

# 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 reuses 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 <sup>3</sup> )	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 <sup>3</sup> )*	4,008	4,195	4,037	○	5,844	○
	Public water (1,000 m <sup>3</sup> )	651	664	670		2,326	
	Industrial water (1,000 m <sup>3</sup> )	799	792	737		738	
	Groundwater (1,000 m <sup>3</sup> )	1,731	1,691	1,451		1,506	
	Rainwater, rivers, lakes, etc. (1,000 m <sup>3</sup> )	827	1,047	1,180		1,274	
Waste water (1,000 m <sup>3</sup> )	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

JQA		No.1811004815
<b>Environmental Information Independent Verification Report</b>		
<b>To: IHI Corporation</b>		
<b>1. Objective and Scope</b>		
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.		
<b>2. Procedures Performed</b>		
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) CO <sub>2</sub> 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:		
<ul style="list-style-type: none"> <li>Confirming the Rule and overall control prior to the on-site assessment.</li> <li>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.</li> <li>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.</li> <li>Vouching: Cross-checking the activity data against evidence.</li> </ul>		
<b>3. Conclusion</b>		
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.		
<b>4. Considerations</b>		
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		