

Responses to Risks and Opportunities Caused by Climate Change (Disclosure in Accordance with 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.

Governance

MHI Group has established the "provision of energy solutions to enable a carbon neutral world" as a Material Issue under our materiality framework ("materiality"), which responds to the important global issue of climate change.

To address Material Issues, the Materiality Council chaired by the President and CEO meets twice a year to monitor business activities aimed at achieving company-wide goals for Material Issues and to direct business divisions to take appropriate actions.

Furthermore, our Sustainability Committee, which is chaired by the CSO, generally meets twice a year to address sustainability issues and to further strengthen ESG initiatives. The CSO was in charge of an analysis which was undertaken in accordance with TCFD recommendations and the Sustainability Committee monitored the progress of efforts.

The committee also reports to the Board of Directors regularly on the status of the Sustainability Committee's

activities, including disclosures in accordance with TCFD recommendations.

Strategies (Scenario Analysis [Excerpt])

MHI Group has developed a Decarbonization Scenario*¹ and a Fossil Fuel Dependency Scenario*², and has assessed their future impact on each business in 2030.

As a common transition risk shared by the Group, the Decarbonization Scenario assumes a significant rise in the cost of carbon emissions due to an increase in regulations such as carbon taxes. However, we believe that there are also numerous business opportunities to be had by leveraging the strengths of products and technologies in our portfolio that enable decarbonization. The results of an analysis conducted with respect to the risks and opportunities for major products (by business domain) in the context of the Decarbonization Scenario, are as shown in the table below.

Analysis of Risks and Opportunities: Results of Major Product Analysis by Business Domain

		Risks				
		Type	Content	Impact	Response	
Energy Systems	GTCC	Technology	• Delayed development of hydrogen gas turbines	Small	• Adhere to the development schedule	
	Steam Power	—	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 electrification of vehicles	Medium	• 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	

*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).

[Selection Criteria for Businesses Subject to Analysis]

(1) Businesses at or above a certain scale (roughly 200 billion yen) 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

The Fossil Fuel Dependency Scenario, on the other hand, focuses on the physical risks associated with climate change. In terms of opportunities, as it is difficult to imagine that future regulations will be eased in developed countries that are already promoting various environmental regulations, we can assume that business opportunities will arise by offering the benefits of our emission reduction technologies.

*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.

Metrics and Targets

In October 2021, MHI Group announced MISSION NET ZERO, our commitment to achieving Carbon Neutrality by 2040, to make a carbon neutral world a reality. Our first goal is to reduce MHI Group CO₂ emissions (Scopes 1 and 2) to Net Zero by 2040. Our second goal is to achieve Net Zero CO₂ emissions across the entire value chain by 2040.

We are making steady progress toward our interim CO₂ reduction target for 2030, with Scopes 1 and 2 totaling roughly

530,000 tons and Scope 3 totaling roughly 1.2 billion tons as of the end of FY2022. It should be noted that Scope 3 has a total of 15 categories, and in terms of Scope 3 emissions, around 99% of CO₂ emissions are from product use (Category 11), for which our primary countermeasure is reduction of such emissions. Going forward, we will consider more precise measuring methods and emission reduction in other categories as well.

Risk Management System

Transition risks and physical risks are factors that each business unit considers when developing their respective business plans. The Sustainability Committee verifies the findings of analyses on the most prominent items among climate change risks and opportunities.

The activities of the Sustainability Committee, including details on the contents contained herein, are also regularly reported to the Board of Directors.

► For more details about disclosure undertaken in accordance with TCFD recommendations, please visit the MHI Group website at:

https://www.mhi.com/sustainability/environment/climate_tcfid.html

Opportunities				
Type	Content	Impact	Measures	
Market/Customer Trends	• Increased demand for products and services that promote carbon neutrality	Small	<ul style="list-style-type: none"> • Promote the development of hydrogen gas turbines • Promote solutions that combine GTCC and CCUS 	
Market/Customer Trends	• Increased demand for products and services that promote carbon neutrality	Small	<ul style="list-style-type: none"> • Promote ammonia co-firing/mono-firing conversion 	
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 the legislation, tax systems • Expand our CO₂ capture-related product lineup and develop new business model • Promote strategic partnerships 	
Market/Customer Trends	• Increased demand for products and services that promote carbon neutrality	Small	<ul style="list-style-type: none"> • 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	• 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) 	

[Judgements of Impact Levels for Risks and Opportunities] We forecasted the difference in business profit between the end of FY2023 and 2030 and classified businesses as follows:

Large: Business profit impact of 10 billion yen or more / Medium: Business profit impact of at least 5 billion yen but less than 10 billion yen / Small: Business profit impact of less than 5 billion yen