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Disclosure Based on TNFD Recommendations

The J-POWER Group will disclose information based on Recommendations of the Task Force on Nature-related Financial Disclosures ("TNFD Recommendations") released by the Task-force on Nature-related Financial Disclosures* on 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.

1 Foreword

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 the business activities' dependencies and impacts on natural capital. 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. This year's assessment covers the Locate phase and the Evaluate phase. We intend to make a full evaluation and disclosure based on the LEAP approach in the coming years.

O Steps for adopting the LEAP approach



2 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," we, the J-POWER Group, have strived 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 the Group needs to address 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.

Our Environmental Targets include consideration for the preservation of biodiversity and protection of the aquatic environment. We are working to preserve habitats and the growth of rare fauna and flora and conducting proper wastewater management. Please see p.73 for details.

4 Governance Structure

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

Please see p.10 for sustainability promotion structures.

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5 Applying General Requirements

The TNFD Recommendations provide a set of general requirements for disclosures.

General requirements	Status of disclosure during FY2024					
The application of materiality	Going forward, we will review risks and opportunities by taking into consideration the concept of double materiality.* ¹ For this year, we disclosed our analysis up to L and E phases.					
The scope of disclosures	The business of the Group is centered on power generation and transmission and transformation businesses. Since the directly operated power generation business is large in scale and is considered to have significant impacts on natural capital, we decided to include the 96 sites (thermal, hydro, wind, and geothermal) in Japan and around the world that were in operation as of March 1, 2024, in the scope of assessment and disclosure.					
The location of nature-related issues	Biodiversity importance, ecosystem integrity, and water availability were assessed for domestic and overseas power plants within the scope of disclosures to identify high-priority areas.					
Integration with other sustainability-related disclosures	We acknowledge that climate change and natural capital mutually influence each other. The overall status of the ESG challenges is included in this report.					
The time horizons considered	Upon examining risks and opportunities in our process going forward, we will consider the appropriate time horizons that capture the nature-related issues of the Group.					
The engagement of indigenous peoples, local communities and affected stakeholders	In the electric power business, power plant operation runs on a premise that it has gained understanding of the local residents. Environmental 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 values agreed 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.					

*1 Double materiality is a concept that requires companies to assess not only how the environment and society affect them, but also how the companies affect the environment and society.

6 Trial Run of LEAP Approach

The business of the Group is centered on power generation and transmission and transformation businesses. The scope of assessment for this report is the directly operated thermal power business (coal/gas), hydroelectric power business, wind power business, and geothermal power business since these are large in scale and are considered to have significant impacts on natural capital. Please see p.118 for the details of the directly operated sites.

$(1) \ {\rm Dependencies} \ {\rm and} \ {\rm impacts} \ {\rm of} \ {\rm the} \ {\rm business} \ {\rm on} \ {\rm natural} \ {\rm capital}$

To understand the level of dependency of the business on nature and the level of impact on nature, we used ENCORE,*² a tool for analyzing whether the business activity impacts the ecosystems and evaluating the magnitude of such impacts, and analyzed the dependencies and impacts by sector.

Below is a heatmap (created by modifying the results of the ENCORE assessment to align with the Company's business characteristics) 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

Van Jarga dapandanajaa	Things that depend on natural capital								Things that impact natural capital										
and impacts	Grou	Surf	Sour	Wate	Biore	Filtrati accum	Clim	Mitiq natu	Redu	Terre	Fres	Mari	Wate	GHG	Non	Wate	Soil	Solic	Nois
Dependencies and impacts exist	Indwate	ace wat	nd wate ntenanc	er qualit	emediat	on, seques nulation of	ate con	jating ir ral disa	ucing so	estrial e	hwater	ne ecos	er resou	emissi	-GHG ai	er pollut	pollutio	ł waste	e, vibra
 Relatively small dependencies and impacts 	<u>e</u>	ter	r cycle e		tion	tration, storage, contaminants	Itrol	npacts of sters	oil erosion	cosystem	ecosystem	system	Irces	ons	r pollutants	ion			tion
Thermal power										-									
Hydroelectric power										-		-			-			-	-
Wind power	-	-	-	-	-	-					-	-	-	-	-			-	
Geothermal power										-	-	-			-			-	

For the details of each index subject to dependencies and impacts assessment using ENCORE, please see ENCORE's website (https://www.encorenature.org/en/data-and-methodology/impact-drivers).

"-" means that the sector has few dependencies and impacts on the index.

Results of assessment of dependencies and impacts on natural capital

Thermal Power	There are large dependencies on surface water and large impacts on water resources, given that water is an essential resource in power plant operations. There are large impacts on GHG emissions and non-GHG air pollutants, given that burning fuel causes GHG emissions and non-GHG air pollutants emissions.
Hydroelectric power	There are large dependencies on surface water and sound water cycle maintenance and large impacts on water resources, given that water is an essential resource in power plant opera- tions. There are large dependencies on climate control, given that a stable climate leads to a stable water cycle. There are large impacts on the freshwater ecosystem, given that hydro- electric power generation changes the river's earth and sand and the flow of water.
Wind power	There are large dependencies on climate control, given that a stable climate leads to a stable supply of wind.
Geothermal power	There are large dependencies on groundwater and large impacts on water resources, given that water is an essential resource in power plant operations.

^{*2} Stands for Exploring Natural Capital Opportunities, Risks and Exposure. A tool developed by the Natural Capital Finance Alliance (NCFA) and the UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) to help understand the magnitude of impacts and dependencies of business activities on nature.

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(2) Understanding the areas that require priority efforts

As a result of analysis using ENCORE, we assessed that matters related to water and ecosystems are of high priority. For each power generation site, we used a publicly available tool to assess ecosystem integrity, biodiversity importance, and water stress, which are matters related to water and the ecosystem, and identified sites that are in sensitive locations. As for climate-related matters, we decided not to consider them in the TNFD disclosures since they should be reported in TCFD disclosures.

Assessment of ecosystem integrity

Ecosystem integrity is the ability of an ecosystem to support and maintain ecological processes and a diverse community of organisms. Areas of low ecosystem integrity are areas where the ability to continuously provide ecosystem services is low.

Assessment of ecosystem integrity using BRF*1 showed that two gas-fired thermal power plants, one in Thailand and one in the United States, and one geothermal power plant in Japan are located in areas with very low ecosystem conditions.

Analysis of ecosystem integrity (using BRF)



Assessment of biodiversity importance

Biodiversity importance is the value or the magnitude of the impact of different types of living creatures and their genetic diversity and ecological diversity. An area of high biodiversity importance means that the area encompasses ecosystems that require priority for conservation efforts. Using IBAT,*² we assessed the existence of areas of high biodiversity importance (areas specified in, or identified as Key Biodiversity Area, Natura 2000, World Heritage, Ramsar site, UNESCO's Man and Biosphere Programme (MAB), and IUCN protected area management categories Ia to IV) in the vicinity of sites and the areas downstream of hydroelectric power dams (since dams are designed to hold back water, they can change the water flow or the earth and sand of the river and potentially affect downstream species). As a result, we assessed that areas of biodiversity importance existed in 62 sites.

Analysis of biodiversity importance (using IBAT)



Assessment was made if protected areas existed within a 5km radius of the assessment point or in the areas downstream of dams.

▶ For the details of protected areas, please see IBAT's website (https://www.ibat-alliance.org/).

Assessment of water stress

Water stress is a water balance between the demand and supply of local water resources and water intake. It is an indicator for assessing water availability. A high water stress area is one where the water

Analysis of water stress (using Aqueduct)



supply is tight and there is severe competition for water. We identified sites where water stress was assessed as high by Aqueduct*³ or WRF.*⁴ We assessed that seven gas-fired thermal power plants in Thailand were located in high water stress areas. No other sites were assessed as being located in high water stress areas.

Water Stress		Arid and lov	No data			
Low	Low-medium	Medium-high	High	Extremely high		
(< 10%)	(10-20%)	(20-40%)	(40-80%)	(> 80%)		

Assessment results

We designated areas that were identified as either areas of extremely low ecosystem integrity, areas of high biodiversity importance, or areas of high water stress as sensitive locations. As a result, we confirmed that 64 sites (13 thermal power plants, 50 hydroelectric power plants, and one geothermal power plant) were situated in sensitive locations.

Initiatives Regarding Biodiversity and Water Resources

As our efforts to preserve the local environment, the Group is taking initiatives to preserve biodiversity in a way that suits the environment of each site, such as managing wetlands where raptors gather and establishing protected sections within the business premises where important plant species grow. Furthermore, at power plants, we are working on preserving the aquatic environment by managing water discharges in accordance with relevant laws, regulations, and agreements with local governments on environmental preservation. We are also performing assessments on water risks and reviewing our operations in areas where water stress is high, to reduce water intake/consumption and minimize risks by taking into consideration the environment of each site. Such efforts include reusing treated wastewater and creating reservoirs.

For details, please see p.71 and Supplementary Materials: Environment.

8 Future Initiatives

For this report, we identified the Group's dependencies and impacts on natural capital. Going forward, we will use the data on identified dependencies and impacts on nature to identify nature related risks and opportunities of the Group's businesses, and address them by prioritizing those risks and opportunities.

- *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 Stands for 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 integrated access to protected areas, key biodiversity areas, and other areas designated for conservation around the target point, and maps of endangered species.
- *3 Aqueduct: A tool developed by the Water 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) and Deutsche Investitions- und Entwicklungsgesellschaft (DEG) 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.