Mitigating Climate Change

March 30th, 2023

MIURA CO., LTD. endorsed the recommendations of the Task Force on Climate-related Financial Disclosures in May 2023.

Disclosure Based on TCFD Recommendations

MIURA CO., LTD. acknowledges that climate change is one of today's most serious issues with global implications. In accordance with the recommendations published by the Task Force on Climate-related Financial Disclosures (TCFD), the Company disclosed in May 2022 the extent and significance of the impact that climate-related risks and opportunities had on its business operations and revenue. The Company recognizes—from a scenario analysis conducted for the fiscal year ended March 31, 2023—that its water-treatment equipment business has a good opportunity for global expansion and growth, albeit under the influence of its core boiler business. The Company acknowledges that the increasing importance of climate-change actions has led the public and private sectors in Japan to join forces in stepping up developing and undertaking green transformation (GX) initiatives. The MIURA Group is committed to playing an instrumental role in helping achieve the universal goal of carbon neutrality.

1. Governance

The Company acknowledges that climate-related issues have a significant impact on its business operations, and it therefore has an institutional arrangement in place for the Group's climate-change policies and initiatives. Under this arrangement, the Group's climate-change policies and initiatives are discussed and proposed at the Sustainability Promotion Meeting, reviewed at the Management Meeting, and approved and overseen by the Board of Directors, which is chaired by the President & CEO of the Company. The Sustainability Promotion Meeting, which is chaired by the Chief Sustainability Officer and convenes regularly, is composed of sustainability promotion officers and staffers representing divisions and departments, and the administrative office.

- The Board of Directors approves and oversees the implementation of the Group's climate-change policies and initiatives.
- The Management Meeting reviews the Group's climate-change policies and initiatives.
- The Sustainability Promotion Meeting considers and proposes the Group's climate-change policies and initiatives for review and approval.

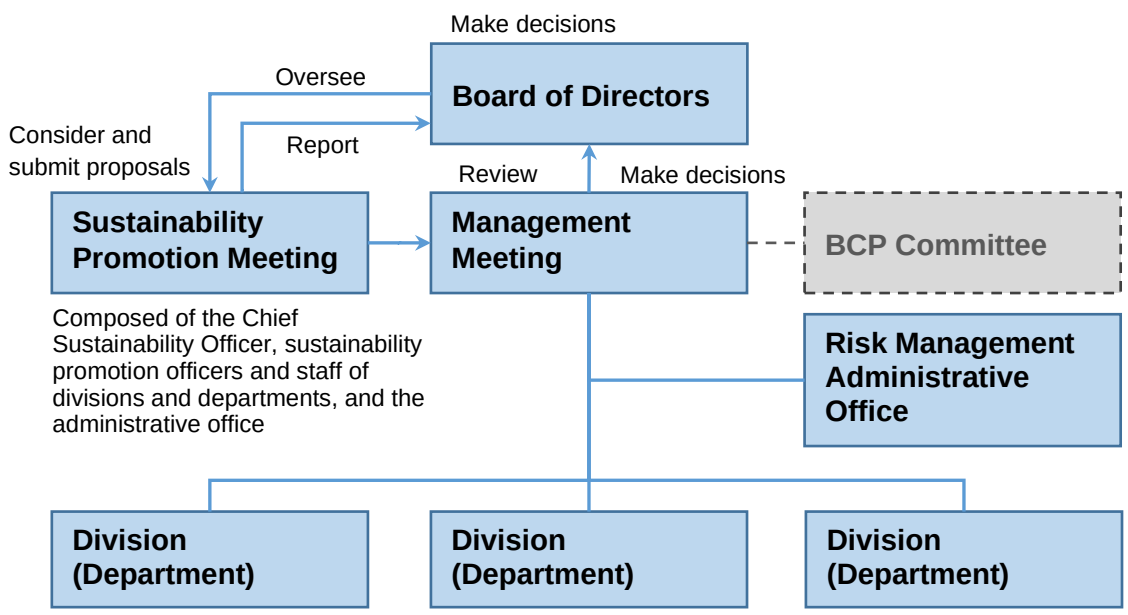
2. Risk Management

The Sustainability Promotion Meeting assesses the impact of climate-related issues identified by divisions and departments on the Group's business operations. The Company manages the Group's climate-related risks under the risk-management structure in place (See the figure below).

The Company manages all its risks, including climate-related risks such as transition and physical risks, at the Management Meeting, which determines which risk items need to be managed, based on a business impact assessment, and submits matters of profound significance to the Board of Directors for review. The Board of Directors deliberates and decides on risk-management matters of profound significance and oversees their implementation.

- The BCP Committee serves as an advisory body for the Management Meeting and convenes on an ad hoc basis.
- The Management Meeting manages and makes decisions on all the Company's risks, including climate-related risks.

MIURA's Risk-Management Structure



3. Strategy

The Company conducts a scenario analysis to identify significant climate-related risks and opportunities and assess their financial impacts. We used three prerequisites as a basis for conducting a scenario analysis on our boiler business in Japan. They are:
(1) The boiler business accounts for 45% of the Group's total annual revenue
(2) As boilers are powered by conventional fossil fuels, our boiler business is likely to be affected by increasingly stringent GHG emissions regulations
(3) Achieving a technological breakthrough to reduce GHG emissions may give us an opportunity to enter a new market.

In a scenario analysis, we have predicted financial and business impacts of climate-related risks for 2030 and 2050, using the 4℃ and 1.5℃ scenarios published by the International Energy Agency and other official institutions.

	4℃ scenario: Global temperature rise will exceed 4℃, making the severe impact of climate change apparent.	**1.5℃ scenario: Global temperature rise will be kept under 1.5℃, thanks to a worldwide transition to a low-carbon society.**
Scenario analysis	Ineffective or insufficient implementation of low-carbon policies and regulations worldwide will leave global warming unchecked. Climate change will result in more frequent and intense natural disasters, which will disrupt our office and factory operations, as well as our supply chain. At the same time, business demand is expected to grow for dual-fuel-switchable boilers to meet BCP needs and for quick disaster-recovery solutions.	To achieve an environmentally sustainable society, there will be a general shift toward a carbon-free or low-carbon economy. Increasingly stringent restrictions on GHG emissions, including the adoption of carbon taxation and mandatory use of renewable energy, will raise operating costs for businesses. While the market for boilers powered by fossil fuels is likely to shrink, demand for energy-efficient, low-carbon equipment and solutions, as well as for boilers running on renewable energy, is expected to grow.

Type		**Climate-related risk items**	**Financial impacts**		**Business risks**	**MIURA's business opportunities**
			4℃ scenario	**1.5℃ scenario**		
Transition risks	Regulatory policy	Carbon pricing (carbon taxation)	Low	**High**	・Carbon taxation and other forms of tax hikes drive up the price of crude steel, the production of which emits a significant amount of CO_2, and raise the manufacturing costs of our steel-encased products.	・Zero-emission products that generate clean steam have a chance to create a value-added market. ・Business demand grows for solutions for reducing CO_2 emissions, such as more energy-efficient equipment and facility-wide energy management systems. ・Increasing climate-induced water risks and growing corporate needs for energy- and water-saving solutions drive up the demand for water-treatment equipment. ・Sales of hydrogen-powered boilers increase to business customers that intend to make greater use of cleaner hydrogen energy.
		Restrictions on the use of fossil fuels			・A slowdown in the growth of industries that rely on fossil fuels or a radical shift to a carbon-free economy diminishes the demand for our boilers.	
		Administrative guidance and regulatory restrictions on products and services in use	Medium	Medium	・Climate-induced risks of water scarcity increase. (Little impact on MIURA's manufacturing operations)	
	Technology	Advances in low-carbon technology Change in energy mix	Low	**High**	・Emerging technologies for mitigating climate change make our legacy technologies obsolete, which makes our products less competitive in the market or affects our market share.	

	Market	Change in raw materials costs Purchase price of steel	Low	**High**	・As society is going all electric, surging demand for metal resources creates shortages in materials and drives up their prices.	
Physical risks	Acute	More intense extreme weather events, such as typhoons, storms, landslides, and storm tides	**High**	Medium	・A devastating natural disaster causes severe damage to our factories and offices and disrupts our manufacturing operations, which undermines the trust and confidence customers have in our products and services and adversely affects their sales.	・Business demand grows for dual-fuel equipment—such as compact once-through boilers with gas/oil switchable combustion—that meets BCP needs, cogeneration systems (exhaust-gas boilers) capable of continuing to generate electricity and heat even during a power outage or in the aftermath of an earthquake, and quick disaster-recovery solutions, including the diversification of equipment. ・Climate change (rising temperatures) will increase the demand for cooling equipment, and will expand related businesses.
			High	Medium	・Disruption in parts delivery from suppliers prevents us from keeping them in sufficient stock and meeting manufacturing schedules, thus causing a loss of sales.	
	Chronic	Rising average annual temperature	**High**	Medium	・Average temperature rises to an extent that exceeds the capacity of cooling equipment. (Little impact on MIURA's manufacturing operations)	

Note: The level of financial impacts (high, medium, low) represents a relative value based on quantitative and qualitative analyses.

Strategy and Initiatives for MIURA's Equipment Sales Business in Japan

Stage	**Stage 1** **from 2022 through 2030**	**Stage 2** **from 2031 through 2050**
Key strategy	Pursue every energy-saving opportunity and develop carbon-free technology solutions	Step up developing carbon-free equipment, including machines that run on renewable energy
Objective	As a 100% carbon-free energy infrastructure has yet to be widely available, we will make the best use of our legacy technology solutions to assist business customers in achieving greater energy-saving performance, and will assist them in switching to low-carbon fuels and equipment to reduce CO_2 emissions. Concurrently, we will develop carbon- free technology solutions to be fully deployed from 2031 onward.	As a 100% carbon-free energy infrastructure expands, we will offer business customers equipment that runs on renewable energy and progressively switch to developing and marketing carbon-free equipment.
Actions	• Identify energy-related operational issues that business customers may have in their factories and provide customized comprehensive energy-saving solutions • Offer business customers heat pumps and heat-recovery compressors that best complement their legacy equipment, in order to achieve greater energy efficiency	• Develop technology for hydrogen-powered equipment, and expand its offerings and sales • Partner with other companies to offer upgraded carbon-free solutions and pursue broader business opportunities

4. Metrics and Targets

The Company considers climate-related impacts as one of the most critical issues to the Group and has established long-term GHG reduction targets, as shown below, to mitigate environmental impacts associated with our business operations, as well as the products and services we market. We will continue our efforts to achieve the Group's GHG reduction targets and keep track of our performance.

The MIURA Group's GHG reduction targets

		Scope 1 and 2 emissions (GHG emissions resulting from energy use, as defined in the Act on Promotion of Global Warming Countermeasures of Japan)	**Scope 3 emissions (GHG emissions per revenue unit in Japan)**
Base year		2013	2019
By 2030	Reduction targets	**DOWN 50%** ◆Reduce Scope 1 emissions to 3,922 tCO2 by shifting marketing focus to gas-powered boilers to reduce CO2 emissions resulting from operating tests of equipment conducted in a factory ◆Reduce Scope 2 emissions to 3,549 tCO2 by streamlining operations, switching to equipment of greater energy-saving performance, and purchasing electricity generated from renewable energy sources and nonfossil fuels	**DOWN 40%** ◆Offer business customers gas-powered, more energy-efficient boilers, exhaust-heat and unused-heat recovery systems, and facility-wide energy-saving solutions
By 2050	Reduction targets	**DOWN 100%, to achieve carbon neutrality**	**DOWN 100%, to achieve carbon neutrality** ◆Switch boiler fuels to hydrogen- and ammonia-based fuels, take a methanation approach, and offer comprehensive carbon-free solutions to more business customers

Definitions

GHG: Greenhouse gas

Scope 1 emissions: Direct GHG emissions that occur from sources controlled or operated by a business, such as emissions associated with fuel combustion and manufacturing processes

Scope 2 emissions: Indirect GHG emissions from the use of electricity, heat, and steam supplied by other companies

Scope 3 emissions: Indirect GHG emissions not included in Scope 1 or 2 emissions (emissions by other businesses associated with operations of a business)