Becoming a Force that Lights Up the Region Value Creation through Business Activities

## **Response to Environmental Issues**

For the sake of the earth and communities and their future, our Group is taking initiatives against climate change and initiatives for environmental conservation to reduce environmental burdens.

#### **Initiatives Against Climate Change**



In order to increase the effectiveness of our efforts to create our sustainable corporate value, we are striving to identify changes in social needs and risk factors from an ESG perspective and reflecting those we identified in our business operations. As part of it, in September 2019, we expressed our support for the TCFD\* recommendations to sufficiently disclose information on climate change and fulfill our accountability to our stakeholders.

\* Abbreviation for the "Task Force on Climate-related Financial Disclosures". The TCFD was established in December 2015 by the Financial Stability Board (FSB), which is composed of financial authorities of major countries, in response to a request from the G20 Finance Ministers and Central Bank Governors. In June 2017, the TCFD published recommendations on the disclosure of information concerning climate-related risks and opportunities.

#### Governance

# Governance and promotion framework for measures against climate change

We have positioned our response to climate change as an important challenge in our business management, and we are actively taking initiatives against climate change under the leadership of our committee to promote sustainability (chaired by the President), committee for environmental management (chaired by the General Manager of the General Planning Division), and committee to promote carbon neutrality (chaired by the President).

Any issues that are deemed important in deliberation by the committees are submitted to the Board of Directors and other higher-level committees, and issues determined as important are described in the annual management plans and business plans to solve the issues.



Environmental<br/>Management CommitteeEstablished to deliberate on targets for climate change, and evaluation, management, and disclosure of our<br/>achievements of the targets.Carbon Neutrality<br/>Promotion CommitteeEstablished to deliberate on policies of initiatives for supply and demand (See pages 28 and 29) aimed at our carbon<br/>neutrality by 2050.

# Performance-linked remuneration system in consideration of climate change measures

We introduced a performance-linked remuneration system (See page 69) for our directors and other officers to reflect our

achievements for climate change in their remuneration in order to advance our efforts for low-carbon implementation and decarbonization.

#### **Response to Environmental Issues**

#### Risk management

We recognize the importance of managing climate changerelated risks, and every year we consider the likelihood of the risks occurring and their impact on income and expenditures (increase in costs) to identify climate change-related risks that could have a significant impact on our business. The identified

#### Strategy

We will continually assess how climate change-related risks and opportunities will affect our business with conceivable scenarios, and based on the results of the assessment, we will develop and implement necessary measures and countermeasures.

#### **Scenario selection**

To curb temperature rise, we selected a scenario in which no additional countermeasures are taken (4°C scenario<sup>\*1</sup>), and a scenario in which currently announced policies are fully achieved and additional countermeasures are taken (1.5°C scenario<sup>\*2</sup>), and envisioned outlooks for the electricity industry under the scenarios.

\*1 Reference: STEPS (Stated Policies Scenario) by the International Energy Agency (IEA), SSP5-8.5 in the Sixth Assessment Report by IPCC

\*2 Reference: Net Zero Scenario (NZE) by the International Energy Agency (IEA) and SSP1-1.9 in the Sixth Assessment Report by IPCC

#### Future image of the electric power business

risks are checked by management, and confirmed risks are mentioned in our business plans for the next year to let our employees prevent the risks from occurring.

\* The management system for climate change-related risks is integrated into the companywide risk management system (See page 70).

### Changes in global average temperature, using 1850 to 1900 as a baseline



ltem		1.5°C Scenario	4°C Scenario		
Policies	Energy policies	<ul> <li>Sudden change in policies aimed at decarbonization (to promote the development of renewable energy, nuclear energy and hydrogen energy)</li> </ul>	<ul> <li>Gradual change in policies aimed at decarbonization (to maintain thermal power generation, introducing renewable energy along the current policy path, giving consideration to stable supply and economic factors)</li> </ul>		
	Other policies	<ul> <li>Rapid introduction of carbon tax and emissions trading system</li> </ul>	• Gradual introduction of carbon tax and emissions trading system		
Technology	Low carbonization and decarbonization technologies	<ul> <li>Rapid progress in technological innovation for low- carbon and carbon-free power generation</li> </ul>	<ul> <li>Slow progress in technological innovation for low-carbon and carbon-free power generation</li> </ul>		
Fuel price	Fossil fuels	• Decrease in the amount of fossil fuels used, which leads to a fall in fuel prices	<ul> <li>Gradual decrease in the amount of fossil fuels used, which leads to a gradual fall in fuel prices</li> </ul>		
Market	Energy demand	<ul> <li>Electrification progressing toward decarbonization, causing an increase in electricity demand</li> </ul>	<ul> <li>Momentum in society toward decarbonization not increased, causing electrification to delay and electricity demand remain at the current level</li> </ul>		
	Customer needs	<ul> <li>Significant increase in demand for low-carbon and decarbonized power</li> </ul>	<ul> <li>Increase in demand for low-carbon and decarbonized power remaining at a certain level</li> </ul>		
Disasters	Unusual weather	<ul> <li>No significant change in the extent of damage caused by a typhoon or other unusual weather</li> </ul>	<ul> <li>Significant increase in damage by a typhoon or other unusual weather</li> </ul>		

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#### **Risks and opportunities**

We have identified climate change-related risks and opportunities for the 1.5°C and 4°C scenarios. We then assessed the major impacts of the risks expected for the respective scenarios, including how they will affect our business from the perspective of income and expenditure. Through the assessment, we confirmed that costs may increase, mainly due to an increase in the ratio of non-fossil fuel power sources/ reinforcement in regulations on thermal power sources and to the introduction of carbon pricing. However, we also confirmed that we can expect an improvement in income and expenditures due to an increase in the value of non-fossil fuel power sources and to progress in electrification and increase in demand for low-carbon and decarbonized power.

Also, we considered measures to minimize the risks and maximize the opportunities. The measures have already been described in our Group's Medium-term Management Plan, and we will do our business according to the plan to help realize a sustainable society.

#### Key risks, opportunities and measures extracted from each scenario

Classification			Impact period*	Details of risks and opportunities	Main measures
	Policies and regulations	Increase in the ratio of non- fossil power sources and enhancement of regulations on thermal power sources	Short/ Medium/ Long	<ul> <li>Increase in costs due to the increase in the ratio of non- fossil power sources and enhancement of regulations on thermal power sources</li> </ul>	R&D and introduction of new technologies such as hydrogen and ammonia power generation     Expansion of the introduction of renewable energy power sources
risks	5	Introduction of carbon pricing	Medium/ Long	Increase in costs due to the introduction of carbon pricing	<ul> <li>Advising for energy policy and involvement in energy policy</li> </ul>
Transition	Market	Decrease in electricity sales	Short/ Medium/ Long	<ul> <li>Decrease in electricity sales due to the spread of distributed power sources</li> <li>Decrease in the customer acceptability for pricing plans with low environmental value derived from thermal power sources, resulting in reduced electricity sales</li> </ul>	Planning for profit opportunities with business projects designed to leverage distributed power resources     Promotion of low carbonization and decarbonization of power sources
	Reputation	Insufficient information disclosure	Short/ Medium/ Long	Decline in investor appetite, reputational damage resulting in higher funding costs, lower stock price, and/or divestment	Proper disclosure of information to stakeholders
Physical risks	Chronic	Unusual weather persistent and chronic	Short/ Medium/ Long	Insufficient supply and adjustment capacity against severe weather condition     Decrease in hydropower generation due to decrease in the water flow rate incidental to changes in precipitation patterns	<ul> <li>Assurance of sufficient power supply and adjustment capacity through more application of electric energy</li> <li>Implementation of more efficient power generation and optimization of power operations</li> </ul>
	Acute	Intensification of natural disasters	Short/ Medium/ Long	Large increase in the cost of recovery from typhoons and     other natural disasters	<ul> <li>Reinforcement of partnerships with local governments and related organizations to make our organizational scheme for disaster response</li> </ul>
	Energy	Value improvement of non- fossil power	Short/ Medium/ Long	<ul> <li>Increase in advantages of nuclear power stations</li> <li>Increase in profits with more power generation through renewable energy</li> </ul>	Safe and stable operation of our nuclear power stations     Increase in investment in renewable energy sources
	sources	Progress in R&D for new technologies	Medium/ Long	Commercialization of hydrogen utilization technologies     and other advanced technologies through R&D	<ul> <li>Joint R&amp;D and demonstration tests with manufacturers and other electric power companies</li> </ul>
Opportunities	Products and services	Progress of electrification and increase in need for low carbonized/decarbonized electric power	Short/ Medium/ Long	<ul> <li>Increase in electricity sales due to greater need for electrification</li> <li>Increase in electricity sales in accordance with the increase in need for low carbon and decarbonized electric power</li> </ul>	<ul> <li>More deployment of low-carbon and decarbonized power sources and promotion of electrification</li> <li>CO<sub>2</sub>-free pricing plans</li> </ul>
	Posiliones	Increase in need for secure power supply and adjustment capacity	Short/ Medium/ Long	<ul> <li>Increase in market prices due to insufficient power supply and adjustment capacity nationwide</li> </ul>	Secure power supply and adjustment capacity through optimization of supply facilities
	nesilience	Increase in need for disaster prevention and mitigation	Short/ Medium/	Reinforcement of trust relationships with customers and society and improvement of our corporate reputation through disaster-resilient husiness management	<ul> <li>Reinforcement of our capability to cope with disasters through reinforcement of facilities and partnerships with local governments and related organizations</li> </ul>

\* Short-term and medium-term: Up to 2030; Long-term: Up to 2050

#### Major impact assessment for FY2030 by scenario



#### **Response to Environmental Issues**

#### **Transition plan: Carbon Neutral Challenge 2050**

Our Group has touted our goal to become carbon neutral in 2050 as a long-term priority within our Medium-Term Management Plan.

For the challenge, based on the measures for addressing climate change-related risks and opportunities incorporated in

#### Indicators and targets

We have set targets for various climate-related indicators, including CO<sub>2</sub> emissions from our retail sector and power generation sector. We are promoting initiatives that are aimed at achieving the goals to minimize climate change-related risks and maximize opportunities.

# Targets for reduction of greenhouse gas emissions for fiscal 2030

We have set a target of reducing our own greenhouse gas emissions (direct emissions associated with fuel use for our own power generation) by 30% compared to fiscal 2013 levels (from 12.21 million tons to 8.5 million tons) by fiscal 2030, and a target of halving the CO<sub>2</sub> emissions from the retail sector compared to fiscal 2013 levels (from 19.62 million tons to 9.8 million tons, approximately). We aim to achieve the targets through low-carbon and decarbonized power sources by making maximum use of nuclear power, making renewable energy the main power source, and improving the efficiency of thermal power generation, and through increased application of electric energy by promoting electrification in the industrial and transport sectors.

\*See page 29 for actual emissions in FY2023.

#### **Green bonds**

From the viewpoint of diversifying our financing, we have been issuing green bonds to get funding only for environmental conservation projects to achieve our carbon neutrality by 2050.

### Overview of green bonds and appropriation of funds (as of March 31, 2024)

	First	Second	
Issue date	October 25, 2022	September 25, 2023	
Funding	Funding 10 billion yen 10 billion ye		
Appropriation	Done	Done	
Refinancing	9.5 billion yen	6.5 billion yen	
Interest rate	0.889% per annum	1.002% per annum	
Application	Development, construction, operation, and renovation of renewable energy power sources	Storage battery business in addition to those mentioned on the left	

our Medium-Term Management Plan, we have formulated a roadmap (page 28 and page 29) concerning the low-carbon and decarbonized power sources, more application of electric energy with a view to fiscal 2030 and even further ahead to fiscal 2050, and we promote their initiatives while considering environmental conservation.

#### Shikoku Electric Power's targeted emissions in the GX League

Emissions volume	Criteria	Targets			
[10,000 tons-CO <sub>2</sub> ]	FY2013	FY2025	Total for FY2023-FY2025	FY2030	
Scope 1	1,221	950	2,850	850	
Scope 2	0.0465	0.0240	0.0720	0.0240	

#### Emissions throughout the supply chain in FY2023\*1

	Scope 1*2	Scope 2*3	Scope 3*4
Emissions volume [10,000 tons-CO2]	791*5	0	533

Scope 3 breakdown	Emissions volume [10,000 tons-CO <sub>2</sub> ]
Capital goods	54
Fuel and energy-related activities	430
Investments	24
Other	25

\*1 Calculated for Shikoku Electric Power and consolidated subsidiaries (excluding companies with negligible emissions) with reference to the "Basic Guidelines for Calculating Greenhouse Gas Emissions through the Supply Chain (ver. 2.6)" (Ministry of the Environment / Ministry of Economy, Trade and Industry) and other relevant documents

\*2 Direct emissions associated with fuel use for our own power generation

\*3 Indirect emissions associated with the use of electricity purchased from other companies at our workplaces and offices

\*4 Indirect emissions in electricity purchased from other companies

\*5 Lower wholesale market prices resulted in lower wholesale electricity sales than in previous years, which reduced emissions in fiscal 2023

For our green bonds, DNV Business Assurance Japan Co., Ltd., a third-party evaluation organization, has confirmed that the bonds conform to the principles of green finance.

### Environmental improvement effects of projects funded by the second green bond (as of March 31, 2024)

Туре	Capacity of production with renewable energy*1 (MW)	Amount of CO <sub>2</sub> emission reductions <sup>*2</sup> (t)	
Hydropower	17.9	6,607	
Wind power	0.9	—	
Solar power	116.6	42,967	
Storage batteries	6.6	—	
Total	142.0	49,574	

\*1 Including the capacity of renewable energy in projects under construction and projects preparing for construction

 $^{\ast}2$  Calculated using power generation and CO2 emission factors for renewable energy in projects that have already been in operation

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Indicators and targets						
Ratio of non-fossil certificates held by the retail sector to the amount of electricity sold 44% or more in fiscal 2030	In order to respond to opportunities such as the increasing need for low-carbon and decarbonized electricity, we will aim to increase the ratio of non-fossil certificates held by the retail sector in relation to the amount of electricity sold (equivalent to the ratio of non-fossil power sources specified by the Act on Sophisticated Methods of Energy Supply Structures) to 44% or more in fiscal 2030. We will also work on safely and stably running our nuclear plants, which are non-fossil power sources, and increasing the output of our hydropower plants.	Ratio of non-fossil the amount of elect FY2023 Vo non-fossil values 68% *The Act on Sophisticat targets for the ratio of renewable energy and and requires them to u	ertificates h tricity sold	n-fossil certifica tification for rer n-fossil certifica tification for rer bocation of surpl ues (free allocat the surpl tes free allocat the surpl f Energy Supply energy sources y, to retail elect uel sources for a for sales by fisc	tail sector to tes (with wewable energy) tes (without wewable energy) us non-fossil ion in FIT system) Structures sets such as ricity suppliers, at least 44% in al year 2030.	
Investments aimed at low-carbon and	In order to respond to climate change-related			Result in FY20	21 to FY2023	
decarbonized power sources Cumulative total for the 10-year period from fiscal 2021 to fiscal 2030	risks and opportunities, we will invest a cumulative 350 billion yen over the 10-year period spanning from fiscal 2021 to fiscal 2030	Investments in low and decarbonized sources	-carbon power	Approx. 160	billion yen	
Internal carbon pricing	Shikoku Electric Power has introduced internal carbon pricing. We are using it to make investment decisions, aiming to accelerate capital investment for renewable energy development and for low-carbon and decarbonized solutions.					
prepared for conceivable flood risks	We have conducted risk assessments of our power plants against conceivable floods based on past disasters. With the outcomes of the assessments, we have made our power plants fully prepared for possible risks. And, we will make efforts to be able to respond to disasters that had not been previously anticipated and prepare for risks by making our facilities prepared for disasters and by conducting disaster drills.					
Achieve benchmark indices (Act on	The thermal efficiency of thermal power plants		FY2021	FY2022	FY2023	
Rationalizing Energy Use) by FY2030	declines gradually as a result of operating time	Index A*1	1.02	1.04	1.04	
(Index A: 1.00 or higher, Index B: 44.3% or higher Coal index: 43.00%	and deterioration of plant equipment. However,	Index B (%)*1	42.1	43.5	43.4	
or higher)	inspections, operational management, and equipment upgrades to maintain the thermal efficiency of our thermal power plants. Moreover, we are renewing our aging thermal power facilities to improve the efficiency of the thermal power generation of the facilities. Through these efforts, we aim to achieve the targets of benchmark indices specified by the Energy Conservation Act by fiscal 2030.	<ul> <li>*1 The Energy Conservation Act sets benchmark indices for specific industries and business fields so that degrees of energy conservation of businesses belonging to one of the specific industries can be compared within the industry, and the act sets out Index A, which should be 1.00 or above, Index B, which should be 44.3% or above, and Coal index. which should be 44.30% or above by 2030.</li> <li>Index A: Index for the rate of achievement to the target for power generation efficiency by fuel source type Index B: Index for the comprehensive efficiency of thermal power generation</li> <li>Coal index: Index for the efficiency of coal-fired power generation</li> <li>*2 Included from fiscal 2022 due to a revision of the Energy Conservation Act</li> </ul>				
Development of new renewable energy power sources 500,000 kW by FY2030 and 2,000,000 kW by FY2050 in the Group	We have been conducting projects for it both wit development of new renewable energy power so 50,000 kW from the previous year). Going forward, renewable energy development with the aim of a	hin and outside Shik urces by the end of the entire Group w chieving our goals.	koku, and a fiscal year 2 ill work tog	chieved 350 2023 (an inc jether to ad	0,000 kW of rease of vance our	

#### **Response to Environmental Issues**

#### **Promoting Environmental Preservation Activities**

Our Group is working to reduce the environmental impact of our business activities and to conserve the environment in cooperation with local communities.

#### Prevention of air pollution

Achievement in FY2023 SOx emission intensity	<b>0.1</b> g/kWh	
Achievement in FY2023 NOx emission intensity	0.3g/kWh	

In order to reduce emissions of sulfur oxides (SOx) and nitrogen oxides (NOx) from our thermal power plants into the atmosphere, we are using fuels with low sulfur content, installing flue gas desulfurization and denitrification equipment, and implementing proper control of combustion.

And, we systematically have renewed our aging oil-fired thermal power facilities at the Sakaide Power Station to implement the LNG combined cycle and curb the amount of power generated by oil, and we replaced the aging coal-fired power plant facilities in the Saijo Power Plant Unit 1 with the latest flue gas desulfurization and denitrification equipment, thereby successfully keeping the intensity of our SOx and NOx emissions at low levels in recent years.

#### Intensity of SOx and NOx emissions from thermal power plants







#### **Coal ash recycling**

Achievement in FY2023 Coal ash recycling rate 98.9%

Almost all of coal ash generated at our coal-fired power plants is recycled as a raw material for cement and as a concrete admixture in various applications, such as bridges, roads, and the exterior walls of buildings.

#### Recent example of recycling of coal ash

The coal ash is used as a spraying material in the construction of the Goshikidai Tunnel (Sakaide side section) in Kagawa Prefecture.



Client: Kagawa Prefecture, Contractor: Hazama Ando and Manabegumi JV

#### **Recycling of remains of demolished structures**

All of our old and replaced copper and aluminum wires are recycled as new wires and other materials.

All of our removed concrete columns are pulverized, separated from the reinforcing bars, and then reused as construction aggregate (roadbed material for road paving).

#### How wires and poles are recycled

#### now whes and poles are recycled



Recycled power lines



Concrete poles before recycling

lines before recycling

Recycled construction aggregates

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#### **Conservation of biodiversity**

Amid growing interest in biodiversity and nature, the Taskforce on Nature-related Financial Disclosures (TNFD) was established in June 2021. The TNFD developed a framework for assessing and disclosing risks and opportunities related to nature, and the recommendations were published in September 2023.

The dependence and impact of corporate activities on nature are closely related to nature-related risks and opportunities. Therefore, when identifying such risks and opportunities, it is necessary to recognize the impact that a company's business activities have on nature and its dependence on nature.

We will closely monitor how TNFD goes and, by understanding the degree of our dependence and impact on it in our business activities, we will be able to recognize its importance and contribute to the realization of a nature-positive society.

#### Initiatives at our electric power stations

To minimize impacts on rivers and to comply with laws and regulations concerning water, at our hydroelectric power plants, we are determined to perform the following activities.

- Install equipment able to take in water with low turbidity and return it downstream after use for power generation
- Discharge water for keeping river function from dams to maintain the environments downstream
- Remove driftwood and dust from reservoirs to use them as biomass fuel or other energy sources and conduct other positive initiatives.

At our thermal and nuclear power plants, we are working to reduce the amount of water required for power generation and are strictly complying with laws, regulations and other standards concerning water discharge. With respect to the seawater used to cool steam, we are controlling the temperature differences between the water intake and discharge in accordance with agreements with local governments.

Also, with respect to the construction of a power plant, we conduct environmental assessments to predict and evaluate the impact of the construction work and the operation of the

power plant on the surrounding area in advance, and we apply the outcomes of the assessments to our environmental conservation measures.



Driftwood that gathers at a dam is collected, pulled up, and then used as building materials for houses and furniture (Kominono Dam)

# Our environmental conservation activities

#### **Conservation activities for the Oriental stork**

From the viewpoint of conserving biodiversity, we are working to protect the Oriental stork, a bird designated as a protected species inside Japan.

We have donated nesting towers to local governments, and we have been working to preserve the habitats of the Oriental stork.





Staff maintaining a nesting tower (Seiyo City)

Oriental stork flying into the area (Seiyo City)

# Environmental conservation activities together with local communities

We are working throughout the year with local communities around Shikoku on environmental conservation activities (such as cleanups and forest preservation activities) mainly through Environment Month, which is sponsored by the Ministry of the Environment.

#### **Activities in Shimanto Yonden Forest**

At our Kochi Branch Office, employees are participating in Kochi Prefecture's Forest Development Project in Collaboration with Environmentally Advanced Companies.

In a forest (in Shimanto Town) named Shimanto Yonden-No-Mori, they are planting trees and weeding to preserve the forest together with the local communities.



Forest conservation activities