

Responses to Risks and Opportunities Caused by Climate Change (Disclosure in Accordance with the TCFD Recommendations)

MHI Group has endorsed the Task Force on Climate-related Financial Disclosures' (TCFD) recommendations and discloses climate-related information in accordance with the TCFD recommendations. In the FY2023 review, we quantified the financial impact of common Group-wide risks and opportunities and conducted scenario analyses of all businesses.

Governance

One of MHI Group's important social issues (Material Issues) is to "Provide energy solutions to enable a carbon neutral world."

The Materiality Council, chaired by the CEO, meets twice a year to review business activities aimed at achieving goals related to our Material Issues. It also discusses the direction of future initiatives and provides necessary instructions to the business divisions. In addition, the Sustainability Committee, chaired by the

CSO, meets twice a year to consider ways to practice sustainability management. It also discusses and decides on basic policies related to ESG initiatives and spearheads various related activities.

The CSO is responsible for assessing and managing climate-related risks and opportunities and submits its findings to the Sustainability Committee, which reports its activities to the Board of Directors at least once a year.

Risk Management

The process of identifying, assessing, and managing climate-related risks and opportunities is integrated into our Group-wide sustainability promotion system. Under

the responsibility of the CSO, this process involves the following four steps:

- Step 1: The Administrative Office refers to external scenarios to identify and assess risks and opportunities for each business unit.
- Step 2: Each business unit assesses the appropriateness of the aforementioned risks and opportunities by comparing them to its current business plan.
- Step 3: During the planning stages of actual projects, each business unit holds a review meeting to ensure rigorous risk management.
- Step 4: Information on risks and opportunities identified and assessed by the Administrative Office and business units are submitted to the Sustainability Committee, a higher-level organization, for review and management.

Financial Impact and Response (medium term) of Risks and Opportunities of Major Products by Business Domain in a Decarbonization Scenario

		Risks			
		Type	Content	Impact	Response
Energy Systems	GTCC	Technology	• Delayed development of hydrogen gas turbines	Small	• Adhere to the development schedule
	SPMI	—	• No significant risk exists under this precondition*	—	—
	Nuclear Power	—	• No significant risk exists under this precondition	—	—
Plants & Infrastructure Systems	CO ₂ Capture System	Technology	• Decline in the competitiveness of our current CO ₂ capture technology • Emergence of innovative alternative technologies	Small	• Improve the current CO ₂ capture technology • Expand our CO ₂ capture technology lineup
	Metals Machinery	—	• No significant risk exists under this precondition*	—	—
Logistics, Thermal & Drive Systems	Engines and Turbochargers	Market/Customer Trends	• Reduced demand for conventional models due to the shift to carbon-neutral fuels and the electrification of vehicles	Small	• Introduce products compatible with carbon neutrality to the market ▶ Hydrogen-powered engines ▶ Electric compressors for fuel cells
	Logistics Systems	Market/Customer Trends	• Possible reduction of service revenue due to the shift from engine to battery forklift trucks	Small	• Consider ways to expand service revenue from battery-powered forklifts
	HVAC	Changes in policy and legislation Market/Customer Trends	• Excessive tightening of environmental regulations on refrigerant regulations, etc. • Loss of sales opportunities due to power shortages caused by increased electricity consumption in emerging countries	Small	• Lobby through industry associations and develop new products using alternative refrigerants • Diversify sales channels and develop energy-saving products

[Selection Criteria for Businesses Subject to Analysis]

(1) Businesses at or above a certain scale (roughly ¥200 billion) that are significantly impacted by carbon neutrality

(2) Businesses that are currently small in scale but are expected to grow significantly in the future due to the impact of carbon neutrality

► For more details about disclosure undertaken in accordance with the TCFD recommendations, please visit our website.
https://www.mhi.com/sustainability/environment/climate_tcf.html

Strategies (Scenario Analysis)

We developed a Decarbonization Scenario¹ and a Fossil Fuel Dependency Scenario² to analyze common Group-wide climate-related risks and opportunities, considering the time frames of “short-term,” “medium-term,” and “long-term”³. In determining the financial impact, we classified the effect on business profits into “large,” “medium,” and “small”⁴.

Regarding the transition risk of tightening regulations, such as carbon taxes, we assessed it as a “large” risk under the Decarbonization Scenario. We also classified physical risk, such as increasing natural disasters, as “small” under the Decarbonization Scenario and “medium” under the Fossil Fuel Dependency Scenario. With respect to business opportunities, we anticipate increasing demand for products and services that contribute to decarbonization. We aim to promote Energy Transition, which focuses on achieving decarbonization on the energy

supply side, and Smart Infrastructure, which targets energy efficiency, automation, and decarbonization on the energy demand side. We aim to grow this into a trillion-yen business by FY2030.

In addition to the above, the Group operates a wide range of businesses, each with different risks and opportunities. Accordingly, we conduct individual analyses of each business. These analyses focus on the risks and opportunities expected in the medium term under the Decarbonization Scenario across all our business units. The results of the analyses are shown in the table below.

- 1 A “scenario to promote decarbonization through stricter climate change policies,” which aims to achieve economic growth while limiting the global average temperature rise to a maximum of 1.5°C above pre-industrial levels in the year 2100.
 2 A “scenario in which climate change policies are not made stricter and the dependence on fossil fuels proceeds,” which assumes a global average temperature increase of 4.0°C above pre-industrial levels in the year 2100.
 3 Short-term: 3 years (FY2024–FY2026); Medium-term: Up to FY2030; Long-term: Up to FY2040
 4 Large: ¥10 billion or more; Medium: ¥5–10 billion; Small: Less than ¥5 billion

Metrics and Targets

One of MHI Group’s important social issues (Material Issues) is to “Provide energy solutions to enable a carbon neutral world.” With this in mind, we made our MISSION

NET ZERO declaration to achieve Carbon Neutrality by 2040 and established two targets as outlined in the table below.

Target year	Scopes 1 & 2 (Group-wide CO ₂ emissions)	Scope 3 + reductions from CCUS (contribution to society across entire value chain)
2030	–50% (vs. 2014)	–50% (vs. 2019)
2040	Net Zero	Net Zero

Opportunities			
Type	Content	Impact	Response
Changes in policy and legislation Market/Customer Trends	<ul style="list-style-type: none"> Tailwinds from policies in Japan and North America Increased demand for products and services that promote carbon neutrality 	Medium	<ul style="list-style-type: none"> Promote the development of hydrogen gas turbines Promote solutions that combine GTCC and CCUS
Changes in policy and legislation Market/Customer Trends	<ul style="list-style-type: none"> Tailwinds from domestic policies in Japan Increased demand for products and services that promote carbon neutrality 	Medium	<ul style="list-style-type: none"> Promote fuel conversion to ammonia
Changes in policy and legislation Market/Customer Trends	<ul style="list-style-type: none"> Promote policies aimed at maximizing nuclear power use in Japan Increased importance of energy security Increased demand for products and services that promote carbon neutrality 	Large	<ul style="list-style-type: none"> Promote the new construction of advanced light water reactors, provide support for restarting existing plants (PWR/BWR), and provide maintenance for restarted plants
Changes in policy and legislation Market/Customer Trends	<ul style="list-style-type: none"> Development of legal/tax systems in various countries and regions Increased demand for products and services that promote carbon neutrality 	Large	<ul style="list-style-type: none"> Promote CO₂ capture business in North America, Europe, etc., where progress has been made in establishing legislation and tax systems Expand our CO₂ capture-related product lineup and develop a new business model Promote strategic partnerships
Market/Customer Trends	<ul style="list-style-type: none"> Increased demand for products and services that promote carbon neutrality 	Small	<ul style="list-style-type: none"> Strengthen solutions for electric arc furnaces (EAFs), direct reduction steelmaking, etc. Promote the development of hydrogen reduction steelmaking equipment, and encourage the replacement of existing plants
Market/Customer Trends	<ul style="list-style-type: none"> Increased demand for products and services that promote carbon neutrality Tightening of environmental regulations in emerging countries 	Small	<ul style="list-style-type: none"> Introduce products compatible with carbon neutrality to the market <ul style="list-style-type: none"> ▶ Hydrogen-powered engines ▶ Electric compressors for fuel cells Expand sales to new customers, especially those in emerging countries
Market/Customer Trends	<ul style="list-style-type: none"> Increased demand for products and services that promote carbon neutrality 	Small	<ul style="list-style-type: none"> Provide competitive battery-powered forklift trucks as well as eco-friendly port handling equipment (RTG) Promote logistics solutions business
Changes in policy and legislation Market/Customer Trends	<ul style="list-style-type: none"> Appropriate tightening of environmental regulations on refrigerants, etc. Increased demand for products and services that promote carbon neutrality 	Small	<ul style="list-style-type: none"> Expand sales of air conditioners and heat pump-based heaters that use low-temperature refrigerants

*In determining the impact of risks and opportunities, we compared the impact on business profit between the end of FY2023 and 2030. Based on this, the risks associated with declining demand for coal-fired power plants and carbon-intensive steelmaking plants have been factored into the FY2023 figures (base plan figures).