

# Mitsubishi Heavy Industries Group Material Issues

Mitsubishi Heavy Industries, Ltd.

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# 1 . About Material Issues

## Basic Approach

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To enhance corporate value and grow in the medium to long term through solutions to social issues, in fiscal 2020, MHI Group has identified Material Issues it should be addressing. Progress in each Material Issue is managed with progress monitoring indicators (KPIs), and the PDCA cycle is steadily applied.

## Promotion System

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Activities involving engagement with Material Issues embody sustainability management in terms of business. To make the activities effective, we have established subcommittees with managers and departments for each Material Issue, and the person responsible and organizing department consider specific measure and roadmaps. In October 2021, we established the Materiality Council, chaired by the CEO and attended by officers in charge of corporate and domain CEOs, to follow up on business activities aimed at realizing company-wide goals for Material Issues and to instruct business divisions addressing the goals to take necessary measures. As of June 2025, eight meetings have been held, featuring reports on progress for each Material Issue, sharing of related project examples from business units, and open discussion and exchange of opinions. We are making progress with R&D projects in such areas as carbon neutrality and digital platform services, and our efforts are starting to bear fruit. These activities are important themes in sustainability management and are regularly reported to the Board of Directors.

## Processes of Identifying Material Issues

### Step 1 Prioritizing Social Issues

We inventoried the Company's businesses and initiatives, linked them to a list of social issues prioritized in line with international frameworks—including the SDGs, the Global Reporting Initiatives (GRI) Standards, ISO 26000, the SASB Standards, the EU taxonomy and others, and identified 37 social issue themes related to MHI Group.

### Step 2 Creating a Materiality Matrix

1. Importance of social issues assessed and mapped along two axes  
(Vertical axis: degree of impact on society; Horizontal axis: degree of impact on the Company)
2. Nine materiality postulated based on the materiality map

### Step 3 Verifying Appropriateness

1. Discussion held at Materiality review meetings (consisting of CSR Committee members), and Material Issues narrowed down to six items
2. Dialogue held with three outside experts  
[https://www.mhi.com/jp/sustainability/library/pdf/esgdatabook2020\\_all.pdf#page=12](https://www.mhi.com/jp/sustainability/library/pdf/esgdatabook2020_all.pdf#page=12)  
[Expert]  
Mariko Kawaguchi: Specially Appointed Professor, Graduate School of Social Design Studies, Rikkyo University  
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Ichiro Sakata: Professor, Graduate School of Engineering Special Advisor to the President  
Institute of Engineering Innovation, School of Engineering, the University of Tokyo  
  
\* Indicated roles and titles are as of the indicated date.

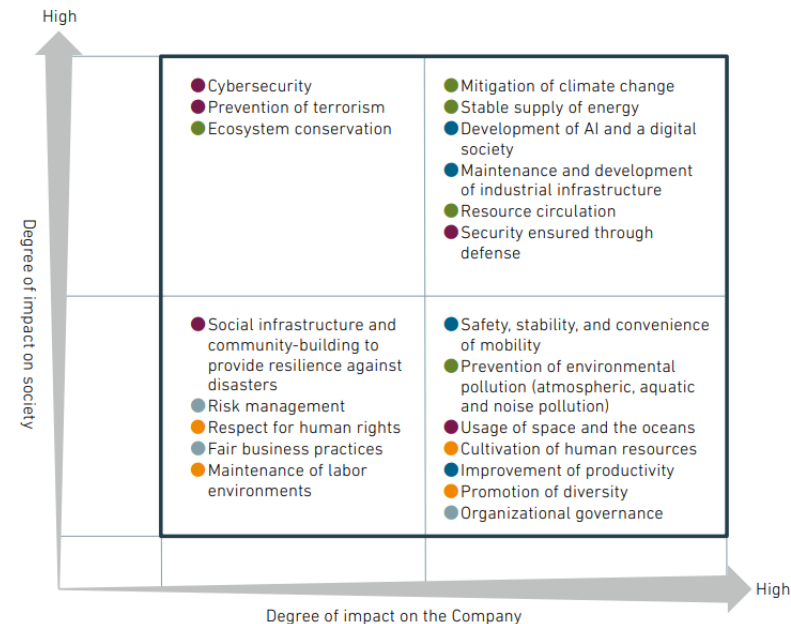
### Step 4 Identifying Material Issues

CSR Committee members narrowed Material Issues down to five issues, which were formally finalized after Executive Committee and Board of Directors meetings in September 2020.

### Step 5 Setting Company— Wide Goals and Progress Monitoring Indicators (KPIs)

1. A task force team comprising young and mid-level employees played a central role in establishing a draft of company-wide goals and KPIs for monitoring progress of materiality
2. These were further considered in materiality subcommittees, and decided upon by the Materiality Council and disclosed

### ■ Approach to Identifying Material Issues



### Five Material Issues identified based on social issues important to MHI Group

Business Contribution (business-related)	<ul style="list-style-type: none"> <li>Provide energy solutions to enable a carbon neutral world</li> <li>Transform society through AI and digitalization</li> <li>Build a safer and more secure world</li> </ul>
Foundation to Support Business (corporate-related)	<ul style="list-style-type: none"> <li>Promote diversity and improve employee engagement</li> <li>Enhance corporate governance</li> </ul>

## 2. Initiatives and Progress in FY2024

## Material Issues

## 「Provide energy solutions to enable a carbon neutral world」(1/2)

Company-wide goals	Progress Monitoring Indicator (KPI)	Scope	Initiatives and Progress in FY2024
<b>Reduce the CO<sub>2</sub> emissions of MHI Group</b> Achieve Net Zero CO <sub>2</sub> emissions from its operation by 2040 (Scope 1 and 2)	Reduce total CO <sub>2</sub> emissions from business activities (Scopes 1 and 2) by 50% by 2030 (compared to 2014 levels), and achieve net zero by 2040	MHI Group (Global)	<ul style="list-style-type: none"> <li>Forecasting a reduction in 2024 CO<sub>2</sub> emissions of 47% compared to 2014 levels (includes estimated figures).</li> <li>At Mihara Machinery Works, which has pioneered initiatives to reduce CO<sub>2</sub> emissions, MHI Group is making ambitious efforts to consolidate and implement carbon neutral solutions, and achieve carbon neutrality in a phased manner, expanding efforts to transform the facility into Carbon Neutral Transition Hub Mihara.</li> </ul>

Company-wide goals	Progress Monitoring Indicator (KPI)	Scope	Initiatives and Progress in FY2024
<b>Contribution to society throughout the value chain by 2040</b> Achieve Net Zero CO <sub>2</sub> emissions from its entire value chain by 2040 (Scope 3 + reduction through CCUS)	Reduce CO <sub>2</sub> emissions across the entire value chain (Scope 3 + CCUS contribution for CO <sub>2</sub> reduction) by 50% by 2030 (compared to 2019 levels) and achieve net zero by 2040	MHI Group (Global)	<ul style="list-style-type: none"> <li>Forecasting a reduction in 2024 CO<sub>2</sub> emissions (Scope 3 Category 11) of 36% compared to 2019 levels (includes estimated figures).</li> </ul>
	Develop products and services that contribute to decarbonization of the energy supply by 2040 (Energy Transition)	MHI Group (Global)	<ul style="list-style-type: none"> <li>At Takasago Hydrogen Park, started a 100% hydrogen-firing demonstration using a small- to mid-sized H-25 Series gas turbine. In addition, started operation of a test module of the Solid Oxide Electrolysis Cell (SOEC), a next-generation high-efficiency hydrogen production technology.</li> <li>Completed and started operation of first CO<sub>2</sub> capture plant in Europe with the KM CDR Process™(*), for Eni in Italy. To enhance capabilities in Japan's growing CCUS market, expanded partnerships, including concluding a general license agreement with Chiyoda Corporation.</li> <li>Mostly completed the basic design for the Advanced Light Water Reactor "SRZ-1200," with various demonstration tests for permits and licenses progressing smoothly. To improve regulatory predictability, began exchanging views with Japan's Nuclear Regulation Authority (NRA) on new regulations. In addition, for the demonstration fast reactor and HTGR (high-temperature gas-cooled reactor) demonstration reactor projects promoted by the Japanese government, moved forward with the conceptual design as the core company for design and development.</li> </ul>
	Develop products and services that contribute to conservation, decarbonization, and automation of the energy use by 2040 (Smart Infrastructures)	MHI Group (Global)	<ul style="list-style-type: none"> <li>Renewed the product lineup for the compact CO<sub>2</sub> capture system "CO<sub>2</sub>MPACT™" series, and launched "CO<sub>2</sub>MPACT™ Full-Module," which maximizes standardization and modularization to enable reduced construction costs and a shorter construction period.</li> <li>For business development in the electrification and data center fields, established and strengthened structures to provide one-stop solutions integrating MHI Group's power, cooling, and control systems.</li> </ul>
	Develop and prove new products and services that contribute to the carbon cycle	MHI Group (Global)	<ul style="list-style-type: none"> <li>Conducted demonstration tests for biowaste treatment and utilization (hydrolysis), and pursued development of technologies that enable production of carbon-neutral fuels at high efficiency and low cost, such as sustainable aviation fuel (SAF).</li> </ul>



Company-wide goals	Progress Monitoring Indicator (KPI)	Scope	Initiatives and Progress in FY2024
<b>Expand lineup of useful and sustainable AI/digital products meeting needs of customers and users</b>	Advanced AI and digital solutions for solving customer issues (Optimizing the operation of energy supply and demand facilities, etc.) Step up the number of new developments (Services, Products, R & D)	MHI Group (Global)	<ul style="list-style-type: none"> <li>Conducted advanced R&amp;D, and shared results across Strategic Business Units (SBUs) to support the development of solutions such as AI and digital products/services at SBUs.</li> <li>Began horizontal application and use of products related to logistics automation, integrated monitoring, and energy management.</li> </ul>
<b>Creating an Environment for Creating Creative AI and Digital Products</b>	Creative time for employees; Raising environmental awareness	MHI Group (Global)	<p>MHI is pursuing the following measures to establish a creative environment:</p> <ul style="list-style-type: none"> <li>MHI Group plans to develop 22,000 Digital Innovation (DI) personnel across the corporate group. Various training programs were implemented for 14,000 people, 60% of the target.</li> <li>A trial environment was established for the creation of AI and digital products to facilitate the execution of proof of concept (PoC).</li> <li>Promoted transformation of customer contact points and employee operations through digitalization. Results were standardized, and provided to four Strategic Business Units (SBUs).</li> </ul>

Company-wide targets	Progress Monitoring Indicators (KPI)	Scope	Initiatives and Progress in FY2024
<b>Making products, businesses, and infrastructure more resilient</b>	Evaluating the impact of disasters and promoting the development and practical application of designs and technologies that pursue the development of designs and technologies that pursue resilience.	MHI Group (Global)	<ul style="list-style-type: none"> <li>Formulated a product and service concept able to provide value in normal times and in the event of disaster from the standpoint of three types of resilience (energy, data, and supply chain), and began making proposals to customers.</li> <li>Began considering the development of disaster risk assessments utilizing disaster preparedness simulations, such as for tsunamis, typhoons, torrential rains, and storm surges, and providing them as a service for customer facilities and local governments.</li> <li>Started initiatives for BCM (Business Continuity Management) at overseas facilities.</li> </ul>
<b>Unmanned and Man-Saving Products, Businesses, and Infrastructure</b>	Remote/Automatic Operation and Remote/Automatic Inspection and Inspection of Products, Businesses, and Infrastructure Technology Development and Practical Application MHI Group (Japan and Overseas)	MHI Group (Global)	<ul style="list-style-type: none"> <li>Pursued development of logistics intelligent solutions.</li> <li>Pursued development of energy saving automation systems for data centers.</li> <li>Pursued development of unmanned aerial vehicles for defense applications.</li> <li>Pursued development of actual system and functionality improvements for remote monitoring and operation support system (MaiDAS) for waste incineration plants (operating at 11 plants in Japan and 1 plant overseas).</li> <li>Pursued development of intelligent operation system for paper converting machinery.</li> <li>Pursued development of a platform for collaborative robots designed for manufacturing sites.</li> </ul>
<b>Continuous cyber security of all MHI products Deepening of countermeasures</b>	Cybersecurity technology Promoting development and commercialization	MHI Group (Global)	<ul style="list-style-type: none"> <li>Continued to conduct cybersecurity-related R&amp;D.</li> <li>Continued to provide security technologies such as InterSePT and Netmation Protect Pack for key business operations such as defense and energy.</li> <li>Evaluation and verification of network security detection equipment conducted at Sagami-hara, YHH, Komaki-kita, and other locations to enhance security resistance of in-house plants.</li> <li>Incident training conducted for management and product personnel.</li> <li>Conducted security assessments of the software used in products and control systems.</li> </ul>

# 「Promote diversity and improve employee engagement」

Company-wide goals	Progress Monitoring Indicator (KPI)	Scope	Initiatives and Progress in FY2024
<b>Project new value through participation of diverse human resources</b>	Increase the ratio of women on the Board of Directors to at least 30% by 2030	MHI	<ul style="list-style-type: none"> <li>Continued our training program for potential future executive candidates in collaboration with each business unit.</li> <li>Expanded various employee support systems with consideration to childcare and caregiving in order to enable employees to continue their careers. Working to build a workplace environment and organizational culture allowing for a balance of professional and private life.</li> </ul>
	Double the ratio of women in management positions by 2030 (compared to FY2021)	MHI Group (Global)	
	In accordance with the MHI Group Human Rights Policy, raise awareness of diversity among Group employees through education and other efforts	MHI Group (Global)	<ul style="list-style-type: none"> <li>About 67,000 employees of the MHI Group, including overseas employees, participated in the educational content (e-learning) on "Respect for Human Rights in the MHI Group," which was enhanced based on the results of the first session.</li> </ul>
<b>Ensure safe and comfortable workplaces</b>	Reduce the number of serious accidents to zero	MHI Group (Japan)	<ul style="list-style-type: none"> <li>there were 3 fatal accidents of cooperating employees due to crashes.</li> <li>A thorough implementation of crash prevention measures (handrails and main ropes) and the use of equipment for preventing crashes was made.</li> </ul>
	Maintain a labor (work absence) accident frequency at a rate that is equal to or lower than the industry average		<ul style="list-style-type: none"> <li>The rate of lost-worktime injuries was the same as the industry average.</li> <li>Implemented AI-based method for detecting signs of potential industrial accidents, and analysis of root causes.</li> <li>Established process and procedures of collecting safety management data from overseas group companies.</li> </ul>
<b>Improve our environment that maximizes employee performance, and develop human resources who are healthy, energetic and able to contribute to society</b>	Raise the employee awareness survey's "engagement" score above the global average by FY2030	MHI Group (Global)	<ul style="list-style-type: none"> <li>The 5th MHI Group Employee Survey was undertaken in January 2025.</li> <li>President's Town Meeting was held at two sites in Japan.</li> <li>Announced pulse survey tool to all MHI Group and continuing operational improvement.</li> </ul>

Company-wide goals	Progress Monitoring Indicator (KPI)	Scope	Initiatives and Progress in FY2024
<b>Further enhance deliberations by the Board of Directors</b>	Maintain the ratio of Independent Outside Directors on the Board of Directors at 50% or more	MHI	<ul style="list-style-type: none"> <li>Maintained the percentage of independent outside directors at 50% (6/12) and worked to speed up decision-making processes and strengthen oversight functions.</li> </ul>
	Assess the effectiveness of the Board of Directors annually to ensure and improve it		<ul style="list-style-type: none"> <li>Engaged in the following initiatives to evaluate the effectiveness of the Board of Directors in FY2024. <ul style="list-style-type: none"> <li>◆ Conducted questionnaires to all members of the board.</li> <li>◆ Discussed the results of these evaluations in meetings of independent outside directors and reported the same to Board of Directors meetings.</li> <li>◆ Established policies based on the results of the effectiveness evaluation and finalized the draft of disclosure, both by the resolutions of the Board of Directors. Also started planning the agenda schedule for FY2025.</li> </ul> </li> </ul>
<b>Promote legal compliance and honest and fair business practices</b>	Maintain the number of serious laws/regulation violations at zero	MHI Group (Global)	<ul style="list-style-type: none"> <li>There were no serious laws/regulation violations.</li> <li>Case studies related to compliance were published monthly to raise awareness within the company.</li> <li>Compliance information tailored to each region was shared with Group companies outside Japan in an effort to prevent compliance issues.</li> <li>Ensuring that overseas group companies set up hotlines for reporting on compliance issues.</li> </ul>
	Continue activities that promote an open organizational culture		<ul style="list-style-type: none"> <li>Implemented the following compliance training for employees both within and outside Japan. <ul style="list-style-type: none"> <li>◆ Japan: e-learning, discussion-based training, graded training</li> <li>◆ Outside Japan: e-learning</li> </ul> </li> </ul>
<b>Further promote responsible (CSR) procurement in the global supply chain</b>	Promote sustainability and CSR procurement activities with partners to build a sustainable supply chain	MHI Group (Global)	<ul style="list-style-type: none"> <li>Implemented a CSR questionnaire for Japanese and overseas partner companies with a certain amount of regular orders from MHI, and obtained their agreement to the MHI Group Supply Chain Sustainability Promotion Guidelines.</li> </ul>
	Offer continuous educative information to suppliers/ business partners in order to establish and maintain sustainable supply chain		<ul style="list-style-type: none"> <li>Delivered educational materials on CSR procurement when sending the periodical CSR questionnaire for partner companies, and confirmed widespread understanding within each company.</li> <li>Performed CSR procurement education at business briefings and meetings with partners.</li> </ul>
<b>Create opportunities to explain non-financial information</b>	Conduct Sustainability briefings to investors at least once a year	MHI Group (Global)	<ul style="list-style-type: none"> <li>Organized a factory tour of Nuclear Power business in March 2025 and explained our aim to contribute to the realization of Carbon Neutrality through our products, technologies and services.</li> </ul>

