

Disclosure Based on
TCFD Recommendations

TCFD Strategy Scenario selection/Business impact assessment

- By referring to published data including the International Energy Agency (IEA), we have selected: a **1.5°C scenario** and other scenarios for assessing **risks and opportunities associated with the transition to a carbon-free society**; and a **4°C scenario** for assessing **risks associated with physical changes, such as abnormal weather**.

Scenarios selected	1.5°C scenario	4°C scenario
Reference	©IEA's Net Zero Emissions by 2050 Scenario (NZE) and Announced Pledges Scenario (APS) for the World Energy Outlook 2022 (WEO-2022) and the Japanese government's Sixth Strategic Energy Plan , others	©Sixth Assessment Report " SSP5-8.5 Scenario " of the Intergovernmental Panel on Climate Change (IPCC)

	Changes in the external environment	Impact on the Group	Assessment	Period affected ^{*1}			Financial impact (annual impact: billion yen)	
				Short	Medium	Long	Impact ^{*2}	Lower profit Profit Investment
Transition risk scenario Responses to risks and opportunities associated with the transition to a carbon-free society	[Policy] • Increase emission reduction targets • Support policies for GX investments • Review nuclear power policy • Enhance regulatory measures such as carbon pricing [Technology] Evolution of carbon-free/low-carbon technologies Implementation of creative technologies through innovation • Renewable energy • Low carbonization of thermal power generation (Hydrogen, ammonia, etc.) • Safer nuclear power generation • Energy management (e.g., storage batteries) [Market] Customers becoming more environment-oriented and introduction of carbon-free technologies	Operational cost increases through decarbonization investments, fossil fuel levies, and emission trading systems (paid auctions), etc. Changes in value of thermal power assets	Risks → Opportunities		●	●	Large (2030)	◎ With the progress towards decarbonization, there is an anticipated risk of significant cost increase in thermal power generation due to the gradual rise in carbon prices. We will assess the trends in carbon pricing and advance the temporal optimization of various decarbonization measures. (For every reduction of 10 million tons of CO ₂ emissions, there is an estimated reduction in impact of approximately 160 billion yen ^{*3} .) ◎ See the following page for the evaluation of thermal power generation assets.
		Effect of power procurement cost reductions due to the operation of the Hamaoka Nuclear Power Station Continued suspension of operation of nuclear power plants	Risks → Opportunities	●	●	●	About 260 (period not determined)	◎ Commencement of operation at the Hamaoka Nuclear Power Station has not been determined, as we are undergoing a review to confirm conformance with new regulatory standards. Assuming the restart of the power station now, it would save annual power procurement cost by about 260 billion yen ^{*4}
		Increase in profits resulting from investment for large-scale introduction of renewable energy	Opportunities ↗		●	●	Small (2030)	◎ We will invest about 400 billion yen from FY2021 to FY2030 for the development of renewable energy in Japan.
		Rising needs for the use of carbon-free energy and expanding demand for electrification	Opportunities ↗			●	●	About 20 (2030)
							Medium (2030)	◎ Utilizing subsidies from GX transition bonds, efforts will be made to contribute to profits through resource recycling businesses and new growth areas such as Chubu Electric Power Mirai's value-added services (energy-saving, etc.).
Physical risk scenario	[Storm] Increased frequency of extreme typhoons and similar disasters Intensifying flood and landslide disasters	Increase in costs for facility upgrades Increase in recovery costs	Risks ↘	●	●	●	About 5-Medium (short to long term)	◎ We provide as a reference the actual damage caused by large typhoons (No. 21 and No. 24) in FY2018 (the largest damage incurred in the past five years).

*1 Short-term (1 year), medium-term (5 years), long-term (6 years-) *2 "Large": 50 billion yen per year, "Medium": between 10 billion yen and 50 billion yen per year, "Small": below 10 billion yen per year

*3 Regarding carbon pricing, considering multiple scenarios, short to medium-term calculations are based on non-FIT non-fossil certificate cap (1.3 yen/kWh), and medium to long-term calculations refer to IEA WEO scenarios (APS, NZE scenarios 2030 \$135-\$140/t-CO₂).

*4 Estimated assuming the restart of the Hamaoka Nuclear Power Station's Units 3, 4 and 5 and based on the fuel prices and exchange rates in FY2023. The procurement cost saving effect indicates the saving effect of power supply procurement costs at Chubu Electric Power Mirai, and does not include an increase in profit resulting from CO₂ reduction.

Basic concept regarding thermal power assets

We actively participated in shaping the Basic Policy for the Realization of Green Transformation (GX), which was formulated by the GX Implementation Council. This policy emphasizes a transition towards carbon neutrality by balancing stable energy supply with the reduction of CO₂ emissions from thermal power generation. It includes initiatives such as long-term decarbonized power source auctions and support for introducing ammonia and hydrogen.

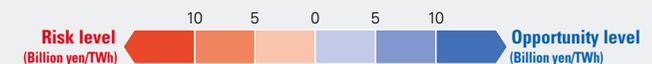
Thermal power generation is recognized for its ability to adapt to the ever-changing electricity demand and the fluctuations in renewable energy output. It also plays a crucial role in stabilizing the power system through inertia and synchronization forces, offering essential functions and substantial value.

[Development and Ownership of Thermal Power Sources] (Extracted from JERA Securities Report FY2022)

In response to the uncertainty of future business environments, we have formulated plans for the development of new power sources and the ownership of existing ones in the context of various scenarios concerning the future electricity market environment, including scenarios that account for risks that may lead to reduced business opportunities for thermal power sources. By doing so, we are ensuring flexibility and resilience in our strategies.

Taking into **consideration future electricity demand and competitiveness within the electricity market**, we focus on **optimizing profitability while balancing the replacement of aging existing facilities with state-of-the-art high-efficiency facilities**. This approach helps us **avoid the development and ownership of uneconomical thermal power sources (commonly referred to as stranded assets) and maximize revenue**.

- The book value of thermal power production facilities at the end of FY2022 was ¥1,744.7 billion.
- **The percentage of supercritical or less coal-fired power capacity** relative to total thermal power generation capacity is **approximately 5%** (as of the end of FY2022)
- An investment of approximately 650 billion yen is planned in decarbonization-related fields of renewable energy, hydrogen, ammonia, and others by FY2025

[Risks and Opportunities of CO₂ Emissions from Thermal Power Sources] (Derived from JERA Group Corporate Communication Book 2022)

	Impact on business	Financial impact sensitivity				
		Method of assessment	Impacted financial factors	-2025	-2030	-2050
Risk	Increased operating costs due to carbon pricing	Sensitivity to increases in the cost of coal for thermal power generation, assuming the price of CO ₂ in the reference scenario	Cost			
Opportunities	Expanded opportunities to develop and introduce hydrogen and ammonia fuels Expanded business opportunities provided by renewable energy and battery storage	Sensitivity to the avoided cost of coal for thermal power generation, assuming the price of CO ₂ in the reference scenario	Cost			

Reference scenario IEA: Sustainable Development Scenario (SDS)

- The potential cost advantages on the order of 50 billion yen per year by 2040 and 250 billion yen per year by 2050 compared to the scenario in which we continue using coal.