also regularly check the water quality .
Investors	Relevant, always included	We expect institutional investors to make long-term investments from an ESG perspective and are important stakeholders. They use the company's response to carbon neutrality as an investment indicator, and the water risks associated with the operation of our hydroelectric power plants are being closely watched. At our company, hydroelectric power accounts for 98% of electricity, which is our main product, and in the future, it will not only play an important role in making renewable energy the main power source, but will also contribute to the carbon neutralization of society. Moreover, since our water issues (especially contaminated water issues) may have some impact on our reputation, which in turn may influence investors' behaviour, we are working on promptly disclosing correct data and accurate information on contaminated water in which investors seem keenly interested. At the time of announcement of financial results, we publish major progress and major countermeasures for polluted water decontamination at Fukushima Daiichi Nuclear Power Station as explanatory materials for analysts. Reaction from investors and analysts are reflected in our risk analysis.
Local communities	Relevant, always included	Good relationships with the local community, especially those involved in fisheries and local residents, are important and highly relevant in the operation of hydroelectric power plants these are impaired, there is a risk that it will be difficult to continue the operation of the power plant itself, and we recognize that this is an important foundation. Relationship with local communities are essential to our business. We conduct mutual communication on water related issues with the local communities where our facility locates so as to reflect their opinions and secure transparency. Results of these communications are reflected in our risk analysis. For example, in the Oze area located upstream of the Tone River water system where the hydroelectric power plants are located, about 40% of the Oze area designated as a national park is owned by TEPCO. While we implement nature conservation through discharge of river maintenance flow, we maintain the natural environment of the Oze area like Installations of a public toilet complete with a septic tank, and it also contribute to water source conservation in the Tone River water system.
NGOs	Relevant, always included	Relationships with NGOs involved in nature maintenance are important in our business. TEPCO owns about 40% of Oze National Park, which is located upstream of the Tone River system where multiple hydroelectric power plants are installed. Communication risks associated with the protection of this park are relevant as they can affect the operation of hydropower plants in this basin. Therefore, we value our involvement with all NGOs involved in Oze National Park. For example, in the Oze area located upstream of the Tone River water system where the hydroelectric power plants are located, about 40% of the Oze area designated as a national park is owned by TEPCO. While we implement nature conservation through discharge of river maintenance flow, we maintain the natural environment of the Oze area through two-way communication with the Oze Conservation Foundation, and it also contribute to water source conservation in the Tone River water system.
Other water users at a basin/catchment level	Relevant, always included	There are many issues that need to be shared with those involved in river basins that use river water for agriculture, fishing, and drinking, and they are relevant and are subject to risk assessment. In dialogue with them, we are working on exchanging information and sharing countermeasures, especially regarding operations in the event of water shortages.
Regulators	Relevant, always included	Deregulation such as changes in the contents of the construction plan notification due to the revision of the Electricity Business Law may have some impact on our business, such as shortening the period from planning to completion. We are committed to keeping track of changing conditions in close communication with regulators on water issues, especially the Ministry of Economy, Trade and Industry, the Ministry of the Environment, and the Ministry of Land, Infrastructure, Transport and Tourism. Results of these communications are reflected in our risk analysis. On the other hand, with regard to the flood risk of rivers caused by heavy rain etc., we participated in discussions at the Central Disaster Management Council of the Cabinet Office and the Ministry of Land, Infrastructure, Transport and Tourism, and shared the risks. Based on the risks presented at the Central Disaster Prevention Council, measures are taken to prevent inundation of electrical facilities.
River basin management authorities	Relevant, always included	A status change in river basin management plan may have some impact on our facilities' operations, such as changes in water quality. We maintain close communication with local river management authorities of the Ministry of Land, Infrastructure and Transport on water issues and are working on information exchange. In addition, we monitor the fact that the hydroelectric power plants is conducting water discharge with minimum flow based on the River Law, and submit annual data to the local river management authorities. If these maintenance flow rules are tightened, there may be operational risks for hydropower plants. On the other hand, river basin management authorities are considering the water quality, and we are cooperating in the improvement of water quality. For example, in the Agatsuma River in the Tone River water system, we cooperated with the Ministry of Land, Infrastructure, Transport and Tourism's business for improvement of water quality, because rainwater infiltrated into the sulphur mine mountain and penetrated underground, and water in which sulphur components are dissolved flows into the river. So we put lime juice into the river and neutralize the river water. This project contributes not only to establishing a good relationship with river basin management authorities but also to reducing the deterioration of our hydropower facilities. Results of these communications are reflected in our risk analysis.
Statutory special interest groups at a local level	Relevant, sometimes included	Relationships with local statutory special interest groups are important to our business. In the operation of hydroelectric power plants, good relationships with local statutory special interest groups, especially those involved in fisheries and agriculture, are important and highly relevant. If these are impaired, there is a risk that it will be difficult to continue operating the power plant, and we recognize that this is an important foundation. On the other hand, Relationships with local statutory special interest groups are important in our business. TEPCO owns about 40% of Oze National Park, which is located upstream of the Tone River system where multiple hydroelectric power plants are installed. Communication risks associated with the protection of this park are relevant as they can affect the operation of hydropower plants in this basin. Therefore , we value our involvement with the accommodations around Oze National Park and the organizations that run nature guides.
Suppliers	Relevant, sometimes included	Supplier, especially those who procure power sources derived from hydroelectric power generation, are subject to evaluation because there is a risk that the procurement itself will not be fully implemented due to deterioration of water use and flood damage. In the "Basic Procurement Policy", as an environmental consideration, by promoting the priority purchase of materials and equipment with less environmental impact, we will contribute to low carbonization, conserve biodiversity, and use resources and water efficiently. Through this, we have clearly stated that we will strive to build a sustainable society, and we are confirming our efforts for environmental management systems in our engagement with our business partners. This is working to reduce the reputation risk of lack of consideration for water resources. Especially for paper products, when virgin pulp is used as a raw material, the raw wood used as the raw material must be produced from forests where sustainable forest management is carried out. We also recommend that the utilization ratio of forest certified pulp and thinned pulp be as high as possible, which also contributes to the conservation of the water source recharge function of the forest.
Water utilities at a local level	Relevant, always included	The stability and pricing of water supplies by water utilities are key components of our water risk assessment. Increased costs associated with the use of water are subject to evaluation as they can adversely affect our business. Water usage fees vary by local water operator, so each facility maintains close communication in consideration of contractual supply stability and fees . Although the supply of freshwater from water utilities is stable, we exchanged opinions on operations and countermeasures under weather conditions such as typhoons and are trying to reduce the impact on our power station operation.
Other stakeholder, please specify	Not considered	

**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.**

TEPCO practices comprehensive risk management to prevent accidents or disasters. We believe that water risks have to be dealt with in a comprehensive manner as part of a company-wide risk assessment, because water risks could significantly affect our operations. For example, a reduced availability of water could affect the amount of electricity generated at our hydroelectric power plants. Our hydroelectric power plants are located in Tochigi, Gunma, Kanagawa, Yamanashi, Shizuoka, Fukushima, Niigata and Nagano prefectures, central part of Honshu island of Japan and we have confirmed whether we have water stress in these areas. For confirming water stress, WRI Aqueduct widely used as a water risk assessment method is adopted. According to the evaluation by Aqueduct, the "Baseline Water Stress" of the hydroelectric power generation area is evaluated as Medium-high at the maximum, we judge that there is no power plants located in water stressed area and there is no water intake from the drought area. We secure the maintenance flow rate prescribed by the Ministry of Land, Infrastructure and Transport at all hydropower plants, so there is no water competition with the downstream area. We recognize that this Aqueduct tool tells us higher water stress of our operation areas next 20 years. However, we consider the "Future Water Stress" results of Aqueduct, but we believe that we should assess the water risks by specific river / basin and hydroelectric power plants locations actually. We continually secure the maintenance flow rate prescribed by the Ministry of Land, Infrastructure and Transport at all hydropower plants, so we assume that there will rarely be water competition with the downstream area in the future, too. If drought occurs in the downstream area, we cooperate at supplying water for tap water at the request of local governments. In addition, it is judged that seawater is used for cooling water of nuclear power plants, and they are not located in water stressed areas. In the current and future prospects we continuously collect information on the fact that power stations are not located in water stressed areas. We have confirmed that water related risks are sufficiently low by conducting the same assessment for businesses who operate power generation business in the value chain. The Risk Management Committee, chaired by the president of TEPCO as the chief risk management executive, plays a central role in assessing and evaluating risks related to direct operations and supply chain that could have a particularly serious impact on business. Its deliberations are reflected in annual management plans. And annual management plans are approved by board. Risks associated with water are also assessed and evaluated in this process in consideration of those stemming from economic and climatic conditions, industry deregulation, equipment and operations, and interest rate fluctuation. Risks specific to each risk management unit (head office departments, offices, and power plants) are managed and addressed by each risk manager. Risks common to all risk management units are addressed by internal committees.

## **W4. Risks and opportunities**

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### **W4.1**

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

Yes, only within our direct operations

### **W4.1a**

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

In the "Fourth Comprehensive Special Business Plan" compiled with the Nuclear Damage Compensation and Decommissioning Support Organization in August 2021, we captured the growing momentum in Japan and overseas for carbon neutrality, and set the core of TEPCO's business. We are driving the realization of a carbon-free society with the goals of "reducing CO2 emissions from electricity sold by 50% in FY2030 compared to FY2013" and "substantially zero CO2 emissions from energy supply in 2050". In April 2020, the renewable energy business was spun off and "TEPCO Renewable Power Co., Ltd. (RP)" was established. In addition, aiming to position renewable energy as one of the independent "main power sources" that does not depend on the system, we will contribute to the realization of a sustainable society by supplying stable and inexpensive electricity at home and abroad. Regarding the financial and strategic definitions, TEPCO RP plans to promote development quickly and steadily under the clarification of responsibilities and authorities, and to sustainably expand the scale of business and profits. Through this, we aim for a net profit of approximately 30 billion JPY in 2023 and 100 billion JPY annually by 2030. Through this, we aim for a net profit of approximately 30 billion yen in 2023 and 100 billion yen annually by 2030. In terms of substantive changes, domestic hydropower is the main business for the time being and a source of revenue that will support the future growth of the renewable energy business. On the other hand, the frequent occurrence of unplanned troubles caused by aging equipment, intensification, and widespread natural disasters has become clear as an impact to be considered. Under these circumstances, in order to continuously improve profitability, we started full-scale improvement activities from FY2016 and achieved an increase in power generation amount of about 600 million kWh / year by FY2018. In the future, we will dig deeper into our activities so far, and focus on efforts such as repowering small and medium-sized hydropower over time and efficient operation utilizing digital technology to modernize and improve efficiency of power plants. We aim to increase the amount of power generated by 100 million kWh / year or more compared to the actual results (excluding the effects of outages and water flow rates due to repowering work of aged equipment). In addition, the company plans to develop O & M services that utilize the technology cultivated in such domestic hydropower businesses for hydropower companies, which are also supply chains in Japan and overseas. On the other hand, regarding the decommissioning of the Fukushima Daiichi Nuclear Power Station, priority efforts to improve the radiation risk at the site have steadily progressed. Specifically, in December 2020, we achieved the milestones in the medium- to long-term roadmap, controlling the amount of contaminated water generated to about 150 m3 / day and completing the treatment of accumulated water in the building. Regarding ALPS treated water, the government decided in April 2021 "Basic policy on disposal of treated water such as multi-nuclide removal equipment at TEPCO Holdings Fukushima Daiichi Nuclear Power Station". As the implementing body, TEPCO will ensure compliance with the matters required by this basic policy, and will voluntarily work to ensure safety and thoroughly implement measures against rumours. Specifically, we will work on ensuring the safety of the discharged ALPS treated water, expanding and strengthening monitoring, disseminating accurate information, production, processing, distribution and consumption measures to suppress rumors, prompt and appropriate compensation, etc. At the same time, we will accumulate polite explanations to the people concerned. Regarding the financial impact, in 2016, at the national "Tokyo Electric Power Reform 1F Problem Committee" (hereinafter referred to as "TEPCO Commission"), the required amount of funds related to the Fukushima Daiichi Nuclear Power Station accident was compensation for the victims. It is estimated that the total amount will increase to about 22 trillion yen, including 8 trillion yen, decontamination / intermediate storage 6 trillion yen, and decommissioning 8 trillion yen. TEPCO has indicated that it is necessary to secure funds of about 16 trillion yen in order to carry out Fukushima's responsibility. In the Fourth Comprehensive Special Business Plan, from the perspective of continuing Fukushima's responsibility, it is necessary to continue to contribute the funds necessary for compensation and decommissioning in a stable and systematic manner. Based on this idea, TEPCO will provide compensation and decommissioning reserves, such as decommissioning reserves of about 260 billion yen per year on average, while taking into account the financial allowances so far. It shows that it will secure about 500 billion yen annually.

### **W4.1b**

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

	Total number of facilities exposed to water risk	% company-wide facilities this represents	Comment
Row 1	1	Less than 1%	The facility exposed serious water risks is only Fukushima Daiichi Nuclear Power Station. TEPCO has 180 power generation plants (as of the end of FY2020), and the proportion of total operations is 0.5%.

#### W4.1c

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

##### Country/Area & River basin

Japan	Other, please specify (Pacific Ocean)
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##### Number of facilities exposed to water risk

1

##### % company-wide facilities this represents

Less than 1%

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

<Not Applicable>

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

Less than 1%

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

<Not Applicable>

##### % company's total global revenue that could be affected

21-30

##### Comment

Currently, TEPCO's business is proceeding based on the Nuclear Damage Compensation Facility Fund and the 4th Comprehensive Special Business Plan drafted by TEPCO. The risks in our business appear to be delays, incomplete execution or revision of this plan. When we determine if there is such a substantive change, we take into account factors such as the gap between the plan and achievement, and the achievability of the plan, which reflects the results of our risk evaluation. There can be no single, pre-determined quantitative threshold with which we can determine if a change is substantive or not. Our determination is rather comprehensive, based on multiple criteria, which include qualitative ones. This definition of 'substantive change' applies to our direct operations and supply chain, but we do not anticipate such a substantive change in our supply chain. Our Revised Comprehensive Special Business Plan deeply concerns our whole business, operations, revenue or expenditure. Decommissioning of the Fukushima Daiichi Nuclear Power Station plays an important role in this plan, and contaminated water management is an important factor. The cost of decommissioning the Fukushima Daiichi Nuclear Power Station is estimated at approximately 8 trillion yen which includes the cost of contaminated water treatment. As for the decommissioning reserve, we plan to allocate approximately 84 billion yen to the contaminated water countermeasure program from FY2021 to FY2023. The solution of contaminated water problems will lead to the success of the abolition project to complete a comprehensive special business plan within a set period.

#### W4.2

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

##### Country/Area & River basin

Japan	Other, please specify (Pacific Ocean)
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##### Type of risk & Primary risk driver

Physical	Inadequate infrastructure
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##### Primary potential impact

Increased operating costs

##### Company-specific description

In December 2020, the amount of contaminated water generated could be suppressed to about 150 m<sup>3</sup> / day due to the results of multi-layered measures against contaminated water. In addition, the treatment of accumulated water in the building (excluding the Unit 1 to 3 reactor building, process main building, and high temperature incinerator building) has been completed. On the other hand, the tanks on the premises of the power plant that store ALPS treated water, etc. are continuously monitored for leaks and properly maintained and managed in preparation for future natural disasters. The capacity of the tank is expected to reach the planned capacity after the fall of 2022, and given the restrictions on the site, we will carefully consider how to effectively utilize the entire site. Regarding ALPS treated water, the government decided in April 2021 "Basic policy on disposal of treated water such as multi-nuclide removal equipment at the Fukushima Daiichi Nuclear Power Station of Tokyo Electric Power Company Holdings, Inc." As the implementing body, TEPCO will ensure compliance with the matters required by this basic policy, and will take the initiative in ensuring safety and thoroughly implementing rumours. In addition, we will work to reflect guidance and advice from experts such as the IAEA and listen to the opinions of related parties, and make preparations so that we can start releasing to the ocean in about two years. Decommissioning of the Fukushima Daiichi Nuclear Power Station plays an important role in this plan, and contaminated water management is an important factor. The cost of decommissioning the Fukushima Daiichi Nuclear Power Station is estimated at approximately 8 trillion yen which includes the cost of contaminated water treatment. As for the decommissioning reserve, we plan to allocate approximately 84 billion yen to

the contaminated water countermeasure program from FY2021 to FY2023. The solution of contaminated water problems will lead to the success of the abolition project to complete a comprehensive special business plan within a set period.

**Timeframe**

More than 6 years

**Magnitude of potential impact**

High

**Likelihood**

Virtually certain

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

84208875000

**Potential financial impact figure - minimum (currency)**

<Not Applicable>

**Potential financial impact figure - maximum (currency)**

<Not Applicable>

**Explanation of financial impact**

The cost of decommissioning the Fukushima Daiichi Nuclear Power Station is estimated at approximately 8 trillion yen which includes the cost of contaminated water treatment. As for the decommissioning reserve, we plan to allocate approximately 84 billion yen to the contaminated water countermeasure program from FY2021 to FY2023. This cost corresponds to the contaminated water countermeasure cost in the "Plan for Recovery of Reserve Fund for Decommissioning, etc." approved by the Minister of Economy, Trade and Industry in April 2021.

**Primary response to risk**

Improve pollution abatement and control measures

**Description of response**

At the Fukushima Daiichi Nuclear Power Station, some of the groundwater flowing from the mountain-side to the sea is entering into the nuclear reactor building at a rate of approximately 150 tons/day, converting into newly contaminated water. For this reason, we are implementing various measures to counter the risk of contaminated water flowing into the port of the power station and the risk of contaminated water flowing out from the storage tanks. Specifically, contaminated water are treated as Multiple facilities including a Multi-nuclide Removal Facility (Advanced Liquid Processing System = ALPS),"Groundwater Bypass System" serves to reduce the amount of contaminated water flowing into the reactor building, and This land-side impermeable wall consists of frozen soil using a frozen construction method that can ensure excellent prevention of water seepage in order to block the flow of groundwater, etc. are set up. Based on "Decommissioning Medium- and Long-Term Execution Plan 2020", we will proceed with decommissioning work safely, steadily, systematically and rationally. Regarding measures against contaminated water, we continue to implement multi-layered measures, aiming to further reduce the amount of contaminated water generated, and promote the treatment of contaminated water that accumulates in the building. The treatment method of treated water is discussed by the subcommittee on the treatment of treated water such as the government's multi-nuclide removal equipment, and appropriate measures will be taken based on the government's instructions. In addition, we are considering ways to deal with the risk of heavy rainfall disasters in the future. TEPCO takes measures to pile sandbags with a height of 30 cm at the entrance for large items in order to prevent direct inflow to the building when it is expected to rain more than 300 mm. These are to control the increase in the amount of contaminated water generation and to deal with the risk of the pollution expansion to areas other than the reactor building. In the future, we plan to increase the drainage capacity and take measures to prevent inundation. The cost corresponds to the contaminated water countermeasure cost in the "Plan for Recovery of Reserve Fund for Decommissioning, etc." approved by the Minister of Economy, Trade and Industry in April 2021.

**Cost of response**

84208875000

**Explanation of cost of response**

The cost of decommissioning the Fukushima Daiichi Nuclear Power Station is estimated at approximately 8 trillion yen which includes the cost of contaminated water treatment. As for the decommissioning reserve, we plan to allocate approximately 84 billion yen to the contaminated water countermeasure program from FY2021 to FY2023. The cost corresponds to the contaminated water countermeasure cost in the "Plan for Recovery of Reserve Fund for Decommissioning, etc." approved by the Minister of Economy, Trade and Industry in April 2021.

**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	TEPCO conducts a comprehensive risk assessment every 6 months. We have also confirmed that the supply chain that operates the hydroelectric power generation business complies with the minimum maintenance water volume stipulated by law, and evaluates that there are no compliance issues. We believe that the risks have been sufficiently reduced, as there have been no operational disruptions that would have a significant impact on the continuity of the hydroelectric power generation business.

**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**

Water usage in all TEPCO offices are measured and monitored every fiscal year in our environmental management system. Very challenging targets (-15%) for the years FY2001-2005 were set against FY2000 benchmark, and resulted in a 39% decrease in FY2005. We posted posters to pay attention employees for saving water. By introducing this activity as an environmentally friendly activity in the CSR report, not only will it motivate employees, but it will also solve social issues related to water resources and at the same time achieve cost reductions related to water usage. We recognize this as a strategic opportunity to improve corporate value. This initiative is expected to reduce costs by approximately 100 million yen for the entire campaign. From FY2006 onwards, we have been aiming to maintain the reduced level of water usage we achieved in FY2005 since we realized we came to a point where a further reduction of water usage is extremely difficult. As a strategy to achieve on an ongoing basis, we have been monitoring our water usage in our offices every fiscal year. TEPCO has developed the group environmental policy, and for this policy, we reduce environmental burdens, manage risks of environmental pollution and take action for sure. We reduce water consumption following this policy. We monitor water consumption and publish it on our web site. We are able to show our corporate activities that we considerate water resource to the public.

**Estimated timeframe for realization**

Current - up to 1 year

**Magnitude of potential financial impact**

Low

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

60000000

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact**

The cost impact of water is really low because we could keep same level of water consumption we achieved in FY 2005. Now, we consume approximately 1,000,000t of domestic use of water / year. Since we were able to reduce 15% from then, and this means we reduce about 150,000t of domestic use of water compared to FY2005 at offices. If we assume 1t of domestic use of water as 400 JPY, we could say that we reduce about 60,000,000 JPY per year.

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**Type of opportunity**

Markets

**Primary water-related opportunity**

Stronger competitive advantage

**Company-specific description & strategy to realize opportunity**

Hydroelectric power generation is really important as a role of renewable energy. Customer needs for renewable energy are also growing thanks to the framework such as RE100. So we are going to reinforce the capacity of hydroelectric plants. In Japan, we use subsidies for equipment investment costs under the national FIT system. Kanagawa hydroelectric power plant in Fukushima prefecture started operation in 1919 and has a maximum capacity of 6,500kW. In 2019, at this hydroelectric power plant, the FIT system was used to upgrade to a more efficient generator, increasing the output to 7100kW. The amount of water intake will not change. In other words, it has made it possible to produce more electricity more efficiently. Overseas, we have started the hydroelectric power business in Vietnam at first in 2018 and Georgia as a second in 2020. We have advantages of our long-established technological capabilities, and we are aiming to expand the overseas projects further.

**Estimated timeframe for realization**

More than 6 years

**Magnitude of potential financial impact**

High

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

100000000000

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact**

We aim to achieve a profit level of 100 billion yen by FY2030 of our renewable energy business including hydroelectric power generation.

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**W5. Facility-level water accounting**

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**W5.1**

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

**Facility reference number**

Facility 1

**Facility name (optional)**

Fukushima Daiichi Nuclear Power Station

**Country/Area & River basin**

Japan	Other, please specify (Pacific Ocean)
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**Latitude**

37.42

**Longitude**

141.03

**Located in area with water stress**

No

**Primary power generation source for your electricity generation at this facility**

Not applicable

**Oil & gas sector business division**

<Not Applicable>

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

222

**Comparison of total withdrawals with previous reporting year**

Lower

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

93

**Withdrawals from brackish surface water/seawater**

0

**Withdrawals from groundwater - renewable**

129

**Withdrawals from groundwater - non-renewable**

0

**Withdrawals from produced/entrained water**

0

**Withdrawals from third party sources**

0

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

93

**Comparison of total discharges with previous reporting year**

About the same

**Discharges to fresh surface water**

0

**Discharges to brackish surface water/seawater**

93

**Discharges to groundwater**

0

**Discharges to third party destinations**

0

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

129

**Comparison of total consumption with previous reporting year**

Lower

**Please explain**

Due to the progress of measures against contaminated water, the amount of contaminated water accumulated in the reactor building and underground of the building decreased, resulting in a slight decrease in groundwater consumption. Groundwater is properly treated and stored in tanks.

W5.1a



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

**Water withdrawals – total volumes**

% verified  
Not verified

What standard and methodology was used?  
<Not Applicable>

**Water withdrawals – volume by source**

% verified  
Not verified

What standard and methodology was used?  
<Not Applicable>

**Water withdrawals – quality**

% verified  
Not verified

What standard and methodology was used?  
<Not Applicable>

**Water discharges – total volumes**

% verified  
Not verified

What standard and methodology was used?  
<Not Applicable>

**Water discharges – volume by destination**

% verified  
Not verified

What standard and methodology was used?  
<Not Applicable>

**Water discharges – volume by treatment method**

% verified  
Not verified

What standard and methodology was used?  
<Not Applicable>

**Water discharge quality – quality by standard effluent parameters**

% verified  
Not verified

What standard and methodology was used?  
<Not Applicable>

**Water discharge quality – temperature**

% verified  
Not verified

What standard and methodology was used?  
<Not Applicable>

**Water consumption – total volume**

% verified  
Not verified

What standard and methodology was used?  
<Not Applicable>

**Water recycled/reused**

% verified  
Not verified

What standard and methodology was used?  
<Not Applicable>

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**W6. Governance**

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**W6.1**

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**(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 Commitment to safely managed Water, Sanitation and Hygiene (WASH) in the workplace Acknowledgement of the human right to water and sanitation Recognition of environmental linkages, for example, due to climate change	The environmental policy includes consideration for water resources as an initiative to reduce the environmental burden. This is because in our business domain, including the hydroelectric power generation business, it is essential to pay close attention to trends related to water stress and collaborate with stakeholders. In direct operation, the amount of power generated by hydroelectric power generation is 11,722GWh, which is about 98% of the total, and in terms of power procurement, hydroelectric power generation companies are included in the supply chain. Regarding initiatives related to water resources, we are participating in a water project led by the Ministry of the Environment, and are promoting efforts such as effective use of water resources in business activities and water-saving drainage. And we support the declaration of biodiversity and action guidelines of the Keidanren or Japan Business Federation. Especially in Oze, with contributing SDG No.15, we aim to protect and recover water related ecosystem such as Ayamedaira wetland and acquire FSC certification continually. The water used in the power generation is properly treated and its quality confirmed, but it may have an impact on the water environment in that it is draining. In addition, there is an event that contaminated water was generated inside the reactor building due to the Fukushima Daiichi Nuclear Power Station accident. For contaminated water measures in Fukushima Daiichi Nuclear Power Station, there is a standard to control the completion of indoor stagnant water treatment and the amount of polluted water generation to around 150m3 / day by 2020 and 100m3 / day by 2025. And this standard is our goal, too. By the agreement with the local government where the power plants are located, water discharges are conducted with each standards that are stricter than legal regulations. R & D is being carried out to properly implement decommissioning measures, including measures against contaminated water at the Fukushima Daiichi Nuclear Power Station. Respect for the human rights of employees is being promoted by ensuring the safety of drinking water and developing toilets that take diversity into consideration, and the work environment is maintained by the Health and Safety Committee. Water risks caused by floods are managed in the business execution as natural disaster risks due to climate change.

W6.2

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

Yes

W6.2a

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

Position of individual	Please explain
President	President and Representative Executive Officer, who is responsible for installing water pollution control facility, as a member of the Board of Directors, monitors the execution status and is responsible. President is also the head of the Risk Management Committee and ESG Committee. The Risk Management Committee grasps and evaluates the risk that has a significant impact on management such as the decommissioning of Fukushima Daiichi Nuclear Power, and reflects the business plan for each year. The President also manages the Fukushima Daiichi Nuclear Decommissioning Company, an organization under the direct control of the president. The Board of Directors also monitors the execution status of the Decommissioning Project of the Fukushima Daiichi Nuclear Power Plant, including contaminated water treatment, as reported by executive officers (Chief Decommissioning Officer: CDO).

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	We have formulated action plans for business execution (business plan) including risk management issues and select responsible officers (executive officers). In addition, we report to the Board of Directors on the status of business execution quarterly, and are supervised strategies, action plans (actions) and performance targets, including revisions as necessary. CDO ( Chief Decommissioning Officer) was appointed as the chief executive officer of the decommissioning project of Fukushima Daiichi Nuclear Power Plant including contaminated water countermeasures. And the action plan for contaminated water measures was formulated and enforced at the "Management Committee of the Decommissioning Company" where CDO is in charge. Execution status is reported to the Board of Directors at least every quarter, and supervised.

W6.3

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

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

President

**Responsibility**

Both assessing and managing water-related risks and opportunities

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

Quarterly

**Please explain**

The president has been appointed Chief of the Special Task Force on Nuclear Reform, responsible for the decommissioning project of the Fukushima Daiichi Nuclear Power Station, including measures against contaminated water. Measures for contaminated water and treated water have been taken based on the "TEPCO Fukushima Daiichi Nuclear Power Station Decommissioning Medium- to Long-Term Roadmap", and the progress is one of the important management issues. As a result, it is reported and supervised by the Board of Directors quarterly.

W6.4

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

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

W6.4a

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

	Role(s) entitled to incentive	Performance indicator	Please explain
Monetary reward	Board/Executive board Director on board Chief Sustainability Officer (CSO) Other C-suite Officer (Chief Decommissioning Officer) Other, please specify (All employees)	Reduction of water withdrawals Reduction in consumption volumes Improvements in waste water quality - direct operations Implementation of water-related community project	TEPCO Renewable Power will promote the "main power source" of renewable energy with the aim of developing new power sources of about 6 to 7 million kW in Japan and overseas by the first half of 2030. The company aims to achieve a net profit of approximately 30 billion yen in 2023 and 100 billion yen annually by 2030. Domestic hydropower is the main business for the time being, and we aim to increase the amount of power generated by 100 million kWh / year or more in 2023 compared to the actual results in 2018. These achievements will be used in the evaluation of the company's president and will be an incentive. The president of the company also serves as a director of TEPCO Holdings. On the other hand, the executive officer responsible for ESG is responsible for the following water-related issues: - Obtained the highest ESG rating among Japanese electric power companies The result of this challenge is reflected in personal rewards. In addition, for the purpose of improving the quality of wastewater, we have established a system to award all employees who have obtained national qualifications for pollution control (such as "pollution control manager") in addition to monetary compensation.
Non-monetary reward	Board/Executive board Director on board Other C-suite Officer (Chief Decommissioning Officer)	Reduction of water withdrawals Reduction in consumption volumes Implementation of water-related community project	"Mid-and-Long-Term Roadmap towards the Decommissioning of TEPCO's Fukushima Daiichi Nuclear Power Station" which has been decided by the governmental organization, the Inter-Ministerial Council for Contaminated Water and Decommissioning Issues, tells TEPCO has a responsibility to conclude the accident of the Fukushima Daiichi Nuclear Power Station. The goal for the end of decommissioning project is after 30-40 years when fuel debris removal starts, each year the implementation status is reviewed. It will be disincentives for Chief Decommissioning Officer (CDO) if the schedule of decommissioning project completion delays. The amount of groundwater decreased due to the progress of measures such as permafrost walls to control the inflow to the reactor building of the Fukushima Daiichi Nuclear Power Station. This also contributes to reducing the amount of water contaminated with radioactive substances. This amount has decreased from about 470m3/day (FY2014 average) to about 140m3 / day (2020), and we plan to reduce it to about 100m3 / day by 2025.

**W6.5**

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

Yes, direct engagement with policy makers

**W6.5a**

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

In regulatory review concerning thermal power plants and nuclear power plants installed in coastal areas in Japan, engagement is being implemented for administrative organizations. As the review of wastewater regulation by national government and local governments may have financial influences such as facility operation and additional equipment installation, we evaluate the necessity of additional conservation measures, and the contents of engagement are group environmental policy and business plan. We confirm to the partner in charge of correspondence whether it is consistent with that. If they do not agree, they are seeking policy change through industry groups such as Federation of Electric Power Companies of Japan (FEPC), and so on.

**W6.6**

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

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

202106-j.pdf

*The securities report for FY2020 is attached.*

**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	In order to conclude the accident of the Fukushima Daiichi Nuclear Power Station happened in March of 2011, the governmental organization, the Inter-Ministerial Council for Contaminated Water and Decommissioning Issues has decided on a "Mid-and-Long-Term Roadmap towards the Decommissioning of TEPCO's Fukushima Daiichi Nuclear Power Station". This Roadmap is mentioned "New Comprehensive Special Business Plan", and the Business Plan tells that TEPCO has a responsibility to conclude the accident of the Fukushima Daiichi Nuclear Power Station. The goal for the end of decommissioning project is after 30-40 years when fuel debris removal starts. Especially, the goal of radioactive contaminated water management is 2025. TEPCO aims reduction of contaminated water generation to about 150 m3/day within 2020 and 100 m3/day within 2025, and completion of treatment of stagnant water in buildings within 2020. TEPCO continues to monitor underground water and sea water following after 2020.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	> 30	The goal of radioactive contaminated water management is within 2025. TEPCO aims reduction of contaminated water generation to about 150 m3/day within 2020 and 100 m3/day within 2025, and completion of treatment of stagnant water in buildings within 2020. In FY 2021-23, about 84 billion JPY will be spent for contaminated water countermeasure expenses as the mid- and long-term roadmap-related expenses for the decommissioning measures of Fukushima Daiichi Nuclear Power Plant, etc. TEPCO continues to monitor underground water and sea water following after 2020. Within the company, contaminated water management is reported by a board of directors and developed strategies. For achieving long-term decommissioning objectives, Nuclear Damage Compensation and Decommissioning Facilitation Corporation reviews technical development by "Technical Strategic Plan for Decommissioning of the Fukushima Daiichi Nuclear Power Station of Tokyo Electric Power Company Holdings, Inc".
Financial planning	Yes, water-related issues are integrated	5-10	TEPCO Renewable Power will promote the "main power source" of renewable energy with the aim of developing new power sources of about 6 to 7 million kW in Japan and overseas by the first half of 2030. The company aims to achieve a net profit of approximately 30 billion yen in 2023 and 100 billion yen annually by 2030. Domestic hydropower is the main business for the time being, and we aim to increase the amount of power generated by 100 million kWh / year or more in 2023 compared to the actual results in 2018. In addition, the company plans to develop O & M services that utilize the technology cultivated in such domestic hydropower businesses for hydropower companies, which are also supply chains in Japan and overseas.

**W7.2**

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

**Row 1**

**Water-related CAPEX (+/- % change)**

5

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

-55

**Water-related OPEX (+/- % change)**

4

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

0

**Please explain**

The CAPEX is calculated from the amount recorded for the contaminated water countermeasures, out of the planned amount for the recovery of the decommissioning fund of the Decommissioning Fund of the Nuclear Damage Compensation and Decommissioning Support Organization Act. In FY2020, we will exceed the planned targets for December 2020. While suppressing the amount of contaminated water generated, we have completed the treatment of contaminated water that stays inside the turbine buildings. Since measures against contaminated water have progressed in FY2020, CAPEX in FY2021 is expected to be about half the scale of FY2020. The OPEX is calculated from the amount recorded as the stabilization maintenance cost of the Fukushima Daiichi Nuclear Power Station that occur on a regular basis every year for the measures for contaminated water at the end of FY2020. The cost in FY2020 was almost the same scale as in FY2019, and the OPEX in FY2021 is expected to be the same scale as FY2020.

**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	According to the scenario analysis method in the TCFD recommendations, we have identified multiple climate scenarios including the 2 ° C scenario and analysed the resilience of the TEPCO Group's business strategy. For the climate scenario, IEAWEO 2018 NPS is used as a reference. We identified opportunities and risks related to climate change "transition" based on the scenario analysis conducted in 2019. The contents of the scenario analysis were reported to the ESG Committee, of which the representative director and president and executive officers such as presidents of core business companies are members. The summary of scenario analysis results was published in the 2019 Integrated Report. We are conducting a scenario analysis of the physical risks including water security risk in our business areas due to the effects of climate change over the medium to long term and published them on the Website in 2020 .

**W7.3a**

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

Yes

**W7.3b**

**(W7.3b) What water-related outcomes were identified from the use of climate-related scenario analysis, and what was your organization's response?**

	Climate-related scenarios and models applied	Description of possible water-related outcomes	Company response to possible water-related outcomes
Row 1	IEA Sustainable Development Scenario Other, please specify (IEA NPS)	As a business opportunity related to the transition to climate change, it has been identified that customer needs for renewable energy including hydro power generation will continue to expand as demand-side electrification expands to realize decarbonized society in line with the Paris Agreement.	In April 2020, the renewable energy business was spun off and "TEPCO Renewable Power Co., Ltd. (RP)" was established. By splitting the company, we will specialize in renewable energy power sources with the aim of raising awareness of renewable energy in the Toden Group, collaborate with domestic and overseas partners, and take responsibility for swift decision-making for large-scale investment. Aim to grow the renewable energy business by clarifying authority and making financing flexible. In addition, aiming to position renewable energy as one of the independent "main power sources" that does not depend on the system, we will contribute to the realization of a sustainable society by supplying stable and inexpensive electricity at home and abroad. Regarding financial and strategic definitions, RP will promote development quickly and steadily under the clarification of responsibilities and authority, and will sustainably expand the scale of business and profits. Through these efforts, we aim for a net profit of approximately 30 billion yen in 2023 and 100 billion yen annually by 2030.

**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**

At present, we have not introduced water pricing because our hydro and thermal power plants are not uniformly located in the water stress area. However, we are examining the future risks of climate change physical risks and WRI Aqueduct's water risks, and considering what kind of water pricing mechanism is effective in accordance with the results. At the time of new and expansion of power plants in and outside Japan, we would like to conduct environmental impact assessment appropriately and implement water pricing in advance if water stress is not uniform.

**W8. Targets**

**W8.1**

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

	Levels for targets and/or goals	Monitoring at corporate level	Approach to setting and monitoring targets and/or goals
Row 1	Company-wide targets and goals Business level specific targets and/or goals Site/facility specific targets and/or goals Brand/product specific targets and/or goals Basin specific targets and/or goals	Targets are monitored at the corporate level Goals are monitored at the corporate level	In nuclear power plants, we monitor the amount, COD and etc. of discharging water constantly whether it is complied with the effluent standard by law. In addition, we voluntarily set a goal that we discharge water to the public area with reducing environmental burdens as possible as we can. And we reduce water consumption by collecting, purifying and recycling water for boilers. This procedure also contribute to reduce in costs. On the other hand, in hydroelectric plants, we constantly monitor discharging water not to outflow of oil to lower stream. We recognize water risks are really small by checking WRI Aqueduct evaluation for both nuclear power plants and hydroelectric plants' locations. In the office, employees continue to save water for the purpose of effective utilization for the purpose of reducing water charges and risks related to the sustainability of water resources, and due to continuous improvement, it is lower than the previous year's results. We have set such reduction targets. us quo. This goal also contributes to reduce in costs. In contaminated water management in Fukushima Daiichi Nuclear Power Station, we proceed the road map as mentioned "Comprehensive Special Business Plan" which has decided by Nuclear Damage Compensation and Decommissioning Facilitation Corporation and TEPCO. This business plan has authorized by the competent ministers of Office for Nuclear Damage Compensation Facilitation Corporation in Cabinet Office and Agency for Natural Resources and Energy in the Ministry of Economy, Trade and Industry. It is really important for TEPCO not only to continue business but also to manage risks.

**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**

Monitoring of water use

**Level**

Company-wide

**Primary motivation**

Reduced environmental impact

**Description of target**

Under the medium-term goal from FY 2001 to FY 2005, each TEPCO employee has worked on energy and resource saving in offices. The extremely difficult reduction target (-15%) of office water use was set based on approximately 2.2 million tons in FY 2000 results. In FY 2005, we reduced water use to 1.34 million tons and achieved a 39% reduction. We introduce this activity as an environmentally conscious activity in our integrated report and show that we contribute to the development of a sustainable society. This water saving effort has been continued since FY 2006, and the amount of water used in FY 2019 was 0.945 million tons and 0.828 million tons in FY2020. So that we have continually achieved the water consumption target.

**Quantitative metric**

% sites monitoring water withdrawals total volumes

**Baseline year**

2005

**Start year**

2006

**Target year**

2021

**% of target achieved**

100

**Please explain**

Water usage in all TEPCO offices are measured and monitored every fiscal year in our environmental management system. Very challenging targets were set against FY2000 benchmark, and resulted in a 39% decrease in FY2005. This initiative was a campaign in which all TEPCO employee is engaged to reduce water usage as well as energy and other resources usage in offices, and the cost reduction of this whole campaign is estimated at about a hundred million JPY. As a strategy to achieve on an ongoing basis, we have been monitoring our water usage in our offices and all facilities every fiscal year. Recently, we are gradually replacing water-saving toilets. We continue to monitor water consumption and publish it on our integrated report and web site. We are able to show our consideration for water resource to the public.

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**W8.1b**

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

**Goal**

Other, please specify (Contaminated water management)

**Level**

Site/facility

**Motivation**

Risk mitigation

**Description of goal**

In TEPCO's business, hydroelectric plants have small water risks, because they are located in smaller water risk areas. On the other hand, proceeding decommissioning project for Fukushima Daiichi Nuclear Power Stations as the road map mentioned "Comprehensive Special Business Plan" which has decided by Nuclear Damage Compensation and Decommissioning Facilitation Corporation and TEPCO, is really important for us to continue our business, and we have a responsibility to revitalize Fukushima. Especially for contaminated water management, the governmental organization, the Inter-Ministerial Council for Contaminated Water and Decommissioning Issues has established, and it has been managing schedules and risks. "The Mid-and-long-term Roadmap towards the Decommissioning of TEPCO's Fukushima Daiichi Nuclear Power Station" set a goal to reduce the daily amount of polluted water generated at the Fukushima Daiichi Nuclear Power Station to 150 m3 within 2020. TEPCO has formulated an action plan to reduce the amount of contaminated water and reduce the risk from contaminated water in order to achieve the targets of this roadmap. Due to multi-layered measures such as installation of land-side impermeable walls and sub-drains, the amount of polluted water generated was reduced from 540 m3/day (May 2014) to 170 m3/day (FY2018). The roadmap for December 2019 was revised, and a new target was set to reduce it to 100m3 by 2025.

**Baseline year**

2011

**Start year**

2016

**End year**

2025

**Progress**

We have achieved the schedule goal mentioned "Mid-and-Long-Term Roadmap towards the Decommissioning of TEPCO's Fukushima Daiichi Nuclear Power Station". Specifically, completion of the contaminated water treatment (RO concentrated salt water) in May 2015 by fully utilizing the polynuclear species removal equipment and the high performance polynuclear removal equipment. With regard to "REDIRECT" measures, we proceed pump-up of groundwater from the well near the facilities (operating from September 2015), and installed the Land-side Impermeable Wall (Frozen Soil Wall) (starting freezing in March 2016), etc. As for "RETAIN" countermeasures, installation of Sea-side impermeable wall (closing in October 2015), etc. are carried out in FY2015. Measures against polluted water are making steady progress in line with the Mid-and-long-Term Roadmap. For contaminated water management, we proceed as "Mid-and-Long-Term Roadmap towards the Decommissioning of TEPCO's Fukushima Daiichi Nuclear Power Station", and aim to reduce contaminated water generation as 150 m3 / day within 2020. By these countermeasures, we have achieved reduction of stagnant contaminated water in buildings from 540 m3/day (May 2014) to 170 m3/day (FY2018). The mid- to long-term roadmap for December 2019 was revised, and a new target was set to reduce it to 100m3 by 2025.

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**W9. Verification**

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**W9.1**

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

No, we are waiting for more mature verification standards and/or processes

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**W10. Sign off**

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**W-FI**

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**(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.**

In the "Fourth Comprehensive Special Business Plan" compiled with the Nuclear Damage Compensation and Decommissioning Support Organization in August 2021, we captured the growing momentum in Japan and overseas for carbon neutrality, and set the core of TEPCO's business. The company plans to boldly shift to carbon neutrality. We are driving the realization of a carbon-free society with the goals of "reducing CO2 emissions from electricity sold by 50% in FY2030 compared to FY2013" and "substantially zero CO2 emissions from energy supply in 2050". In April 2020, the renewable energy business was spun off and "TEPCO Renewable Power Co., Ltd. (RP)" was established. By splitting the company, we will specialize in renewable energy power sources with the aim of raising awareness of renewable energy in the Toden Group, collaborate with domestic and overseas partners, and take responsibility for swift decision-making for large-scale investment. Aim to grow the renewable energy business by clarifying authority and making financing flexible. In addition, aiming to position renewable energy as one of the independent "main power sources" that does not depend on the system, we will contribute to the realization of a sustainable society by supplying stable and inexpensive electricity at home and abroad. On the other hand, in order for TEPCO to proceed with various businesses including the nuclear power business and the decommissioning of the Fukushima Daiichi Nuclear Power Station, the trust of the local community and society is indispensable. As the entity that operates the nuclear power plant, the efforts to restore trust are positioned as the highest priority of the 4th Comprehensive Special Business Plan. If a situation that further damages trust occurs, there is a sense of crisis that it will affect TEPCO's nuclear power business and eventually the survival of TEPCO. Under the new system, while receiving the evaluation and guidance of outside experts, we will carry out drastic reforms for the survival of the nuclear power business and show the reborn figure with actions and achievements. Regarding ALPS treated water, the government decided in April 2021 "Basic policy on disposal of treated water such as multi-nuclide removal equipment at TEPCO Holdings Fukushima Daiichi Nuclear Power Station". As the implementing body, TEPCO will ensure compliance with the matters required by this basic policy, and will voluntarily work to ensure safety and thoroughly implement measures against rumours. Specifically, we will work on ensuring the safety of the discharged ALPS treated water, expanding and strengthening monitoring, disseminating accurate information, production, processing, distribution and consumption measures to suppress rumors, prompt and appropriate compensation, etc. At the same time, we will accumulate polite explanations to the people concerned.

## W10.1

**(W10.1) Provide details for the person that has signed off (approved) your CDP water response.**

	Job title	Corresponding job category
Row 1	The President and Representative Executive Officer, who is a member of the Board of Directors and a chairman of the ESG Committee.	President

## W10.2

**(W10.2) Please indicate whether your organization agrees for CDP to transfer your publicly disclosed data on your impact and risk response strategies to the CEO Water Mandate's Water Action Hub [applies only to W2.1a (response to impacts), W4.2 and W4.2a (response to risks)].**

Yes

## Submit your response

**In which language are you submitting your response?**

English

**Please confirm how your response should be handled by CDP**

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

**Please confirm below**

I have read and accept the applicable Terms