The Tokyo Electric Power Company Holdings, Inc (TEPCO) - Climate Change 2019

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

Tokyo Electric Power Company, Incorporated (TEPCO)is one of the largest electric power companies in Japan was established in 1951 to supply electric power to the Tokyo metropolitan area, and for more than half a century it has continued to support society and public life with high-quality electric power.In fiscal 2017, TEPCO's electricity sales volume accounts for about 30% of domestic electricity consumption, and power generation facilities account for about 25% of the whole country.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. Please note the provided information is public and is available in our website http://www.tepco.co.jp/en/index-e.htm

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Row 1	April 1 2017	March 31 2018	Yes	3 years

C0.3

(C0.3) Select the countries/regions for which you will be supplying data.

Japan

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

JPY

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your consolidation approach to your Scope 1 and Scope 2 greenhouse gas inventory.

Financial control

C-EU0.7

(C-EU0.7) Which part of the electric utilities value chain does your organization operate in? Select all that apply.

Row 1

Electric utilities value chain

Electricity generation
Transmission
Distribution

Other divisions

Gas storage, transmission and distribution

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Chief Financial Officer (CFO)	Since the Board of Directors is the highest decision-making body concerning the management of the TEPCO Group and has overall responsibility, it is also responsible for overseeing climate change measures such as emission reduction targets.The Environmental Strategy Committee, which is the lower committee of the Board of Directors, develops the TEPCO Group's overall strategy on climate change, promotes operation, and monitors the implementation status. Among the climate change measures examined by the Environmental Strategy Committee, important measures that greatly affect power planning and procurement plan are discussed to the Board of Directors.Since 2019, the CFO has been commissioned as an ESG officer.

C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – some meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives	We have formulated action plans for business execution (business plan) including climate change issues and select responsible officers (executive representative vice president). 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. Likewise, risks and budgets including climate change issues are supervised by the Board of Directors.

C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Financial Officer (CFO)	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly
Other committee, please specify (the Environmental Strategy Committee)	Managing climate-related risks and opportunities	As important matters arise
Other committee, please specify (ESG Committee)	Both assessing and managing climate-related risks and opportunities	Half-yearly

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

Since TEPCO recognizes that addressing climate change is an important management issue, the Board of Directors appoints CFO and Deputy Executive Vice President as the executive officer for the environment. The officer has the responsibility for the implementation and constantly monitoring the status of management of those issues. The officer regularly reviews the progress of the business plan including climate-related issues and reports to the Board of Directors once a quarter. This is how the Board of Directors oversees the implementation. If the officer deems it necessary to make an important management decisions on policies such as emission reduction targets, it will be referred to the Board of Directors. In addition, the Company has established the Environmental Strategy Committee, chaired by the officer in charge, to discuss measures for dealing with environmental issues including climate change. Furthermore, Since 2019, an ESG Committee chaired by the Chief Executive Officer and also attended by the executive officer in charge of the environment as a member, to discuss how to deal with ESG (environmental, social and governance) issues and disclosing non-financial information including environmental-related ones such as climate change. As of 2019, CFO and Deputy Executive Vice President has been appointed as Executive Officer in charge of implementation and constantly monitoring the management of ESG issues.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

Yes

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Who is entitled to benefit from these incentives?
Chief Financial Officer (CFO)

Types of incentives
Monetary reward

Activity incentivized
Emissions reduction project

Comment
The CFO is responsible for all relevant corporate environmental issues, including compliance of relevant environmental law and regulations, climate impact mitigation, conservation activities and GHG emission reduction target. The resultant of these operations is reflected in its personal performance and its monetary reward.

Who is entitled to benefit from these incentives?
All employees

Types of incentives
Monetary reward

Activity incentivized
Emissions reduction target

Comment
For the purpose of promoting the company's environmental activities, employees who have acquired national qualifications (such as "Qualified Person for Energy Management") related to environmental activities, such as energy conservation and CO2 emissions reduction, and inventor and design creator who registered the patent, get the awards and monetary reward. For instance, those who have qualified the license of "Qualified Person for Energy Management" are also chosen to be "Energy Manager for Type 2 Designated Energy Management Factory" and "Energy Manager for Type 1 Designated Energy Management Factory" . They play a pivotal role in promoting energy conservation and in realizing energy conservation (CO2 reduction) by instructing employees and suggestion to customers with the knowledge of maintaining and controlling facilities. By making our facilities and customer's facilities more efficient, it will contribute to the CO2 emission reduction directly or indirectly, we give an award and the monetary reward (50,000 yen) to the person who have qualified the license of "Qualified Person for Energy Management."

C2. Risks and opportunities

C2.1

(C2.1) Describe what your organization considers to be short-, medium- and long-term horizons.

	From (years)	To (years)	Comment
Short-term	0	3	The corporate business plan compiles the priority management items and respective action plans for 1 year term. The annual financial plan covers revenues and expenditure of business plan for 3 year period.
Medium-term	3	10	The Revised Comprehensive Special Business Plan, which is the basis of our management, summarizes each business item to realize discontinuous management reform and improvement of corporate value, and the respective income and expenses in 10-year units. Our risk assessment and management process also takes into consideration 10 years, and we also forecast power supply planning based on 10 years.
Long-term	10		We define a period longer than 10 years as long-term.

C2.2

(C2.2) Select the option that best describes how your organization's processes for identifying, assessing, and managing climate-related issues are integrated into your overall risk management.
Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes

C2.2a

(C2.2a) Select the options that best describe your organization's frequency and time horizon for identifying and assessing climate-related risks.

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Six-monthly or more frequently	>6 years	We have been looking ahead to more than 10 years in risk (including climate change risk) assessment and update every 6 months (more frequently). The result of risk assessment and opportunities are appropriately reflected in the management plan updated every fiscal year.

C2.2b

(C2.2b) Provide further details on your organization's process(es) for identifying and assessing climate-related risks.

Regarding climate-related risk that might have a significant impact on business, the Risk Management Committee, chaired by the Representative Executive Officer and President of TEPCO Holdings, will endeavor to prevent the realization of risks. And in the event of actualization, we minimize the influence on management by responding swiftly and appropriately. Risk is assessed every six months, deliberation results and business opportunities are reflected in the annual management plan.

At the facility / department level, the administrative department manages relevant risk based on the execution of duties as a basis and appropriately manages it. The Risk Management Conference which might covers climate-related risk is functioned for each facility / department, and their risks are grasped and evaluated at a frequency of 6 months or more. Each division reports the evaluated risk to the upper Risk Management Committee every six months and appropriately reflects the deliberation results in each business plan of each year.

Climate-related risk is assessed in this process taking account of economic and climatic conditions, industry deregulation, equipment and operation, and fluctuations in interest rates. Climate-related risks, same as other risks surrounding our business, are evaluated using criteria from the viewpoint of "probability of occurrence" and "degree of influence", and the substantial financial and strategic impacts are classified and evaluated as levels.

For example, in order to improve power generation efficiency and output in 2017, we replaced the gas turbines of the No. 1 axis of the Yokohama Thermal Power Station No. 8 series, etc. to reduce fuel consumption, but otherwise we will The increase in consumption will increase the cost of 1 billion yen annually.

C2.2c

(C2.2c) Which of the following risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	In Japan, electric retailers are required to "set the non-fossil power supply ratio to 44% of the electric power procured by fiscal 2030". As our non-fossil power supply ratio in FY2017 electric power supply is 11%, it is necessary to procure non-fossil power supply systematically to achieve the target. On the other hand, because Japan's non-fossil power sources are limited, competition for procurement of non-fossil power sources may increase the cost of purchasing non-fossil power sources. As a result, our business results and financial condition may be adversely affected. The risk is monitored by the Risk Management Committee on current regulatory trends and evaluating financial and strategic impacts from the viewpoint of "probability of occurrence" and "degree of influence" while establishing some scenarios (6 months or more with frequency).
Emerging regulation	Relevant, always included	If the Japanese government introduced regulations such as carbon pricing, our procurement from thermal power generation will account for approximately 80% of the total procurement volume, which may increase procurement costs. As a result, our business results and financial condition may be adversely affected. The risk is monitored by the Risk Management Committee on current regulatory trends. Also, while assessing additional regulations introduction scenarios, and we evaluates financial and strategic impacts from the viewpoint of "probability of occurrence" and "degree of influence" (6 months or more with frequency).
Technology	Relevant, always included	With innovation, the cost of generating renewable energy can be significantly reduced and deployments can increase sharply. Above all, when non-farm power supplies increase rapidly, the stability of the power supply declines, and it is assumed that it will affect the power supply to the Kanto area including the capital Tokyo where our company mainly operates. As a result, the credibility of the company can be greatly reduced. The risk is monitored by the Risk Management Committee on technology trends and evaluating financial and strategic impacts from the viewpoint of "probability of occurrence" and "degree of influence" while establishing some scenarios (6 months or more with frequency).
Legal	Relevant, always included	As we procure 80% of sales power from thermal power plants, we will be the largest thermal power producer in Japan. As a result, the growing awareness of climate change in the world may cause lawsuits to be sued by neighbors of thermal power plants to stop procuring power from thermal power. In addition, corporate value is lowered by this, and there is a risk that a shareholder may sue. The risks are evaluated financial and strategic impacts from the viewpoint of "possibility of occurrence" and "degree of influence" at the risk management meeting while collaborating through appropriate information cooperation with related sections (6 months More frequently).
Market	Relevant, always included	Changes in customer needs due to climate change-related regulations and social conditions affect the electricity retail market. The Kanto area, where our company mainly operates, is the area where the liberalization of electricity retailing is most advanced, and it has already lost about 20% of its customers compared with before the liberalization. In the future, there will be changes in customer needs due to climate change, etc., and customers are asked for lower carbon electricity, and if we can not supply low carbon electricity, our competitive advantage will be further enhanced. It may decrease. This risk is evaluated at the risk management meeting on financial and strategic impacts (at a frequency of 6 months or more) from the viewpoint of "possibility of occurrence" and "degree of influence"
Reputation	Relevant, always included	Our CO2 emissions account for about 9% of Japan's CO2 emissions. Therefore, if we can not reduce our CO2 emission without taking measures against climate change (replacement to high efficiency thermal power generation, introduction of renewable energy, restart of nuclear power, etc.), it will have a big impact to Japan's CO2 emission. As a result, it may not meet the expectations of low-carbon-oriented stakeholders and the corporate brand may decline. The risks are evaluated for their financial and strategic impacts from the viewpoint of "possibility of occurrence" and "degree of influence" at the risk management meeting (At a frequency of 6 months or more).
Acute physical	Relevant, always included	We operate based in Kanto, including the capital Tokyo. For example, when a huge typhoon hits the Kanto region, storms, storm surges on the Pacific coast, and inland river floods cause large-scale and long-term power outages, preventing stable power supply. In particular, with regard to the Tone River and Arakawa, which flow through the Kanto region where our company mainly works, the Cabinet Office is also estimating the damage, as the scale of damage may increase if flooding occurs due to heavy rain. If we can not respond appropriately to these damages, additional costs may be incurred for restoration and network facilities (such as transmission towers). As a result, our business results and financial condition may be affected. Through sharing examples of past damage and countermeasures, the risk assesses the financial and strategic impacts from the viewpoint of "possibility of occurrence" and "degree of influence" at the risk management meeting (at a frequency of 6 months or more)
Chronic physical	Relevant, always included	If the change in precipitation pattern caused by climate change causes a drought, and the amount of hydroelectric power decreases significantly, there is a possibility that it will not be able to supply customers who have contracted the menu of 100% of our hydroelectric power (Aqua Premium etc.) As a result, it may cause inconvenience to customers, which may reduce corporate value and may affect the Group's business performance and financial position. This risk is evaluated at the Risk Management Committee from financial viewpoints of "possibility of occurrence" and "degree of influence" (at a frequency of 6 months or more).
Upstream	Relevant, always included	With the trend of decarbonization after the Paris Agreement, the demand for low-carbon LNG in fossil fuels may increase internationally, and fuel prices may rise. Since LNG-fired power accounts for approximately 60% of the electricity we sell, our business performance and financial condition may be affected. This risk is evaluated at the risk management meeting on financial and strategic impacts (at a frequency of 6 months or more) from the viewpoint of "possibility of occurrence" and "degree of influence".
Downstream	Relevant, always included	We currently supply electricity to approximately 25% of our customers in Japan. In addition, non-fossil power supplies in our power supply is only 11%, so depending on the scope and method of the system that the government may introduce to achieve the greenhouse gas reduction target in 2030, distributed power supply Spread significantly, and as a result, our sales revenue may decline. In cooperation with other departments, the risks are evaluated on financial and strategic impacts from the viewpoint of "probability of occurrence" and "degree of influence" at the risk management meeting (at a frequency of 6 months or more).

C2.2d

(C2.2d) Describe your process(es) for managing climate-related risks and opportunities.

i) Risk management process: Regarding climate-related risk that might have a significant impact on business, the Risk Management Committee, chaired by the Representative Executive Officer and President of TEPCO Holdings, will endeavor to prevent the realization of risks. And in the event of actualization, we minimize the influence on management by responding swiftly and appropriately. Risk is assessed every six months, deliberation results and business opportunities are reflected in the annual management plan. Physical risks such as large-scale blackouts caused by typhoons are evaluated using criteria from the viewpoint of "probability of occurrence" and "degree of influence". We classify substantial financial and strategic impacts into levels and evaluate countermeasures and preventive measures. If it is judged that it will have a serious impact on management, the risk management committee will consider necessary countermeasures. Transition risks such as the introduction of additional regulations to the electric power industry are also evaluated using criteria from the viewpoint of "probability of occurrence" and "degree of influence", and substantial financial and strategic We classify the impact as level and evaluate countermeasures and preventive measures. If it is judged that it will have a serious impact on management, the risk management committee will consider necessary countermeasures. ii) Opportunity management process: Directors and executive officers periodically analyze and evaluate climate-related opportunities associated with climate-related risks evaluated by the Risk Management Committee and the Group's strengths against business competitors. Regarding the added value of electricity through rapid restoration from blackouts due to natural disasters, and physical opportunities such as value improvement of TEPCO group in terms of low-carbon services, each relevant business department evaluates necessary investment, personnel, training, etc. Based on the strategic impact, the necessary countermeasures will be considered at the Board of Directors and executive officers if they have a serious effect on management. Regarding opportunities for transition such as improvement of corporate value through low carbon service, we evaluate at the business department in consideration of the national target of global warming countermeasures and regulations, as well as the customer's needs. Based on the financial and strategic impact, the necessary countermeasures will be considered by the Board of Directors and executive officers if they have a serious effect on management.

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?
Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier
Risk 1

Where in the value chain does the risk driver occur?
Direct operations

Risk type
Transition risk

Primary climate-related risk driver
Policy and legal: Other

Type of financial impact
Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

Company- specific description
Japan stipulates that “the percentage of non-fossil power in electricity sales by electric retailers should be 44% by 2030”. The non-fossil power supply ratio to our sales power in fiscal 2017 is as low as 11% because the nuclear power plant is not operating. In addition, as the average non-fossil power ratio in Japan in fiscal 2017 is 18%, our non-fossil power ratio is inferior to competitors as of fiscal 2017. As a result, the cost of achieving the goals set by the country may be higher than the competition.

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
Medium-high

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

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
0

Potential financial impact figure – maximum (currency)
100000000000

Explanation of financial impact figure
If it is difficult to achieve 44% non-fossil power in fiscal 2030, it is possible to procure and achieve non-fossil power certificates. Non-fossil power accounted for 11% of our sales in FY2017. In 2030, non-fossil power supply ratio (FY 2017 results: 11%), electric power sales (FY 2017 results: 233.1 billion kwh), non-fossil certificate price (FY 2017 results: 1.3 yen / kwh) are each 2017 and Assuming that the level is the same, the cost will increase up to 100 billion yen. 233.1 billion kwh x (0.44-0.11) x 1.3 yen / kwh 1000 100 billion yen

Management method
We are working to reduce the financial impact as of 2030 through the development of renewable energy sources and efforts to restart nuclear power. In fiscal 2017, capital investment of 7,961,000,000 yen for hydropower, new energy, etc. is recorded as management expenses.

Cost of management
7961000000

Comment

Identifier
Risk 2

Where in the value chain does the risk driver occur?
Direct operations

Risk type
Physical risk

Primary climate-related risk driver
Acute: Increased severity of extreme weather events such as cyclones and floods

Type of financial impact
Reduced revenue from decreased production capacity (e.g., transport difficulties, supply chain interruptions)

Company- specific description
The Company operates based in Kanto, including the capital Tokyo. With regard to the Tone River and Arakawa that flow through the area, the Cabinet Office has also made an assumption of damage if there is a flood due to a heavy rain every 200 years, and we have taken measures to reduce the damage according to that assumption.
【和訳】当社は首都東京を含む関東を拠点に事業を行っている。そのエリアを流れる利根川と荒川については、内閣府も発生確率200年に1回の大雨による氾濫が起こった場合の被害想定をしており、当社もその想定に従って被害軽減策を講じている。

Time horizon
Medium-term

Likelihood
Unlikely

Magnitude of impact
Medium-low

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

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
0

Potential financial impact figure – maximum (currency)
2271360360000

Explanation of financial impact figure
It is estimated that there will be about 1.8 million blackouts when Arakawa and Tonegawa have flooded. Assuming that the market share of our company is 80% and it takes one week to resume the supply of electricity, it is the largest decrease in sales power. 1.8 million houses × share ratio 0.8 × 260 kwh / month × 7/30 days × 26 yen / kWh = approximately 2,27136 million

Management method
Following countermeasures against natural disasters such as high tide caused by typhoon, river flood caused by heavy rain are prepared: i) watertight building of electric facilities such as watertight door and tide gate ii) levelling of installation of electric facilities to avoid being inundated iii) making facilities waterproof iv)precautions (restoration of facilities) in order to supply electricity with power facility when water reached Regular company-wide disaster prevention training and training for smooth internal communication are prepared, to rapidly collect information on damages of power facilities(transmission steel towers etc.), blackout, requests from related organizations, to consider emergent response to recover damaged power facilities, to consider effective allocation of equipment and personnel. Moreover, we regularly participate in disaster training held by national and local government and training for flexibly offering equipment for recovery between utilities. In addition, in fiscal 2017, the company recorded an allowance for disaster losses of ¥ 44,189,000,000 for financial impact mitigation measures.

Cost of management
44189000000

Comment

Identifier
Risk 3

Where in the value chain does the risk driver occur?
Direct operations

Risk type
Physical risk

Primary climate-related risk driver
Chronic: Changes in precipitation patterns and extreme variability in weather patterns

Type of financial impact
Reduced revenues from lower sales/output

Company- specific description
The TEPCO Group owns 164 hydroelectric power stations, mainly in the Kanto region, and has a power generation capacity of 9.7 million kw. If you experience drought or equipment problems caused by climate change, the amount of electricity generated may be reduced, adversely affecting profits.

Time horizon
Medium-term

Likelihood
Unlikely

Magnitude of impact

Medium-low

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

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
0

Potential financial impact figure – maximum (currency)
1000000000

Explanation of financial impact figure
We expect the financial impact of a 1% change in the water discharge rate to be 1 billion yen. However,There was no negative impact as the water discharge rate increased in fiscal 2017 compared to fiscal 2016.

Management method
In order to reduce the financial impact at the time of water resource shortage, in fiscal 2017, a ¥ 500 million reserve for drought reserve is newly recorded as a management expense.

Cost of management
500000000

Comment

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?
Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier
Opp1

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Energy source

Primary climate-related opportunity driver
Use of new technologies

Type of financial impact
Reduced operational costs (e.g., through use of lowest cost abatement)

Company-specific description
We have 13 thermal power plants with an installed capacity of 41 million kW. Replacing and/or retrofitting with efficient power generation facilities to reduce greenhouse gases leads to meeting the needs of retailers and customers who are looking for low-carbon electricity, as well as reducing fuel costs related to our own power generation Recognize that it also contributes.

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
Medium-high

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

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
0

Potential financial impact figure – maximum (currency)
13400000000

Explanation of financial impact figure
In fiscal 2017, the Company replaced gas turbines at the Futtsu Thermal Power Station and the Yokohama Thermal Power Station with the aim of improving power generation efficiency. As a result, we expect to reduce fuel costs up to ¥ 13.4 billion and CO2 emissions of 490,000 tons in a single year.

Strategy to realize opportunity
As we have 13 thermal power plants, we plan to replace them systematically to reduce CO2 and fuel costs. In fiscal 2017, we replaced the Yokohama Thermal Power Station and the Futtsu Thermal Turbine, and abolished the inefficient Goi Thermal Power. In fiscal 2018, we will continue to replace the gas turbines at Yokohama Thermal

Power and the Futtsu Thermal Power Station. Including the cost to realize this opportunity, the capital investment in the thermal power plant in 2017 was 71,788,000,000 yen.

Cost to realize opportunity
71788000000

Comment

Identifier
Opp2

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Energy source

Primary climate-related opportunity driver
Use of lower-emission sources of energy

Type of financial impact
Returns on investment in low-emission technology

Company-specific description
We are working on promoting the renewable energy business, and are considering development of around 6 to 7 million kW around the world. In Japan, under the Sophisticated Methods of Energy Supply Structures Law, electricity retailers, including TEPCO Energy Partner Inc., are obliged to increase the ratio of non-fossil power sources to 44% in 2030, and the demand for renewable energy will therefore gradually increase toward 2030.

Time horizon
Medium-term

Likelihood
More likely than not

Magnitude of impact
Medium-high

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

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
0

Potential financial impact figure – maximum (currency)
100000000000

Explanation of financial impact figure
If renewable energy is developed as planned, it is expected to reach a profit level of around 100 billion yen.

Strategy to realize opportunity
Based on the knowledge and technology that has been operating a hydroelectric power plant for over 100 years, we plan to expand overseas, focusing on Southeast Asia, and carry out development of about 2 to 3 million kW. As for offshore wind power, demonstration tests have been conducted off the coast of Shishiko in Chiba Prefecture from October 2013, and we aim to develop around 2 to 3 million kw in Japan. Furthermore, in January 2019, we partnered with the world's largest offshore wind power company, Orsted. Based on the accumulated knowledge and technology, we will expand overseas mainly in Asia and Europe and aim for the development of 2 to 3 million kW scale. Including the cost to realize this opportunity, capital investment in hydropower, new energy, etc. in 2017 will be 7,961,000,000 yen.

Cost to realize opportunity
7961000000

Comment

Identifier
Opp3

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Products and services

Primary climate-related opportunity driver
Shift in consumer preferences

Type of financial impact
Better competitive position to reflect shifting consumer preferences, resulting in increased revenues

Company-specific description
We have approximately 20 million power contract customers, and have information on customer power usage and energy saving knowledge and technology. Recently, in light of the growing need for value improvement of existing homes by improving energy saving performance, we established a joint venture company with Epco in August 2017, and the majority of greenhouse gas emissions in the household sector Promoting energy saving projects targeting existing homes.

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
Medium-high

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

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
0

Potential financial impact figure – maximum (currency)
25500000000

Explanation of financial impact figure
We aim for sales of approximately 50 billion yen in fiscal 2021 by this investment.

Strategy to realize opportunity
Information on energy use and energy saving knowledge and technology of approximately 20 million customers including Tokyo, which the Company owns, and EPCO's know-how in designing home equipment over 1 million houses, after-sales maintenance function of general housing and we will provide comprehensive energy saving services for homes that combine the strengths of each other, such as system development capabilities. Specifically, the energy saving diagnosis is performed based on the energy and the usage condition of the device at home, and the proposal, such as replacement to the energy saving device, designs, constructions, and after-sales service, and the application originally developed by our company. We propose optimal energy saving while presenting the effects of reduction of utility costs based on your current usage of electricity and gas. As a cost to realize this opportunity, we invested 255,000,000 yen, which is 51% of the 500,000,000 yen capital required to establish the company.

Cost to realize opportunity
255000000

Comment

C2.5

(C2.5) Describe where and how the identified risks and opportunities have impacted your business.

	Impact	Description
Products and services	Impacted	（Oportunity3）Specifically, energy saving diagnosis is carried out based on the energy and equipment usage condition at home, and specifically, the design, construction, and after-sales service from proposals such as replacement with energy saving equipment, and our own development Using the app, we propose optimal energy savings while presenting the effects of reductions in utility costs based on the customers' use of electricity and gas. The company is aiming for sales of approximately 50 billion yen in fiscal 2021, and its investment ratio will have a maximum impact of 25.5 billion yen. The impact of this amount on our company is "medium".
Supply chain and/or value chain	Not yet impacted	（Risk1）In Japan, the law stipulates that the proportion of non-fossil power sources to be sold by 2030 should be 44% to retailers of electricity. Because we operate a retail business, the cost of achieving our goals may rise, but the target is 2030, so the impact is "none".
Adaptation and mitigation activities	Not yet impacted	(Risk 2) The Company operates based in Kanto, including the capital Tokyo. With regard to the Tone River and Arakawa that flow through the area, the Cabinet Office has also made an assumption of damage if there is a flood caused by a heavy rain once in 200 years, and we have taken measures to reduce the damage according to that assumption, There is no flooding in 2017, so the impact is "None".
Investment in R&D	Impacted	(Opportunity 2) We are working on promoting the renewable energy business, and are considering development of around 6 to 7 million kw in Japan and overseas. As for offshore wind power, demonstration tests have been conducted off the coast of Isogo in Chiba Prefecture since October 2013, and we are developing around 2 to 3 million kw in Japan. If renewable energy is developed as planned, it is expected to reach a profit level of up to around 100 billion yen. The degree of impact of this amount on our company is "large".
Operations	Impacted	(Opportunity 1) In fiscal 2017, the Company replaced gas turbines at the Futtsu Thermal Power Station and Yokohama Thermal Power Station with the aim of improving power generation efficiency. As a result, fuel costs up to ¥ 13.4 billion and CO2 emissions of 490,000 tons per year. It is expected to reduce the amount. The impact of this amount on our company is "medium".
Other, please specify	Please select	

C2.6

(C2.6) Describe where and how the identified risks and opportunities have been factored into your financial planning process.

	Relevance	Description
Revenues	Impacted	(Opportunity 1) In fiscal 2017, the Company replaced gas turbines at the Futtsu Thermal Power Station and the Yokohama Thermal Power Station with the aim of improving power generation efficiency. The amount of capital investment for the thermal power plant in FY 2017 including them is 71,788,000,000 yen. The impact of this amount on our company is "medium".
Operating costs	Impacted	(Risk 3) The TEPCO Group owns 164 hydroelectric power stations, mainly in the Kanto region, and has a power generation capacity of 9.7 million kw. If there is a drought or equipment trouble caused by climate change, the amount of power generation may be reduced, which may adversely affect earnings. In order to reduce the financial impact at the time of drought, we have made provision for reserve for drought, and in fiscal 2017, we made a new provision of ¥ 500 million.
Capital expenditures / capital allocation	Impacted	(Opportunity 3) Specifically, energy saving diagnosis is carried out based on the energy and equipment usage condition at home, and specifically, the design, construction, and after-sales service from proposals such as replacement with energy saving equipment, and our own development Using the app, we propose optimal energy savings while presenting the effects of reductions in utility costs based on the customers' use of electricity and gas. The Company invested 250 million yen according to the capital ratio. The impact of this amount on our company is "small
Acquisitions and divestments	Impacted	We are carrying out risk countermeasure / precaution measures appropriately, and there are no circumstances where the identified risk becomes obvious and the stock price declines. Toward a reduction of greenhouse gas emissions by 80% in 2050, if a rapid change in the power portfolio is requested after 2030, there is a possibility that the additional measures cost will increase and the balance will deteriorate. It is included in the financial planning process because stock prices may decline. There are no circumstances where acquisitions are necessary as the identified opportunities become significantly noticeable.
Access to capital	Impacted	(Risk 2) The Company operates based in Kanto, including the capital Tokyo. With regard to the Tone River and Arakawa that flow through the area, the Cabinet Office also has estimated damage of 44,189,000,000 yen as an allowance for disaster losses, assuming damage due to heavy rain that occurs once every 200 years. In addition, in fiscal 2017, we issued ¥ 400 billion in bonds including the cost of responding to these issues, and the impact of this amount on our company is "large".
Assets	Impacted	(Opportunity 2) We are working on promoting the renewable energy business, and are considering development of around 6 to 7 million kw in Japan and overseas. As for offshore wind power, demonstration tests have been conducted off the coast of Isogo in Chiba Prefecture since October 2013, and we are developing around 2 to 3 million kW in Japan. The cost of capital investment in hydropower, new energy, etc. in fiscal 2017 is approximately 8 billion, and the amount of impact on our company is small.
Liabilities	Not yet impacted	(Risk 1) In Japan, the law stipulates that the proportion of non-fossil power sources to be sold by 2030 should be 44% to retailers of electricity. As we operate in a retail business, the costs to achieve that goal may increase. However, since the specific system design by the country is in the middle stage, incorporation into the financial plan has not been implemented in FY2017.
Other	Please select	

C3. Business Strategy

C3.1

(C3.1) Are climate-related issues integrated into your business strategy?

Yes

C3.1a

(C3.1a) Does your organization use climate-related scenario analysis to inform your business strategy?

Yes, quantitative

C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b

(C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b) Indicate whether your organization has developed a low-carbon transition plan to support the long-term business strategy.

Yes

C3.1c

(C3.1c) Explain how climate-related issues are integrated into your business objectives and strategy.

i)

TEPCO group first makes an scenario analysis of impact on our business opportunities and risks, especially plan of new power generation and procurement plan of electricity, and we have been promoting appropriate countermeasures to deal with relevant climate change. Based on the contents of the report from the Risk Management Committee (such as risk assessment with more than 10 years' ahead), we have decided medium- and long-term strategies at the Environmental Strategy Committee. Specifically, we have been making efforts to improve Scope 1 emission intensity, such as the strategy for promotion of high efficiency of thermal power generation (Replacement of turbines of Yokohama thermal power and Futtsu thermal power, introduction of IGCC). It is important for us to build a balanced and appropriate power portfolio from the viewpoint of "energy security" "economic stability" "environmental conservation" based on energy plan set out by Japanese government. Thus, we use forward-looking scenario analyses to inform our organization's businesses, strategy, and/or financial planning.

ii)

Following energy mix and GHG reduction target in FY2030 set out by Japanese government, power industry established "the Action Plan for a Low Carbon Society of Electric Power Industry" in July 2015. Then, the Electric Power Council for a Low Carbon Society ("ELCS") was established in February 2016, which aims to meet the new targets in "the Action Plan for a Low Carbon Society of Electric Power Industry". The Plan has the following targets. ・emission intensity target of 0.37 kg-CO2e/kWh (use-end) in FY2030 ・11 million t-CO2 as a maximum potential in 2030 could be achieved by adopting Best Available Technology(BAT) with regard to the construction of thermal power

plants. TEPCO group joined ELCS in February 2016 for achieving the targets in the Plan set out in July 2015 and made a decision to promote our own countermeasures on climate change such as introduction of BAT in thermal power plant.

Also in fiscal 2017, the Ministry of Economy, Trade and Industry and Keidanren received a third-party evaluation. In addition, in fiscal 2017 we will replace gas turbines at the Futtsu Thermal Power Station and Yokohama Thermal Power Station with the aim of improving power generation efficiency, and as a result, we expect to reduce 490,000 tons of CO2 emissions in a single year. is.

iii)

In May 2017, the Company updated its "New Special Business Plan" for the first time in three years. Among these, we have declared that we aim to develop globally sustainable and competitive renewable energy business, and for the nuclear business, we will put the top priority on safety and reactivate the nuclear power plant with low CO2 emissions. Also stated. In February 2018, the president of the Company announced that it would unite the group's collective strengths with regard to the Group's renewable energy business, and specifically promote the development of a foundation for promoting the renewable energy business. With regard to renewable energy, we aim to achieve a total development scale of 6 million to 7 million kW at home and abroad and a profit level of around 100 billion yen.

iv)

Enforcement of emission control regulations in the energy sector, particularly the improvement of thermal efficiency of thermal power plants, and the increase in the ratio of power generation from non-fossil fuel power generation for retail use have an impact on our business activities.

The following activities were mainly implemented in FY 2017.

1. Implemented replacement work of gas turbines at Yokohama Thermal Power Station and Futtsu Thermal Power Station to reduce CO2 emissions.

2. Launched sales of Aqua Premium, a rate plan for corporate customers using the Group's general hydroelectric power generation (excluding pumped storage power generation and FIT electricity) as a power source.

We also established Tokyo Electric Home Tech Co., Ltd., a joint venture company with Epco, and started the energy saving renovation business for existing homes, which account for the majority of greenhouse gas emissions in the household sector.

v)

In September 2017, as a creation of new value that responds to the diverse needs of society, we created "TEPCO Green plus Gas" gas price plan for corporate customers (Japan's first lower CO2 emissions city-gas plan using green thermal certificate) started selling.

vi)

Taking into account of energy mix and GHG reduction target in 2030 set out by Japanese government in July 2015, i)decrease of electricity demand by deepening energy saving, ii)expansion of non-fossil fuel power generation and iii)ratio of thermal power generation in energy mix are important components in our long-term strategy. We have built well-balanced portfolio of thermal power generation between Coal fired and LNG fired and have promoted adoption of beyond Best Available Technology (BAT) to reduce CO2 emission from thermal power plants to contribute to energy mix and the GHG reduction target in 2030 set out by Japanese government.

vii)

1. Our thermal power generation efficiency in fiscal 2017 is 46.1%. This result exceeds the thermal power generation efficiency target of 44.3%, which is a benchmark index based on Japan's “Act on the Rational Use of Energy,” and is the top level in Japan.

Therefore, GHG emissions from thermal power generation are lower than competitors, enabling customers to supply low-carbon electricity, which gives them a competitive advantage.

2. We own the largest number of hydroelectric power plants in Japan, with a capacity of 9.87 million kW.

Therefore, we can meet the needs of customers who are looking for lower carbon electricity than their competitors.

In fact, we offer Aqua Premium (for corporate customers) and Aqua Energy 100 (for household use), the first rate plans in the country that sell only hydroelectric power that does not emit CO2.

viii)

As stated in iii) above, the company renewed its "New Special Integrated Business Plan" in May 2017 for the first time in three years, and stated that it aims to develop a renewable energy business. This is based on the overall goal and direction based on the Paris Agreement adopted at COP21 (December 2015), and is consistent with Japan's international commitment (NDC) submitted to the UN in July 2015. It is stated that the supply demand for renewable energy in the energy mix in fiscal 2030 is projected.

C3.1d

(C3.1d) Provide details of your organization’s use of climate-related scenario analysis.

Climate-related scenarios	Details
IEA NPS	Tokyo Electric Power Holdings is the first Japanese energy company to support with the April 2019 TCFD recommendations and is a core member of the Japan TCFD Consortium. https://www7.tepco.co.jp/newsroom/press/archives/2019/tepco-becomes-first-utility-company-in-japan-to-express-support-for-task-force-on-climate- related-financial-disclosures-tcfd-recommendations.html According to the scenario analysis method in the TCFD recommendations, we have identified multiple climate scenarios including the 2 ° C scenario and analyzed the resilience of the TEPCO Group's business strategy. For the climate scenario, IEAWEO 2018 NPS is used as a reference. We are in the precess of identifying and updating opportunities and risks related to climate change based on scenario analysis. The contents of the scenario analysis would be 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 would be published in the 2019 Integrated Report.

C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e

(C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e) Disclose details of your organization’s low-carbon transition plan.

Based on the "Revised Comprehensive Special Business Plan", we are aiming to develop a global sustainable and competitive renewable energy business through the following initiatives. 1. Short-term initiatives: Take advantage of the consistent business model's strengths from planning, development, operation and maintenance of existing renewable energy power sources such as hydroelectric power generation and wind power generation, taking into account the diversified needs that are conscious of the low-carbon society, Promote revenue expansion by developing business according to the needs of each region and country. 2. Medium- to Long-Term Initiatives: In order to create corporate value through the creation of new environmental values such as Green & Innovation and the introduction of innovative business models in the electric power business such as combining decentralized renewable energy generation with storage batteries / Work on overseas advanced projects and alliances.

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

Intensity target

C4.1b

(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

Target reference number
Int 1

Scope
Scope 1

% emissions in Scope
100

Targeted % reduction from base year
35

Metric
Metric tons CO2e per megawatt hour (MWh)*

Base year
2013

Start year
2015

Normalized base year emissions covered by target (metric tons CO2e)
0.57

Target year
2030

Is this a science-based target?
No, and we do not anticipate setting one in the next 2 years

% of target achieved
37

Target status
Underway

Please explain
The intensity target was set out as industry-wide target in ELCS (the Electric power companies for Low Carbon Society), based on energy mix and GHG reduction target in FY2030 set out by Japanese government. (0.570-0.496) / (0.570-0.37) = 0.37 (37%)

% change anticipated in absolute Scope 1+2 emissions
35

% change anticipated in absolute Scope 3 emissions
0

C4.2

(C4.2) Provide details of other key climate-related targets not already reported in question C4.1/a/b.

Target
Zero/low-carbon vehicle

KPI – Metric numerator
Number of electric car fleets introduced for business use

KPI – Metric denominator (intensity targets only)
Number of business car fleets (excluding vehicles for which alternative electric vehicles are not available on the market)

Base year
2018

Start year
2018

Target year
2030

KPI in baseline year
10

KPI in target year
100

% achieved in reporting year
10

Target Status
New

Please explain
See press release below: https://www7.tepco.co.jp/newsroom/press/archives/2019/tepco-becomes-first-japanese-energy-company-to-join-global-ev100-and-ev3030-campaign-aiming-to-convert-100-of-own-commercial-vehicles-to-evs-by-2030.html

Part of emissions target

Is this target part of an overarching initiative?
EV100

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.
Yes

C4.3a

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	0	0
To be implemented*	0	0
Implementation commenced*	1	40000
Implemented*	1	30000
Not to be implemented	0	0

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative type
Low-carbon energy installation

Description of initiative
Natural Gas

Estimated annual CO2e savings (metric tonnes CO2e)
30000

Scope
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
1000000000

Investment required (unit currency – as specified in C0.4)
3240000000

Payback period
>25 years

Estimated lifetime of the initiative
Ongoing

Comment
On April 28, 2017, to reduce fuel costs and CO2 emissions, the replacement of gas turbines on the first axis of the Yokohama Thermal Power Plant No. 8(Fuel: LNG, rated output: 350,000 kW x 4 axes) was completed. And, the business operation was resumed. The replacement work increased power generation efficiency by 1.7% (54.1% to 55.8%) and the rated output increased by 27,000 kW (350,000 kW to 377,000 kW). As a result, fuel costs were reduced by 1,000,000,000 yen/year. The co2 emissions are expected to be reduced by approximately 30,000 tons per year. Investment and return on investment include management information. For this reason, the government is responding based on what the Power Generation Cost Verification Working Group shows. ◆Investment: 27,000 kW (rated output increase) × 120,000 yen (LNG thermal power plant construction cost*) = 3,240,000,000 yen * Model plants, in consideration of the case where multiple units are constructed at one site, implemented corrections such as averaging common equipment (also included in the case of replacement.)

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Dedicated budget for other emissions reduction activities	Based on the concept of the business portfolio of the entire group through analysis of the market environment and competitive advantage, we decided to identify the priority business field. Thus, in the domestic electric power business we will replace thermal power stations that will contribute to strengthening competitiveness and will fund hydropower generation and renewable energy etc. with a view towards a low carbon society. As an investment portfolio, we have included strategic investment of 350 billion yen (2017FY to 2026FY) for efficiency reduction of thermal power plants, domestic renewable energy, green & innovation etc..

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?
Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.

Level of aggregation
Product

Description of product/Group of products
We sells low-carbon electricity generated by hydroelectric power and new energy.

Are these low-carbon product(s) or do they enable avoided emissions?
Low-carbon product

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Other, please specify (Categorized referring to the law)

% revenue from low carbon product(s) in the reporting year
6

Comment
The ratio of low-carbon products to revenues in FY2017 was calculated using the following method, as it is sensitive to our management. ※ Calculation formula: {Hydro power generation (12,212,000,000 kWh) + new energy etc. generated power (72,000,000 kWh)} / total power generation (196,668,000,000 kWh) ≒6 %

C-EU4.6

(C-EU4.6) Describe your organization's efforts to reduce methane emissions from your activities.

As the main component of LNG is methane, there is a possibility that methane will be emitted as the unburned part, but by controlling the ratio of fuel to air and making it burn completely, Methane is not emitted from our 10 LNG thermal power plants *. ※ Kashima, Chiba, Anesaki, Sodegaura, Futtsu, South Yokohama, Yokohama, Higashi-Ogijima, Kawasaki, Shinagawa

Although there is an obligation to report the emission of methane as long as it possesses target facilities in the relevant law, from the above, it is assumed that there is no targeted equipment under the law concerning the law and that there are no emission results.

C5. Emissions methodology

C5.1

(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start
April 1 2015

Base year end
March 31 2016

Base year emissions (metric tons CO2e)
91421000

Comment

Scope 2 (location-based)

Base year start
April 1 2015

Base year end
March 31 2016

Base year emissions (metric tons CO2e)
4300000

Comment

Scope 2 (market-based)

Base year start
April 1 2015

Base year end
March 31 2016

Base year emissions (metric tons CO2e)
3800000

Comment

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.
Japan Ministry of the Environment, Law Concerning the Promotion of the Measures to Cope with Global Warming, Superceded by Revision of the Act on Promotion of Global Warming Countermeasures (2005 Amendment)
The Tokyo Cap-and Trade Program

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)
84335000

Start date
April 1 2017

End date
March 31 2018

Comment

Past year 1

Gross global Scope 1 emissions (metric tons CO2e)
89037000

Start date
April 1 2016

End date
March 31 2017

Comment

Past year 2

Gross global Scope 1 emissions (metric tons CO2e)
91422000

Start date
April 1 2015

End date
March 31 2016

Comment

Past year 3

Gross global Scope 1 emissions (metric tons CO2e)
97222000

Start date
April 1 2014

End date
March 31 2015

Comment

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based
We are reporting a Scope 2, location-based figure

Scope 2, market-based
We are reporting a Scope 2, market-based figure

Comment

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Reporting year

Scope 2, location-based
3400000

Scope 2, market-based (if applicable)
3500000

Start date
April 1 2017

End date
March 31 2018

Comment

Past year 1

Scope 2, location-based
3800000

Scope 2, market-based (if applicable)
3700000

Start date
April 1 2016

End date
March 31 2017

Comment

Past year 2

Scope 2, location-based
4300000

Scope 2, market-based (if applicable)
3800000

Start date
April 1 2015

End date
March 31 2016

Comment

Past year 3

Scope 2, location-based
4700000

Scope 2, market-based (if applicable)
4500000

Start date
April 1 2014

End date
March 31 2015

Comment

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?
No

C6.5

(C6.5) Account for your organization's Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status
Relevant, calculated

Metric tonnes CO2e
1800

Emissions calculation methodology
Amount of purchased goods(10^6JPY) x emission factor (11.12 t-CO2/10^6JPY)

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Explanation
The emissions are calculated based on the emission factor provided by the database of the Ministry ofEnvironment.

Capital goods

Evaluation status
Relevant, calculated

Metric tonnes CO2e
1997000

Emissions calculation methodology
Capital investment(JPY) x Emission Factor about capital goods[tCO2e/JPY]

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Explanation
The emissions are calculated based on the emission factor provided by the database of the Ministry ofEnvironment.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status
Relevant, calculated

Metric tonnes CO2e
27220900

Emissions calculation methodology
(Electricity sales [MWh] ×0.0354 [tCO2e/MWh])+ (Electricity sales [MWh] –TEPCO’s transmission of electricity) ×0.518 [tCO2e/MWh])

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Explanation
The emissions are calculated 1. Emissions of electricity generation purchased from other companies and 2. Emissions from fuel procurement for sales power. 1. is calculated based on the total electricity sales multiply by 0.518. 0.518 is provide by the national average coefficient by the Ministry of Environment greenhouse gas emission factor. 2. is calculated based on the electricity sales minus TEPCO’s transmission of electricity multiply by 0.0354. 0.0354 is provide by the database of the Ministry of Environment.

Upstream transportation and distribution

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
0

Emissions calculation methodology
Our business is an energy-related activity, and we calculate transportation and distribution in the upstream sector as of category 3.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Explanation
Our business is an energy-related activity, and we calculate transportation and distribution in the upstream sector as of category 3.

Waste generated in operations

Evaluation status
Relevant, calculated

Metric tonnes CO2e
29000

Emissions calculation methodology
Using emission unit intensity by waste type treatment method for the amount of major industrial waste (coalash, gypsum recorvered through desulfurlzation, scrapped concrete utility poles, metal scraps, pcb,wastewater treatment sludge, heavy/crude oil ash, shells, etc.) Calculated

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Explanation
The emissions from waste disposal caused by genarations are included the emissions from Fuel-and-energy-related activities.

Business travel

Evaluation status
Relevant, calculated

Metric tonnes CO2e
5000

Emissions calculation methodology
Total number of employees multuples emission rate per employee

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Explanation
The emissions are calculated based on the emission factor provided by the database of the Ministry ofEnvironment.

Employee commuting

Evaluation status
Relevant, not yet calculated

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Explanation
The commuting methods of our employees are diverse, such as walking, bicycles, public transportation, buses for employees, private vehicles, etc. Currently, it is difficult to capture them all, so we have not calculated.

Upstream leased assets

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
0

Emissions calculation methodology
There is no operation and use of leased assets in our business except Scope 1.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Explanation
There is no operation and use of leased assets in our business except Scope 1.

Downstream transportation and distribution

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
0

Emissions calculation methodology
In our business, we do our own distribution.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Explanation
In our business, we do our own distribution.

Processing of sold products

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
0

Emissions calculation methodology
Our business is to supply energy, not to sale products.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Explanation
Our business is to supply energy, not to sale products.

Use of sold products

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
0

Emissions calculation methodology
Our business is to supply energy, not to sale products.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Explanation
Our business is to supply energy, not to sale products.

End of life treatment of sold products

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
0

Emissions calculation methodology
Our business is to supply energy, not to sale products.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Explanation
Our business is to supply energy, not to sale products.

Downstream leased assets

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
0

Emissions calculation methodology
There is no operation and use of leased assets in our business except Scope 2.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Explanation
There is no operation and use of leased assets in our business except Scope 2.

Franchises

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
0

Emissions calculation methodology
There is no franchise in our business

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Explanation
There is no franchise in our business

Investments

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Explanation
Not applicable to our business.

Other (upstream)

Evaluation status

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Explanation

Other (downstream)

Evaluation status

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Explanation

C6.7

(C6.7) Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?
No

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure
0.0001501222

Metric numerator (Gross global combined Scope 1 and 2 emissions)
87835000

Metric denominator
unit total revenue

Metric denominator: Unit total
5850900000000

Scope 2 figure used
Market-based

% change from previous year
13.27

Direction of change
Decreased

Reason for change
Decreasing of Scope1 emission by decreasing oil consumption(A)Scope1 emission decrease:89,037,000-84,335,000=-4,702,000Decreasing of Scope2 emission byenergy conservation under energysaving promotions in our entirebuildings and facilities(B)Scope 2 emission decrease:3,700,000-3,500,000=-200,000(C)Change in emission: (A)+(B)= -4,902,000CO2e Increasing of our total consolidated sales from 5357700M yen to 5850900M yen

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?
Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	84200000	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	60000	IPCC Fourth Assessment Report (AR4 - 100 year)
HFCs	5000	IPCC Fourth Assessment Report (AR4 - 100 year)
SF6	61000	IPCC Fourth Assessment Report (AR4 - 100 year)

C-EU7.1b

(C-EU7.1b) Break down your total gross global Scope 1 emissions from electric utilities value chain activities by greenhouse gas type.

	Gross Scope 1 CO2 emissions (metric tons CO2)	Gross Scope 1 methane emissions (metric tons CH4)	Gross Scope 1 SF6 emissions (metric tons SF6)	Gross Scope 1 emissions (metric tons CO2e)	Comment
Fugitives	0	0	61000	61000	
Combustion (Electric utilities)	84200000	0	0	84200000	
Combustion (Gas utilities)	0	0	0	0	
Combustion (Other)	0	0	0	0	
Emissions not elsewhere classified	0	0	0	0	

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO2e)
Japan	84335000

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By business division

C7.3a

(C7.3a) Break down your total gross global Scope 1 emissions by business division.

Business division	Scope 1 emissions (metric ton CO2e)
Thermal power generation	84158000
Power Transmission and Distribution	174000
Retail	216
Corporate and non-fossil fuel power generation	17000

C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions , metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility generation activities	84335000	<Not Applicable>	
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions , metric tons CO2e	Comment

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Japan	3400000	3500000	6551000	430

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By business division

C7.6a

(C7.6a) Break down your total gross global Scope 2 emissions by business division.

Business division	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
Thermal power generation	2763000	2930000
Power Transmission and Distribution	99000	102000
Retail	1000	1000
Corporate and non-fossil fuel power generation	490000	465000

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Decreased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption		<Not Applicable>		
Other emissions reduction activities	4902000	Decreased	5.29	Decreasing of Scope1 emissionby decreasing oil consumption(A)Scope1 emission decrease:89,037,000-84,335,000=-4,702,000Decreasing of Scope2 emission byenergy conservation under energysaving promotions in our entirebuildings and facilities(B)Scope 2 emission decrease:3,700,000-3,500,000=-200,000(C)Change in emission: (A)+(B)= -4,902,000CO2e(D)Emission value=(1- (F)/(E))*100=5.29%(E)=FY2016 scope1+2： 92,737,000(F)=FY2017 scope1+2： 87,835,000
Divestment		<Not Applicable>		
Acquisitions		<Not Applicable>		
Mergers		<Not Applicable>		
Change in output		<Not Applicable>		
Change in methodology		<Not Applicable>		
Change in boundary		<Not Applicable>		
Change in physical operating conditions		<Not Applicable>		
Unidentified		<Not Applicable>		
Other		<Not Applicable>		

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Market-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 20% but less than or equal to 25%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertakes this energy-related activity
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	Yes
Consumption of purchased or acquired steam	Yes
Consumption of purchased or acquired cooling	Yes
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	12280000	184200000	196480000
Consumption of purchased or acquired electricity	<Not Applicable>	0	6546254	6546254
Consumption of purchased or acquired heat	<Not Applicable>	0	1314.17	1314.17
Consumption of purchased or acquired steam	<Not Applicable>	0	399.44	399.44
Consumption of purchased or acquired cooling	<Not Applicable>	0	3003.06	3003.06
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	419.4	<Not Applicable>	419.4
Total energy consumption	<Not Applicable>	12280419.4	19750970.7	203031390.1

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of heat	No
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Fuels (excluding feedstocks)
Crude Oil Heavy

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
11382924.4

MWh fuel consumed for self-generation of electricity
11382924.4

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration
<Not Applicable>

Comment
1GJ=0.277778MWh

Fuels (excluding feedstocks)
Coal

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
59295658.55

MWh fuel consumed for self-generation of electricity
59295658.55

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration
<Not Applicable>

Comment
1GJ=0.277778MWh

Fuels (excluding feedstocks)
Liquefied Natural Gas (LNG)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
348181445.21

MWh fuel consumed for self-generation of electricity
348181445.21

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration
<Not Applicable>

Comment
1GJ=0.277778MWh

Fuels (excluding feedstocks)
Wood Chips

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
365683.63

MWh fuel consumed for self-generation of electricity
365683.63

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration
<Not Applicable>

Comment
1GJ=0.277778MWh

C8.2d

(C8.2d) List the average emission factors of the fuels reported in C8.2c.

Coal

Emission factor
0.09057

Unit
metric tons CO2e per GJ

Emission factor source
Japan Ministry of the Environment, Law Concerning the Promotion of the Measures to Cope with Global Warming

Comment

Crude Oil Heavy

Emission factor
0.0715

Unit
metric tons CO2 per GJ

Emission factor source
Japan Ministry of the Environment, Law Concerning the Promotion of the Measures to Cope with Global Warming

Comment

Liquefied Natural Gas (LNG)

Emission factor
0.0495

Unit
metric tons CO2 per GJ

Emission factor source
Japan Ministry of the Environment, Law Concerning the Promotion of the Measures to Cope with Global Warming

Comment

Wood Chips

Emission factor
0

Unit
metric tons CO2e per GJ

Emission factor source
Japan Ministry of the Environment, Law Concerning the Promotion of the Measures to Cope with Global Warming

Comment

C8.2e

(C8.2e) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	204241164.24	7761164.24	12765072.77	485072.77
Heat				
Steam				
Cooling				

C-EU8.2e

(C-EU8.2e) For your electric utility activities, provide a breakdown of your total power plant capacity, generation, and related emissions during the reporting year by source.

Coal – hard

Nameplate capacity (MW)
3200

Gross electricity generation (GWh)

Net electricity generation (GWh)
24100

Absolute scope 1 emissions (metric tons CO2e)
19333452.59

Scope 1 emissions intensity (metric tons CO2e per GWh)
802.22

Comment

Lignite

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO2e)

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment

Oil

Nameplate capacity (MW)
130

Gross electricity generation (GWh)

Net electricity generation (GWh)
3900

Absolute scope 1 emissions (metric tons CO2e)
2929941.3

Scope 1 emissions intensity (metric tons CO2e per GWh)
751.27

Comment

Gas

Nameplate capacity (MW)
29250

Gross electricity generation (GWh)

Net electricity generation (GWh)
156400

Absolute scope 1 emissions (metric tons CO2e)
62045883.9

Scope 1 emissions intensity (metric tons CO2e per GWh)
396.71

Comment

Biomass

Nameplate capacity (MW)
0

Gross electricity generation (GWh)
0

Net electricity generation (GWh)
0

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment

Waste (non-biomass)

Nameplate capacity (MW)
0

Gross electricity generation (GWh)
0

Net electricity generation (GWh)
0

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment

Nuclear

Nameplate capacity (MW)
12610

Gross electricity generation (GWh)
0

Net electricity generation (GWh)
0

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment

Geothermal

Nameplate capacity (MW)
3.3

Gross electricity generation (GWh)

Net electricity generation (GWh)
10

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment

Hydroelectric

Nameplate capacity (MW)
9870

Gross electricity generation (GWh)

Net electricity generation (GWh)
12200

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment

Wind

Nameplate capacity (MW)
20

Gross electricity generation (GWh)

Net electricity generation (GWh)
40

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment

Solar

Nameplate capacity (MW)
30

Gross electricity generation (GWh)

Net electricity generation (GWh)
30

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment

Other renewable

Nameplate capacity (MW)
0

Gross electricity generation (GWh)
0

Net electricity generation (GWh)
0

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment

Other non-renewable

Nameplate capacity (MW)
0

Gross electricity generation (GWh)
0

Net electricity generation (GWh)
0

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment

Total

Nameplate capacity (MW)
63690

Gross electricity generation (GWh)

Net electricity generation (GWh)
196480

Absolute scope 1 emissions (metric tons CO2e)
84309277.79

Scope 1 emissions intensity (metric tons CO2e per GWh)
429.1

Comment

C8.2f

(C8.2f) Provide details on the electricity, heat, steam and/or cooling amounts that were accounted for at a low-carbon emission factor in the market-based Scope 2 figure reported in C6.3.

C-EU8.4

(C-EU8.4) Does your electric utility organization have a transmission and distribution business?
Yes

C-EU8.4a

(C-EU8.4a) Disclose the following information about your transmission and distribution business.

Country/Region
Japan

Voltage level
Transmission (high voltage)

Annual load (GWh)
287494

Scope 2 emissions (basis)
Market-based

Scope 2 emissions (metric tons CO2e)
102000

Annual energy losses (% of annual load)
3.8

Length of network (km)
400000

Number of connections
30208036

Area covered (km2)
39575

Comment

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

C-EU9.5a

(C-EU9.5a) Break down, by source, your total planned CAPEX in your current CAPEX plan for power generation.

Primary power generation source	CAPEX planned for power generation from this source	Percentage of total CAPEX planned for power generation	End year of CAPEX plan	Comment
Nuclear	171276000	30.8	2019	
Hydroelectric	14674000000	1.31	2019	The figures include hydropower as well as capital expenditures on other renewable energy sources such as wind power.
Gas	55307000000	11.9	2019	The figures are the total capital investment of thermal power generation.
Please select				

C-EU9.5b

(C-EU9.5b) Break down your total planned CAPEX in your current CAPEX plan for products and services (e.g. smart grids, digitalization, etc.).

Products and services	Description of product/service	CAPEX planned for product/service	Percentage of total CAPEX planned products and services	End of year CAPEX plan
Smart grid	Capital expenditures for smart meters instllation in the distribution division of TEPCO Power Grid Co., Ltd.	123234000000	19.1	2019

C-CO9.6/C-EU9.6/C-OG9.6

(C-CO9.6/C-EU9.6/C-OG9.6) Disclose your investments in low-carbon research and development (R&D), equipment, products, and services.

Investment start date
April 1 2018

Investment end date
March 31 2019

Investment area
R&D

Technology area
Renewable energy

The figure includes R&D for non-fossil fuel energies.

Investment maturity
Applied research and development

Investment figure
8881000000

Low-carbon investment percentage
21-40%

Please explain
The Company's technology development is based on the “Mid-to-Long-term Road Map for Decommissioning of the Fukushima Daiichi Nuclear Power Station” and the “New and Comprehensive Special Business Plan”. We are focusing on "Technological development for promoting decommissioning based on medium- and long-term roadmap" and "Technological development contributing to the achievement of stable nuclear power supply and stable supply of electricity," which is a low-carbon power source. The figures are the research and development expenses of TEPCO Holdings, Inc., which is engaged in nuclear power and renewable energy generation businesses.

Investment start date
April 1 2018

Investment end date
March 31 2019

Investment area
R&D

Technology area
Steam turbine and/or other component upgrades

Investment maturity
Applied research and development

Investment figure
1653000000

Low-carbon investment percentage
21-40%

Please explain
The figures are the research and development expenses of Tokyo Electric Fuel & Power Co., Ltd., which operates fuel procurement and thermal power generation businesses.

Investment start date
April 1 2018

Investment end date
March 31 2019

Investment area
R&D

Technology area
Smart grids

Investment maturity
Applied research and development

Investment figure
6897000000

Low-carbon investment percentage
21-40%

Please explain
The figures are the research and development expenses of Tokyo Electric Power Grid Co., Ltd., which operates the transmission and distribution business.

Investment start date
April 1 2018

Investment end date
March 31 2019

Investment area
R&D

Technology area
Demand side response programs

Investment maturity
Applied research and development

Investment figure
1237000000

Low-carbon investment percentage
21-40%

Please explain
The figures are the research and development expenses of Tokyo Electric Energy Partner Co., Ltd., which operates the electricity and gas retail business.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	No third-party verification or assurance
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	No third-party verification or assurance

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 and/or Scope 2 emissions and attach the relevant statements.

Scope
Scope 2 location-based

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Third party verification/assurance underway

Attach the statement
20181107_Verification_Reprt-J.pdf
20181107_Verification_Reprt-E.pdf

Page/ section reference
The entire document is relevant.

Relevant standard
Tokyo cap-and-trade guideline for verification

Proportion of reported emissions verified (%)
0

Scope
Scope 1

Verification or assurance cycle in place
Annual process

Status in the current reporting year
No verification or assurance of current reporting year

Type of verification or assurance
Not applicable

Attach the statement

Page/ section reference
Although third-party verification of Scope 1 emissions from power generation has not been conducted, it is calculated based on the Global Warming Measures Promotion Act and the Energy Conservation Act, and is reported to the government annually.

Relevant standard
Other, please specify (Global Warming Measures Act, GHG emissions calculation reporting guidelines)

Proportion of reported emissions verified (%)
0

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?
No, but we are actively considering verifying within the next two years

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.

Japan carbon tax
Saitama ETS
Tokyo CaT

C11.1b

(C11.1b) Complete the following table for each of the emissions trading systems in which you participate.

Saitama ETS

% of Scope 1 emissions covered by the ETS
0

Period start date
April 1 2016

Period end date
March 31 2020

Allowances allocated
23593

Allowances purchased
0

Verified emissions in metric tons CO2e
10724

Details of ownership
Facilities we operate but do not own

Comment
The emissions trading system in Saitama Prefecture targets only Scope 2 emissions. The target sites fulfill their reduction obligations by “efficient operation of heat source”, “appropriate setting of air conditioning INV according to mechanical load”, and “minimization of lighting equipment, stopping of elevator, etc.”. In addition, the target establishments have acquired the certification of 【National Environment Pollution Prevention Promotion Office in Aya】, which contributed to ESG．

Tokyo CaT

% of Scope 1 emissions covered by the ETS
0

Period start date
April 1 2015

Period end date
March 31 2020

Allowances allocated
28915

Allowances purchased
0

Verified emissions in metric tons CO2e
14109

Details of ownership
Facilities we own and operate

Comment
Tokyo Cap-and-Trade only covers scope2 of TEPCO's emissions in Tokyo metropolitan area, which amount of emission from power plant is not included. The regurated offices fulfill the obligations by taking both facility and operation measures. The measures includes installation of high-efficient heating devices for hot-water supply, appropriate temperature setting for air-conditioner during summer and winter seasons, and efficient operation of elevator. TEPCO is making continuous efforts to reduce emissions regardless of locations and emission methods. Offices in Tokyo area as well as offices in other areas steadily works on an energy saving measures and reduction of GHG emissions, and best practices are developed in other offices. Also power plants have taken heat efficient measures and others to reduce scope1 emissions.

C11.1c

(C11.1c) Complete the following table for each of the tax systems in which you participate.

Japan carbon tax

Period start date
April 1 2017

Period end date
March 31 2018

% of emissions covered by tax
100

Total cost of tax paid
22652051500

Comment
The total cost of the tax paid is the amount of fuel consumption in fiscal 2017 multiplied by the tax rate for "Tax for global warming measures"

C11.1d

(C11.1d) What is your strategy for complying with the systems in which you participate or anticipate participating?

Tokyo Cap-and-Trade only covers scope2 of TEPCO's emissions in Tokyo metropolitan area, which amount of emission from power plant is not included. The regurated offices fulfill the obligations by taking both facility and operation measures. The measures includes installation of high-efficient heating devices for hot-water supply, appropriate temperature setting for air-conditioner during summer and winter seasons, and efficient operation of elevator. TEPCO is making continuous efforts to reduce emissions regardless of locations and emission methods. Offices in Tokyo area as well as offices in other areas steadily works on an energy saving measures and reduction of GHG emissions, and best practices are developed in other offices. Also power plants have taken heat efficient measures and others to reduce scope1 emissions.

The emissions trading system in Saitama Prefecture targets only Scope 2 emissions. The target sites fulfill their reduction obligations by “efficient operation of heat source”, “appropriate setting of air conditioning INV according to mechanical load”, and “minimization of lighting equipment, stopping of elevator, etc.”. In addition, the target establishments have acquired the certification of 【National Environment Pollution Prevention Promotion Office in Aya】, which contributed to ESG．

The Group is working not only on the response to Tokyo and Saitama Prefecture under the global warming countermeasure system but also on energy saving measures and GHG emission reduction, and develops best practices to other business sites.

With regard to carbon taxes (taxes to combat global warming), as a result of reducing the amount of fuel used by increasing the efficiency of thermal power generation facilities and performing optimal operation on a daily basis, we have reduced carbon taxes.

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?
Yes

C11.2a

(C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.

Credit origination or credit purchase
Credit purchase

Project type
Biomass energy

Project identification
Use of Charcoal from Renewable Biomass Plantations as Reducing Agent in Pig Iron Mill in Brazil

Verified to which standard
CDM (Clean Development Mechanism)

Number of credits (metric tonnes CO2e)
6161

Number of credits (metric tonnes CO2e): Risk adjusted volume
6161

Credits cancelled
No

Purpose, e.g. compliance
Voluntary Offsetting

C11.3

(C11.3) Does your organization use an internal price on carbon?
Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Objective for implementing an internal carbon price
Supplier engagement

GHG Scope
Scope 3

Application
In the case of procuring electricity generated from a thermal power plant by bidding, we evaluated the bid price including the cost of carbon credits to offset CO2 emissions based on government bidding guidelines.

Actual price(s) used (Currency /metric ton)
1992

Variance of price(s) used
The price does not differ depending on the area and related departments. In addition, the price is adopted as a fixed (unchanged) price reflecting future price change forecasts.

Type of internal carbon price
Internal fee

Impact & implication
Carbon price has already impacted to the electricity bidding price. ・Set the conditions for bidding for the CO2 emission intensity to be 0.550kg-CO2 / kWh or less ・In the case of exceeding 0.550 kg – CO2 / kWh, evaluate the price including the carbon credit assumed cost for adjusting to 0.550kg-CO2 / kWh or less ・The price of carbon credits is estimated based on the 2020 estimated value of "World Energy Outlook 2013 edition" (1,992yen / t-CO2), assuming up to 2035 price. As a result of the successful bid, we will procure approximately 1.5 million kW from four companies after fiscal 2020. As of 2017, each company is carrying out construction etc. for the start of supply.

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?
Yes, our suppliers
Yes, our customers
Yes, other partners in the value chain

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement
Information collection (understanding supplier behavior)

Details of engagement
Collect climate change and carbon information at least annually from suppliers

% of suppliers by number
1

% total procurement spend (direct and indirect)
90

% Scope 3 emissions as reported in C6.5
81

Rationale for the coverage of your engagement
JERA is a power generation company jointly established by TEPCO F & P and Chubu Electric Power Co., Ltd. TEPCO F & P and Chubu Electric hold a 50% stake in JERA respectively. The ownership transfer of thermal power generation assets to JERA was completed in April 2019, becoming an extremely important upstream supplier in the power supply business of the TEPCO Group. Of the power that the TEPCO Group sells to customers, most of the power supplied by thermal power generation is purchased from JERA, so we recogniz that it is appropriate as a supplier engagement activity. For the ratio of total procurement amount, the ratio of purchased electric power from JERA was used among the total sales electric power in FY 2017.

Impact of engagement, including measures of success
JERA promotes high efficiency of thermal power generation by introducing high efficiency gas turbine etc., and promotes low carbonization by investing in renewable energy generation. We refer to electricity sales per unit of sales as an indicator of engagement, which has fallen over time.

Comment

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement
Education/information sharing

Details of engagement
Run an engagement campaign to educate customers about the climate change impacts of (using) your products, goods, and/or services

% of customers by number
100

% Scope 3 emissions as reported in C6.5
0

Please explain the rationale for selecting this group of customers and scope of engagement
We consider environmental and energy education for young people to be important because the mitigation measures and effects of climate change are long-term, so with the cooperation of travel agencies, hydropower plants for elementary and junior high school students, etc. The workplace experience of the energy supply business is implemented.

Impact of engagement, including measures of success
After conducting workplace experiences, we surveyed parents and measured their understanding of environmental and energy issues and our activities. The workplace experience has received many applications each time, and I consider the evaluation of engagement to be excellent.

C12.1c

(C12.1c) Give details of your climate-related engagement strategy with other partners in the value chain.

The TEPCO Group, in collaboration with other power producers and retail power producers, established the Electric Low Carbon Society Council (ELCS) as an electricity supplier to achieve the 2030 national energy policy goals. We are carrying out collaborative efforts throughout the electric power value chain. As of June 2019, 47 companies have become members, and their power sales amount to 90% of the whole country. Tokyo Electric Power Holdings supervises in 2019 and actively participates in the operation of the association. ELCS regularly collects data from member companies and carries out a review process based on clear indicators such as an expert and a third party review by the government regarding CO2 reduction targets.

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?
Direct engagement with policy makers
Trade associations
Funding research organizations

C12.3a

(C12.3a) On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Mandatory carbon reporting	Support with minor exceptions	Direct communication with policy makers is made in a timely manner. For instance, we have exchanged our opinions and made suggestions from various points of view in discussing Japan's national emission reduction target, so called INDC, and the Japan's Plan for Global Warming Countermeasures, through various channels.	For instance, we have made requests as follows: i) revision of calculation method based on liberalization of electricity retail from April 2016 and ii) early introduction of plan-by-plan calculation of emission intensity.
Clean energy generation	Support with minor exceptions	Direct communication with policy makers is made in a timely manner. For instance, in order to promote installation of renewable energy facilities, we exchanged views and made suggestions on the further deployment of renewable resources, Act on Special Measures Concerning Procurement of Electricity from Renewable Energy Sources by Electricity Utilities from the viewpoint of expertise (enforceable in Japan).	We have provided information about the expected influence of rapid renewable energy resources installation into the existing power grid. We also recommended a possible framework which enable affordable grid-connections fee.
Other, please specify (National GHG emission target)	Neutral	We have exchanged our opinions and made suggestions from various points of view in discussing Japan's national emission reduction target, so called INDC, and the Japan's Plan for Global Warming Countermeasures, through various channels.	We have advocated significant role of electrification and pursued its deployment in realizing a long-term GHG emission.

C12.3b

(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

Yes

C12.3c

(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.

Trade association
The Federation of Electric Power Companies of Japan (FEPC)

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
In promoting measures against global warming, the Federation of Electric Power Companies of Japan aims to simultaneously achieve stable energy supply, economic efficiency, and environmental protection, with the main premise of ensuring safety "S" (so-called S+3Es). From the point of view of S+3Es , based on the pursuit of an optimal energy mix, we are promoting efforts on both the supply and demand side, such as “lower energy consumption on the supply side” and “more efficient use of energy”.

How have you influenced, or are you attempting to influence their position?
The Company dispatches staff of the Electric Power Industry Association, and the managers of relevant departments are proactively promoting activities as a deputy head of the Working Group on Climate Change.

Trade association
KEIDANREN(Japan Business Federation)

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
Keidanren (Japan Business Federation) made recommendations for Japan's climate change policy from the viewpoint of balance between the environment and the economy, and stable supply of energy. Thus, Keidanren encourages Keidanren has encouraged each industry to develop action plan for achieving low-carbon society to promote voluntary mitigation actions under each industry's commitment and has formulated the "KEIDANREN's Commitment to a Low Carbon Society". This commitment is compiled in each industry "low carbon society implementation plan". "the Action Plan for a Low Carbon Society of Electric Power Industry" of ELCS is also an important component. We joined ELCS and are promoting high efficiency of thermal power generation and expansion of renewable energy in order to contribute to ELCS's targets based on "the Action Plan for a Low Carbon Society of Electric Power Industry" , and report the effort and the results of the previous year to ELCS every year. Then, ELCS reports the results of "the Action Plan for a Low Carbon Society of Electric Power Industry" to Keidanren and receives reviews.

How have you influenced, or are you attempting to influence their position?
We have participated in the Keidanren Global Environment Subcommittee, which discusses the impact of environmental policies such as climate change on industry, and formulate recommendations, etc., and participate in the international strategic work group on climate change, and advocate the position of the TEPCO Group.

Trade association
電気事業低炭素社会協議会

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
Under the premise of ensuring safety, the Electricity Business Low Carbon Society Council is based on the pursuit of the optimal energy mix from the viewpoint of “S + 3E” aiming at simultaneously achieving stable energy supply, economic efficiency, and environmental conservation. The member companies will firmly implement measures to combat global warming according to their business form.

How have you influenced, or are you attempting to influence their position?
As a member, the Company participates in general meetings and various regular meetings, and as a secretary, is actively involved in the operation of the council. In addition, we submit our activities and actual results to the association, and are actively involved in third-party review work.

Trade association
Japan TCFD Consortium

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
Companies and financial institutions that support the TCFD recommendations work together to promote effective disclosure of information on climate change by companies and to link the disclosed information to appropriate investment decisions by financial institutions etc. need to be discussed.

How have you influenced, or are you attempting to influence their position?
We are the first Japanese energy company to support the TCFD recommendations, and are actively involved in the operation of the consortium as a planning committee member.

C12.3d

(C12.3d) Do you publicly disclose a list of all research organizations that you fund?
Yes

C12.3f

(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

Policies on climate change, related issues in government and industry group and its impact on our business activities have been reported to the management by monthly report or in the management meeting, so as to ensure that all of our direct and indirect activities that influence policy are consistent with our overall climate change strategy.

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication
In mainstream reports

Status
Complete

Attach the document
201806-j.pdf
FY2018-Full-Year-Financial-Results.pdf

Page/Section reference
Business risks including climate change are listed in P20 of the statutory report (Japanese). The internal control system by directors and executive officers, including the Risk Management Committee, is described in P59 of the statutory report. An English version financial report is attached for reference. The internal control and business risk are disclosed below. https://www7.tepco.co.jp/about/ir/management/governance/report-e.html https://www7.tepco.co.jp/about/ir/management/risk-e.html

Content elements
Governance
Risks & opportunities

Comment

Publication
In voluntary sustainability report

Status
Complete

Attach the document
hd05-02-03-002-tir2018.pdf
hd05-02-03-002-tir2017_01-e.pdf
hd05-02-03-002-tir2018.pdf

Page/Section reference
Integrated Report 2017 and 2018 are attached. https://www7.tepco.co.jp/about/ir/library/integratedreport/index-e.html Bussiness risk is stated in P21 of 2017 version. Bussiness oppotunities, on the ohter hand, discribed at P42 and thereafter of 2017. Environmental activitie, relevant perfromance and targets are discribed in P57 and thereafter. Detailed environmental indicators are dsclosed at P95 and P96 of 2018 version.

Content elements
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

C14. Signoff

C-FI

(C-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.

C14.1

(C14.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Executive Vice President, CFO and representative executive officer in charge of ESG issues	Chief Financial Officer (CFO)

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

TEPCO sells Aqua Premium, a 100% CO2 free tariff menu for electricity generated hydropower, to corporate customers who wish to supply electricity from renewable energy. In order to become a main source of renewable energy, we will expand our renewable energy generation business, focusing on overseas hydropower generation and domestic and overseas wind power generation.

SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	5850900000000

SC0.2

(SC0.2) Do you have an ISIN for your company that you would be willing to share with CDP?

Yes

SC0.2a

(SC0.2a) Please use the table below to share your ISIN.

	ISIN country code (2 letters)	ISIN numeric identifier and single check digit (10 numbers overall)
Row 1	JP	358580VKE0

SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

Requesting member
KAO Corporation

Scope of emissions
Scope 3

Allocation level
Commodity

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
1959

Uncertainty (±%)
0

Major sources of emissions
The total value of our scope 2 + scope 3 (excluded category 3 related to CO2 from generation of power purchased from other companies, because because it should be customer's scope 2)

Verified
No

Allocation method
Allocation based on the volume of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The total value of supply chain emissions basic unit is our scope 2 + scope 3 (in category 3, CO2 related to the generation of power purchased from other companies is excluded because it becomes scope 2 of the customer). We take the value of consolidated sales divided by and assign the emissions by multiplying sales to the customer.

SC1.2

(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

Ministry of the Environment Supply Chain Emissions Calculation Guidelines

SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges	Please explain what would help you overcome these challenges
Diversity of product lines makes accurately accounting for each product/product line cost ineffective	Standardized useful guidance

SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

No

SC1.4b

(SC1.4b) Explain why you do not plan to develop capabilities to allocate emissions to your customers.

The method of calculating and publishing the emission factor per electricty sold has already been established under the domestic law, and according to that method, it is considered that customers are calculating and reporting as Scope 2 emissions in accordance with law. The GHG emissions related to electricity, which is the Group's main product, are dominated by the above emissions, and allocating other emissions per customer is not currently considered cost effective. .

SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

No

SC3.1

(SC3.1) Do you want to enroll in the 2019-2020 CDP Action Exchange initiative?

No

SC3.2

(SC3.2) Is your company a participating supplier in CDP's 2018-2019 Action Exchange initiative?

No

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?

No, I am not providing data

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

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

Please confirm below

I have read and accept the applicable Terms