

# INTEGRATED REPORT

# CHAPTER 3

## Disclosure Based on TCFD and TNFD Recommendations

Climate Change Scenario Analysis  
(Disclosure Based on TCFD Recommendations)

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Disclosure Based on TNFD Recommendations

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# Climate Change Scenario Analysis (Disclosure Based on TCFD Recommendations)



The figures in this scenario analysis have the potential to fluctuate due to various conditions that include the state of operation of power generation facilities and the external environment. As such, they have been simplified and calculated under certain suppositions solely for the purpose of ascertaining the sense of scale of the impact involved.

## Governance: Framework

The J-POWER Group has identified “response to climate change” as one of its material issues, which is overseen by the Board of Directors. Important matters such as policies and strategies related to climate change response are determined by the Board of Directors.

With respect to execution, the Group has established a sustainability promotion framework supervised by the ESG Oversight (currently the President and Chief Executive Officer), who is appointed by the Board of Directors. We have established the Sustainability Promotion Board as an executive body and the J-POWER Group Sustainability Promotion Conference at the Group-wide level to work towards promoting sustainability, including climate change-related initiatives.

The Sustainability Promotion Board convenes three or more times a year to deliberate areas such as strategy, planning and measures related to sustainability in general and risk management. Important matters out of those deliberated are proposed and reported to the Board of Directors and the Executive Committee, and the Board of Directors oversees its progress.

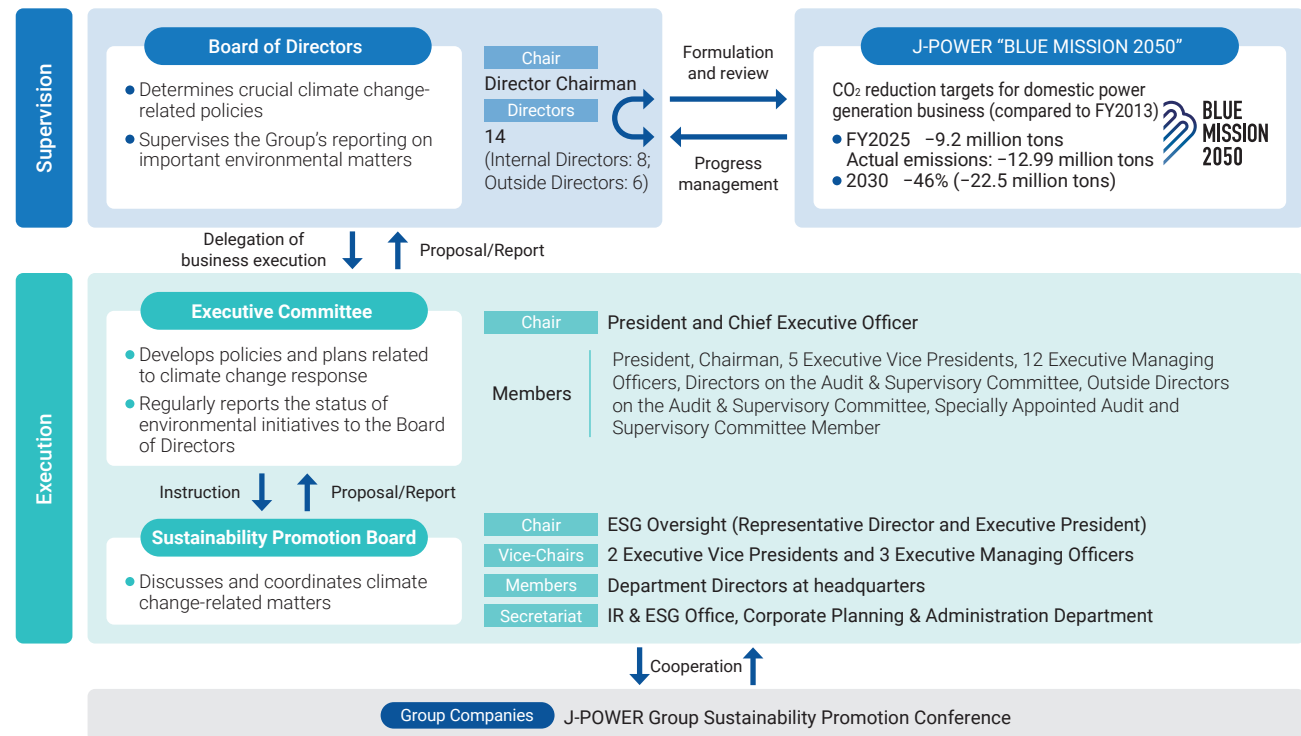
The Board of Directors formulates and reviews management strategies and makes important decisions based on these proposals, reports, and other matters, taking into account risks and opportunities associated with sustainability.

## Governance: Skills of Directors

We have identified “general management and sustainability” as essential skills required for our Directors. This ensures that our Board of Directors is appropriately structured for the decision-making and oversight of climate change response policies.

The Board of Directors reviews and analyzes the latest edition of the World Energy Outlook, published annually by the International Energy Agency (IEA), reports its findings to engage in in-depth discussions. This helps deepen the Board's understanding of current trends in energy supply and climate change measures.

### Governance framework related to climate change



### Definition of “General Management and Sustainability”

This refers to the ability to present the Group's overall direction, including management strategy; contribute to solving climate change and other social issues through energy supply; realize sustainability through continuous enhancement of corporate value, achieved in part through human capital development; and possess the experience and knowledge necessary to supervise such initiatives as a corporate manager.

Please see P.101 for information on the skill matrix of Directors.

## Climate Change Scenario Analysis (Disclosure Based on TCFD Recommendations)

### Governance: Deliberation Status of Board of Directors

Since the establishment of J-POWER "BLUE MISSION 2050" in February 2021, the Board of Directors of J-POWER has been monitoring the progress of initiatives by management, receiving feedback through dialogues with shareholders and other stakeholders, and appropriately identifying changes in the business environment (including policy and international conditions), and discussing updates and revisions to the contents of the plan as appropriate.

#### Matters (related to climate change) determined at the Board of Directors

|        |                                                                                                                                                                                                                                                       |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FY2020 | • Formulation of J-POWER "BLUE MISSION 2050"                                                                                                                                                                                                          |
| FY2021 | • Formulation of Basic Policy on Sustainability and identification of material issues                                                                                                                                                                 |
| FY2022 | • Setting of CO <sub>2</sub> reduction target for FY2025                                                                                                                                                                                              |
| FY2023 | • Raising of CO <sub>2</sub> emission reduction target for 2030<br>• Introduction of non-financial targets (material issues) in the evaluation of performance-linked remuneration for executives                                                      |
| FY2024 | • Disclosure of transition direction of thermal power operations in Japan<br>• Decision on the suspension and discontinuation of Matsushima Thermal Power Plant<br>• Formulation and disclosure of the vision for the business portfolio in the 2030s |
| FY2025 | • Decision on the discontinuation of Takasago Thermal Power Plant                                                                                                                                                                                     |

#### Matters reported to the Board of Directors

|                                                                                              |
|----------------------------------------------------------------------------------------------|
| Domestic and overseas trends on climate change issues (Strategic Energy Plan, IEA WEO, etc.) |
| Basic policy regarding Green Transformation (GX) League                                      |
| Disclosure policy based on TCFD Recommendations                                              |
| Actual CO <sub>2</sub> emissions (Scopes 1–3)                                                |
| Dialogue with external stakeholders regarding climate change and ESG evaluation              |

### Governance: Officers' Compensation

From the viewpoint of sustainability management, we introduced five material issues including response to climate change as non-financial targets for the evaluation of performance-linked remuneration.

The Company's five material issues, which are the benchmarks for performance-linked remuneration, are supply of

energy, response to climate change, respect for people, engagement with local communities, and enhancement of our business foundation. KPIs for addressing climate change include numerical targets for renewable energy development and CO<sub>2</sub> reduction targets.

#### Officer compensation system

|                       | Compensation type               | Compensation details                                                                                                                                                                                                                                                                                                                                                                                                                        | Percentage (estimate) in the compensation package |
|-----------------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| Fixed compensation    | Fixed monthly salary            | Fixed monthly salary is a fixed amount of monetary compensation calculated based on the position of each Director                                                                                                                                                                                                                                                                                                                           | 70%                                               |
| Variable compensation | Performance-linked remuneration | ① <b>First indicator</b><br>Evaluation factor Degree of achievement of consolidated ordinary income<br>Range 0% minimum to 200% maximum<br>② <b>Second indicator</b><br>Evaluation factor Comprehensive evaluation of material issues (KPIs)<br>Range 0% minimum to 120% maximum<br>③ <b>Payment calculation</b><br>Weight of evaluation factors Evaluation factor for first indicator × 90% + Evaluation factor for second indicator × 10% | 20%                                               |
|                       | Stock-based compensation        | Introduced as an incentive for the Company's long-term growth based on the characteristics of the Company's business content and business development                                                                                                                                                                                                                                                                                       | 10%                                               |

 Please see PP.24–25 for details of the targets (KPIs) for material issues and results of initiatives.

### Column

#### Engagement with policies, etc.

Policies and regulations related to climate change significantly impact the Company's medium- to long-term business environment as well as risks and opportunities. J-POWER will pay close attention to government policy trends and, by expressing its views as an individual company and through affiliated organizations, seek to secure investment predictability, while contributing to the realization of policies that help to balance the response to climate change with the stable supply of energy.

#### Examples of engagement

We submitted public comments to the government for the formulation of the Seventh Strategic Energy Plan. While endorsing the plan's greenhouse gas reduction targets for FY2040 and the direction to maximize the use of renewable energy and aim for a balanced power generation mix, we also expressed our view about the need to carry out further discussions on the nature of the public burden and for policy support to secure investment predictability.

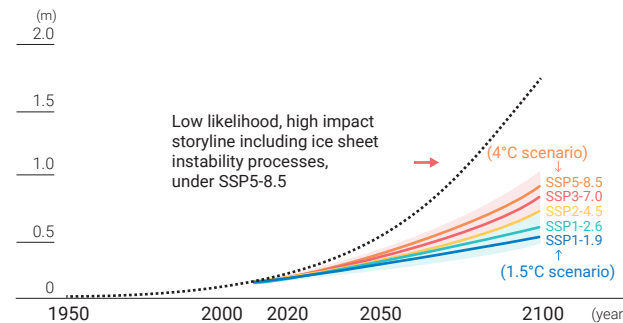
## Climate Change Scenario Analysis (Disclosure Based on TCFD Recommendations)

### Strategy: Risk and Opportunities

The J-POWER Group regards the variety of risks and opportunities that arise from environmental issues as material management issues. By identifying and assessing these factors, we are pushing forward its initiatives as it strives to bolster competitiveness. We understand that climate change in particular will require measures in the utilization of new technology and a number of other domains, including measures for addressing regulatory reinforcement by national governments. These factors may exert considerable impact on J-POWER's business domains and could create business-based risk. However, we believe that the ability to appropriately handle that risk will link to the bolstering of our competitiveness and the acquisition of new business opportunities. We have detailed risks related to climate change based on this understanding, and identified risks with a particularly high degree of importance after also factoring in that degree of importance and concern on the part of stakeholders.

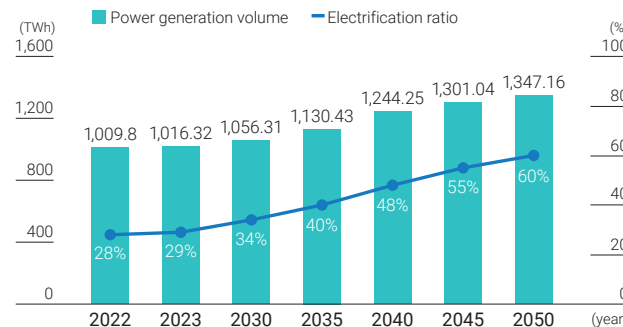
In our analysis of risk and opportunities, we assumed two cases: one where temperatures rise by 1.5°C and another by 4°C, and conducted analysis for both. In the former case, we assume that formidable measures and regulations will be enacted, and that in Japan as well, the renewable energy ratio will grow by a wide margin, and the decarbonization of electric power will progress at a rapid pace. Also, in the case where temperatures rise by 4°C, where it is assumed that global warming countermeasures will not be thoroughly enforced, it is projected that by the year 2100, the average ground temperature across the globe will rise by at least 4°C, and that average sea levels will rise nearly one meter. There are concerns that if measures to combat climate change are not sufficiently taken, the physical risks of climate disasters in 2050 and beyond in particular will become prominent. Taking these analysis results into account, we have organized the main risks and opportunities related to climate change as follows.

Sea level rise by scenario



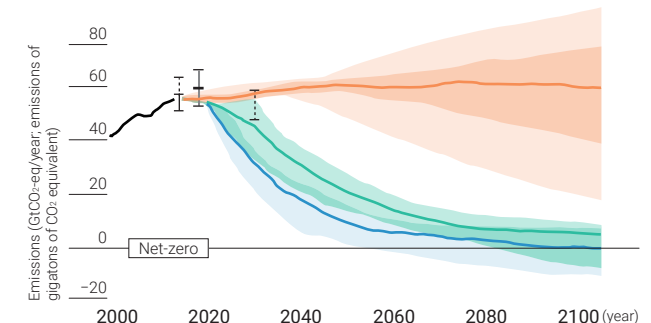
Source: Compiled from the Sixth Assessment Report by IPCC

Power generation volume in Japan, changes in electrification ratio (1.5°C scenario)



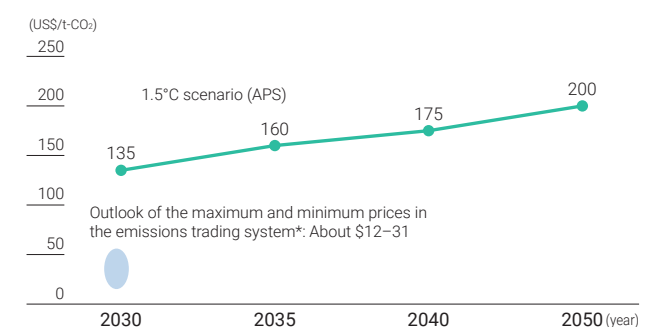
Source: Compiled from IEA WEO2024

Greenhouse gas reduction pathways by scenario



Source: Compiled from the Sixth Assessment Report by IPCC

Japan's carbon price outlook



\*The 2030 outlook for the maximum and minimum prices in the emissions trading system (¥1,913–4,840) is converted at ¥155 per dollar. The scenario analysis for 2035 uses \$39 from the WEO2025 STEPS.

| Configured scenarios | Reference scenarios                                                                                                                                                                                                                                                                                            | Scope and period covered                                                  | Scenario description                                                                                                                                           | Results of scenario analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.5°C scenario       | <ul style="list-style-type: none"> <li>"World Energy Outlook 2024 (WEO2024)" by the International Energy Agency (IEA) Net Zero Emissions by 2050 Scenario (NZE Scenario), Announced Pledges Scenario (APS), WEO2025 Stated Policies Scenario (STEPS)</li> <li>Sixth Assessment Report by IPCC, etc.</li> </ul> | Japan, in 2050<br>*For overseas scenarios, please see the Column on P.55. | Scenario in which formidable measures and regulations are enacted, carbon neutrality is achieved by 2050, and the rise in surface temperature is kept to 1.5°C | <ul style="list-style-type: none"> <li>Development of technologies involving hydrogen, ammonia and other energy sources and CCS will be promoted, and thermal power plants using these technologies will continue to operate to some extent to provide supply and adjustment capacity from the perspective of stable supply</li> <li>Maximum introduction of CO<sub>2</sub>-free power sources such as renewable energy and nuclear power</li> <li>Electrification of the demand side and diffusion of distributed power sources will progress. Total power generation volume will increase with the growth of electrification</li> <li>No significant increase in extreme weather events</li> </ul> |
| 4°C scenario         | <ul style="list-style-type: none"> <li>SSP5-8.5 Scenario of the Sixth Assessment Report by IPCC</li> </ul>                                                                                                                                                                                                     |                                                                           | Maximum emission scenario in which climate policies are not introduced due to fossil fuels dependence-based developments                                       | <ul style="list-style-type: none"> <li>Distributed generation becomes widespread, but thermal power plants remain to some extent due to lack of technological alternatives</li> <li>Despite progress in energy conservation and electrification, which are cost-effective with existing technologies, a significant portion of the energy system still relies on fossil fuels</li> </ul>                                                                                                                                                                                                                                                                                                             |

## Climate Change Scenario Analysis (Disclosure Based on TCFD Recommendations)

### Strategy: Risk and Opportunities

|                | Division        | Risk and opportunity category             | Specific examples from the Company                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Timing of occurrence |             |           | Response strategies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------|-----------------|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                |                 |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Short term           | Medium term | Long term |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 1.5°C scenario | Transition risk | Policy, legal system, and regulation risk | <ul style="list-style-type: none"> <li>Introduction of carbon pricing (FY2026: full-scale implementation of emissions trading system, FY2033: paid auctions to power producers)</li> <li>Regulatory measures aimed at phasing out inefficient coal (book value of aging thermal facilities: ¥43 billion at the end of FY2025)</li> </ul>                                                                                                                                                                             | ●                    | ●           | ●         | <ul style="list-style-type: none"> <li>Introducing an internal carbon price and utilizing it to assess the impact on revenue and expenditure over the next 10 years and make investment judgments</li> <li>¥1,913–4,840/t in 2030 (outlook for the maximum and minimum prices in the emissions trading system)</li> <li>For 2035, approx. ¥6,000 (\$39) is assumed based on the WEO2025 STEPS</li> <li>Competitiveness assessment and phase-out policy development for power plants based on regulatory measures</li> </ul>                                                                                                                            |
|                |                 | Technology risk                           | <ul style="list-style-type: none"> <li>Thermal power generation facilities that have not taken steps to reduce CO<sub>2</sub> emission becoming stranded assets</li> </ul>                                                                                                                                                                                                                                                                                                                                           |                      | ●           | ●         | <ul style="list-style-type: none"> <li>Reducing or discontinuing the operation of coal-fired thermal power plants, starting with aging plants, while considering their importance in maintaining a steady energy supply; Progressive adoption and extension of emission reduction strategies including mixed combustion of biomass and ammonia and CCS, etc.; Eventual transition to CO<sub>2</sub>-free hydrogen power generation</li> </ul>                                                                                                                                                                                                          |
|                |                 | Market risks                              | <ul style="list-style-type: none"> <li>Changing preference for CO<sub>2</sub>-free electricity</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                            |                      | ●           | ●         | <ul style="list-style-type: none"> <li>Formation of a balanced power supply portfolio (hydroelectric, wind, geothermal, solar, nuclear, CO<sub>2</sub>-free hydrogen power generation)</li> <li>Accelerate business expansion by leveraging the strengths as a top runner of renewable energy (Hydroelectric: No. 2, Wind: No. 2 in Japan)</li> </ul>                                                                                                                                                                                                                                                                                                  |
|                |                 | Reputation risk                           | <ul style="list-style-type: none"> <li>Corporate image is affected due to CO<sub>2</sub> emissions</li> <li>Divestment and/or active engagement by investors</li> </ul>                                                                                                                                                                                                                                                                                                                                              | ●                    | ●           | ●         | <ul style="list-style-type: none"> <li>Steady progress and timely updates of J-POWER "BLUE MISSION 2050"</li> <li>Enhancement of information disclosure regarding climate change and continuous dialogue with stakeholders</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                | Opportunities   | Resource efficiency                       | <ul style="list-style-type: none"> <li>Developments in low carbon/decarbonization technologies and expansion of opportunities</li> <li>Improvement of existing asset value</li> </ul>                                                                                                                                                                                                                                                                                                                                | ●                    | ●           | ●         | <ul style="list-style-type: none"> <li>Creation of new value through existing assets (upcycling)</li> <li>Short- to medium-term: GENESIS Matsushima Plan (under consideration) and promotion of NEXUS Sakuma Plan, increase in kWh output through the replacement of wind power facilities</li> <li>Initiatives to reduce CO<sub>2</sub> emissions</li> <li>Short- to medium-term: Expanded introduction of biomass, introduction of mixed combustion with ammonia, realization of CCS</li> <li>Long-term: Development of hydrogen mono-fuel combustion technology, conversion to CO<sub>2</sub>-free hydrogen power generation through CCS</li> </ul> |
|                |                 | Energy sources                            | <ul style="list-style-type: none"> <li>Realization of new businesses pertaining to hydrogen, ammonia, and other energy sources</li> </ul>                                                                                                                                                                                                                                                                                                                                                                            | ●                    | ●           | ●         | <ul style="list-style-type: none"> <li>Challenges with CO<sub>2</sub>-free hydrogen manufacturing and initiatives geared toward supply</li> <li>Australian brown coal hydrogen project, examination of green ammonia initiatives, joint examination of negative emission hydrogen manufacturing, etc.</li> </ul>                                                                                                                                                                                                                                                                                                                                       |
|                |                 | Products and services                     | <ul style="list-style-type: none"> <li>Increase in revenues due to expansion of renewable energy</li> <li>Provision of services that correspond to consumer and end user needs</li> <li>Realization of the environmental value of CO<sub>2</sub>-free electricity through the introduction of carbon pricing</li> </ul>                                                                                                                                                                                              | ●                    | ●           | ●         | <ul style="list-style-type: none"> <li>Increase renewable energy power generation in FY2030 by 4.0 billion kWh/year (compared to FY2022)</li> <li>Construction and operation of Ohma Nuclear Power Plant</li> <li>Direct sales of CO<sub>2</sub>-free electricity and associated environmental value to customers who need CO<sub>2</sub>-free electricity</li> <li>Provision of the renewable energy aggregation service and development of a platform to supply non-fossil power on an hourly basis, etc.</li> </ul>                                                                                                                                 |
|                |                 | Markets                                   | <ul style="list-style-type: none"> <li>Increase in electricity sales volume due to progress in electrification</li> <li>Growing need for sustainable finance</li> </ul>                                                                                                                                                                                                                                                                                                                                              |                      | ●           | ●         | <ul style="list-style-type: none"> <li><b>Allocation of investment funds toward transition</b><br/>Strategic investment up to FY2030: ¥700 billion</li> <li><b>Diversification of financing</b><br/>FY2025 results: ¥16.5 billion from issuance of 6th J-POWER Green Bonds</li> <li>Results to date: ¥93.5 billion from issuance of J-POWER Green Bonds</li> <li>¥60 billion from transition-linked loan</li> </ul>                                                                                                                                                                                                                                    |
|                |                 | Resilience                                | <ul style="list-style-type: none"> <li>Expansion of renewables, distributed power sources, and businesses on the consumer side</li> <li>Diversification of low-carbon fuels</li> <li>Expansion of opportunities for network development conducive to renewable energy introduction</li> </ul>                                                                                                                                                                                                                        | ●                    | ●           | ●         | <div> <div> <b>FY2025 investment results</b><br/> <br/>           About ¥190 billion<br/>           Renewable energy Power network Nuclear Thermal power transition         </div> <div> <b>FY2026 investment forecast</b><br/> <br/>           About ¥350 billion<br/>           Renewable energy Power network Nuclear Thermal power transition         </div> </div> <p><b>About 55%</b>      <b>About 75%</b></p>                                                        |
|                |                 |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                      |             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 4°C scenario   | Physical risk   | Acute risk                                | <ul style="list-style-type: none"> <li>Facility damage caused by extreme weather such as torrential rain disasters, forest fires, cold waves and heat waves. Water shortage in power plants</li> <li>Negative impact on sales of ¥240 million per day should operation of a thermal power plant (1 million kW) be obstructed</li> </ul>                                                                                                                                                                              |                      | ●           | ●         | <ul style="list-style-type: none"> <li>Carrying out revisions of BCP based on updated knowledge as appropriate</li> <li>Response to water risk</li> <li>Risk assessment and management utilizing WRI Aqueduct (3.0)*</li> <li>*A global standard assessment tool for water risk developed by the World Resources Institute (WRI).</li> </ul>                                                                                                                                                                                                                                                                                                           |
|                |                 | Chronic risk                              | <ul style="list-style-type: none"> <li>Assumes negative impact on facilities caused by prolonged rises in average temperatures, changes in rainfall and rises in sea surface</li> <li>Thermal power generation facilities: ¥103 billion, Hydroelectric power generation facilities: ¥76 billion</li> <li>*Calculated by multiplying the current book value of thermal and hydroelectric facilities with the rate of 0.296 for damage by 0.5 m sea-level rise and 0.189 for flooding damage, respectively.</li> </ul> |                      |             | ●         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

## Climate Change Scenario Analysis (Disclosure Based on TCFD Recommendations)

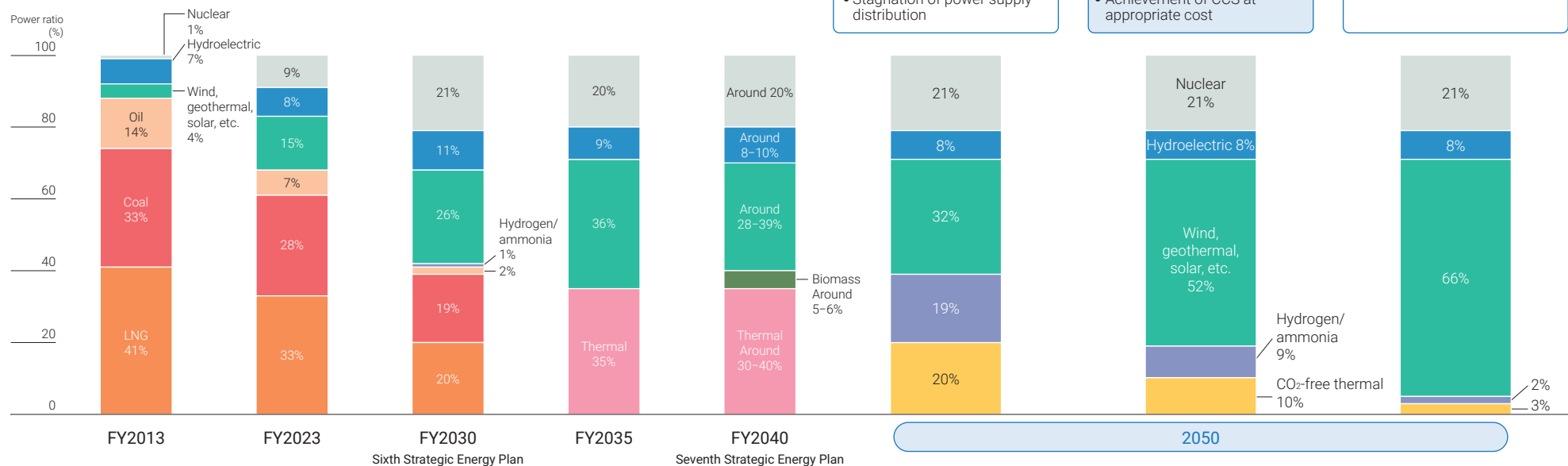
### Strategy: Scenario Analysis toward Carbon Neutrality in 2050: Japan as a Whole

The J-POWER Group performed climate change scenario analysis for Japan as a whole, based on the 1.5°C scenario advocated in the Paris Agreement, which pursues efforts to limit the average temperature increase at the end of this century to less than 1.5°C above pre-industrial levels (for the main scenario for the energy mix in Japan, which is assumed to have achieved carbon neutrality by 2050, please refer to APS under WEO2024). The power source compositions for FY2030 and FY2040 are based on the Japanese government's Sixth Strategic Energy Plan and Seventh Strategic Energy Plan, respectively.

According to IEA projections, by the year 2050, total variable renewable energy (VRE) as represented by solar and wind power will be 70% of total power in the EU and the U.S. Conversely, in 2050 Japan, VRE and total renewable energy are projected at 40% and 60%, respectively, with nuclear power accounting for 20% and the remaining 20% comprised of hydrogen/ammonia and thermal power + CCS. We believe this is because electric power systems in Japan are interconnected in tandem rather than mesh-shaped like their Western counterparts, leaving them with weak cross-regional interconnection capacity and poor versatility and flexibility. In addition,

there are also constraints on the introduction of VRE due to the lack of appropriate sites for it, and therefore from the perspective of stable supply, making it necessary to provide supply and adjustment capacity through CO<sub>2</sub>-free thermal power generation. The actual environment in the year 2050 may not take the shape of the assumptions under this main scenario, as there are many uncertainties involved including progress of innovation. Given that, we also analyzed scenarios in which preconditions related to renewables and thermal power generation were modified, which are believed to be areas where the Group will be particularly impacted.

Energy mix in Japan



## Climate Change Scenario Analysis (Disclosure Based on TCFD Recommendations)

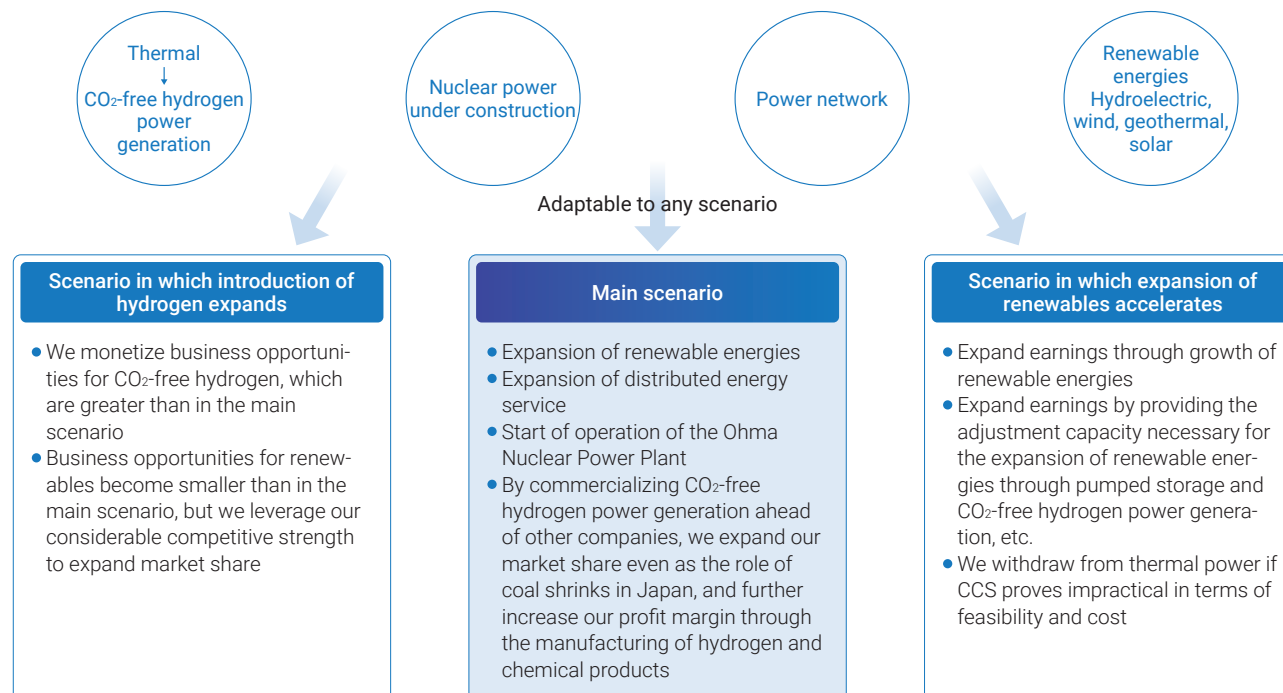
### Strategy: Scenario Analysis toward Carbon Neutrality in 2050: J-POWER Group

Power generators, including the J-POWER Group, will need to focus on developing renewable energy sources to achieve carbon neutrality in 2050, while also converting coal- and gas-fired power generation eventually to CO<sub>2</sub>-free hydrogen from the perspective of stable supply. The Group believes it to be economically sound to convert to CO<sub>2</sub>-free hydrogen by making gradual capital investments (upcycling) in the latest innovations while utilizing existing, substantially depreciated power plant infrastructure. We also believe that upcycling is an important means of sustainably using developed renewable energy.

The Group has formed and operated a well-balanced power source portfolio consisting of renewable energies

(hydroelectricity, wind, geothermal, and solar) and thermal power, and has also accumulated a wealth and wide range of technologies and expertise in nuclear power construction and the development of CO<sub>2</sub>-free hydrogen production and generation technologies. Therefore, by accelerating the expansion of renewable energy and flexibly upcycling existing power generation facilities while keeping an eye on the progress of innovation and economic trends, we can respond to not only the main scenario of Japan's energy mix in 2050, but also the scenario in which expansion of renewables accelerates and the scenario in which introduction of hydrogen expands.

#### The extensive and wide-ranging technologies and knowledge of the J-POWER Group



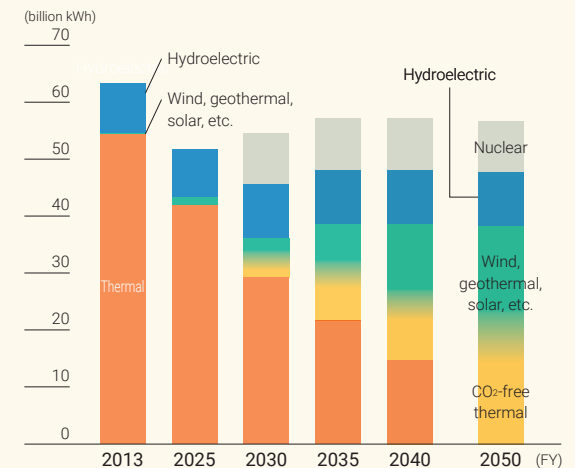
### Column

#### Projected electricity generation

Based on the scenario analyses and our transition strategy, J-POWER "BLUE MISSION 2050," we have projected the transition of our power generation volume to carbon neutral by 2050 with certain assumptions. 2050 will see the expansion of renewable energy\*, which is a priority for development, as well as the addition of nuclear power generation. We will continue to reduce or eliminate thermal power generation, while taking into consideration its role in ensuring a stable supply. We will gradually introduce and expand measures to reduce CO<sub>2</sub> emissions, such as mixed combustion (biomass and ammonia) and CCS, and eventually convert to CO<sub>2</sub>-free hydrogen power generation.

\*Our wind power generation capacity is assumed to expand in pace with the expansion of wind's share in Japan's overall generation capacity under the APS.

#### J-POWER Group's electricity generation trends and forecasts



## Climate Change Scenario Analysis (Disclosure Based on TCFD Recommendations)

### Transition Plan to Achieve Goal of Carbon Neutrality in 2050: J-POWER “BLUE MISSION 2050”

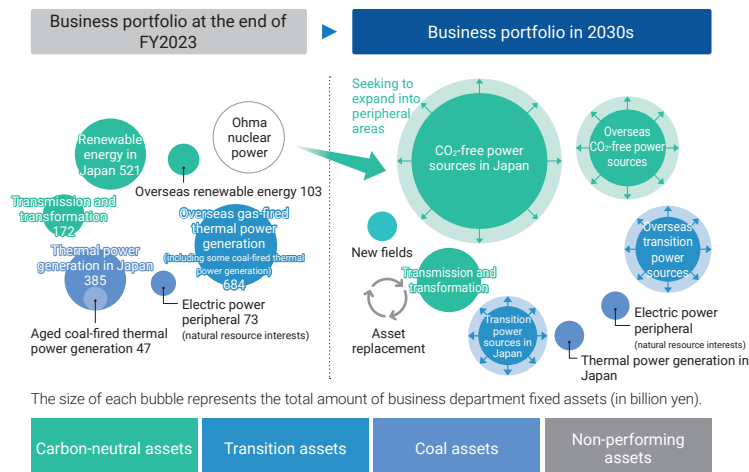
The J-POWER Group has formulated the J-POWER “BLUE MISSION 2050” to accelerate its efforts to address climate change. We are steadily working toward carbon neutrality in 2050 by promoting the three pillars of expanding CO<sub>2</sub>-free power sources; push for zero-emission power sources; and stabilization and enhancement of the electric power network.

As our CO<sub>2</sub> reduction quantitative targets, we will take on the challenge of incrementally achieving carbon neutrality in our domestic power generation business. As a milestone, we aim to reduce CO<sub>2</sub> emissions by 9.2 million tons in FY2025 and 46% in 2030 compared to the FY2013 level. Actual CO<sub>2</sub> emissions for FY2025 were 35.78 million tons (a decrease of 12.99 million tons compared to FY2013), achieving CO<sub>2</sub> reductions exceeding the interim target.

In addition, under the J-POWER “BLUE MISSION 2050,” we have formulated the vision for business portfolio in the 2030s and are making investments to achieve it.

 Please also see P.30 for further details on J-POWER “BLUE MISSION 2050.”

#### Vision for the Business Portfolio in the 2030s



#### J-POWER “BLUE MISSION 2050” roadmap

CO<sub>2</sub> emission reduction target of domestic power generation business (compared to FY2013)

**Target achieved**  
-9.2 million tons  
(Actual emissions:  
-12.99 million tons)

-22.5 million tons  
-46%

Realization of carbon neutrality  
Net-zero emissions

|                                               |                                                  | 2025                                                                                                                                                                     | 2030                                                                                                                          | 2040                                                                                              | 2050                                                                                                                              |
|-----------------------------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Expanding CO <sub>2</sub> -free power sources | Renewable energy                                 | Increase of domestic power generation volume by 4.0 billion kWh<br>Global development of new renewable energy projects                                                   |                                                                                                                               | Additional new developments, upcycling of existing facilities, and maximum use of existing assets |                                                                                                                                   |
|                                               | Nuclear                                          | Construction and start of operations at Ohma Nuclear Power Plant                                                                                                         |                                                                                                                               |                                                                                                   |                                                                                                                                   |
| Push for zero-emission power sources          | Domestic coal-fired thermal power                | Gradual phase-out of aging power plants                                                                                                                                  | CO <sub>2</sub> reduction initiatives (Expansion of biomass mixed combustion, introduction of ammonia mixed combustion, etc.) |                                                                                                   |                                                                                                                                   |
|                                               | CCS                                              | Development of business environment, design and construction of facilities                                                                                               |                                                                                                                               | Injection and storage                                                                             | Achievement of CO <sub>2</sub> -free thermal power generation (Hydrogen, ammonia, IGCC+CCS, biomass mixed combustion + CCS, etc.) |
|                                               | Hydrogen power generation                        | Demonstration tests in Japan                                                                                                                                             | Upcycling (adding gasifiers to existing assets)                                                                               |                                                                                                   |                                                                                                                                   |
|                                               | Fuel production (CO <sub>2</sub> -free hydrogen) | Feasibility study on overseas production                                                                                                                                 | Utilization in other industries                                                                                               |                                                                                                   |                                                                                                                                   |
| Power network                                 | Stabilization                                    | Hydroelectric power generation, improvement of load tracking performance by upcycling (adding gasifiers to existing assets), and expansion of distributed energy service |                                                                                                                               |                                                                                                   |                                                                                                                                   |
|                                               | Reinforcement*                                   | Completion of reinforcement of the New Sakuma Frequency Converter Station, etc.                                                                                          |                                                                                                                               | Contribution to power network enhancement                                                         |                                                                                                                                   |

\*Strengthening the power network is an initiative of J-POWER Transmission Network Co., Ltd.

#### Column

##### CO<sub>2</sub> reduction efforts across the value chain

J-POWER is implementing initiatives in collaboration with maritime transportation companies to reduce fuel consumption in maritime transportation and CO<sub>2</sub> emissions, including the installation of wind propulsion auxiliary systems (the Rotor Sail<sup>\*1</sup> and Wind Challenger<sup>\*2</sup>) and trial voyages<sup>\*3</sup> using biofuels.

In addition, leveraging our extensive experience in renewable energy development and operation, we will promote the creation of services that meet a wide range of needs, including provision of an aggregation service that centralizes and manages renewable energy electricity<sup>\*4</sup> and development of an environmental value platform that enables the supply of non-fossil power on an hourly basis<sup>\*5</sup>, thereby contributing to greenhouse gas reduction across the value chain.



A transport vessel equipped with the Wind Challenger

\*1 [https://www.jpowers.co.jp/english/news\\_release/pdf/news250129e.pdf](https://www.jpowers.co.jp/english/news_release/pdf/news250129e.pdf)

\*2 [https://www.jpowers.co.jp/english/news\\_release/pdf/news260420e.pdf](https://www.jpowers.co.jp/english/news_release/pdf/news260420e.pdf)

\*3 [https://www.jpowers.co.jp/english/news\\_release/pdf/news260309\\_2e.pdf](https://www.jpowers.co.jp/english/news_release/pdf/news260309_2e.pdf)

\*4 <https://www.jpowers.co.jp/news/2025/03/news250318.html>

(available only in Japanese)

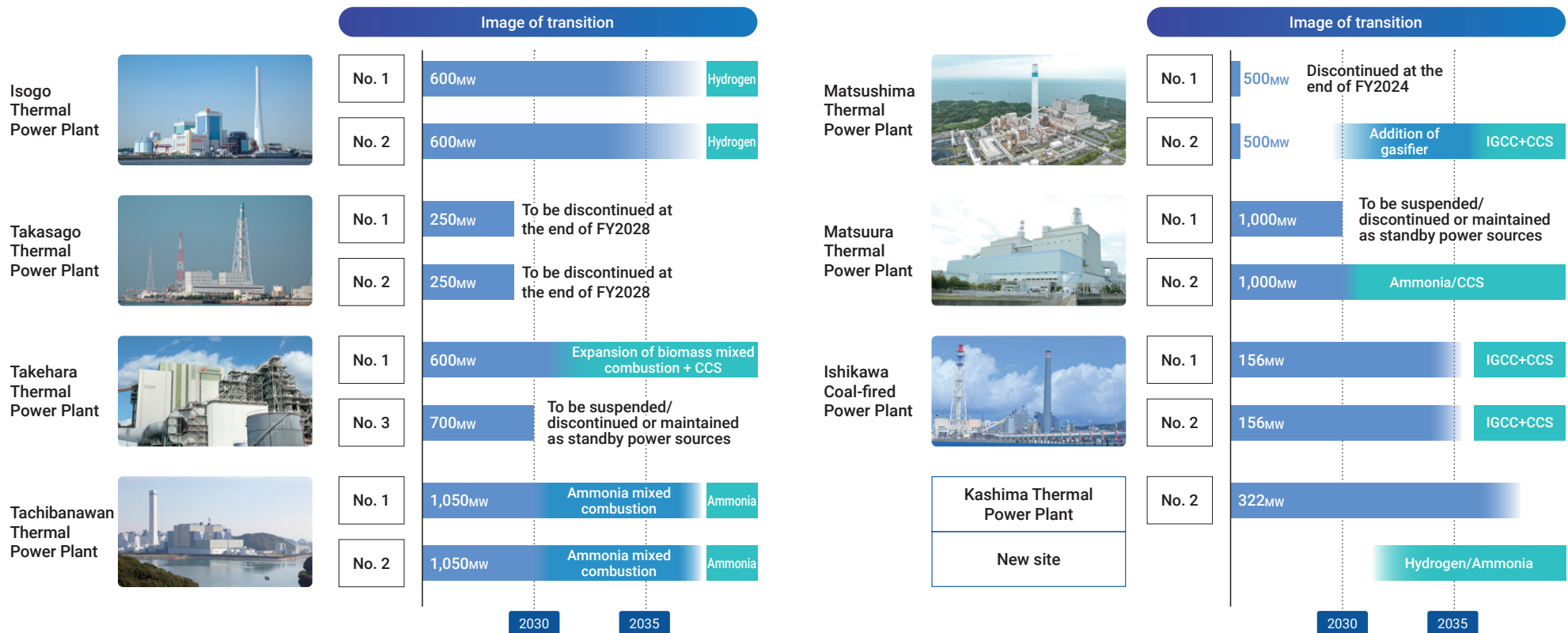
\*5 [https://www.jpowers.co.jp/english/news\\_release/pdf/news251106\\_1e.pdf](https://www.jpowers.co.jp/english/news_release/pdf/news251106_1e.pdf)

## Climate Change Scenario Analysis (Disclosure Based on TCFD Recommendations)

### Direction for Thermal Power Transition in Japan

Based on our “BLUE MISSION 2050” roadmap, the J-POWER Group will advance its CO<sub>2</sub> reduction and decarbonization initiatives, while contributing to a stable power supply. This includes phasing out inefficient coal-fired power plants and converting high-efficiency thermal power plants using the optimal technology according to the local characteristics of the site.

\*The plan will be updated, reviewed, and refined as needed based on changes in the assumptions including the Japanese government's GX policy (Strategic Energy Plan, global warming countermeasures, NDC, etc.), power demand-supply situation, power system design, and progress of industry development, etc.



#### Column

##### Concept of “just transition”

 Please see P.79 for details on the Cross-Group CDP.

Thermal power plants not only serve as workplaces for a large number of J-POWER Group employees but also play an important role in the local economy. For that reason, when discontinuing power plants, we make sure to provide prior and thorough explanations to as many stakeholders as possible, including local governments where the plants are located, employees, and partner companies.

In addition, we have prepared an employment measures package for Group employees, agreed upon with union ship-based labor unions. We will make every effort to provide employment within the Group: In accordance with our basic policy of ensuring fairness and sufficient lead time, we will provide reskilling opportunities and offer employment options through multiple measures, including secondment and transfer to Group companies and reassignment to nearby business sites. Furthermore, we have also prepared support measures for employees seeking employment outside the Group.

In addition, under the Cross-Group CDP, a program for sharing human resources among Group companies, which has already been implemented, we have built a track record of seconding technical employees of thermal Group companies. We will work on the transition on a Group-wide basis by maximizing the utilization of our existing human capital so as to respond flexibly to changes in the business environment.

## Climate Change Scenario Analysis (Disclosure Based on TCFD Recommendations)

### Column

### Scenario Analysis toward Carbon Neutrality in 2050: J-POWER Group's Major Overseas Thermal Power Generation Facilities

In its international business, the J-POWER Group is working to improve the investment efficiency of existing assets and advancing into new business segments, conscious of profit scale and profitability and to build a profit base on a short-, medium- and long-term perspective.

Countries have announced their Nationally Determined Contributions toward carbon neutrality. None of them, however, have committed to a single path, and instead presented multiple scenarios. They share other commonalities in their vision such as further

promotion of renewable energy, electrification, hydrogen use, utilization of CCS and that they all rely on future innovations.

The Group is promoting the development of renewable energy such as solar power and hydropower, in parallel with its consideration of the CO<sub>2</sub> reduction of existing thermal power plants. Going forward, we will continue to make investments in line with decarbonization policies while contributing to supply of electricity in each country we operate.

 Please see PP.32–33 for details of our initiatives for the transition to a renewable energy portfolio.

| Nationally Determined Contribution (NDC) |                                                                                      |
|------------------------------------------|--------------------------------------------------------------------------------------|
| 2030                                     | <b>30% reduction</b> (compared to BAU)<br>(40% reduction with international support) |
| 2050                                     | Carbon neutrality                                                                    |
| 2065                                     | Net-zero GHG emissions                                                               |

Thailand

**J-POWER Group's power generation facilities and initiatives**

- 13 gas-fired and 1 biomass power plants (longest active PPA: 2040)
- Aiming to replace with high-efficiency gas-fired power plants
- Expansion of renewable energy through rooftop solar business

Indonesia

| Nationally Determined Contribution (NDC) |                                                                                            |
|------------------------------------------|--------------------------------------------------------------------------------------------|
| 2030                                     | <b>31.89% reduction</b> (compared to BAU)<br>(With international support: 43.2% reduction) |
| 2060                                     | Net-zero emissions                                                                         |

**J-POWER Group's power generation facilities and initiatives**

- 1 coal-fired facility (Batang Power Plant) and participation in 2 hydropower projects (Sion Power Station and Pungga Power Plant) (PPA: 2047, 2045, and 2051, respectively)
- The highly efficient Batang Power Plant is not subject to early discontinuation or emissions trading at this point, but initiatives to further reduce carbon emissions will be considered.
- Development of renewable energies, including participation in multiple hydroelectric power businesses, and provision of decarbonization solutions including transition power sources

BAU: Business As Usual (without special measures)



United States

#### Nationally Determined Contribution (NDC)

As it has withdrawn from the Paris Agreement,  
there is no NDC.  
There are carbon neutrality goals at the state level.

**J-POWER Group's power generation facilities and initiatives**

- 3 gas-fired power plants (longest active PPA: 2035)  
The number of our gas-fired power plants decreased from 10 to 3 due to the sale of interests
- Mixed combustion of hydrogen at Jackson thermal power plant (study phase)
- Development of renewable energy including large-scale solar power generation and transition to a power supply portfolio centered on renewables, using funds generated through the sale of interests

## Climate Change Scenario Analysis (Disclosure Based on TCFD Recommendations)

### Strategy: 2030 Scenario Analysis: J-POWER Group

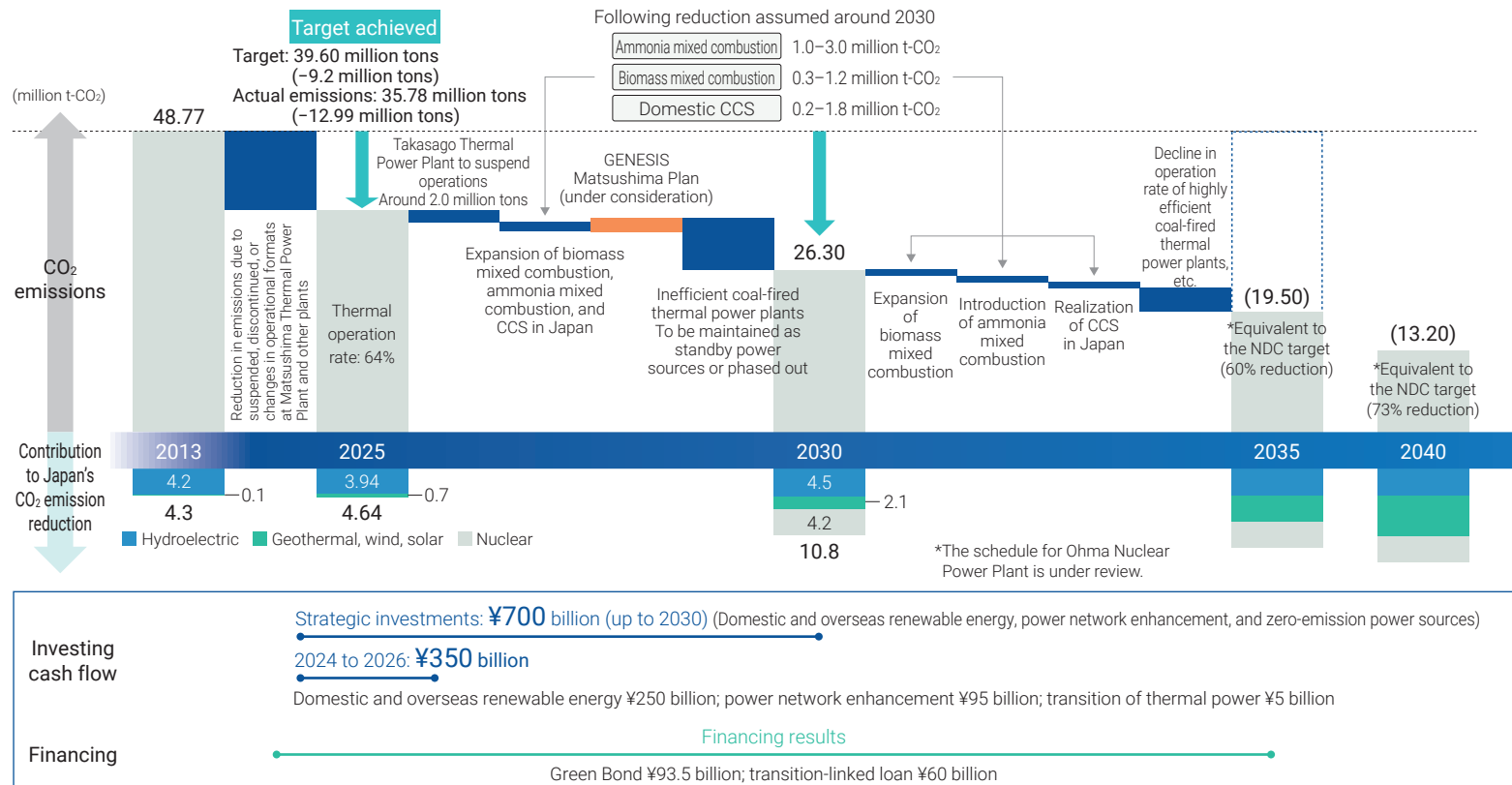
The J-POWER Group has set a target of a 46% reduction in CO<sub>2</sub> emissions by 2030, which is in line with the Nationally Determined Contribution (NDC) made by Japan for the Paris Agreement, as a milestone toward achieving carbon neutrality by 2050, and has estimated specific initiatives for a 46% reduction and the financial impacts in the 2030 scenario analysis. The Group's emissions levels assumed for 2035 and 2040 are also shown in the chart, based on a scenario in which emissions are reduced in accordance with Japan's NDC targets.

Toward 2030, along with reducing the use of thermal power and pushing forward biomass mixed combustion, we will consider and prepare for mixed combustion of ammonia, upcycling of existing facilities, and CCS in Japan, while steadily pursuing initiatives to reach our CO<sub>2</sub> reduction target. Looking ahead to 2035 and 2040, we aim to reduce CO<sub>2</sub> emissions to levels equivalent to the NDC targets by advancing initiatives aligned with the thermal power transition in Japan.

#### Contribution to CO<sub>2</sub> emission reduction

We have established a target to increase renewable energy by 4.0 billion kWh compared to FY2022 by FY2030. If the Group develops CO<sub>2</sub>-free power sources like renewable energy, it will replace other thermal power sources in Japan as a whole and help the country lower its CO<sub>2</sub> emissions overall. By 2030, we predict that our CO<sub>2</sub>-free power sources will have contributed to reducing 10.8 million tons of emissions, growing from 4.64 million tons in 2025. Looking beyond 2030, we will build on our contribution to the development of sustainable societies worldwide by supplying electricity generated from renewable energy sources across global markets.

#### Contribution to Japan's overall CO<sub>2</sub> emission reduction brought by J-POWER's initiatives to achieve CO<sub>2</sub> reduction targets and its CO<sub>2</sub>-free power sources



## Climate Change Scenario Analysis (Disclosure Based on TCFD Recommendations)

### Strategy: 2030 and 2035 Scenario Analysis: Estimated Financial Impact

As a result of several steps—the implementation of carbon pricing, support for the development and introduction of CO<sub>2</sub> emission reduction measures, and more—to reach carbon neutrality in 2050, it is anticipated that Japan's energy costs would rise in the future. CO<sub>2</sub> emissions quota trading became mandatory in FY2026 following the full-scale operations of the emissions trading system (GX-ETS), while paid auctions for power producers are scheduled to commence in FY2033. While these developments may result in cost increases, they are also

expected to lead to an expansion of revenue opportunities through the enhancement of the environmental value of our CO<sub>2</sub>-free power sources. The J-POWER Group will work to control rising energy bills and mitigate the financial impact of our response to climate change through methods that are economically sound, such as offsetting the effects of the decrease in thermal power sales with the expansion of renewable energy.

#### Financial impact (1/2)

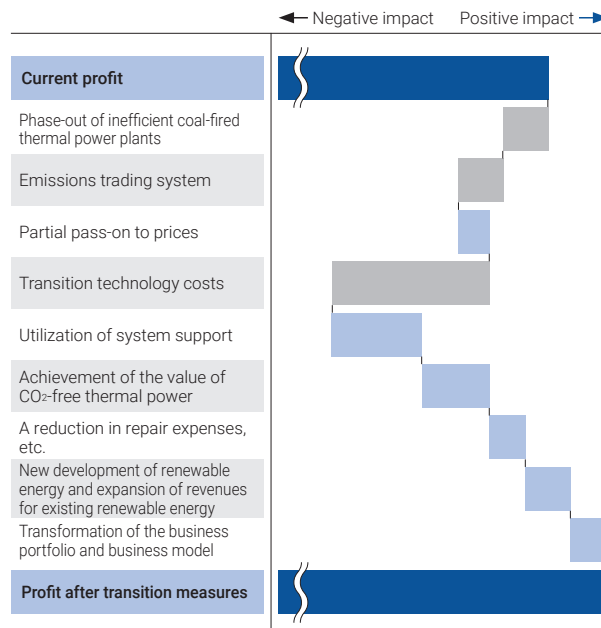
|               | Factors                                                                      | Calculation details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Impact in value                                                                                                                                                                                                                                                                               |
|---------------|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Thermal power | Phase-out of inefficient coal-fired thermal power plants                     | <ul style="list-style-type: none"> <li>An estimated ¥10 billion decrease in ordinary profit mainly due to the closure of inefficient coal-fired thermal power plants</li> <li>*In cases where such coal-fired plants are maintained as standby power sources, no additional impact was assumed based on the assumption that institutional support will be provided.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Decrease in profits of approx. ¥10 billion                                                                                                                                                                                                                                                    |
|               | Carbon pricing (CP)                                                          | <ul style="list-style-type: none"> <li>2030: The cost of procuring emissions quotas is estimated based on the outlook for the maximum and minimum prices for the emissions trading system of ¥1,913–4,840 ... An increase in costs of approx. ¥4–10 billion</li> <li>2035: As the outlook for the maximum and minimum prices beyond 2030 has not been disclosed, carbon pricing under the WEO2025 STEPS (approx. ¥6,000) is used ... Approx. ¥30–40 billion</li> <li>Impact of carbon pricing will be regularly reconsidered paying close attention to Japan's energy policies to achieve Green Transformation.</li> </ul> <div> 2030 <div>Impact of CP</div> = <div>Emissions trading prices<br/>¥1,913–4,840/t-CO<sub>2</sub></div> × <div>Additional procurement of<br/>emissions quotas (assumed)<br/>Approx. 2 million t-CO<sub>2</sub></div> </div>                                                                                                                                                     | 2030:<br>An increase in costs of approx. ¥4–10 billion<br>2035:<br>An increase in costs of approx. ¥30–40 billion<br>*However, predicting the degree of impact on ordinary profit is challenging due to the potential for part of the cost to be passed on to power charges as a social cost. |
|               | Biomass/ammonia mixed combustion                                             | <ul style="list-style-type: none"> <li>When reducing CO<sub>2</sub> emissions, the application of decarbonization options is deemed beneficial if the following formula holds.</li> <li>2030: Reduction measures to be applied to CO<sub>2</sub> emissions around 3 million tons: <b>CO<sub>2</sub> reduction cost</b> is assumed at ¥30–54 billion.</li> <li>2035: Reduction measures to be applied to CO<sub>2</sub> emissions around 9.8 million tons: <b>CO<sub>2</sub> reduction cost</b> is assumed at ¥84 billion or more.</li> <li>*Prepared by the Company based on materials from government advisory committees, the Power Generation Cost Verification Working Group, and the CCS Long-Term Roadmap Review Committee</li> <li>Reduce impact using policy support, etc. Work to make the CO<sub>2</sub> reduction cost to be lower than the CO<sub>2</sub> cost.</li> </ul> <div> <div>CO<sub>2</sub> price</div> &gt; <div>CO<sub>2</sub> reduction cost</div> - <div>Support system</div> </div> |                                                                                                                                                                                                                                                                                               |
|               | Biomass/ammonia mixed combustion                                             | <div> <div>Emissions trading prices<br/>(yen/t-CO<sub>2</sub>)</div> × <div>CO<sub>2</sub> reduction achieved by using carbon-neutral fuel</div> &gt; <div>Power generation volume using carbon-neutral fuel (kWh)</div> × <div>Cost of mixed combustion with carbon-neutral fuel (yen/kWh)</div> - <div>Power generation cost using coal only (yen/kWh)</div> - <div>Policy support</div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | -                                                                                                                                                                                                                                                                                             |
|               | Introduction of CCS                                                          | <div> <div>Emissions trading prices<br/>(yen/t-CO<sub>2</sub>)</div> &gt; <div>Separation and capture expenses (yen/t-CO<sub>2</sub>)</div> + <div>Transportation expenses (yen/t-CO<sub>2</sub>)</div> + <div>Storage expenses (yen/t-CO<sub>2</sub>)</div> - <div>Policy support</div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                               |
|               | GENESIS Matsushima Plan                                                      | <ul style="list-style-type: none"> <li>By adding gasification facilities and other equipment to the existing Matsushima Thermal Power Plant and “upcycling” it, we aim to reduce CO<sub>2</sub> emissions by 10% as soon as possible while contributing to a stable supply. We will pursue CO<sub>2</sub>-free hydrogen power generation in the future.</li> <li>Use the Long-Term Decarbonization Power Source Auction to recoup capital expenditures and other fixed costs.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0                                                                                                                                                                                                                                                                                             |
|               | Reduction in coal-fired thermal power repair expenses and renewal investment | <ul style="list-style-type: none"> <li>Constrain repair expenses and renewal investment for coal-fired thermal power plants prior to reduction of operations anticipated from 2030.</li> <li>Actual repair costs for, as well as investments to replace, coal-fired thermal power will require about ¥35 billion per year, while investment for renewal will require about ¥20 billion per year. We will work to reduce some of these expenses.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | +a                                                                                                                                                                                                                                                                                            |

## Climate Change Scenario Analysis (Disclosure Based on TCFD Recommendations)

### Financial impact (2/2)

|                                     | Factors                                             | Calculation details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Impact in value                          |
|-------------------------------------|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| CO <sub>2</sub> -free power sources | New development of renewable energies               | <ul style="list-style-type: none"> <li>Estimated from the power generation value from new development of renewable energy and non-fossil value</li> </ul> <p>Power generation volume of renewable energies</p> <p>FY2022 → +4.0 billion kWh → FY2030</p> <p>(Reference) Examples of non-fossil value sales and an increase in the added value of existing renewable energy</p> <p>① Signed a virtual PPA for an onshore wind farm with KDDI<br/> <a href="https://www.jpowers.co.jp/english/news_release/pdf/news260421e.pdf">https://www.jpowers.co.jp/english/news_release/pdf/news260421e.pdf</a></p> <p>② Long-term agreement for environmental value derived from energy generated at hydroelectric power plants<br/> <a href="https://www.jpowers.co.jp/english/news_release/pdf/news250624e.pdf">https://www.jpowers.co.jp/english/news_release/pdf/news250624e.pdf</a></p> <p>③ Local revitalization-type PPA by JR East and J-Power<br/> <a href="https://www.jpowers.co.jp/news/2026/03/news260327.html">https://www.jpowers.co.jp/news/2026/03/news260327.html</a><br/>         (available only in Japanese)</p> | Profit increase of ¥10 billion and above |
|                                     | Expansion of revenues for existing renewable energy | <ul style="list-style-type: none"> <li>Enhance the non-fossil value of existing renewables (10 billion kWh)</li> </ul> <p>With the full-scale launch of Japan's emissions trading system in 2026, carbon pricing is expected to gain momentum. As a result, rising carbon prices will likely enhance the environmental value of our renewable energy with no CO<sub>2</sub> emissions, contributing to greater profits. Quantifying the impact remains challenging at this stage, as it depends on the specific details of the system under consideration.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                          |
|                                     | Ohma Nuclear Power Plant (under construction)       | <ul style="list-style-type: none"> <li>The impact of the project has not been included in the financial impact estimation as it is currently under review based on the new regulatory criteria.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | -                                        |

### Financial impact at a glance



### Risk scenario: If aligned with the 1.5°C target of the IPCC Sixth Assessment Report

We also analyzed the GHG emissions in the 1.5°C pathway as outlined in the IPCC Sixth Assessment Report (AR6). According to the IPCC AR6, the global model pathway for limiting global warming to 1.5°C (> 50%) with no or limited overshoot requires emissions reduction of 43% by 2030 and 60% by 2035 against 2019 levels. These targets are equivalent to 51% reduction against FY2013 levels in Japan, and when translated to reduction targets of the J-POWER Group, it would require an additional 2.4 million tons of reduction on top of our current 2030 target. Similarly, for 2035, it is equivalent to a 65% reduction compared with FY2013, and an additional reduction of 2.4 million tons will be required beyond Japan's NDC level.

#### IPCC Sixth Assessment Report

2030 43% reduction compared to 2019

2035 60% reduction compared to 2019



Converted to our "BLUE MISSION 2050" standard (compared to FY2013)

2030 51% reduction compared to 2013 (24.9 million-ton reduction)

An additional reduction of 2.4 million tons beyond the Company's target

2035 65% reduction compared to 2013 (31.7 million-ton reduction)

An additional reduction of 2.4 million tons beyond Japan's NDC

### Financial impact of the risk scenario

#### Additional CO<sub>2</sub> reduction measures for approx. 500 MW of coal-fired thermal power are needed

With respect to the estimates for 2030 and 2035 presented on the previous page, although costs are expected to increase by about ¥10–44 billion, we will try to reduce the impact by making maximum use of an optimal combination of options, policy support, etc.

#### Transition costs

|      | Base scenario       | Risk scenario           |
|------|---------------------|-------------------------|
| 2030 | ¥30–54 billion      | ¥40–98 billion          |
| 2035 | ¥84 billion or more | ¥94–128 billion or more |

Additional costs ¥10–44 billion

## Climate Change Scenario Analysis (Disclosure Based on TCFD Recommendations)

### Risk Management

To identify and address various risks associated with corporate activities, the J-POWER Group has established executive bodies and dedicated departments, and has put risk management systems in place, including reporting and monitoring mechanisms.

The Sustainability Promotion Board, Compliance Action Committee, Business Strategy Subcommittee, and other executive bodies manage the risks. The Board of Directors monitors them and comprehensively manages the risks from a Group-wide perspective, reflecting them in investment decisions and business operations.

The Sustainability Promotion Board analyzes and assesses sustainability issues, including natural capital such as climate change, and discusses mitigation strategies. Furthermore,

under the Sustainability Promotion Board, the Global Environmental Strategy Subcommittee has been established to evaluate climate change threats. The Sustainability Promotion Board deliberates on the evaluation results, and makes recommendations or reports to the Executive Committee and Board of Directors.

The Board of Directors works to identify risks at an early stage by receiving regular reports on the status of business execution. It also strives to fully understand and prevent risks, while aiming to minimize the impact when they occur, through a crisis management system, established in accordance with internal regulations, as well as discussions and mutual checks and balances at various meetings.

### Risk Management Related to Investment Projects

In managing new investments and lending as well as existing projects, the J-POWER Group makes decisions and conducts monitoring through multiple meetings, on the premise of alignment with the overall corporate strategy, ensuring control from both profitability and risk management perspectives. Taking into account that external changes, including those related to climate change, such as regulations, support and other policy changes as well as changes in the international situation and global supply chains, may affect the profitability and risk profile of our business, we make investment decisions under an appropriate governance framework.

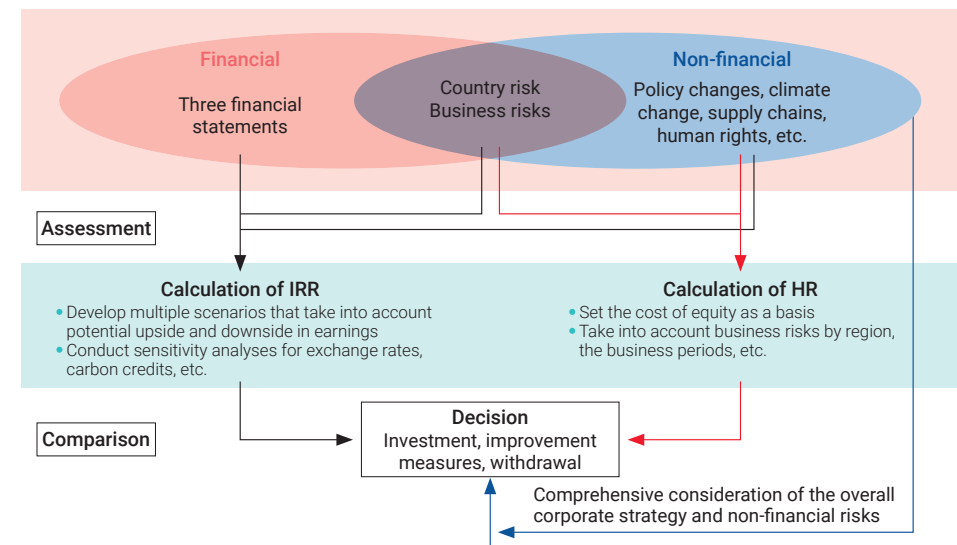
With respect to new investments, we make strict decisions on whether to proceed with investments after comprehensively evaluating the significance of the initiatives, profitability, and risks (policy changes, climate change, human rights, supply chains, etc.) at each stage of the Business Strategy Subcommittee, the Executive Committee, and the Board of Directors. As for profitability, we use the internal rate of return (IRR) as a key indicator based on cash flow plans that incorporate assumptions regarding demand outlook, electricity prices, and fuel prices. The IRR of each project is evaluated by comparing it with the hurdle rate (HR: set based on the cost of equity, taking into account business risks by region, the business periods, etc.), which represents the expected rate of return exceeding the cost of equity.

We also confirm the profitability and the status of various risks materializing for existing investment projects on a semi-annual basis. If any impairment in the profitability or in the

significance of the initiative is identified, we will implement improvement measures and consider taking other measures, including withdrawal, and report the results to the Executive Committee and the Board of Directors. In the event of a sudden change in the business environment, we will assess the situation and consider measures in a timely manner without waiting for the regular monitoring. Furthermore, beyond the evaluation of individual projects, management deliberates on the optimization of investment allocation from an asset allocation perspective, with a view to the future business portfolio, and seeks to improve capital efficiency.

[Please see P.94 for an overview of the Company's risk management.](#)

#### Image of investment project evaluation



## Climate Change Scenario Analysis (Disclosure Based on TCFD Recommendations)

### Indicators and Targets

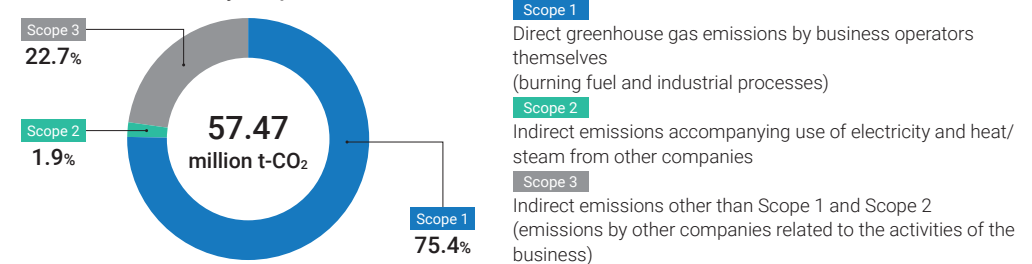
The J-POWER Group has obtained third-party certification for all of Scopes 1–3 GHG emissions since FY2022. FY2025 data that has obtained third-party certification is marked with a star (★).

#### GHG emissions 3-year results

|                                                 | FY2023       | FY2024       | FY2025★                  |
|-------------------------------------------------|--------------|--------------|--------------------------|
| <b>Scope 1</b>                                  | <b>44.39</b> | <b>45.94</b> | <b>43.32</b>             |
| Domestic power generation business              | 33.68        | 35.84        | 35.78                    |
| Overseas power generation business              | 10.27        | 9.78         | 7.26                     |
| Other                                           | 0.43         | 0.32         | 0.29                     |
| <b>Scope 2 (Location criteria)*<sup>1</sup></b> | <b>0.14</b>  | <b>0.14</b>  | <b>1.07★<sup>1</sup></b> |
| <b>Scope 3</b>                                  | <b>13.31</b> | <b>13.51</b> | <b>13.07</b>             |
| <b>Total</b>                                    | <b>57.84</b> | <b>59.59</b> | <b>57.47</b>             |

\*<sup>1</sup> Beginning in FY2025, in line with a change in the treatment of periodic reports under the Act on Rationalizing Energy Use, all electricity used for pumping at pumped storage hydropower plants is accounted for as purchased electricity under Scope 2. Emissions attributable to pumping amounted to 0.97 million t-CO<sub>2</sub> (location criteria).

#### FY2025 breakdown by Scope



#### Target

Push for zero-emission power sources

#### Indicators

- ① A reduction of 9.2 million tons\* in FY2025
- ② 2030: A reduction of 46% (22.5 million tons)\*

#### Target achieved

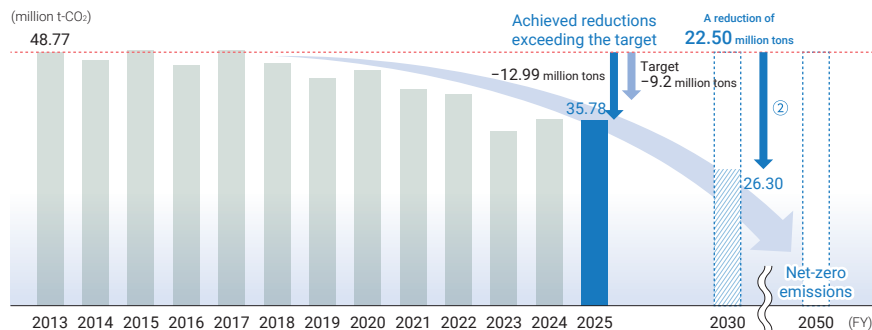
#### ② 2030: A reduction of 46% (22.5 million tons) of emissions

\*Compared to FY2013

- Expansion of biomass mixed combustion
- Introduction of ammonia mixed combustion
- Realization of CCS in Japan
- Reducing or discontinuing the operation of aging coal-fired thermal power plants

\*Book value of aged coal-fired thermal power plants is approx. ¥43 billion.

#### Changes in CO<sub>2</sub> emissions in domestic power generation business



#### Target

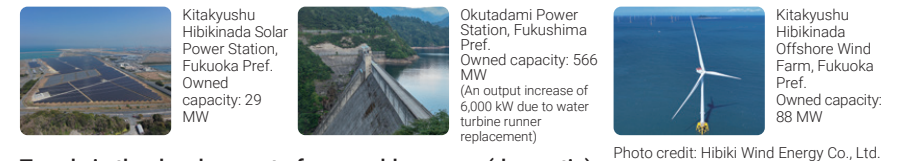
Expansion of CO<sub>2</sub>-free power sources

#### Indicator

FY2030 Power generation volume of renewable energy +4.0 billion kWh/year\*

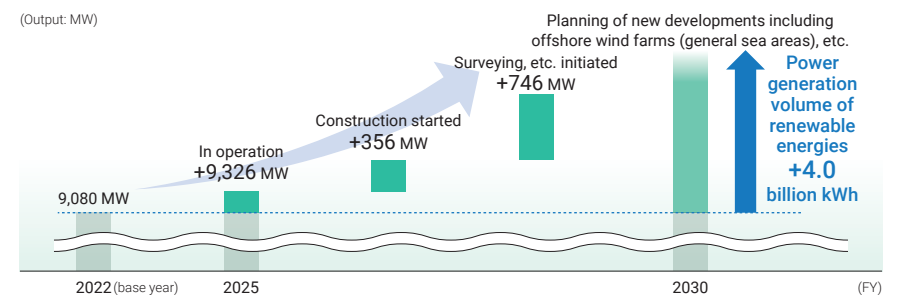
#### Major CO<sub>2</sub>-free power sources in operation (since FY2025)

\*Compared to FY2022



#### Trends in the development of renewable energy (domestic)

(Output: MW)



### Column

#### Relationship between the J-POWER Group's CO<sub>2</sub> reduction results and SBT indicators

The Science Based Targets initiative (SBTi) calls for companies in the power sector to set intensity-based emission targets. The J-POWER Group has set its target based on actual emission volume and is working toward its achievement.

The rate of our Group-wide emissions reduction for the period from FY2022 (40.64 million tons) to FY2030 (target of 26.30 million tons) is 4.4%, exceeding the annual reduction rate of 4.2% required by SBTi for a 1.5°C trajectory alignment.

# Disclosure Based on TNFD Recommendations

The J-POWER Group will disclose information based on Recommendations of the Taskforce on Nature-related Financial Disclosures (“TNFD Recommendations”) released by the Taskforce on Nature-related Financial Disclosures\* in September 2023.

\*Taskforce on Nature-related Financial Disclosures (TNFD): An international organization that aims to establish a framework to help businesses and financial institutions properly evaluate and disclose the risks and opportunities related to natural capital and biodiversity.

## J-POWER Group and Its Relationship with Nature

Under our Corporate Philosophy of “We will meet people’s needs for energy without fail, and play our part in the sustainable development of Japan and the rest of the world,” the J-POWER Group has striven to supply power efficiently and stably and operated the business globally for over 70 years. Furthermore, we are making efforts to enhance our corporate value by identifying the following five material issues from the medium- to long-term sustainability perspective and setting them as the core of the Group’s ESG management: supply of energy, response to climate change, respect for people, engagement with local communities, and enhancement of our business foundation.

We acknowledge that large-scale energy supply projects impact local communities and the environment. As part of our commitment to “engagement with local communities,” we are working toward the preservation of natural capital and local environment including biodiversity, and building trust with the local community.



## J-POWER Group Environmental Basic Policy, Environmental Targets, and Environmental Action Guidelines

The Group has formulated the Environmental Basic Policy that sets forth the direction of the Group’s environmental initiatives based on its Basic Policy on Sustainability.

The Group also established medium- to long-term challenges and goals as Environmental Targets and the details of challenges to be addressed and major initiatives as Environmental Action Guidelines, and is taking various actions in line with these targets and guidelines.

### J-POWER Group Environmental Basic Policy (Addressing Local Environment Issues)

Seek to operate in harmony with the local environment by adopting measures to reduce the environmental impact of our operations while working to save, recycle, and reuse resources in order to limit waste.

## General Requirements for Disclosure Based on TNFD Recommendations

| General requirements                                                                   | Status of disclosure during FY2026                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Application of materiality</b>                                                      | Double materiality* approach                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Scope of disclosures</b>                                                            | The business of the Group is centered on the power generation and transmission and transformation businesses. Since the directly operated power generation business is considered to have significant impacts on natural capital due to its scale, we decided to include the 106 sites (thermal, hydroelectric, wind, geothermal, and solar) in Japan and around the world that were in operation as of March 31, 2026 in the scope of disclosure. We will continue to consider expanding the scope of disclosure on business areas and value chains other than the directly operated power generation business. |
| <b>Location of nature-related issues</b>                                               | Ecosystem integrity, biodiversity importance, and water stress were assessed for domestic and overseas power plants within the scope of disclosures as the evaluation of operating locations to identify areas that require priority efforts. For some risks and opportunities, the likelihood of occurrence depends on local conditions, so we use the results of the evaluation of operating locations.                                                                                                                                                                                                        |
| <b>Integration with other sustainability-related disclosures</b>                       | We acknowledge that climate change and natural capital mutually influence each other. The overall status of the ESG challenges is included in this report.                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Time horizons considered</b>                                                        | In this disclosure, we assessed risks and opportunities using the following three time horizons: short term (up to 2026), medium term (up to 2030), and long term (up to 2050).                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Engagement with indigenous peoples, local communities and affected stakeholders</b> | In the electric power business, power plant operation runs on a premise that it has gained understanding of the local residents. An environmental impact assessment is performed at the time of the construction to study the impact on the environment and organisms. During operation, we comply with environmental conservation agreements with the local governments where the plants are located, and make efforts to gain further understanding of the local residents about the power plants through events such as plant visits.                                                                         |

\*Double materiality is a concept that requires companies to emphasize not only the financial impact, but also how their corporate activities and business models affect the environment and society.

## Governance

The Group has identified “engagement with local communities” as one of its material issues and holds meetings of the Sustainability Promotion Board, headed by the ESG Oversight (President), at least three times a year. The Sustainability Promotion Board plans and examines measures related to natural capital and discusses risk identification, assessment, and management based on the Group’s policy. Important matters are proposed or reported to the Board of Directors or the Executive Committee.

[P.47 Sustainability promotion structure](#)

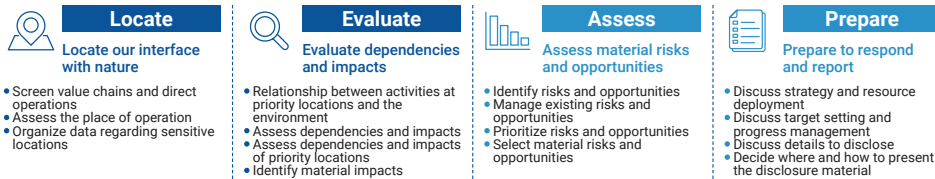
The Group has also established the J-POWER Group Basic Policy on Human Rights based on such international standards as the International Bill of Human Rights, ILO International Labour Standards, OECD Guidelines for Multinational Enterprises, UN Global Compact Principles on Human Rights, and UN Guiding Principles on Business and Human Rights. Based on this policy, we promote efforts to respect human rights for all stakeholders, including those within our supply chain.

[P.74 Initiatives to Respect Human Rights](#)

## Disclosure Based on TNFD Recommendations

### Strategy

The TNFD Recommendations require companies to make clear how they impact nature, depend on natural capital, and the relevant risks and opportunities. We used the integrated approach for the assessment of nature-related issues advocated by the TNFD Recommendations (LEAP approach) in evaluating operating locations and the business activities' dependencies and impacts on natural capital to identify material risks and opportunities. The LEAP approach consists of four phases: Locate, Evaluate, Assess, and Prepare. It is a framework that helps businesses locate the interface with nature, assess and manage dependencies and impacts as well as risks and opportunities, and organize the details to disclose by applying the set of procedures.



#### Locate

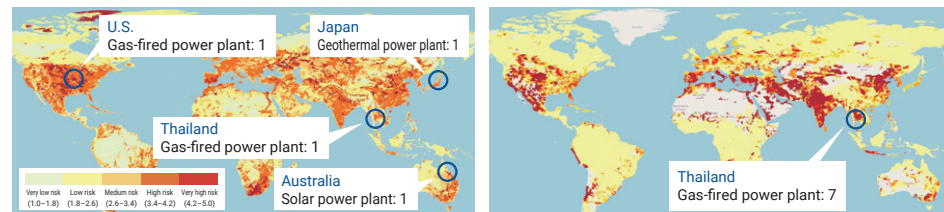
#### Understanding the areas that require priority efforts

For each power generation site, we used a publicly available tool to assess ecosystem integrity, biodiversity importance, and water stress, which are metrics related to biodiversity and water deemed to be closely related to our business, and identified sites that are in sensitive locations.

We designated areas that were identified as either areas of low ecosystem integrity, areas of high biodiversity importance, or areas of high water stress as sensitive locations. As a result, we confirmed that 90 sites (4 coal-fired power plants, 10 gas-fired power plants, 50 hydroelectric power plants, 21 wind farms, 1 geothermal power plant, and 4 solar power plants) were situated in sensitive locations.

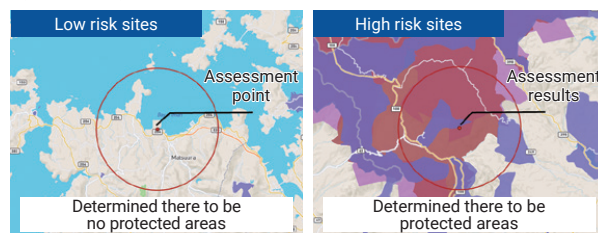
#### Results of ecosystem integrity assessment (using BRF\*)

#### Results of water stress assessment (using Aqeduct\*3 or WRF\*4)



#### Results of biodiversity importance assessment (using IBAT\*2)

| Category                                        | Protected areas                                                                                             |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Key Biodiversity Area (KBA)                     | Alliance for Zero Extinction Sites<br>Important Bird and Biodiversity Areas<br>Other                        |
| Protected areas                                 | Natura2000<br>World Heritage<br>Ramsar<br>MAB                                                               |
| Protected areas (IUCN area management category) | IUCN Management Ia<br>IUCN Management Ib<br>IUCN Management II<br>IUCN Management III<br>IUCN Management IV |



- \*1 BRF (Biodiversity Risk Filter): A tool developed by the World Wide Fund for Nature (WWF) to help companies and financial institutions assess risks within their businesses and supply chains that could impact biodiversity
- \*2 IBAT (Integrated Biodiversity Assessment Tool): A tool jointly developed by BirdLife International, UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC), International Union for Conservation of Nature (IUCN), and Conservation International that provides access to protected areas, key biodiversity areas, and other areas designated for conservation around the target point, and maps of endangered species
- \*3 Aqeduct: A tool developed by the World Resources Institute (WRI) to assess water risks. It can assess water risks of the area where the subject site is located, from the aspects of water quantity, water quality, and regulatory or reputational risk.
- \*4 WRF (Water Risk Filter): A tool developed by the World Wide Fund for Nature (WWF) to assess water risks. It can assess water risks of the area where the subject site is located as well as water risks arising from the operations of each site.

#### Evaluate

#### Dependencies and impacts of our business on natural capital

To understand the level of dependency of the business on nature and the level of impact on nature, we used ENCORE\*5, a tool for analyzing whether the business activity impacts the ecosystems and evaluating the magnitude of such impacts, and analyzed the dependencies and impacts. Below is a heatmap (created by reviewing the results of the ENCORE assessment and adjusting them to reflect our actual business operations) that visualizes the dependencies and impacts on natural capital. Items assessed to have extremely large dependencies and impacts were selected as high priority matters.

#### Heatmap of dependencies and impacts

Very large dependencies and impacts  
Moderate dependencies and impacts  
Relatively small dependencies and impacts  
Almost no dependencies or impacts

|                     | Things that depend on natural capital |                           |                          |                  |                    |                         |                             |                       |                  |                  | Things that impact natural capital |                     |                  |                        |                    |
|---------------------|---------------------------------------|---------------------------|--------------------------|------------------|--------------------|-------------------------|-----------------------------|-----------------------|------------------|------------------|------------------------------------|---------------------|------------------|------------------------|--------------------|
|                     | Freshwater supply                     | Global climate regulation | Local climate regulation | Air purification | Water purification | Solid waste remediation | Soil and sediment retention | Water flow regulation | Flood mitigation | Storm mitigation | Noise attenuation                  | Volume of water use | Area of land use | Area of freshwater use | Area of seabed use |
| Thermal power       |                                       |                           |                          |                  |                    |                         |                             |                       |                  |                  |                                    |                     |                  |                        |                    |
| Hydroelectric power |                                       |                           |                          |                  |                    |                         |                             |                       |                  |                  |                                    |                     |                  |                        |                    |
| Wind power          |                                       |                           |                          |                  |                    |                         |                             |                       |                  |                  |                                    |                     |                  |                        |                    |
| Geothermal power    |                                       |                           |                          |                  |                    |                         |                             |                       |                  |                  |                                    |                     |                  |                        |                    |
| Solar power         |                                       |                           |                          |                  |                    |                         |                             |                       |                  |                  |                                    |                     |                  |                        |                    |

\*5 ENCORE (Exploring Natural Capital Opportunities, Risks and Exposure): A tool developed by the Natural Capital Finance Alliance and the UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) to help understand the magnitude of dependencies and impacts of business activities on nature. The ENCORE assessment items disclosed in the previous fiscal year have been updated to the latest version. For details, please see ENCORE's website (<https://www.encorenature.org/en/data-and-methodology/impact-drivers>).

#### Results of assessment of dependencies and impacts on natural capital

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Thermal power       | There are large dependencies on "Freshwater supply," which is essential for power plant operations, and large impacts on "Volume of water use." There are also large impacts from "Emissions of GHG" and "Emissions of non-GHG air pollutants" due to fuel combustion.                                                                                                                                                                            |
| Hydroelectric power | There are large dependencies on "Freshwater supply" and "Water flow regulation," both of which are essential for power plant operations, and large impacts on "Volume of water use." There are also large dependencies on "Global climate regulation" and "Local climate regulation," given that a stable climate leads to a stable water cycle, as well as large impacts on "Area of freshwater use" due to changes in river flows and sediment. |
| Wind power          | There are large dependencies on "Global climate regulation" and "Local climate regulation," given that a stable climate leads to a stable supply of wind.                                                                                                                                                                                                                                                                                         |
| Geothermal power    | There are large dependencies on "Freshwater supply," which is essential for power plant operations, and large impacts on "Volume of water use."                                                                                                                                                                                                                                                                                                   |
| Solar power         | There are large dependencies on "Global climate regulation," given that a stable climate leads to a stable supply of solar radiation.                                                                                                                                                                                                                                                                                                             |

## Disclosure Based on TNFD Recommendations

### Assess Nature-related risks and opportunities across our business

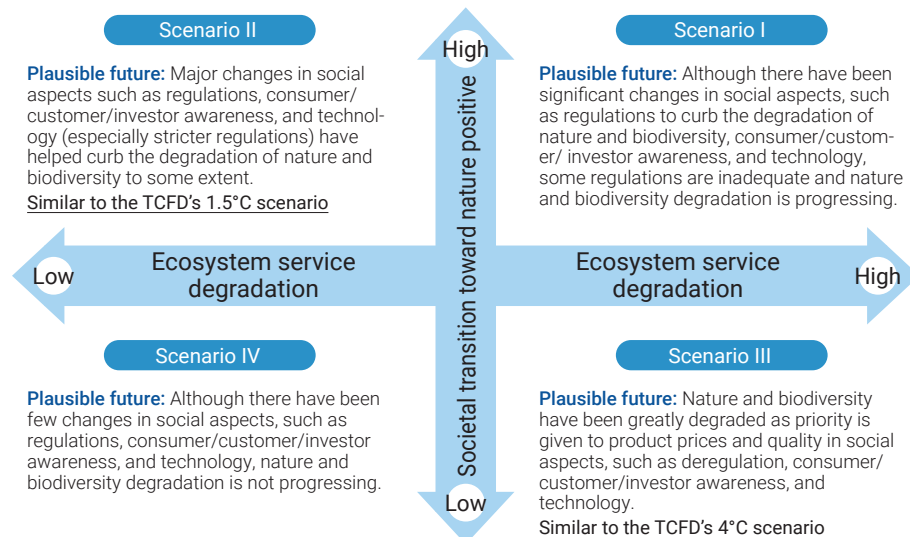
We identified nature-related risks and opportunities from the perspectives of dependencies and impacts, which reflect the close relationship between business and nature, and assessed them using indicators such as likelihood of occurrence and impact on business. Furthermore, we conducted a scenario analysis under the assumption of environmental and social changes to evaluate their materiality taking into account various future global changes.

#### 1 Scenario analysis

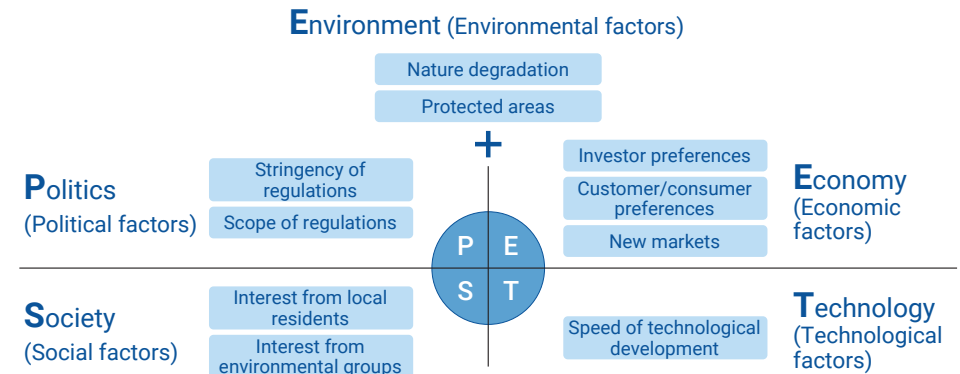
We analyzed the materiality of risks and opportunities taking into account changes in plausible futures using the scenario analysis under the assumption of environmental and social changes relating to our business. As an approach to the scenario analysis based on TNFD, we have set four plausible futures with “ecosystem service degradation” and “societal transition toward nature positive” as the scenario axes. We used the PEST+E analysis to see how the materiality of risks and opportunities changes based on the directions of change in factors such as environment and technology under the four plausible futures.

Based on the analysis results, we will identify risks and opportunities that are material to the Group and enhance our efforts with priority to those that are most material.

#### ① Four plausible futures (Scenarios II and III are similar to climate change scenarios)



#### ② Framework of PEST+E analysis and analysis results for four scenarios



| Factors               | Elements                           | Four plausible futures (scenarios)             |                                                |                                         |                                                                  |
|-----------------------|------------------------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------|------------------------------------------------------------------|
|                       |                                    | Scenario I                                     | Scenario II                                    | Scenario III                            | Scenario IV                                                      |
| Environmental factors | Nature degradation                 | High                                           | Recovering                                     | Very high                               | Recovering                                                       |
|                       | Protected areas                    | Expanding                                      | Expanding                                      | Stagnant                                | Stagnant                                                         |
| Political factors     | Stringency of regulations          | Strict (some are inadequate)                   | Very strict                                    | Relaxed                                 | Status quo retained                                              |
|                       | Scope of regulations               | Global                                         | Global                                         | Local                                   | Local                                                            |
| Economic factors      | Investor preferences               | Focus on ESG investment                        | Focus on ESG investment                        | Focus on investment for economic growth | Focus on conventional investment                                 |
|                       | Customer/consumer preferences      | Emphasis on eco-friendly products              | Emphasis on eco-friendly products              | Emphasis on price and quality           | Some customers/consumers place emphasis on eco-friendly products |
|                       | New markets                        | Expansion of markets for eco-friendly products | Expansion of markets for eco-friendly products | Stagnant                                | Stagnant                                                         |
| Social factors        | Interest from local residents      | High                                           | High                                           | Low                                     | Low                                                              |
|                       | Interest from environmental groups | High                                           | High                                           | Medium                                  | Medium                                                           |
| Technological factors | Speed of technological development | Fast                                           | Fast                                           | Slow                                    | Status quo retained                                              |

\*The results are shown on a scale of one to five. (High 5, 4, 3, 2, 1 Low)

## Disclosure Based on TNFD Recommendations

### 2 Risks and opportunities identified as material based on the scenario analysis

#### Risks identified as material due to the dependencies and impacts between the power generation business and nature

| Risk of dependencies and impacts | Impact on nature                                                                                                                  | Power generation type | Impact on business                                                                                                                                                                                                                                                | Likelihood of occurrence |                        |                         |                        | Assessment time horizon | Status of response                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------------|-------------------------|------------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                  |                                                                                                                                   |                       |                                                                                                                                                                                                                                                                   | Changes in Scenario I    | Changes in Scenario II | Changes in Scenario III | Changes in Scenario IV |                         |                                                                                                                                                                                                                                                                                                                                                              |
| Dependencies                     | ① Lower rainfall reduces water resources, resulting in a decline in the supply of river water, groundwater, and industrial water. | Thermal               | The limited supply of process water causes operating restrictions, resulting in a decline in power generation.                                                                                                                                                    | ↗                        | ↘                      | ↗                       | ↘                      | Short to long term      | We have been endeavoring to efficiently use water resources through such measures as collecting information on water resources, reusing wastewater, and saving water. The financial impact of this risk is limited as there are few sites located in high water stress areas in Japan.                                                                       |
|                                  | ② The degradation of ecosystem services increases the damage from natural disasters (e.g., flood, sediment runoff).               | Hydroelectric         | The degradation of ecosystem services causes large-scale natural disasters and damage to facilities, such as reservoirs and power generation facilities, resulting in a medium- to long-term shutdown.                                                            | ↗                        | ↘                      | ↗                       | ↘                      | Short to long term      | We identify the risks of flood and mudslides, confirm the safety of facilities, and take countermeasures at each location. We are also taking flood countermeasures, such as sediment routing/discharge at regulating ponds and implementing flood protection measures for facilities.                                                                       |
|                                  |                                                                                                                                   | Wind                  |                                                                                                                                                                                                                                                                   |                          |                        |                         |                        |                         | We are seeking to mitigate the risk of equipment damage by automatically shutting down wind turbines in the event of a lightning strike and resuming operations after inspection by maintenance personnel. The wind turbines are also designed to shut down safely if the power supply is lost due to a disaster or other event.                             |
|                                  |                                                                                                                                   | Geothermal            |                                                                                                                                                                                                                                                                   |                          |                        |                         |                        |                         | We monitor the subsurface environment of the geothermal reservoir to check for any indication of abnormalities through the regular measurement of temperature and pressure, water quality analysis, and other measures.                                                                                                                                      |
|                                  | ③ Severe rain and wind occur due to the impact of climate change.                                                                 | Hydroelectric         | The severe rain and wind cause large-scale natural disasters and damage to facilities, such as reservoirs and power generation facilities, resulting in a medium- to long-term shutdown.                                                                          | ↗                        | ↘                      | ↗                       | ↘                      | Short to long term      | We identify the risks of flood and mudslides, confirm the safety of facilities, and take countermeasures at each location. We are also taking flood countermeasures, such as sediment routing/discharge at regulating ponds and implementing flood protection measures for facilities.                                                                       |
|                                  |                                                                                                                                   | Wind                  | Changes in wind conditions cause damage to power generation and other facilities, resulting in a medium- to long-term shutdown. In addition, deteriorating wind conditions and cut-outs reduce power generation.                                                  |                          |                        |                         |                        |                         | When wind speed reaches or exceeds the preset cut-out wind speed, the wind turbine blades are positioned parallel to the wind flow and allowed to rotate freely to prevent equipment damage. The financial impact of this risk is limited as the locations of wind farms are decentralized and the single-unit output is small.                              |
|                                  |                                                                                                                                   | Solar                 | The severe rain and wind cause large-scale natural disasters and damage to facilities, such as solar power generation facilities, resulting in a medium- to long-term shutdown.                                                                                   |                          |                        |                         |                        |                         | When selecting locations, we take natural disaster risks into account and strive to mitigate them by designing facilities based on assessments of those risks.                                                                                                                                                                                               |
| Impacts                          | ④ Sea surface temperature rises due to the impact of climate change.                                                              | Thermal               | Higher sea surface temperature causes operating restrictions, resulting in a decline in power generation.                                                                                                                                                         | ↗                        | ↘                      | ↗                       | ↘                      | Long term               | We will strive to maintain our plant efficiency to prevent operating restrictions caused by higher seawater temperature.                                                                                                                                                                                                                                     |
|                                  | ⑤ Increased sedimentation in dams reduces reservoir capacity, affecting the habitat environment for freshwater organisms.         | Hydroelectric         | A decline in water-storage capacity reduces power generation. Sedimentation near the water intake hinders power generation. Stricter regulations and criticism from local communities increase costs for measures to deal with such events, including a shutdown. | ↗                        | ↗                      | →                       | →                      | Short to long term      | Dam sediments are excavated and taken out of the dam lake on a regular basis. At some sites, sediment routing/discharge measures are taken to let earth and sand flowing into a dam lake at the time of flooding flow down to downstream as much as possible, and bypass tunnels have been installed for sediment routing.                                   |
|                                  | ⑥ Greenhouse gas (GHG) emissions from business activities increase costs for dealing with such emissions.                         | Thermal               | To reduce GHG emissions, ordinary profit is estimated to decrease by around ¥10 billion mainly due to the suspension or discontinuation of inefficient coal-fired power plants.                                                                                   | ↗                        | ↗                      | →                       | →                      | Long term               | We will advance our CO <sub>2</sub> reduction and decarbonization initiatives by converting high-efficiency coal-fired power plants using the optimal technology according to the local characteristics of the site, while phasing out inefficient coal-fired power plants.                                                                                  |
|                                  | ⑦ Higher environmental awareness leads to harsh criticism against GHG emissions and soot and smoke generation.                    | Thermal               | A failure to take appropriate action or disclose information leads to being excluded from ESG indexes, increasing stock price fluctuations.                                                                                                                       | ↗                        | ↗                      | ↘                       | →                      | Short to long term      | We will actively work to enhance information disclosure through our integrated report and Annual Securities Report, respond to third-party questionnaire surveys, and foster engagement with investors.                                                                                                                                                      |
|                                  |                                                                                                                                   | Thermal               | The increasing need of customers for decarbonized power sources reduces the sales volume of electric power generated by thermal power plants.                                                                                                                     | ↗                        | ↗                      | ↘                       | →                      | Short to long term      | While advancing the development of CO <sub>2</sub> -free power sources such as renewable energy and nuclear power, we are transforming our power source portfolio through initiatives including the phase-out of inefficient coal-fired thermal power plants and the decarbonization of thermal power generation (mixed combustion with biomass, CCS, etc.). |
|                                  |                                                                                                                                   | Thermal               | Nature protection efforts increase costs for developing and introducing new technologies, such as CCS for thermal power generation.                                                                                                                               | ↗                        | ↗                      | →                       | →                      | Short to long term      | We will work together with other companies to introduce new technologies, including CCS, while also considering costs and government support.                                                                                                                                                                                                                |

\*The likelihood of occurrence is assessed taking into account the sensitivity of power generation sites based on the Locate evaluation and changes in each scenario.

## Disclosure Based on TNFD Recommendations

### Opportunities identified as material due to the dependencies and impacts between the power generation business and nature

|              | Opportunities from dependencies and impacts                                                                                                                                                                      | Impact on nature                                                                                                                                                                                                                                      | Power generation type                     | Impact on business                                                                                                                                                                                                                                                                               | Likelihood of occurrence |                        |                         |                        | Assessment time horizon | Status of response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------------|-------------------------|------------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|              |                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                       |                                           |                                                                                                                                                                                                                                                                                                  | Changes in Scenario I    | Changes in Scenario II | Changes in Scenario III | Changes in Scenario IV |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Dependencies | ① The appropriate management of water resources enables us to maintain stable operations.                                                                                                                        | The adverse impact on the water environment can be mitigated by avoiding the excess use of water resources. (This has a higher impact on locations of higher water risk.)                                                                             | Thermal                                   | The appropriate management of water resources enables us to avoid a shutdown due to water supply restrictions or other reasons.                                                                                                                                                                  | ↗                        | →                      | ↗                       | →                      | Short to long term      | We have been striving to reduce our environmental impact and ensure stable operations through the efficient use of water resources by managing water resource data to take water-saving measures such as reuse of water.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|              | ② Increasing the resilience of our power plant facilities to natural disasters improves their operability.                                                                                                       | Assess the impact on business only                                                                                                                                                                                                                    | Hydroelectric<br>Wind                     | Facility damage and shutdown caused by a large-scale disaster can be avoided by making an up-front capital investment.                                                                                                                                                                           | ↗                        | ↘                      | ↗                       | ↘                      | Short to long term      | We have been making disaster prevention investments, including flood protection measures at power plants, seismic reinforcement measures for dam discharge facilities, and measures against floods and earthquakes, to improve the stability of operations and mitigate disaster damage.<br>We have been striving to lower failure rates and improve power generation efficiency by extending the operating lives of facilities or replacing them based on assessments of their service lives.                                                                                                                                                                                                                                 |
|              | ③ The development of small-scale hydroelectric power plants and the repair of aging facilities promote efficient water use, allowing us to increase our revenue.                                                 | The development of small-scale hydroelectric power plants and the repowering of existing facilities enable us to mitigate the adverse impact on the downstream ecosystem and reduce the use of water resources.                                       | Hydroelectric                             | The development of small-scale hydroelectric power plants and the repowering of existing facilities, among other means, allow us to increase our power generation and revenue from renewable energy power generation.                                                                            | ↗                        | ↗                      | ↘                       | →                      | Short to long term      | We have been endeavoring to increase our revenue by developing small-scale hydroelectric power plants and implementing repowering work at existing hydroelectric power plants to promote efficient water use.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|              | ④ The development of small- and medium-scale hydroelectric power plants that utilize river flows allows us to increase our revenue.                                                                              | Discharging water to maintain river flows enables us to maintain the downstream ecosystem.                                                                                                                                                            | Hydroelectric                             | Promoting the development of small- and medium-scale hydroelectric power plants that harness river maintenance flow increases power generation, leading to an improvement in our revenue.                                                                                                        | ↗                        | ↗                      | →                       | →                      | Short to long term      | We have been actively working to develop small- and medium-scale hydroelectric power plants that utilize untapped water resources.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|              | ⑤ Ecosystem-friendly facility management and operations allow us to improve our corporate value.                                                                                                                 | Ecosystem services can be maintained through the monitoring of the surrounding environment and ecosystem-friendly facility management and operations. This has a greater effect in areas with higher biodiversity risk (important species' habitats). | Thermal<br>Hydroelectric                  | Ecosystem-friendly facility management and operations allow us to avoid reputation risk, leading to an improvement in our corporate value that contributes to maintaining ecosystem services.                                                                                                    | ↗                        | ↗                      | →                       | →                      | Short to long term      | We have been managing and operating our facilities through the constant monitoring of seawater flows and temperature difference between intake and discharge water based on the ecosystem-friendly environmental impact assessment.<br>We have been working to preserve the river environment through river maintenance flow, construct fishways, and restore the healthy aquatic environment through sediment replenishment downstream of dams. We are also seeking to improve the river environment by taking measures to reduce prolonged turbidity.                                                                                                                                                                        |
| Impacts      | ⑥ Efforts to expand and improve existing facilities and to promote renewable energy projects accelerate decarbonization, allowing us to improve our corporate value.                                             | Such efforts allow us to reduce the use of fossil fuel, leading to a mitigation of the risk of natural resource depletion and a reduction of GHG emissions.                                                                                           | Thermal<br>Hydroelectric<br>Wind<br>Solar | Efforts to increase the use of non-fossil fuel and to promote renewable energy projects accelerate decarbonization, improving our corporate value. This also allows us to reduce costs for dealing with GHG emissions.                                                                           | ↗                        | ↗                      | →                       | →                      | Short to long term      | We will advance our CO <sub>2</sub> reduction and decarbonization initiatives, including mixed combustion of biomass fuels, by converting coal-fired power plants using the optimal technology according to the local characteristics of the site.<br>We have been promoting the development of small-scale hydroelectric power plants and the repowering of existing facilities.<br>We have been striving to ensure facility maintenance and secure the required capacity of power generation by extending the operating lives of facilities or replacing them based on assessments of their service lives.<br>We are advancing studies on the selection of suitable locations and the establishment of commercial viability. |
|              | ⑦ Efforts to promote renewable energy projects lead to the conservation of resources and to the promotion of decarbonization, enabling us to contribute to regional development and improve our corporate value. | Efforts to promote renewable energy projects lead to the conservation of natural resources.                                                                                                                                                           | Renewable energy*                         | Efforts to promote renewable energy projects allow us to make progress in, among other initiatives, the creation of clean energy at local regions, leading to an improvement in our corporate value along with regional development.                                                             | ↗                        | ↗                      | ↘                       | →                      | Short to long term      | We are promoting the use of environmental value derived from our renewable energy sources in collaboration with local governments and companies by expanding virtual power purchase agreements (PPAs) with electricity consumers, selling environmental value generated through power generation, and developing next-generation hydroelectric power plants in harmony with their river basin communities.                                                                                                                                                                                                                                                                                                                     |
|              | ⑧ Building good relationships with local communities allows us to reduce environmental reputation risk, leading to an improvement in our business continuity.                                                    | Environmental preservation activities and other collaborative initiatives with local communities lead to the restoration of natural environment and biodiversity.                                                                                     | Thermal<br>Hydroelectric<br>Wind          | Efforts to promote collaborative initiatives with local communities allow us to build good relationships with them, leading to an improvement in our business continuity.                                                                                                                        | ↗                        | ↗                      | →                       | ↘                      | Short to long term      | We aim to build relationships of trust with local communities as well as contribute to local revitalization efforts through proactive local community engagement activities in Japan and overseas.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|              | ⑨ Efforts to promote renewable energy projects attract ESG investment, allowing us to capture opportunities to improve our corporate value.                                                                      | Assess the impact on business only                                                                                                                                                                                                                    | Renewable energy*                         | Efforts to promote renewable energy projects allow us to capture opportunities to improve our corporate value, while attracting ESG investment.                                                                                                                                                  | ↗                        | ↗                      | →                       | →                      | Short to long term      | We utilize the Green/Transition Finance Framework as a means of fundraising for our transition initiatives based on the long-term strategy for achieving carbon neutrality by 2050.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|              | ⑩ Efforts to promote renewable energy projects allow us to expand opportunities to sell environmental value and so forth.                                                                                        | Assess the impact on business only                                                                                                                                                                                                                    | Renewable energy*                         | Efforts to promote renewable energy projects amid increasing social awareness of climate change and biodiversity allow us to expand opportunities to sell renewable electricity, credits, and so forth.                                                                                          | ↗                        | ↗                      | →                       | →                      | Short to long term      | We are advancing the development of CO <sub>2</sub> -free power sources, including wind, geothermal, solar, and nuclear power.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|              | ⑪ Efforts to advance decarbonization and promote renewable energy projects, among other efforts, allow us to increase electricity sales to environment-conscious customers.                                      | Assess the impact on business only                                                                                                                                                                                                                    | All sectors                               | Disseminating information on our efforts to promote renewable energy projects, advance decarbonization, and preserve the natural environment, among other initiatives, allows us to improve our corporate value, leading to an increase in electricity sales to environment-conscious customers. | ↗                        | ↗                      | →                       | →                      | Short to long term      | We have been working to disclose sustainability information through our integrated report and corporate website.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

\*Renewable energy refers to hydroelectric, wind, geothermal, and solar power generation.

## Disclosure Based on TNFD Recommendations

### Prepare

### Natural capital-related initiatives

To preserve the local environment, the J-POWER Group is making efforts to preserve biodiversity and the water environment tailored to the environment of each location.

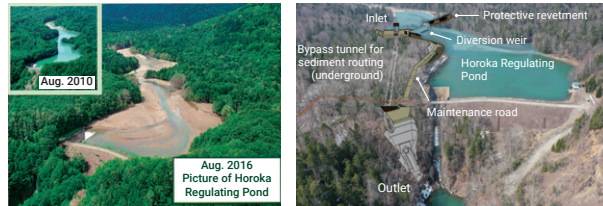
#### Examples of Initiatives

##### Sedimentation control measures at regulating ponds

The deposition of sediment due to rainfall and other reasons reduces the reservoir capacity. Therefore, we have been working to install bypass tunnels for sediment routing to maintain and improve the downstream river environment and ensure the stable supply of renewable hydroelectric power.

##### Example of Horoka Regulating Pond

Left: Regulating pond filled with sediment due to rainfall  
Right: Illustration of the completed bypass tunnel for sediment routing



##### Development of small- and medium-scale hydroelectric power plants that utilize untapped water resources

We have been working to develop small- and medium-scale hydroelectric power plants that utilize untapped water resources, including those harnessing river maintenance flow and utilizing unused head of water from the water inlet to the reservoir.

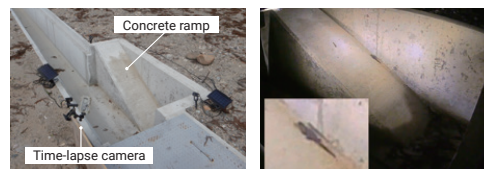
Illustration of completed Ikushunbetsugawa Power Plant that harnesses river maintenance flow



##### Preservation of plant and animal habitats at hydroelectric power plant sites

At Tagokura Power Plant (Fukushima Prefecture), a sediment disposal site is being developed using sediment deposited in a regulating pond. Branched bur-reed and Japanese fire-bellied newts, both of which are included in the Fukushima Prefecture Red List and were found within the development area, are being protected by transplanting the branched bur-reed to a nearby location and installing wildlife ramps in drainage ditches as a conservation measure for the newts.

In addition, the rare plant Yukiguni-kan-aoi (*Asarum ikegamii*) was found and transplanted to a location that would not



Ramp installed in a drainage ditch



Transplanting a rare plant

be affected by the development work. Black locust, which is included in the Fukushima Prefecture Invasive Alien Species List and is believed to have been introduced in transported sediment or through seed dispersal by starlings and other birds, was also found. We are therefore undertaking measures such as regularly checking for and removing the species.

##### Improvement of spawning grounds for ayu sweetfish

In the Nahari River (Kochi Prefecture), the reduced supply of gravel downstream of dams causes the riverbed material to become coarser, making it difficult for ayu sweetfish to spawn. Since 2005, we have therefore been working with the local fisheries cooperative and other organizations to create a suitable spawning environment.



Leveling gravel on the riverbed

Ayu sweetfish approaching the improved riverbed

### Column

#### Biotope at Chigasaki Research Institute certified as a Nationally Certified Sustainably Managed Natural Site\*1

Since 2003, the Institute has developed and continuously managed a biotope\*2 comprising a diverse green environment that combines ponds, grasslands, and wooded areas. The Institute has also conducted regular field surveys of the biotope and carefully monitored changes in its vegetation and waterside environments. As a result, the biotope now provides habitat for 176 species, including birds, insects, and aquatic animals. These green space conservation activities were recognized as a locally rooted initiative for coexistence with nature, and the biotope became J-POWER's first site to be certified as a Nationally Certified Sustainably Managed Natural Site (Third round of certification in FY2025).

J-POWER is committed to biodiversity preservation/recovery and will continue working toward the realization of nature positive (nature restoration) in collaboration with local communities.



Pond in the biotope



Tour of the biotope for local residents

\*1 The Nationally Certified Sustainably Managed Natural Sites scheme is a national certification scheme launched in FY2023 to help achieve the international "30by30" target of conserving at least 30% of the world's land and sea areas as protected areas by 2030. Under the scheme, the Ministry of the Environment certifies areas where biodiversity conservation is achieved through initiatives undertaken by private companies and other entities.

\*2 A biotope is an artificially created space in an urban area where living organisms can coexist, with the aims of maintaining biodiversity and creating opportunities for urban residents to interact with nature.

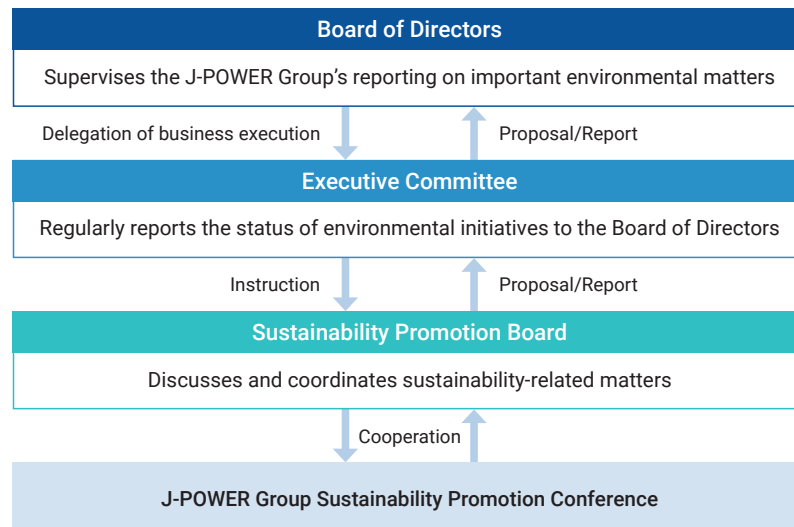
## Disclosure Based on TNFD Recommendations

### Risk and Impact Management

The J-POWER Group defines “risks” as potential threats posed to an organization that arise from its and society’s dependencies and impacts on nature. The Sustainability Promotion Board chaired by the ESG Oversight (President) works together with Group companies to manage such risks by examining and promoting specific measures.

The Sustainability Promotion Board convenes at least three times a year to discuss the drafting of the Basic Policy on Sustainability to be determined by the Board of Directors and the Executive Committee, as well as the formulation and review of measures based on the policy and the identification, assessment, and management of risks, among other matters. In addition, the ESG Oversight regularly reports the contents of those discussions to the Executive Committee and the Board of Directors, monitors the status of initiatives, and reflects them in management and business plans.

The Board of Directors works to identify risks, including those from ESG and sustainability perspectives, at an early stage by receiving regular reports on the status of business execution. It also strives to thoroughly identify business risks, including those related to ESG and sustainability, and implement measures to avoid them, while aiming to minimize the impact when risks occur, through mutual checks and balances in the decision-making process, discussions at various meetings, and a crisis management system maintained under normal circumstances in accordance with internal regulations.



### Indicators and Targets

The J-POWER Group has disclosed information on our environment target achievements in FY2025 in line with the core global indicators and metrics recommended by TNFD.

With the local environment-related targets of “creation of a recycling-oriented society,” “biodiversity preservation/recovery,” and “protecting aquatic environments,” we will continue to work on the effective utilization of industrial waste, the preservation of habitats and growth environments of rare plants and animals, and the appropriate management of wastewater, among other initiatives.

[P.69 J-POWER Group Environmental Targets](#)

#### Achievements against the core global indicators and metrics (dependencies and impacts)

Indicators and metrics related primarily to dependencies and impacts assessed to be material are as follows:

| No.     | Change driver                   | Indicators                                                                   | Metrics                                                                                                                                                                                                                                                             | Relevant impacts/dependencies                                                                                                                    |
|---------|---------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| —       | Climate change                  | GHG emissions                                                                | <a href="#">P.47 TCFD Report</a>                                                                                                                                                                                                                                    | Impacts: GHG emissions<br>Dependencies: Global climate regulation, rainfall pattern regulation, air purification                                 |
| C2.1    | Pollution/<br>pollution removal | Wastewater discharged                                                        | Highly treated wastewater: 2.97 million m <sup>3</sup>                                                                                                                                                                                                              | Impacts: Emissions of toxic pollutants to water and soil, emissions of nutrient pollutants to water and soil<br>Dependencies: Water purification |
| C2.2    |                                 | Waste generation and disposal                                                | Industrial waste generated: 1.76 million tons<br>Effective utilization rate: 94%                                                                                                                                                                                    | Impacts: Generation and release of solid waste<br>Dependencies: Solid waste remediation                                                          |
| C2.3    |                                 | Plastic pollution                                                            | Plastic waste: 1,696 tons<br>Effective utilization rate: 45%                                                                                                                                                                                                        | Impacts: Generation and release of solid waste                                                                                                   |
| C2.4    |                                 | Total emissions of non-GHG air pollutants                                    | NOx: 15.8 thousand tons<br>SOx: 6.8 thousand tons<br>Soot and dust: 0.4 thousand tons                                                                                                                                                                               | Impacts: Emissions of non-GHG air pollutants<br>Dependencies: Air purification                                                                   |
| C3.0    | Resource use/<br>replenishment  | Water withdrawal and consumption from areas of water scarcity                | From areas of water scarcity*:<br>• Water withdrawn: 9.40 million m <sup>3</sup><br>• Water consumed: 7.96 million m <sup>3</sup><br>*Areas of water scarcity are defined as areas assessed to have a water stress score of 4 or higher in the Aqueduct assessment. | Impacts: Volume of water use<br>Dependencies: Freshwater supply, water flow regulation                                                           |
| C3.1    |                                 | Quantity of high-risk natural commodities sourced from land/ocean/freshwater | Coal: 13.68 million tons<br>Heavy oil: 29 thousand kl<br>Light oil: 27 thousand kl<br>Biomass: 146 thousand tons<br>Natural gas: 1,410 million m <sup>3</sup>                                                                                                       | Impacts: Extraction of other biological resources, extraction of other abiotic resources                                                         |
| EPC 2.0 | Pollution/<br>pollution removal | Coal combustion residue (CCR)                                                | CCR generated: 1.42 million tons<br>Effective utilization rate: 93%                                                                                                                                                                                                 | Impacts: Generation and release of solid waste<br>Dependencies: Solid waste remediation                                                          |