

Reduce Environmental Impact

Environmental Management	016
Climate Change	021
Conservation of the Global Environment (Pollution Prevention and Biodiversity Conservation)	032
Circular Economy	037
Reduction of the Environmental Impact of Products and Services	040

Environmental Management

Approach

The IHI Group implements management that embraces ESG values (ESG management) based on the desire to “Create a world where nature and technology work in unity.”

The Group’s environmental initiatives continue to work to reduce the environmental impact on society at large in an effort to combat climate change, conservation of the global environment, and circular economy.

The Group has established the IHI Group Basic Environmental Policy as a guideline for action in addressing important environmental issues, and will continue to comply with all environmental laws and regulations as well as endeavor to reduce the environmental impact of its plants and offices in local regions while providing products and services that are friendly toward the global environment. In particular, the Group regards measures to counteract climate change as an important issue, and using the amount of GHG emissions during the product/service life cycle as an indicator, propose conducting business in a way that goes hand in hand with carbon neutrality.

Policy

● IHI Group Basic Environmental Policy

The IHI Group establishes action guidelines as follows pursuant to Article 7 (Responsibility for the global environment) of “IHI Group Basic Code of Conduct,” and acts independently and actively.

Article 1. Establishment of Environmental Management System

To ensure continuous improvement of environmental management, the IHI Group establishes an environmental management system, sets specific objectives and executes an action and a performance evaluation.

Article 2. Compliance with Environmental Laws and Regulations

The IHI Group complies with environmental-related laws and regulations/agreements, policies/plans in related industries, and strives to stipulate and apply independent management standards to enhance environmental management.

Article 3. Provision of Environmentally-Friendly Products, etc.

The IHI Group provides society with products, services, and technologies that contribute to the conservation of the global environment and the reduction of environmental burdens.

Article 4. Conservation of Global Environment and Reduction of Environmental Burdens in Business Activities

The IHI Group strives to conserve the global environment and reduce environmental burdens in all of its business activities as follows.

- (1) Conservation of the global environment
Control of air, water, and soil pollution, and reduction of impact on biodiversity and conservation of biodiversity, in order to achieve a sustainable society
- (2) Reduction of environmental burdens
Reduction of energy consumption, greenhouse gas emissions, and water consumption, improvement of the efficiency of global resource use, and reduction of waste generation, in order to achieve a decarbonized and resource-recycling society

Article 5. Environmental Education

The IHI Group, through environmental education, raises awareness of all people engaging in operations, including officers, employees, and temporary staff of IHI Group companies, thereby they are able to act having concern with environmental problems on their own.

Article 6. Disclosure of Information

The IHI Group actively participates in social activities, discloses appropriate and timely environmental information, and communicates with stakeholders to harmonize with local communities, conserve regional environments, and reduce environmental burdens.

Environmental Management

Governance

The IHI Group promotes environmental activities under the ESG Management Promotion Committee, with the Environment Committee, chaired by the Officer in charge of Group ESG at the core.

For environmental activities throughout the value chain, the Group has formed internal cross-sectional organizations for each of the three material issues: climate change, conservation of the global environment, and circular economy, and collaborates with the Environment Committee. Regarding environmental activities at each plant and office, the Group strives to comply with environmental laws and reduce the environmental impact on local communities, and the details of these activities are managed with PDCA by the Environment Committee. The Group disseminates and expands Environment Committee decisions through all Environmental Manager Liaison Groups and regional offices to domestic and overseas Group companies.

The details of discussions by the Environment Committee are reported to the ESG Management Promotion Committee, and feedback received from management is disseminated throughout the Group.

Amid discussions at these committees, matters related to important management decision-making are deliberated on by the Management Committee, which serves as the decision-making body for management execution, and are then submitted to the Board of Directors.

● Environmental Management Systems Diagram



● Environment Committee

Chairperson	Officer in charge of Group ESG
Members	Environmental managers in business areas, headquarters representative's offices, and persons at the corporate divisions nominated by the Committee chairperson
Secretariat	Administration Division
Number of meetings convened in FY2023	3

Strategy

The IHI Group drafts Group environmental action plans every three years and strives to engage in comprehensive environmental initiatives. The environmental action plans are formulated based on the IHI Group Basic Environmental Policy, keeping in mind the provision of environmental value demanded by society.

The IHI Group Environmental Action Plan 2023 creates three major pillars for environmental initiatives from fiscal 2023 to fiscal 2025: climate change, conservation of the global environment, and circular economy.

Environmental Management

Risk Management

The IHI Group strives to reduce the Group's environmental impact—a Group-wide risk management initiative—through capital investments to mitigate environmental risks, legal and regulatory compliance, energy saving, waste emission reductions, and more. Each business area and business unit (SBU) drafts action plans at the beginning of the fiscal year in line with each material subject and tracks progress as well as provides support using a PDCA cycle through the Environment Committee.

Collection and Monitoring of Environmental Information

The IHI Group has designated locations subject to environmental management, including overseas Group companies. Each site has appointed a person in charge to carry out environmental activities, and ensure appropriate management by collecting and monitoring environmental information.

The Group companies encompassed by environmental management engage in a variety of different businesses. These entities include companies with production plants, companies overseeing engineering and on-site construction work, as well as companies focused on only administration. Therefore, each company conducts environmental management based on its own characteristics. The Group companies are building a system to efficiently collect environmental data by checking the management system for GHG emissions, energy and water use, etc. at each site. Also, regarding GHG emissions in category 11 of Scope 3, the Group has calculated all target products of the IHI Group by fiscal 2023, and identified products for which data should be collected and monitored.

ISO 14001 (Environmental Management System)

The IHI Group has put in place Environmental Management Systems (EMS) at each primary production plant and other environmental management centers to manage environmental efforts with a PDCA cycle. Each of these environmental management centers is acquiring the ISO 14001 certification to ensure each established EMS satisfies international standards for environmental management.

These environmental management centers acquire the ISO 14001 certification through the most suitable review board based on each center's business activities.

ISO 14001 Internal and External Audits

The IHI Group always strives to enhance the level of environmental management through regular internal and external audits of each environmental management center. These audits evaluate the fitness and effectiveness of each EMS in accordance with ISO 14001 standards.

External audits conducted in fiscal 2023 did not find deficiencies at any of the ISO 14001-certified environmental management centers and affirmed that each EMS complied with all of the ISO 14001 requirements.

Environmental Management

Metrics and Targets

● IHI Group Environmental Action Plan 2023 (FY2023–2025) Targets and Results (Scope: IHI and consolidated subsidiaries)

Action Plans	Target	FY2023 Progress and Results
Climate change	A 12,000 t-CO ₂ e reduction in Scope 1 and 2 with capital investment	GHG emissions (Scope 1, 2) reduced by 3,783 t-CO ₂ e compared to FY2022 (Reduction equivalent to 4,700 t-CO ₂ e in Scope 1 and 2 with capital investment)
	Reduce energy consumption intensity by 3% in FY2025 from that in FY2022	Energy consumption intensity increased by 3.5% compared to 17.0 TJ/10 billion JPY in FY2022 to 17.6 TJ/10 billion JPY in FY2023 (excluding special factors such as the impact of the PW1100G-JM engine additional inspection program [hereinafter “special factors”], the result for FY2023 was 15.6 TJ/10 billion JPY [8.2% reduction compared to FY2022])
Conservation of the global environment	Zero environmental accidents and environmental law violations	Zero environmental accidents and environmental law violations
Circular economy	Reduce waste emissions by 3% or more in FY2025 from that in FY2022	Waste emissions increased by 10.3% compared to 23,044 tons in FY2022 to 25,410 tons in FY2023 (increase due to temporary changes in production processes at overseas sites)
	Review the definition of recycling rate and determine the amount of final waste disposal (more than 90 wt% of all waste)	The definition of recycling rate was revised and finalized
	Reduce water withdrawal by 3% or more in FY2025 from that in FY2022	Water withdrawal increased by 44.8% compared to 4,037 thousand m ³ in FY2022 to 5,844 thousand m ³ in FY2023 (increase due to temporary changes in production processes at overseas sites)

● ISO 14001 Certification Status

Targets	Item	FY2020	FY2021	FY2022	FY2023
IHI and all affiliated companies	Number of sites	44	45	45	45
	Coverage rate (based on amount of energy consumption) (%)	79.7	80.8	81.3	81.0
	Coverage rate (based on number of sites) (%)	60.3	60.8	60.0	61.6
IHI and affiliated companies in Japan	Number of sites	36	37	37	36
	Coverage rate (based on amount of energy consumption) (%)	—	—	—	84.4
	Coverage rate (based on number of sites) (%)	61.0	61.7	59.7	60.0
Affiliated companies overseas	Number of sites	8	8	8	9
	Coverage rate (based on amount of energy consumption) (%)	—	—	—	60.5
	Coverage rate (based on number of sites) (%)	57.1	57.1	61.5	69.2

Environmental Management

Initiatives

Education/Awareness Building

Environmental Education

The IHI Group conducts environmental education which includes education and awareness building for all employees and everyone in charge of environmental management at each environmental management center.

Environmental education is provided through e-learning with the theme of Sustainability and ESG. Also, the Group has also designated every June as environment month. The IHI Group not only quizzes every employee on environmental topics but also shares information about going carbon neutral through an internal newsletter to heighten their environmental awareness.

In addition, its environmental management centers that have acquired the ISO 14001 certification provide education and training according to these ISO standards.

Environmental Education and Training Participants

(Unit: People, Scope: IHI and affiliated companies in Japan)

Eligible Participants	Curriculum	FY2020	FY2021	FY2022	FY2023
Employees	e-learning	Not conducted *	4,625	—	—
	Environmental Quiz	Not conducted *	4,220	1,992	2,674
Environmental Managers	Group Energy Efficiency Training	58	Not conducted	88	68
	Group Waste Training	62	Not conducted	56	51

* Due to the effects of the 2020 COVID-19 pandemic.

P.11 Sustainability Management

Reduction of the Environmental Impact

Costs to Reduce the IHI Environmental Impact

(Unit: Millions of yen, Scope: IHI plants and offices)

Item	FY2020	FY2021	FY2022	FY2023
Investments	334	357	563	1,048
Expenditures	23	92	151	365

Environment-related Capital Investments (FY2023)

(Unit: Millions of yen, Scope: IHI plants and offices)

Category	Amount Invested	Main Items	Investment Effect
Energy-saving/climate change measures*	517	Installation of individual air conditioning systems in factories, etc.	Energy consumption and CO ₂ emission reductions
Environmental risk measures	532	Renewal of aged equipment, etc.	Zero environmental accidents and environmental law violations
Total	1,048		

* When consolidated subsidiaries are included, the amount is 1,478 million yen.

Climate Change

Approach

The IHI Group sees taking measures against climate change as a particularly important issue in ESG management and is doing everything possible to accomplish this. Climate change has an enormous social and economic impact and is a vital social issue for companies to address in order to realize sustainability and one that the IHI Group believes it should focus on.

Participation in Third-party Initiatives

TCFD

The IHI Group became a signatory to the Task Force on Climate-related Financial Disclosures (TCFD) by resolution of the Board of Directors in May 2019. This framework plays a role as a tool to formulate strategies able to strengthen risk management and cultivate business opportunities.



GX League Basic Concept

In February 2022, the IHI Group endorsed the GX League Basic Concept announced by the Ministry of Economy, Trade and Industry, joining it in April 2023.

The GX League is a group of companies that are actively working on Green Transformation (GX), established as a forum for discussion on reforming socioeconomic systems and practices in their entirety for the creation of new markets, together with government, academics, and financial players who are also taking part in the GX challenge.



Relationships with Industry Associations

The IHI Group is a member of various industry associations including the Japan Society of Industrial Machinery Manufacturers and the Society of Japanese Aerospace Companies. The Group also participates in seminars and other events held by government and industry groups to gather information and share it within the Group.

The IHI Group sets targets and takes action to meet or exceed the climate change targets set by governments and industry organizations.

Responses to and Support for Public Regulations

The IHI Group supports laws, policies, regulations, and so on relating to climate change and responds to them appropriately at each domestic and overseas business site.

In particular, IHI is a specified business operator under the Act on Rationalization of Energy Use and Shift to Non-fossil Energy (the Energy Conservation Act), and as such, is obligated to make efforts to reduce energy consumption intensity by an average of 1% per year. In the IHI Group Environmental Action 2023 plan, which covers fiscal 2023 to fiscal 2025, the Group sets reduction targets in line with the Energy Conservation Act. By implementing energy-saving measures at each site, the entire Group is promoting the efficient use of energy.

Climate Change

Governance

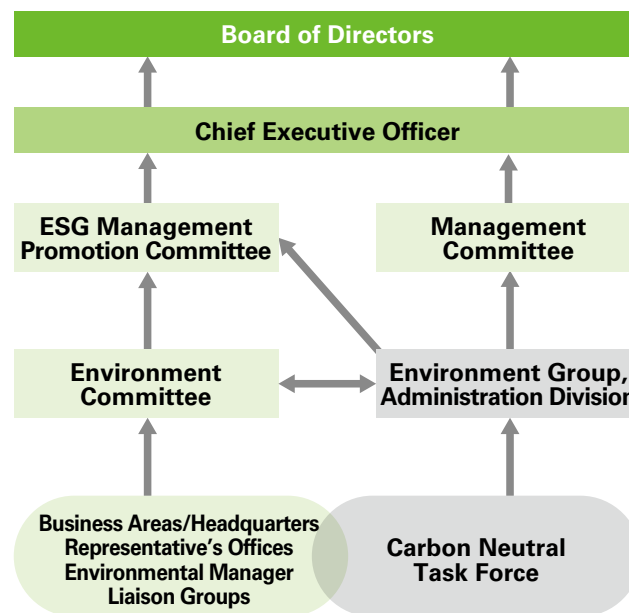
Structures for Implementing Initiatives to Become Carbon Neutral

The IHI Group deliberates on and determines approaches and important matters concerning climate change countermeasures through the Environment Committee, a Group-wide body.

In fiscal 2021, the Group established a task force comprising members from different divisions to promote initiatives to become carbon-neutral throughout the entire value chain. Until fiscal 2023, the Administration Division and Corporate Planning Division served as the secretariat to the task force, but in fiscal 2024, the secretariat was consolidated within the General Affairs Division to carry out these activities more efficiently and accelerate their implementation. Reports on the activities of the task force are made to the Environment Committee, which deliberates on them. The details of discussions by the Environment Committee are reported to the ESG Management Promotion Committee, and feedback received from management is disseminated throughout the Group.

Amid discussions at these meetings and committees, matters related to important management decision-making are deliberated on by the Management Committee, which serves as the decision-making body for management execution, and are then submitted to the Board of Directors.

System for Achieving Carbon Neutrality



P.11 Sustainability Management

P.16 Environmental Management

Climate Change

Strategy

IHI Carbon-Neutral 2050

The IHI Group is committed to achieving the Paris Agreement's effort target of "Keeping the global average temperature increase to 1.5°C compared to pre-industrial levels" by promoting "IHI Carbon-Neutral 2050."

The Group aims to halve direct and indirect greenhouse gas emissions (Scope 1, 2) from its business activities compared to 2019 by fiscal 2030 and achieve effectively zero emissions by 2050. As short-term measures, the Group established the IHI Group Environment Action Plan 2023 (FY2023–FY2025) and set targets of reducing total Scope 1 and 2 emissions by 12,000 t-CO₂e and reducing energy intensity (energy consumption per unit of sales) by 3% compared to fiscal 2022 through capital investment.

The Group also aims to achieve effectively zero greenhouse gas emissions released in upstream and downstream processes (Scope 3) by 2050. The Group formulated the Scope 3 Emissions Reduction Roadmap, will reduce emissions with a focus on category 11 (use of sold products) and category 1 (purchased products and services), which have particularly large emissions, to achieve carbon neutrality across Scopes 1, 2, and 3.

Possessing decarbonization technology, the IHI Group will take the lead in contributing toward the realization of a global carbon-neutral society through its efforts in achieving this goal.

IHI Carbon-Neutral 2050

Our 2050 goal to achieve carbon neutrality throughout the entire value chain

Climate Change

Risk and Opportunity Due to Climate Change

The IHI Group conducted simple scenario analyses of four business domains significantly impacted by climate change: the energy business, bridge and water gate business, vehicle turbocharger business, and the civil aero engine business.

The first step set ① a carbon-neutral world as the highest transition risk and ② a world greatly impacted by climate change as the highest physical risk in our own independent scenarios drafted with reference to external scenarios created by the International Energy Agency (IEA) and Intergovernmental Panel on Climate Change (IPCC). The second step identified risks and opportunities for all four business domains. The third step assessed the impact each business has. The fourth and last step drafted countermeasures according to our findings.

In the future, the IHI Group will enhance its ability to leverage scenario analyses in business strategy through efforts, such as assessing the financial impact of climate change.

The IHI Group will proactively incorporate the concepts pursued by TCFD signatories in management policies and business strategies, contributing not only to the sustainable development of our Company, but society as a whole.

Scenario Analysis Process

Step 1 Set independent scenarios

The IHI Group referred to external scenarios* to set independent Group scenarios in anticipation of the world in 2050.

- ① High-transition risk scenario
- ② High-physical risk scenario

Step 2 Identify risks and opportunities

The IHI Group identifies risk and opportunities for the two scenarios created in Step 1.

Step 3 Evaluate the business impact

The IHI Group assigns point values for the potential of occurrence and scale of impact for each risk and opportunity identified in Step 2. The intersection between both define the impact and estimate the influence the risks and opportunities have on our businesses.

Step 4 Formulate countermeasures

The IHI Group formulates measures to respond to these risks and opportunities to foster resilient businesses.

* External reference scenarios:

- A carbon-neutral world
IEA 2DS (qualitative assessment based on the ETP2017 Global technology penetration in LDV stock by scenario, global electricity generation, etc.)
- A world greatly impacted by climate change
RCP 8.5 (qualitative assessment based on the portions relating to wind and flood damage risk of IPCC AR5 WG2)

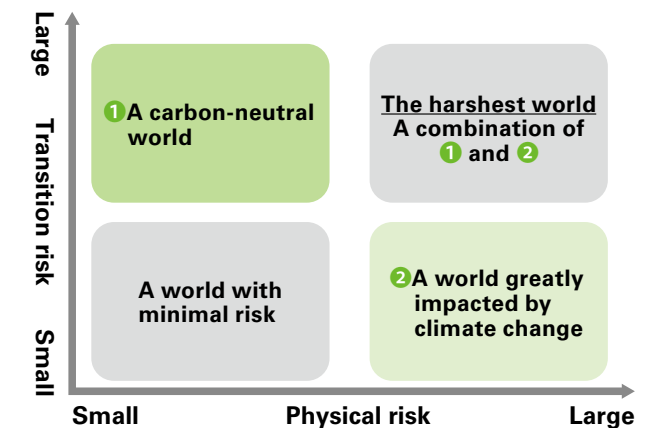
IHI Group Scenarios

① High-transition risk scenario

This scenario presents ① a carbon-neutral world where society at large shifts to mitigate climate change and stop all greenhouse gas emissions.

② High-physical risk scenario

This scenario presents ② a world greatly impacted by climate change that needs to adapt to the physical impact and directly confront drastic devastation by natural disasters.



Countermeasures set to address the two extreme worlds anticipated by these IHI scenarios enhance the resilience of IHI Group businesses against future risks.

The IHI Group can also reduce risks against the harshest world facing both these scenarios (① and ②) at the same time by integrating the countermeasures for each.

Climate Change

The IHI Group divides the risks and opportunities identified for each of the four business domains and the countermeasures into two categories: **1. risks, opportunities, and countermeasures specific to each business** and **2. risks, opportunities, and countermeasures shared across all businesses**.

Risks, opportunities, and countermeasures in 1. are shown in the table below while those in 2. are shown in the table on the next page.

1. Main Risks, Opportunities, and Countermeasures Specific to Each Business (Four Main Business Domains)

	Energy Business	Bridge and Water Gate Business	Vehicle Supercharger Business	Civil Aero Engine Business
(1) Risks, Opportunities, and Main Countermeasures in a Carbon-neutral World				
Risks	<ul style="list-style-type: none"> Declining demand for large fossil fuel power generation equipment 	<ul style="list-style-type: none"> Increasing procurement costs (carbon tax, etc.) for materials with high CO₂ emissions (concrete, steel, etc.) 	<ul style="list-style-type: none"> Declining demand for combustion engine vehicles unable to address carbon-neutral requirements and a falling demand for existing turbochargers 	<ul style="list-style-type: none"> Declining demand for aircrafts due to carbon-neutral requirements and standardization of alternative highspeed means of transportation
Opportunities	<ul style="list-style-type: none"> Increasing demand for fuel conversion, carbon capture and storage (CCUS), and other decarbonization technologies Increasing demand for regulated power supplies, storage energy, and Power-to-X to provide a stable energy supply as renewable energy becomes the standard 	<ul style="list-style-type: none"> Increasing demand for roads (bridges and tunnels) to provide a more efficient transportation network Increasing demand for railway construction due to expansion of railway systems overseas 	<ul style="list-style-type: none"> Potential to secure market competitiveness and leverage an increase in demand for turbochargers by being first to market with new turbocharger products (electric products in addition to existing models) for carbon-neutral electric vehicles (PHEV, HEV, FCV, etc.) 	<ul style="list-style-type: none"> Increasing demand for the development of aircraft engines supporting carbon neutral requirements and a rise in opportunities due to electrification of engines and utilization of advanced material technologies.
Main counter-measures	<ul style="list-style-type: none"> Rapidly deploy carbon-neutral technologies to society Promote technological development to stabilize the energy supply Expand the lifecycle business through remote monitoring and other Internet of Things (IoT) technologies 	<ul style="list-style-type: none"> Reduce construction schedules and labor costs by labor-saving, remotization, and improving construction methods through promoting digital transformation (DX) 	<ul style="list-style-type: none"> Rapid development and commercialization of turbochargers for electric vehicles that comply with carbon-neutral requirement trends 	<ul style="list-style-type: none"> Early commercialization of electric engines and advanced technologies such as advanced composites.
(2) Risks, Opportunities, and Main Countermeasures in a World Greatly Impacted by Climate Change				
Risks	<ul style="list-style-type: none"> Extreme delays due to on-site construction stoppages or disasters caused by frequent severe weather 	<ul style="list-style-type: none"> Extreme delays due to on-site construction stoppages or disasters caused by frequent severe weather 	<ul style="list-style-type: none"> Suspension of production due to disrupted supply chains caused by frequent severe weather 	<ul style="list-style-type: none"> Suspension of production due to disrupted supply chains caused by frequent severe weather
Opportunities	<ul style="list-style-type: none"> Contributing to early recovery of equipment damaged in severe weather Increasing demand for digital technologies to promote labor saving and remote operation 	<ul style="list-style-type: none"> Increasing demand to build robust national infrastructure Contributing in early recovery of infrastructure damaged in severe weather 	<ul style="list-style-type: none"> No opportunities unique to our business 	<ul style="list-style-type: none"> No opportunities unique to our business
Main counter-measures	<ul style="list-style-type: none"> Expand the lifecycle business through www monitoring and other Internet of Things (IoT) technologies 	<ul style="list-style-type: none"> Expand business beyond lifecycle business with wider perspective to include disaster prevention business Create technologies and systems that contribute to maintenance, disaster prevention, disaster mitigation, and quick recovery of infrastructure 	<ul style="list-style-type: none"> Strengthen supply chains 	<ul style="list-style-type: none"> Strengthen supply chains

Climate Change

2. Main Risks and Countermeasures Shared Across All Businesses

(1) Transition Risks and Countermeasures for a Carbon-neutral World		
Category	Main Items	Main Countermeasures and Transitioning to Opportunities
Policy and legal	Introduction of carbon taxes, stronger industrial waste regulations, raising costs due to the adoption of renewable energy and energy-efficient equipment, etc.	Reduce costs in business activities through efficient production and distribution as well as the proper management of energy consumption
Technology	Raising costs due to research to realize carbon-neutral products and services, failed technological development, etc.	Concentrate investments in technological development while staying acutely aware of policies, technologies, markets, and other social trends
Market	Declining demand for products and services with high CO ₂ emissions, etc.	Actively draft and promote business plans that always anticipate multiple business scenarios to adapt to dramatic changes in market structures
Reputation	Lost opportunities due to poor evaluations of our response to climate change, declining social credibility, etc.	Disseminate easy-to-understand information about products and services that can help both mitigate and adapt to climate change
(2) Physical Risks and Countermeasures in a World Greatly Impacted by Climate Change		
Category	Main Items	Main countermeasures
Acute/Chronic	Ceased business activities due to damaged offices and business sites caused by typhoons, floods, or other natural disasters, etc.	<ul style="list-style-type: none"> • Incorporate the response to climate change into the business continuity plans of plants and offices to ensure the safety of Officers and employees and strengthen the supply chain • Draft, execute, and manage advance measures in anticipation of foreseeable flood damage

P.17 Environmental Management—Strategy

Risk Management

In addition to short-term business risks, the IHI Group also manages sustainability-related risks that affect the medium- to long-term business environment as a risk to conducting business. In particular the IHI Group assesses the medium- to long-term impact of these risks to the Group and convert them into short-term business risks. The Group has clarified the roles and responsibilities of its Internal Audit Division, corporate divisions, business areas, and business divisions (including affiliated companies), which are managed under a multi-layered risk management framework.

P.112 Risk Management

Climate Change

Metrics and Targets

The IHI Group aims to achieve carbon neutrality throughout its entire value chain by 2050.

In fiscal 2023, the Board of Directors adopted a resolution setting a goal of halving the Group's fiscal 2019 GHG emissions from plants, offices, and other business establishments (Scope 1 and 2) by fiscal 2030.

CO₂ Emission and Energy Consumption Targets and Results (IHI Group Environmental Action Plan 2023 [FY2023–2025])

Action Plans	Target	KPI	FY2022 Results (Base Year)	FY2023 Results	
					Status of Achievement
Climate change	A 12,000 t-CO ₂ e reduction in Scope 1 and 2 with capital investment	Reduced amount of GHG emissions (t-CO ₂ e)	215,753 t-CO ₂ e (emissions)	211,970 t-CO ₂ e (emissions)	3,783 t-CO ₂ e reduction
	Reduce energy consumption intensity by 3% in FY2025 from that in FY2022	Energy consumption intensity (TJ/10 billion yen)	17.0	17.6	3.5% increase

GHG Emissions (Scope 1 and 2) and Energy Consumption

(Scope: IHI and consolidated subsidiaries)

Item	FY2019	FY2020	FY2021		FY2022		FY2023	
Breakdown				Third-party Verification		Third-party Verification		Third-party Verification
GHG emissions (Scope 1 + Scope 2) (t-CO ₂ e)* ¹	254,227	225,066	220,138	○	215,753	○	211,970	○
Scope1 (t-CO ₂ e)	64,724	58,517	64,270	○	61,469	○	65,033	○
CO ₂ (t-CO ₂)	—	—	—	—	60,178	○	63,393	○
CH ₄ (t-CO ₂ e)	—	—	—	—	447	○ (Domestic only)	974	○ (Domestic only)
N ₂ O(t-CO ₂ e)	—	—	—	—	85	○ (Domestic only)	85	○ (Domestic only)
HFCs(t-CO ₂ e)	—	—	—	—	469	○ (Domestic only)	281	○ (Domestic only)
PFCs(t-CO ₂ e)	—	—	—	—	0	○ (Domestic only)	0	○ (Domestic only)
SF ₆ (t-CO ₂ e)	—	—	—	—	290	○ (Domestic only)	299	○ (Domestic only)
NF ₃ (t-CO ₂ e)	—	—	—	—	0	○ (Domestic only)	0	○ (Domestic only)
Scope 2 (market-based) (t-CO ₂)	189,503	166,549	155,868	○	154,284	○	146,937	○
GHG emissions intensity (t-CO ₂ e/100 million yen)* ^{2, *3}	18.3	20.2	18.8	—	15.9	—	16.0	—
Energy consumption (TJ)* ¹	2,468	2,283	2,348	○	2,294	○	2,322	○
Fuel consumption (TJ)	1,044	974	1,084	○	1,019	○	1,070	○
Electricity consumption (TJ)	1,398	1,276	1,229	○	1,230	○	1,184	○
Heat consumption (TJ)	—	7	5	○	0	○	0	○
Renewable energy used (TJ)	26	26	31	○	45	○	69	○
Energy consumption intensity (TJ/10 billion yen)* ^{2, *4}	17.8	20.5	20.0	—	17.0	—	17.6	—


*1 The total value for each item is rounded off and may not match the figures in the breakdown.

*2 The numerator of the intensity is GHG emissions (Scope 1 + Scope 2) and the denominator is net sales revenue.

*3 GHG emissions intensity in FY2023 is 14.2 t-CO₂e/100 million yen, excluding special factors.

*4 Energy consumption intensity in FY2023 is 15.6 TJ/10 billion yen, excluding special factors.

Third-party Verification of Data



No.1811004815

Environmental Information

Independent Verification Report

To: IHI Corporation

1. Objective and Scope

Japan Quality Assurance Organization (hereafter, "JQA") was engaged by IHI Corporation (hereafter, "the Company") to provide an independent verification on "FY2023 IHI Group Environmental Data" (hereafter, "the Report"). The content of our verification was to express our conclusion, based on our verification procedures, on whether the statement of information regarding GHG emissions, energy consumption, renewable energy consumption, total water withdrawal, total water discharge and waste discharge (hereafter, "the Environmental Information") in the Report was correctly measured and calculated, in accordance with the "FY2023* IHI Group Environmental Information Collection and Calculation Rule" (hereafter, "the Rule"). The purpose of the verification is to evaluate the Report objectively and to enhance the credibility of the Environmental Information.

*The fiscal year 2023 of the Company ended on March 31, 2024.

2. Procedures Performed

JQA conducted verification in accordance with "ISO 14064-3" for GHG emissions, and with "ISAE3000" for energy consumption, renewable energy consumption, total water withdrawal, total water discharge and waste discharge respectively. The organizational boundaries of this verification include sixty domestic sites and thirteen overseas sites of the IHI Group. The scope of this verification assignment covers Scope 1 & 2 (Market-based) GHG emissions, energy consumption, renewable energy consumption, total water withdrawal, total water discharge, general waste discharge, industrial waste discharge, hazardous waste discharge and valuables for domestic sites, and Scope 1 & 2 (Country location-based) CO₂ emissions, energy consumption, renewable energy consumption, total water withdrawal, total water discharge, waste discharge and valuables for overseas sites. The verification was conducted to a limited level of assurance and quantitative materiality was set at 5 percent of each subject of the Environmental Information in the Report. Our verification procedures include:

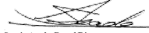
- Confirming the Rule and overall control prior to the on-site assessment.
- Conducting on-site verification at the Company's three domestic sites: IHI Corporation Toyosu IHI Building, Toyosu Energy Service Co., Ltd. and IHI Agri-Tech Corporation Matsumoto Head Office. The location of sampling sites for on-site assessment was selected by the Company.
- On-site assessment to check the Reports' scope and boundaries; monitoring points of energy consumption, renewable energy consumption, water withdrawal and discharge; GHG emission sources; waste discharge; and monitoring and calculation system.
- Vouching: Cross-checking the activity data against evidence.

3. Conclusion

Based on the procedures described above, nothing has come to our attention that has caused us to believe that the Environmental Information in the Report is not materially correct or has not been prepared in accordance with the Rule.

4. Considerations

The Company was responsible for preparing the Report, and JQA's responsibility was to conduct verification of the Environmental Information in the Report only. There is no conflict of interest between the Company and JQA.



Sumio Asada, Board Director

For and on behalf of Japan Quality Assurance Organization

1-25, Kandaasudacho, Chiyoda-ku, Tokyo, Japan

August 1, 2024

Climate Change

The IHI Group calculated its Scope 3 emissions based on the GHG Protocol and the Ministry of the Environment Guideline*. Within Scope 3, emissions from category 11 (use of sold products) were the highest, followed by category 1 (purchased products and services).

* A basic guideline for calculating GHG emissions for organizations across the supply chain.

● GHG Emissions (Scope 3)

(Unit: t-CO₂e)

Item		Calculation Methods	Scope of Calculation	Emissions				
Category	FY2019			FY2020	FY2021	FY2022	FY2023	
GHG emissions (Scope 3) total				881,504,000	322,462,000	177,593,000	184,475,000	403,575,000
1. Purchased goods and services	Calculation based on expenditures	IHI and consolidated subsidiaries	4,930,000	4,075,000	4,197,000	4,665,000	5,130,000	
2. Capital goods	Calculation based on amount of capital investment	IHI and consolidated subsidiaries	270,000	162,000	145,000	205,000	239,000	
3. Fuel and energy-related activities not included in Scope 1 or Scope 2	Calculation based on consumption of various types of energy	Domestic consumption of electric power and city gas only	15,000	14,000	13,000	13,000	13,000	
4. Upstream transportation and delivery	Calculation based on weight, distance, and energy for each means of transportation	IHI	2,000	1,000	1,000	1,000	1,000	
5. Waste generated in operations	Calculation based on waste generated	IHI and consolidated subsidiaries	10,000	8,000	8,000	8,000	9,000	
6. Business travel	Calculation based on amounts of business travel expenses	IHI and consolidated subsidiaries	13,000	14,000	14,000	14,000	14,000	
7. Employee commuting	Calculation based on amount of commuting expenses	IHI and consolidated subsidiaries	4,000	4,000	4,000	4,000	4,000	
8. Upstream leased assets	Calculation included in Scope 1 and 2	—	—	—	—	—	—	
9. Downstream transportation and distribution	Not covered* ¹	—	—	—	—	—	—	
10. Processing of sold products	Not covered* ²	—	—	—	—	—	—	
11. Use of sold products	Calculation based on energy consumption by products* ³	IHI and consolidated subsidiaries	876,260,000	318,184,000	173,211,000	179,565,000	398,165,000	
12. End-of-life treatment of sold products	Not covered* ⁴	—	—	—	—	—	—	
13. Downstream leased assets	Calculation included in category 11	—	—	—	—	—	—	
14. Franchises	Not covered* ⁵	—	—	—	—	—	—	
15. Investments	Not covered* ⁶	—	—	—	—	—	—	

*1 Many products are excluded because they are rarely transported after delivery and installation and as a result, emissions are minimal.

*2 In many instances, finished products are delivered, and even if there are parts, the emissions from assembly and so on are minimal, and as a result, they are excluded.

*3 For calculation method for civil aero engines, please refer to the following page. **P133 Scope 3 Category 11 Calculation Method for Civil Aero Engines**

*4 Many products are made of metal and are recyclable, thus the final disposal volumes are minimal and the amount of waste is small, and have been excluded as a result.

*5 The IHI Group is does not use a franchise format, making it ineligible.

*6 In Ministry of the Environment materials (frequently asked questions and answers on supply chain emissions calculations), category 15 applies to private financial institutions, and accordingly, is excluded.

Climate Change

Initiatives

Mitigating Climate Change (Initiatives to Become Carbon Neutral)

Reducing CO₂ Emissions from Business Activities

The IHI Group makes every effort to reduce CO₂ emissions from plants, offices, and other business establishments by both actively pursuing energy-efficient business practices and promoting the use of low-carbon energy.

Initiatives for the efficient use of energy not only enhance operations, but also cover all necessary capital investment. The Group has put in place energy management standards to drive these operational improvements. These standards aim to provide ideal operation conditions and criteria to review operational management. These standards also become a knowledge base to conduct training on energy efficiency through outside experts in an effort to heighten the management quality of Managers.

The Group's capital investments systematically renew aged equipment with energy-efficient equipment and adopt renewable energy sources. Another aspect important to reducing CO₂ emissions is shipping and transport. The IHI Group strives to promote modal shifts through greater load efficiency and active use of marine vessels.

Reducing GHG Emissions from Products and Services

The IHI Group promotes efforts to mitigate climate change through reduction in two steps: (1) Reducing greenhouse gas emissions by utilizing existing technology and equipment and (2) Building new technology and techniques. The Group will steadily continue these efforts to achieve carbon neutrality throughout the value chain.

By expanding the existing lifecycle business of the IHI Group products to its customer value chain and by improving the value it provides, the Group contributes to

the realization of carbon neutrality for its customers. The Group invests management resources derived through its lifecycle business from a customer value chain perspective into the development of new technologies and systems that contribute to carbon neutrality as well as growth businesses and development-focus businesses, aiming for both carbon neutrality and increased sustainable growth.

Moreover, by actively introducing these new technologies and systems within the IHI Group, this will in turn lead the early realization of carbon neutrality in its business activities.

● Initiatives to Become Carbon Neutral

Business operations	Procurement	● Partner with eco-friendly businesses
	Production	● Pioneer the adoption of new technologies, including for in-house products and systems ● Fuel conversion ● Use of renewable energy
Products and services	Improve current technologies Transition	● Enhance efficiency of current power plants ● Lighten and electrify products ● Utilize renewable energy
	Introduce new technologies Transformation	● Use hydrogen and ammonia ● Recycle carbon

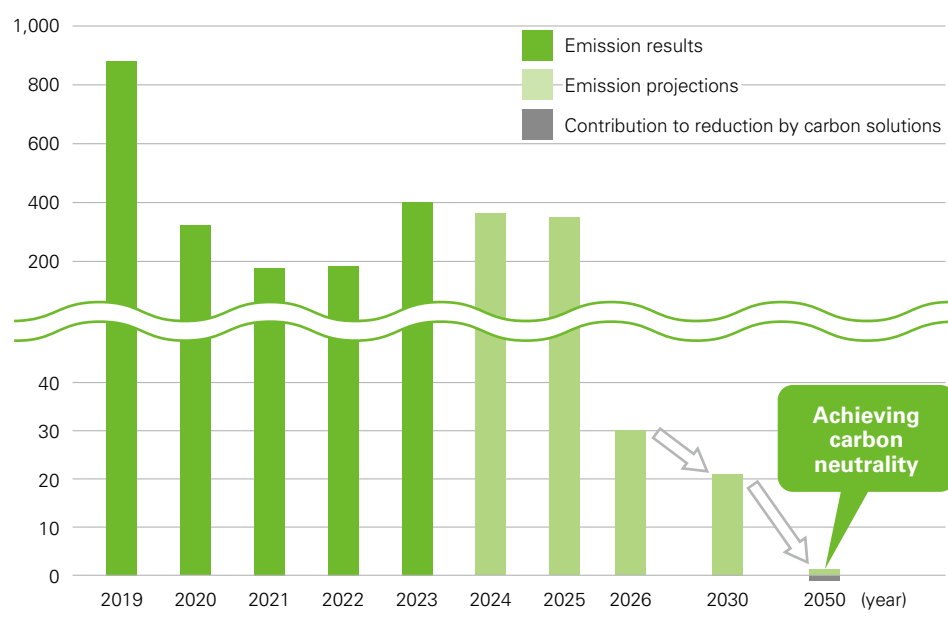
Climate Change

Reducing Scope 3 Emissions

The majority of IHI Group's Scope 3 emissions fell under category 11 (use of sold products) with coal-fired power plant boilers accounting for most of these emissions during fiscal 2023. However, new boiler construction will be completed by fiscal 2025, with emissions expected to decrease significantly from fiscal 2026 onwards. The Group also aims to significantly reduce emissions from other products included in category 11 by 2050 by converting to clean energy and improving energy consumption efficiency. In order to achieve these goals, the IHI Group has devised a roadmap for reducing its Scope 3 emissions by 2050. In line with this roadmap, the Group will continue to reduce GHG emissions throughout the life cycle of our products from the material procurement, design, and manufacturing stages and use after customer purchase. Furthermore, the Group aims to create a carbon-neutral society by working to come up with carbon solutions to reduce its carbon footprint, such as building a fuel ammonia value chain and through carbon dioxide capture, utilization, and storage (CCUS).

Scope 3 Emissions Results and Projections

(million t-CO₂e)



Regarding civil aero engines, which serve as the IHI Group's main product, the Group is working with business partners to make its entire supply chain, including material procurement, carbon neutral. Additionally, the Group is making efforts to improve conventional aero engine fuel efficiency and develop revolutionary aero engines with the goal of improving aircraft energy efficiency as a whole. Moreover, the Group will be focusing on developing and expanding the use of sustainable aviation fuel (SAF) production technology, aiming for carbon neutrality across its entire value chain.

In particular, the IHI Group has taken an interest in fuel ammonia. The Group plans to build a value chain by leveraging its strengths throughout each stage in the process, from fuel manufacturing, receiving, storage, and utilization. This will be beneficial toward expanding the use of fuel ammonia and contributing to reducing GHG emissions among society as a whole.

Scope 3 Emissions Reduction Roadmap

		2020	2030	2040	2050
Category 11	Transition to clean energy	Development of fuel conversion technology (ammonia)		Promotion and expansion of products using fuel ammonia	
		Promotion and expansion of the use of biomass power generation			
		Development of methanation technology		Promotion of social implementation of e-methane	
		Development and expansion of the use of SAF manufacturing technology			
	Improving energy consumption efficiency	Improvement of conventional aero engines			
		Development of revolutionary aero engines		Launch of revolutionary aero engines	
		Support for improving customer operations			
		Improvement of product functionality and efficiency			
Category 1	Carbon neutralization throughout the supply chain	Sharing information and improving cooperation among business partners			
		Expansion of carbon-neutral product purchasing			
		Support for business partners to decarbonize their operations			
Reduction contribution	Carbon solutions	Establishment of ammonia value chain		Expansion of fuel ammonia supply	
		Development of CCUS technology			
		Reduction contribution through fuel conversion and introducing CCUS technology			

Climate Change

Adapting to Climate Change

Preparations for Disasters to Continue Business Operations

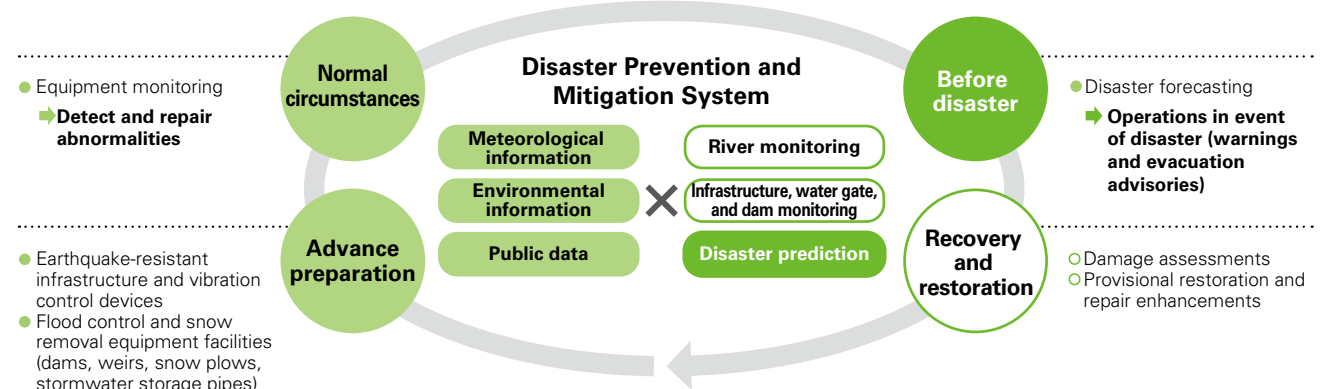
The IHI Group established rules on organizational structures and actions to be taken in normal times and during disasters and makes preparations for the occurrence of large-scale earthquakes, typhoons, and other wind and flood disasters.

P.115 Crisis Management

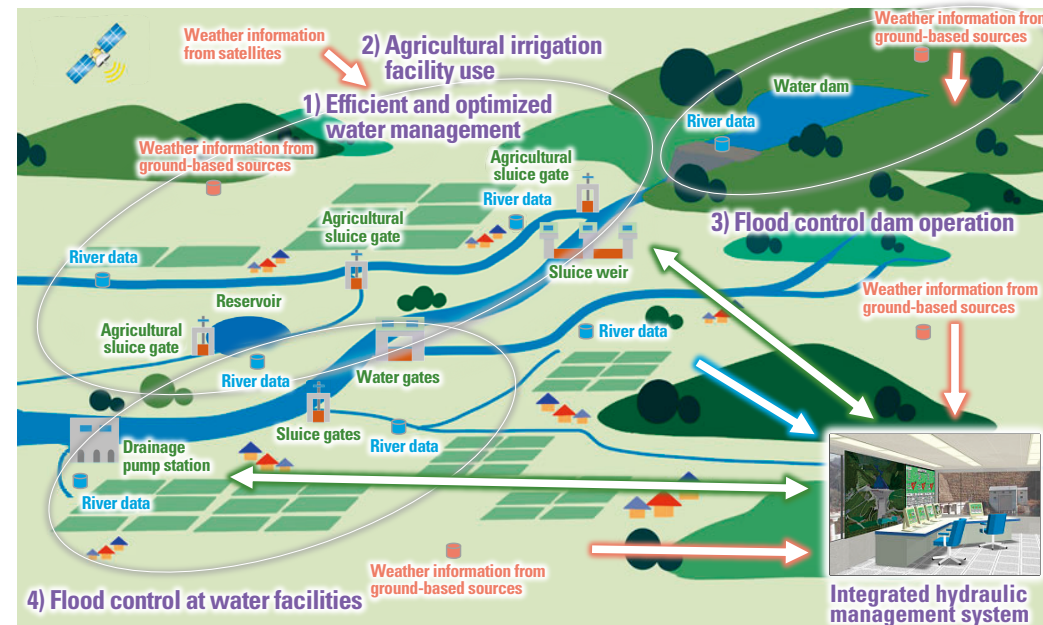
Preventing and Mitigating Disasters through Products and Services

The IHI Group seeks to create safe, secure, and livable communities and is developing infrastructure that is resilient against natural disasters and economical and building systems that integrate disaster and damage forecasts that can minimize human casualties with infrastructure. As infrastructure development, the Group is conducting timely and appropriate maintenance projects that leverage its advanced maintenance knowledge, sensing technology, and monitoring technology for infrastructure with a focus on bridges. To minimize human casualties and economic losses from disasters, the Group forecasts disasters based on meteorological information and disaster-related sensing data and performs integrated flood control management that optimally controls regional infrastructure (river management facilities including dams, sluice gates, and drainage pumping stations). In addition, the Group contributes to the rapid restoration of normal lives by providing products and services that are useful for recovery from disasters.

Creating a Resilient Social Infrastructure



Integrated Hydraulic Control



Conservation of the Global Environment (Pollution Prevention and Biodiversity Conservation)

Approach

The IHI Group sees conservation of the global environment as an important management issue and is working to prevent atmosphere, water, and soil pollution and protect biodiversity.

To address chemical substances in products, the IHI Group established the Basic Policy on Chemicals Information Management and performs management. This policy addresses the addition of regulated substances, changes in control values, and strengthening of rules based on laws and regulations or customer requirements in the countries and regions where our products and services are marketed.

Policy

● IHI Group's Basic Policy on Chemicals Information Management

Basic Activities

1. The IHI Group independently manages chemical substance data by not only complying with the laws, regulations, and standards on the management of chemical substances in Japan and overseas but by also clearly grasping trends of global chemical management. Minimizing the health and environmental impact of IHI Group products and services enhances the competitiveness of our products.

Scope

2. All IHI Group business activities

Education

3. The IHI Group provides the necessary information and training on laws and regulations to heighten legal and regulatory awareness among all Officers as well as IHI and partner company employees.

Management System, etc.

4. The IHI Group sets regulations regarding chemical substance information management, putting measures into place, and the continual implementation of activities including both maintenance and improvement.

Governance

The IHI Group deliberates and decides on the approach and important matters concerning conservation of the global environment through the Environment Committee, a Group-wide body. Each office, plant, and business establishment has set up an environment committee to draft policies tailored to the needs of each region based on Group-wide policy.

P.11 Sustainability Management

P.17 Environmental Management—Governance

Strategy

The IHI Group has set zero violations of environmental laws and regulations and zero accidents as environmental targets, and compliance with environmental laws and regulations, as well as the prevention of environmental accidents, are positioned as the top priorities for environmental activities at offices and plants.

Regarding the conservation of biodiversity, the Group believes that the sustainable use of natural capital is crucial for the continuation of business, and accordingly, it is focusing on measures to address climate change, which has a major impact on biodiversity. At offices and plants, they are implementing measures linked to the 2030 global targets specified in the Kunming-Montreal Global Biodiversity Framework (GBF), which was formulated at COP15.

P.17 Environmental Management—Strategy

Conservation of the Global Environment (Pollution Prevention and Biodiversity Conservation)

Risk Management

Water Pollution Prevention

The IHI Group strictly complies with wastewater standards and establishes and manages voluntary wastewater standards that exceed public standards set in laws and regulations, such as the Water Pollution Prevention Act, and ordinances adopted by local governments to preserve the quality of public bodies of water including oceans and rivers into which the Group discharges water. To confirm the status of achievement of standard values, the Group carries out regular voluntary water sampling, analysis, and monitoring and daily patrol inspections of discharge outlets. For maintenance of wastewater treatment facilities, the Group performs systematic updates of aging equipment, measuring devices, and buried pipes.

Soil Contamination Prevention

To prevent soil contamination, the IHI Group identified specific areas that use hazardous substances designated by the Soil Contamination Countermeasures Act and strives to prevent leaks of chemical substances by establishing operational procedures and performing periodic patrols.

In areas where hazardous substances are used, the Group makes capital investments to prepare for leaks, such as by establishing liquid containment embankments with durable, highly chemical resistant interior coatings. At hazardous waste storage sites in particular, in principle, waste is stored indoors and the Group strives to prevent leaks caused by bad weather.

Prevention of Pollution by Chemical Substances

The IHI Group uses chemical substances while minimizing their impact on human health and the environment throughout the life cycle of IHI products from manufacture to disposal.

To achieve this, the Group broadly divides chemical substances into those used at offices and plants and those contained in products and it performs management appropriate for each.

Chemical Substance Management at Offices and Plants

The IHI Group complies with laws and regulations relating to chemical substance management and gains accurate grasp and understanding of the properties and hazard information of chemical substances used to ensure worker safety and prevent environmental pollution.

In accordance with the Act on Pollutant Release and Transfer Register (PRTR Act) administered by the Ministry of Economy, Trade and Industry, the Group appropriately determines the amount of emissions of specified chemical substances into the air, public waters, and soil and amounts discharged to sewers and waste and provides proper notifications to the national government via prefectural governments. In addition, the Group determines and properly complies with laws and regulations relating to chemical substances including the Air Pollution Control Act and local ordinances where its offices and plants are located.

To ensure worker safety at offices and plants, the IHI Group obtains and maintains Safety Data Sheets (SDS), determines hazard information and optimal handling, and manages chemical substances appropriately according to their properties. In addition, the Group prepared an operational management manual that covers the series of processes from purchasing and receiving to use, storage, and disposal to prevent soil, water, and atmospheric

pollution caused by leaks of chemical substances (environmental accidents). The Group also conducts emergency response training and makes periodic capital investment to update aging facilities.

In parallel with these measures, the Group also participates in follow-ups to voluntary efforts to reduce VOC emissions as a member company of the Japan Society of Industrial Machinery Manufacturers. The Group is also working to reduce atmospheric emissions by determining the amounts handled and released of substances subject to voluntary control other than those covered by the PRTR Act and by investigating and implementing measures such as switching to paint with low VOC content and improving paint management methods during painting processes.

Management of Chemical Substances Contained in Products

The IHI Group established the Basic Policy on Chemical Information Management and manages chemical substances contained in products.

To minimize the impact of Group products and services on human health and the environment, the Group obtains information about the chemical substances contained in materials, parts, etc. throughout the supply chain and confirms whether any chemicals are prohibited or exceed acceptable levels.

Conservation of the Global Environment (Pollution Prevention and Biodiversity Conservation)

Toxic Waste (Waste Containing PCB)

The IHI Group is furthering its response to properly dispose of hazardous polychlorinated biphenyls (PCBs) waste by organizing a specialized team led by the head office.

As of March 31, 2024, the Group has successfully disposed of 100% of electrical equipment containing high-concentration PCBs and 94.9% of electrical equipment containing low-concentration PCBs. For fluorescent lamp, 83.7% processing has been completed.

Environmental Risk Monitoring

IHI Group Head Office personnel visit offices and plants and perform environmental risk monitoring to check whether on-site measures are being implemented to prevent water, soil, and air pollution and whether management systems for chemical substances, waste, and so on have been established.

In fiscal 2023, audits were conducted at nine sites. The audits did not identify any major problems, but minor issues were found and promptly corrected, and the Group has confirmed that there are currently no problems with environmental management systems.

Biodiversity

IHI believes that it is important to enable sustainable use of natural resources while conducting business. The Group is fully aware of the impact of its business on natural resources and is working to establish a circular economy, conserve the global environment, and take measures against climate change, which has a major effect on biodiversity.

The Group has been participating in the 30by30 Alliance for Biodiversity of the Ministry of the Environment since May 2024.



Biodiversity Conservation Initiatives in Each Business Process

Business process	Initiatives	Reference
Raw material procurement	<ul style="list-style-type: none"> Incorporating biodiversity conservation into the IHI Group Code of Conduct for Business Partners 	<p>P.80 Supply Chain Management</p> <p>web IHI Group Procurement Policy</p>
Production/Processing	<ul style="list-style-type: none"> Energy conservation activities, use of low-carbon energy in production Wastewater management based on environmental laws and regulations Reducing water consumption by monitoring water withdrawal 	<p>P.21 Climate Change</p> <p>P.32 Conservation of the Global Environment (Pollution Prevention and Biodiversity Conservation)</p> <p>P.37 Circular Economy</p>
Logistics	<ul style="list-style-type: none"> Improving loading efficiency and promoting modal shift through the active use of ships 	<p>P.21 Climate Change</p>
Retail	<ul style="list-style-type: none"> Product sales that contribute to achieving carbon neutrality 	<p>P.40 Reduction of the Environmental Impact of Products and Services</p>
Maintenance/Disposal/Recycling	<ul style="list-style-type: none"> Development of lifecycle businesses leading to energy and resource conservation as well as product longevity 	<p>P.4 Medium-term Management Plan</p>
Land usage and development	<ul style="list-style-type: none"> Using the ESG Checklist to screen investment projects pertaining to land use and development 	—
Land management	<ul style="list-style-type: none"> Monitoring and the conservation of biodiversity of holdings and in surrounding areas 	<p>P.32 Conservation of the Global Environment (Pollution Prevention and Biodiversity Conservation)</p> <p>P.84 Corporate Citizenship</p>
Research & Development/Innovation	<ul style="list-style-type: none"> Shortening development periods by the introduction of model-based development Focusing on technological development in the clean energy field 	<p>P.116 Innovation Management</p>
Fundraising	<ul style="list-style-type: none"> Allocating funds raised through transitional bonds 	<p>web Sustainable Finance</p>

Conservation of the Global Environment (Pollution Prevention and Biodiversity Conservation)

Metrics and Targets

Compliance with Environmental Laws and Regulations

The IHI Group properly investigates any environmental accident that occurs on a Group site and evaluates the severity and underlying factors to reduce environmental accidents and legal violations as well as to prevent recurrence.

In fiscal 2023, the IHI Group had no major environmental accidents or legal violations affecting management.

Targets and Results of Major Laws/Regulations Violations and Environmental Accidents (IHI Group Environmental Action Plan 2023 [FY2023–2025])

(Unit: Incidents, Scope: IHI and consolidated subsidiaries)

Action Plan	Target	KPI	FY2023 Results
Conservation of the global environment	Zero environmental accidents and environmental law violations	Number of environmental accidents and environmental law violations	0

Number of Environmental Accidents and Violations of Law

(Unit: Incidents, Scope: IHI and consolidated subsidiaries)

Item	FY2020	FY2021	FY2022	FY2023
Significant environmental accidents	0	0	0	0
Major violation of environmental laws/regulations	0	0	0	0
Number of cases in which IHI paid fines, penalties, etc.	0	0	0	0

Ozone Depleting Substances Emissions

(Unit: t-CO₂e, Scope: IHI and affiliated companies in Japan)

Item	FY2020	FY2021	FY2022	FY2023
HFCs	—	—	469	281

Volatile Organic Compounds Emissions

(Unit: Tons, Scope: IHI and affiliated companies in Japan)

Item	FY2020	FY2021	FY2022	FY2023
Toluene	—	39	48	48
Xylene	—	29	59	50
Ethylbenzene	—	6	37	39
Methyl isobutyl ketone	—	0	0	4
Tetrachloroethylene	—	2	2	2

Ratio of Treated Toxic Waste (Waste Containing PCBs)

(Unit: %, Scope: IHI and affiliated companies in Japan)

Item	FY2020	FY2021	FY2022	FY2023
Electrical equipment containing high-concentration PCBs	99.7	99.9	100	100
Electrical equipment containing low-concentration PCBs	98.1	94.0	97.5	94.9
Fluorescent lamps	44.5	58.8	69.5	83.7

Chemical Substance Emissions/Substances Transferred

(Unit: Tons, Scope: IHI and affiliated companies in Japan)

Item	FY2020	FY2021	FY2022	FY2023
Emissions (atmosphere, public bodies of water, soil)	—	—	152	150
Transferred amount (sewage, waste)	—	—	85	93

Conservation of the Global Environment (Pollution Prevention and Biodiversity Conservation)

Initiatives

Biodiversity Conservation

Environmental Conservation of Agricultural Waterways in the Echi River Basin in Higashiomi City (IHI and IHI Construction Service)

IHI and IHI Construction Service (IIC) are involved in water management for agricultural waterways in the Echi River basin, which flows near the IIC Shiga Plant (Higashiomi City, Shiga Prefecture), and conduct environmental conservation activities in the surrounding river basin. Cleaning the agricultural waterways and improving the environment has also led to improved habitats for Biwa trout and sweetfish, species that are endemic to the Aichi River, where the water drains.

(GBF Target 1: Plan and Manage all Areas To Reduce Biodiversity Loss)

[web](#) **Sustainability Activities**

Cooperation with Tokyo Bay Eelgrass Field Restoration Activities (IHI Yokohama Office)

Since 2008, the IHI Yokohama Office has been participating in eelgrass field restoration activities sponsored by the Amamo Revival Collaboration in Kanazawa-Hakkei, Tokyo Bay Area together with neighboring companies. Eelgrass field restoration is a program that involves collecting eelgrass seeds, growing them, and then planting them in the sea to expand eelgrass fields. Eelgrass is referred to as the “cradle of the sea” and contributes to biodiversity by providing hiding places for small fish and fixing CO₂ through photosynthesis.

(GBF Target 8: Minimize the Impacts of Climate Change on Biodiversity and Build Resilience)

[web](#) **Sustainability Activities**

Conservation of the Sugita Plum, a Native Species (IHI Yokohama Office)

The IHI Yokohama Office conducts conservation activities to protect the Sugita plum tree, a species native to the Sugita district of Isogo Ward in Yokohama City, Kanagawa Prefecture, where the office is located. The office used a vacant area of about 3,000 square meters located on the premises to plant Sugita plum seedlings in January 2023, which have grown into about 30 young trees. In February 2024, some of these young trees already bloomed, just one year after being planted.

(GBF Target 4: Halt Species Extinction, Protect Genetic Diversity, and Manage Human-Wildlife Conflicts)

[web](#) **Sustainability Activities**

Biodiversity Habitat Disclosure (IHI Aioi Office)

The IHI Aioi Office is located in a rich natural environment surrounded by the Aioi Bay and mountain forests. Green spaces make up approximately 70% of the site's area, and the biodiversity potential of those areas was confirmed through surveys of the flora and fauna and green infrastructure development. The site has been certified as a wildlife coexistence business establishment by the Association for Business Innovation in Harmony with Nature and Community (ABINC) since fiscal 2018 (the sixth time).

(GBF Target 2: Restore 30% of all Degraded Ecosystems)

Circular Economy

Approach

The IHI Group positions the creation of a circular economy as one of its main environmental issues, and strives to reduce waste emissions and water consumption, improve resource efficiency, and reduce environmental impact.

Governance

The IHI Group deliberates and decides on the approach and important matters of establishing a circular economy through the Environment Committee, a Group-wide body. Each office, plant, and business establishment has set up an Environment Committee to draft policies tailored to the needs of each region based on Group-wide policy.

P.11 Sustainability Management

P.17 Environmental Management—Governance

Strategy

The IHI Group aims to create a resource-recycling-oriented society thereby helping drive the transition to a circular economy. Therefore, in its business activities, the Group is working to reduce waste emissions through the 3Rs (reduce, reuse, recycle) and to reduce water withdrawal and water consumption. Also, in addition to providing resource-efficient products using minimal quantities of resource input and consumption, the Group is working to expand its business of providing comprehensive services that include reuse, repair and maintenance throughout the entire product life cycle.

P.17 Environmental Management—Strategy

Circular Economy

Risk Management

Waste

The IHI Group strives to reduce waste emissions by improving the yield of raw materials in plant production and improving recycling rates through careful separation. In addition, in order to promote the transition to a circular economy, the Group is working to develop designs that take into consideration the effective use of social stock in the cycles of raw material procurement, plant production, and product use, and to expand services that allow products to continue to be used for a long time.

Additionally, to ensure that all waste is disposed of properly, the Group's waste management initiatives also review collection, transportation, and waste disposal contracts, verify final disposal through digital manifests, and confirm circumstances on-site at intermediate and final waste disposal sites.

Cooperation with Third Parties to Reduce Waste Emissions

The IHI Group works with expert consultants to operate a waste management system to reduce waste emissions at its plants and offices and ensure compliance with laws and regulations. In addition to a detailed understanding of quantities of waste by type, the Group ensures compliance with laws and regulations and reduces waste emissions by checking interim treatment contracts and contract periods.

Similarly, the Group regularly entrusts specialized consultants with group training for waste management personnel at offices, plants, and affiliated companies, where they learn about legal and regulatory requirements and case studies of legal and regulatory violations.

Water Resources

The IHI Group primarily uses public and industrial water as water resources. In regions with abundant underground and river water resources, the Group uses these resources in combination with public water carefully to reduce its risk of obstruction to stable water withdrawal. Therefore, each office and plant considers the water quality and quantity necessary for its use and chooses the best resource to withdrawal water.

In some plants where river water is available in abundance, river water is used instead of tap water as cooling water for heat treatment furnaces, etc. When draining water, heat exchangers are used to avoid pollution risks during water discharge.

Also, the Group is also working with local governments to consider products and services that contribute to the effective use of agricultural water and other water resources.

Water Risks Survey

The IHI Group conducted a survey of water-stressed regions using the World Resource Institute's Aqueduct Water Risk Atlas, a global water risk map, targeting consolidated affiliate companies that collect environmental information.

Of the 73 locations surveyed, six locations (8.2%) were in areas classified as High Risk or higher. Based on the survey results, the Group will consider measures at sites classified as High Risk or higher and implement water risk management.

Specific Activities to Reduce Water Consumption

In order to reduce water consumption, the IHI Group re-uses tertiary treated water instead of city water for sprinklers on its grounds to the extent possible, and reuses wastewater in painting and cleaning processes. At the head office building, gray water made from recycled kitchen wastewater and other gray water is used to flush the toilets.

In addition, as a Group-wide environmental activity goal, the Group has set a 1% reduction in water withdrawal at each site compared to the previous fiscal year, and the Group is managing the monthly water withdrawal at each environmental management center by graphing it and comparing it over time. Monitoring the monthly changes in water withdrawal leads to early detection of any leakage.

Circular Economy

Metrics and Targets

Waste Emissions and Water Withdrawal Targets and Results
(IHI Group Environmental Action Plan 2023 [FY2023–2025])

(Scope: IHI and consolidated subsidiaries)

Action Plan	Target	KPI	FY2022 Results (Base Year)	FY2023 Results*	
					Status of Achievement
Circular economy	Reduce waste emissions by 3% or more in FY2025 from that in FY2022	Waste emissions (tons)	23,044	25,410	10.3% increase
	Review the definition of recycling rate and determine the amount of final waste disposal (more than 90 wt% of all waste)	Recycling rate (%)	—	The definition of recycling rate was revised and finalized (FY2023 target)	
	Reduce water withdrawal by 3% or more in FY2025 from that in FY2022	Water withdrawal (1,000 m ³)	4,037	5,844	44.8% increase

* Waste emissions and water withdrawal increased due to temporary changes in production processes at overseas sites.

Waste Emissions and Water Withdrawal/Waste Water

(Scope: IHI and consolidated subsidiaries)

Item		FY2020	FY2021	FY2022		FY2023	
					Third-party Verification		Third-party Verification
Waste	Waste emissions (tons)	20,912	23,633	23,044	○	25,410	○
	Of which, toxic waste emissions (tons)	182	255	156	○ (Domestic only)	128	○ (Domestic only)
	Amount of valuable materials (recycled) (tons)	15,067	16,164	17,869	○	15,219	○
Water	Water withdrawal (1,000 m ³)*	4,008	4,195	4,037	○	5,844	○
	Public water (1,000 m ³)	651	664	670		2,326	
	Industrial water (1,000 m ³)	799	792	737		738	
	Groundwater (1,000 m ³)	1,731	1,691	1,451		1,506	
	Rainwater, rivers, lakes, etc. (1,000 m ³)	827	1,047	1,180		1,274	
	Waste water (1,000 m ³)	3,373	3,265	3,181	○	4,856	○

* The total value for each item is rounded off and may not match the figures in the breakdown.

Third-party Verification of Data


No.1811004815

Environmental Information
Independent Verification Report

To: IHI Corporation

1. Objective and Scope

Japan Quality Assurance Organization (hereafter, "JQA") was engaged by IHI Corporation (hereafter, "the Company") to provide an independent verification on "FY2023 IHI Group Environmental Data" (hereafter, "the Report"). The content of our verification was to express our conclusion, based on our verification procedures, on whether the statement of information regarding GHG emissions, energy consumption, renewable energy consumption, total water withdrawal, total water discharge and waste discharge (hereafter, "the Environmental Information") in the Report was correctly measured and calculated, in accordance with the "FY2023* IHI Group Environmental Information Collection and Calculation Rule" (hereafter, "the Rule"). The purpose of the verification is to evaluate the Report objectively and to enhance the credibility of the Environmental Information.

*The fiscal year 2023 of the Company ended on March 31, 2024.

2. Procedures Performed

JQA conducted verification in accordance with "ISO 14064-3" for GHG emissions, and with "ISAE3000" for energy consumption, renewable energy consumption, total water withdrawal, total water discharge and waste discharge respectively. The organizational boundaries of this verification include sixty domestic sites and thirteen overseas sites of the IHI Group. The scope of this verification assignment covers Scope 1 & 2 (Market-based) GHG emissions, energy consumption, renewable energy consumption, total water withdrawal, total water discharge, general waste discharge, industrial waste discharge, hazardous waste discharge and valuables for domestic sites, and Scope 1 & 2 (Country location-based) CO₂ emissions, energy consumption, renewable energy consumption, total water withdrawal, total water discharge, waste discharge and valuables for overseas sites. The verification was conducted to a limited level of assurance and quantitative materiality was set at 5 percent of each subject of the Environmental Information in the Report.

Our verification procedures include:

- Confirming the Rule and overall control prior to the on-site assessment.
- Conducting on-site verification at the Company's three domestic sites: IHI Corporation Toyosu IHI Building, Toyosu Energy Service Co., Ltd. and IHI Agri-Tech Corporation Matsumoto Head Office. The location of sampling sites for on-site assessment was selected by the Company.
- On-site assessment to check the Reports' scope and boundaries; monitoring points of energy consumption, renewable energy consumption, water withdrawal and discharge; GHG emission sources; waste discharge; and monitoring and calculation system.
- Vouching: Cross-checking the activity data against evidence.

3. Conclusion

Based on the procedures described above, nothing has come to our attention that has caused us to believe that the Environmental Information in the Report is not materially correct or has not been prepared in accordance with the Rule.

4. Considerations

The Company was responsible for preparing the Report, and JQA's responsibility was to conduct verification of the Environmental Information in the Report only. There is no conflict of interest between the Company and JQA.

Sumio Asada, Board Director
 For and on behalf of Japan Quality Assurance Organization
 1-25, Kandasudacho, Chiyoda-ku, Tokyo, Japan
 August 1, 2024

Reduction of the Environmental Impact of Products and Services

Approach

In order to resolve social issues through our business, the IHI Group provides society with products and services that help conserve the global environment and reduce environmental burdens. The Group manages a system to certify products and services that are particularly outstanding among those contributing to conservation of the global environment and reducing environmental impact as environmentally-friendly products.

Moreover, as classification methods such as the EU taxonomy are currently being developed, the Group is also reviewing its scheme for certifying environmentally-friendly products.

Governance

P.11 Sustainability Management

P.17 Environmental Management—Governance

Strategy

The IHI Group has established an Environmentally-friendly Products Certification Scheme to promote environmental consideration at each stage of a product's life cycle and to provide products and services with even higher environmental performance.

P.17 Environmental Management—Strategy

Risk Management

Environmentally-friendly Products Certification Scheme

IHI's Environment Committee examines the environmental performance of products and services, certifying those that are especially outstanding as an environmentally-friendly product. These reviews evaluate whether environmental considerations have been incorporated at each stage of a product's life cycle (research and development, design, procurement, manufacturing, use, service, and disposal).

● Certification Process of Environmentally-friendly Products

Propose certification plan for products and services

Evaluate environmental impact of products and services



Energy efficiency

Enhance energy efficiency, recover and use exhaust energy, and level the energy load



Reduced GHG emissions

Reduce, absorb, capture, store, and break down greenhouse gas emissions, generate renewable energy, and reduce fluorocarbons



Resource saving

Reduce and recycle natural resources necessary during manufacture, use, and maintenance



Reduced environmental risks

Reduce waste, air, water, soil, noise, vibration, ground subsidence, and odor pollution as well as monitor and measure environmental protection data



Biodiversity protection

Evaluate biomass resources and adapt installations to each location

Assessment and certification (IHI Environment Committee)

Initiatives

Environmentally-friendly Products

Products and services certified as environmentally-friendly are listed in the following table.

● Certified Products

Products and services

- Intake facility (Selective water withdrawal facility)
- LRT (Light Rail Transit)
- New Transit System
- Active Noise Control System
- Silencer/Enclosure
- Noise/Vibration Consultation
- Energy-saving Parking System NPC24H
Tachikawa Midori-cho No.2 Parking Lot
- IHI IC Reactor
- LNG Smart Satellite
- Industrial photovoltaic power system
- Technology for cleaning, chipping, and cutting surfaces without using water
- Cycles Management System
- Turbochargers for Vehicles
- IWW-34C Vacuum Degreaser
- Toyosu Foresia Environmentally-friendly Building