Measures for TCFD Recommendations

One of the fundamental directions of the Company's management is to carry out its business activities "aggressively taking on carbon neutrality". Achieving carbon neutrality by 2050 is one of our responsibilities as a comprehensive energy company rooted in the region, and we believe that doing so will lead to the realization of a sustainable society in Okinawa by taking a unique path that does not have a significant impact on the local economy based on the characteristics of the region, namely a "Just Transition in the Okinawa area".

TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

In September 2019, OEPC expressed to support the Recommendations adopted by the Task Force on Climate-related Financial Disclosures (-TCFD).

* Task Force on Climate-related Financial Disclosure established by the Financial Stability Board (FSB) in response to the proposal of G20 Finance Ministers and the Central Bank

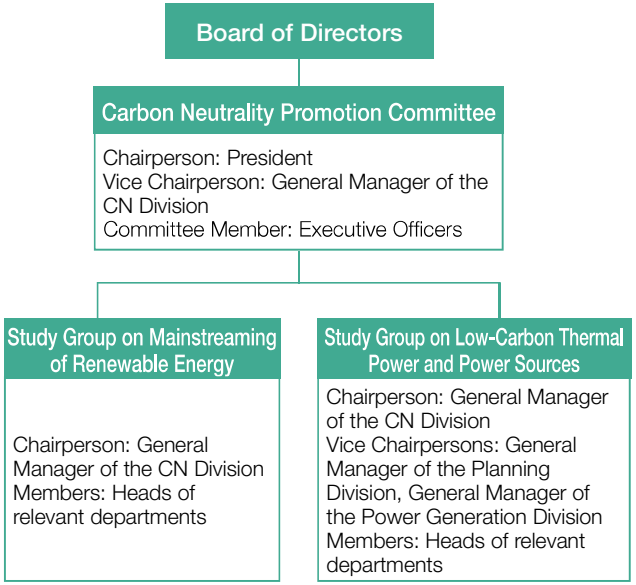
In order to steadily advance toward carbon neutrality, we will utilize the framework of the TCFD Recommendations to disclose information, appropriately respond to the risks and opportunities posed by climate change in our business activities, strive to increase corporate value, enhance information disclosure, and contribute to the realization of a sustainable society together with all stakeholders.

Governance

- Addressing climate change as an important management issue, we regularly hold meetings of the "Carbon Neutral Promotion Committee", chaired by the President, to discuss various measures and issues related to climate change, and strive to improve and enhance initiatives, etc. In addition to reporting the results of deliberations and management status to the Board of Directors, when significant issues related to climate change occur, reports will be made as appropriate and confirmation will be received.
- The Priority Action Policies were discussed by the "Carbon Neutrality Promotion Committee" and reflected in the management plan and policies. It was decided that the Board of Directors will discuss and decide the policy, and execution status of the business plan will be reported to the Board of Directors by each division.
- The OEPC Group Medium-Term Management Plan 2025 was formulated through the Board of Directors, including a long-term plan for achieving carbon neutrality by 2050.

Main matters to be reported to the Board of Directors (FY2023)

- 2050 Zero-emission roadmap progress report
- Report on TCFD information disclosure



Risk management

We check the status of risk management every year to prevent risks and quickly respond if risks occur. Business and financial risks, including risks related to climate change, are checked separately by coordinating with the relevant departments. Physical risks associated with climate change are assumed to be particularly important. The Equipment Department evaluates them from the perspective of protecting the equipment and ensuring the safety of employees. We prescribe regulatory documents such as risk management manuals, prepare for the occurrence of risks by conducting drills, simulate disasters caused by typhoons and tsunami, perform periodic evaluation and analysis of the effectiveness of our disaster prevention plan, examine risk mitigation measures, and take appropriate actions. The status of risk management is reported to senior management during management reviews.

Strategies —Referring climate change scenarios—

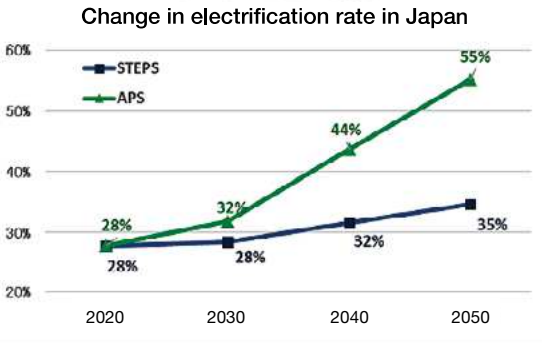
Since FY2020, we have been working to identify future climate change risks and opportunities by referring to multiple scenarios.
Possible events related to climate-related risks and opportunities in our company are summarized as follows: the 2°C Scenario, where necessary measures are taken to limit temperature rise to 2°C or less; the 1.5°C Scenario, where stricter measures are required than the 2°C Scenario; and the 4°C Scenario, where climate change measures exceeding the current level are not taken and decarbonization does not progress.

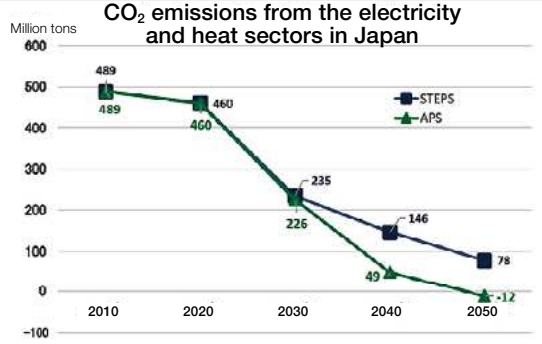
* In the midst of many long-term uncertainties, this is a summary of possible events for our company and it does not indicate future prospects.

2°C Scenario / 1.5°C Scenario

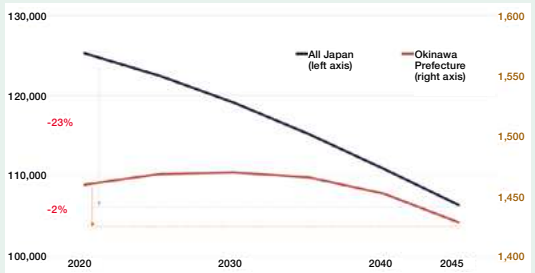
Referring to the World Energy Outlook 2023 of the International Energy Agency (IEA), the transition risks and opportunities for a decarbonized society were summarized.

In the 2°C Scenario (APS), while a certain degree of growth in electricity demand is expected due to the increasing decarbonization of society, there is a possibility that the cost of strengthening policies and regulations will increase. Furthermore, these trends may be more pronounced in the 1.5°C Scenario (NZE). We also believe that a number of technological breakthroughs and economic benefits must be achieved in the transition process.





Source: Prepared by our company based on Electricity and CO_2 emissions (Japan) referencing IEA World Energy Outlook 2023.



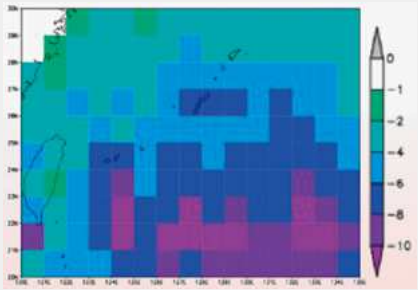
Source: Prepared by our company based on "Regional Population Projections for Japan (2018 estimate)" (National Institute of Population and Social Security Research) (https://www.ipss.go.jp/pp-shicyoson/j/shicyoson18/t-page.asp).

According to the National Institute of Population and Social Security Research, the population of Okinawa Prefecture is expected to decline by about 5% in 2050. Therefore, in Okinawa, the degree of impact on electricity demand due to population decline is limited, and electricity demand is expected to grow steadily, as electrification is expected to promote decarbonization.

4°C Scenario

We compiled physical risks, such as abnormal weather and opportunities by referring to RCP 8.5 of the IPCC (Intergovernmental Panel on Climate Change).

As a result of organizing future changes around Okinawa Prefecture around 2050 in the RCP 8.5 scenario from existing literature and existing data sets, it is possible that the number of future typhoons passing through the waters around Okinawa, especially in the southern part of the sea area, will decrease.
On the other hand, it is considered that the passing frequency of "strong" typhoons with high maximum wind speeds will increase.



Changes in the number of typhoons passing through the waters around Okinawa around 2050 (difference of future climate minus present climate) [units/10 years]

Strategies —Summary of risks and opportunities related to climate change—

	Risk			Manifestation timing: Short- to medium-term	Manifestation timing: Long-term	Degree of impact	Risk Overview (Financial Impact)	OEPC Group Initiatives
Transition Risks	Policy/Laws and regulations Transition to decarbonization policies: Increasing demand to reduce CO_2 emissions	1	Decline in the competitiveness of coal-fired power (Change in role of thermal power plants)			High	The cost of responding to policies for the decommissioning of inefficient coal-fired power. There are concerns about an increase in investment costs and depreciation costs related to the replacement of power plants, an increase in costs for the retirement of existing facilities, and an increase in fuel costs associated with the fade-out of coal thermal power plants.	• Expand introduction of clean fuels (biomass) • Ammonia co-firing • Promote consideration of next-generation power sources
		2	Introduction of carbon pricing, etc			High	Substantial cost increases are expected if carbon pricing is implemented. (On the other hand, reducing CO_2 through various climate change initiatives is equivalent to reducing the financial impact by about 9 billion yen*) * IEA WEO 2023 carbon price estimates for 2030 Estimated based on (NZE: US $140/t-CO2, APS: US $135/t-$CO_2$)	• To reduce GHG emissions, promote initiatives that contribute to mainstreaming renewable energy and reducing CO_2 emissions from thermal power plants, as outlined in the 2050 Net-Zero CO_2 Emissions Roadmap
		3	Impacts of fossil fuel costs due to lower fuel supply			High	The growing need for carbon neutrality has stalled investment in upstream development of fossil fuels, and there are concerns about rising prices due to supply shortages. Impact of a 1% increase in fuel costs: 940 million yen	• Diversify suppliers • Observe price trends
		4	Fuel cost impact of LNG conversion from coal (further utilization of LNG)			Medium	The shift from coal to LNG is expected to have a financial impact due to changes in fuel costs.	• Observe price trends
	Technology Progress in low-carbon and decarbonization technologies	5	Increase in grid stabilization costs (expanded introduction of renewable energy due to technological progress)			Medium	It is assumed that the cost of capital investments, such as storage batteries, for system stability measures with the introduction of renewable energy will increase.	• Utilize and upgrade system stabilization technology • Build and utilize VPP and DR using DX
	Market/Service Changes in customer preferences	6	Competition due to changes in customer preferences (increased environmental awareness)			Small to medium	Concern over the inability to increase sales due to competition with competitors in the environmentally friendly products industry.	• Strengthen decarbonization solutions and comprehensive energy services
	Reputation Change in corporate image	7	Decline in societal assessment of climate change response (CO_2 emissions)			Small to medium	Due to structural disadvantages in the Okinawa area, the situation of having to rely on fossil fuels gives a negative impression and the reputation of stakeholders falls.	• Expand climate change initiatives • Improve disclosure of climate-related information • Enhance dialogue with shareholders, institutional investors, etc.
Physical Risks	Acute Intensification of abnormal weather	8	Damage due to intensification of typhoons (increased recovery costs)	—		Small to medium	In the waters around Okinawa, while the number of typhoons passing through will decrease, the ratio of powerful typhoons will increase, raising the possibility of large-scale equipment damage and accidents. Potential impact: 1 billion yen * Most recent maximum damage amount (FY2023)	• Introduce facilities with high wind resistance • Appropriately maintain and manage equipment • Rapid response for early recovery • Implement disaster prevention and recovery drills in preparation for an emergency disaster • Strengthen cooperation with local governments and related organizations
		9	Damage caused by torrential rain	—		Small to medium	There are concerns regarding damage to facilities due to flooding and landslides caused by torrential rains associated with climate change.	• Raise building floors and outdoor equipment in areas where there is a risk of inundation or flooding • Implement measures against landslides taking into account topography, geology, etc. (walls, masonry, etc.)
		10	Climate change impacts on fuel suppliers			Small to medium	Damage caused by cyclone, heavy rain, and other extreme weather events at fuel suppliers are expected to hinder stable procurement and increase procurement costs Impact of a 1% increase in fuel costs: 940 million yen	• Diversify suppliers • Observe price trends
	Chronic Changes in climate patterns	11	Impact of changes in weather patterns on operations, etc. (destabilization of income/expenses)	—		Small to medium	High temperature days and rising extreme water levels may affect business.	• Improve equipment • Secure revenue sources that are not affected by temperature fluctuations

* The impact levels were rated as “Large: Impact would cause business to stop, or signifi cantly shrink or expand”, “Medium: Impact a portion of business”, and “Small: Minor impact”.
* The contents of this table summarize events that the Company can think of in the midst of many uncertainties, and do not indicate future outlook.

Strategies —Summary of risks and opportunities related to climate change—

We classify the “Risks and opportunities related to climate change” as shown in the table below.

Opportunity				Manifestation timing: Short- to medium-term	Manifestation timing: Long-term	Degree of impact	Overview of Opportunities (Financial Impact)	OEPC Group Initiatives
Opportunity	Expanded use of LNG outside the electricity business	1	Expanded use of LNG outside the electricity business (Further utilization of LNG)			Small to medium	As a countermeasure against climate change, efforts to achieve zero emissions are expected to accelerate, and earnings are expected to increase by expanding the use of renewable energy in small-scale power systems and by developing businesses that utilize knowledge regarding power system stabilization technologies cultivated by our Group.	The OEPC Group will work together to expand LNG sales channels.
	Products and Service/Market	2	Use of decarbonized power sources (development of services that contribute to expanding the introduction of renewable energy such as distributed power sources)			Small to medium	With the transition to a low-carbon and decarbonized society, the market need for natural gas, which emits less CO_2 than other fossil fuels, is expected to increase, and revenues from the gas business are expected to increase. SeED Okinawa LLC, which is utilizing the Group's knowledge and expertise to engage in the development of overseas business, achieved ordinary revenue of approximately 330 million yen in FY2023	The OEPC Group will work together to expand overseas business.
		3	Progress of electrification (changes in power demand structure due to climate change)			Small to medium	Increase in electric power demand due to progress in electrification Increase of 440 million yen when demand increases by 1%	• Strengthen decarbonization solutions and comprehensive energy services • Implement effective promotions based on customer needs
		4	Increasing customer needs for environmentally conscious plans			Small to medium	It is expected that KarE-roof (PV-TPO), which contributes to the adaptation of energy-saving housing and ZEH, and the “Uchinaa CO_2-free plan,” which is fully electric and environmentally friendly, will become more widespread.	
	Resilience	5	Energy security accumulated over many years due to typhoon response			Small to medium	Strengthening resilience against natural disasters by preventive measures such as “abrasion resistant electrical wire”, “low wind pressure electrical wire”, and rapid restoration measures will lead to the improvement of corporate value.	• Strengthen distribution facilities • Rapid response for early recovery • Examine and develop new technologies

* Occurrence timing has been set as “short to mid: by 2030” and “long: by 2050”.
* The impact levels were rated as “Large: Impact would cause business to stop, or significantly shrink or expand”, “Medium: Impact a portion of business”, and “Small: Minor impact”.
* The contents of this table summarize events that the Company can think of in the midst of many uncertainties, and do not indicate future outlook.

Indicators and goals

We announced our long-term guidelines “OEPC’s Approach to Zero Emissions ~Towards 2050 Net-Zero CO_2 Emissions~” in December 2020 and based on our roadmap for the next 30 years, we will implement a variety of measures, with two directions: “Make renewable energy a mainstay” and “Reduce CO_2 emissions from thermal power”.

We have set an ambitious target of a “30% reduction in FY2030 (compared to FY2005)” and will speedup the “Just Transition in the Okinawa area” with maximized initiatives, including various carbon neutral measures as indicated in our roadmap.

- Addition of **+100,000 kW** renewable energy in FY2030
- Reduce CO_2 emissions by **30%** in FY2030 compared to FY2005

➡ See p.45 - p.49 for details on the roadmap.

Greenhouse gas emissions through the supply chain

[10,000 t -CO_2]

Scope	2021	2022	2023
Scope 1*1	449	456	400
Scope 2*2	0.3	0.3	0.2
Scope 3*3	159	153	156

*1 Direct emissions of greenhouse gases as defined in the Act on Promotion of Global Warming Countermeasures (CO_2, N_2O, HFC, SF_6, etc.)
*2 Indirect emissions associated with the use of electricity and steam supplied by other companies
*3 Categories covered by Scope 3 are as follows.

Categories covered by Scope 3

- Category 2: Capital goods
- Category 3: Fuel- and energy-related activities not included in Scope 1 or 2
- Category 4: Upstream transportation and distribution
- Category 5: Waste generated in operations
- Category 6: Business travel
- Category 7: Employee commuting
- Category 11: Use of sold products

Progress and outlook of major measures toward CO_2 reduction targets