SHIMADZU
Excellence in Science

The 2nd Shimadzu Group Sustainability Management Briefing - Environmental Management -

December 11, 2025

Shimadzu Corporation

Agenda

1. Responsible Environmental Initiatives as a Member of Society

Speaker: Watanabe

2. Addressing Environmental Challenges Through Our Businesses

Speaker: Miyagawa

3. The Potential of Our Environmental Management

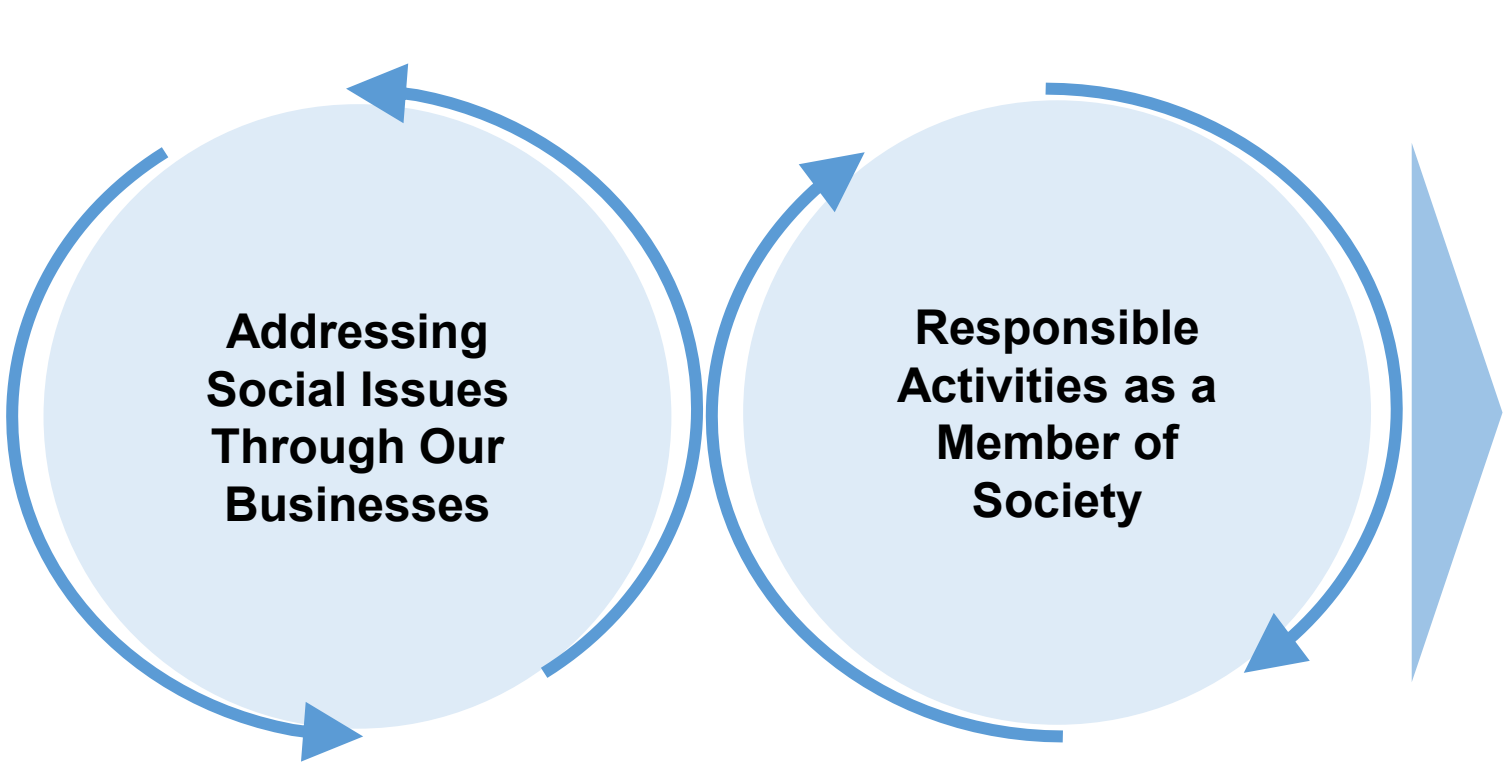
Speaker: Kitano

4. Q&A Session

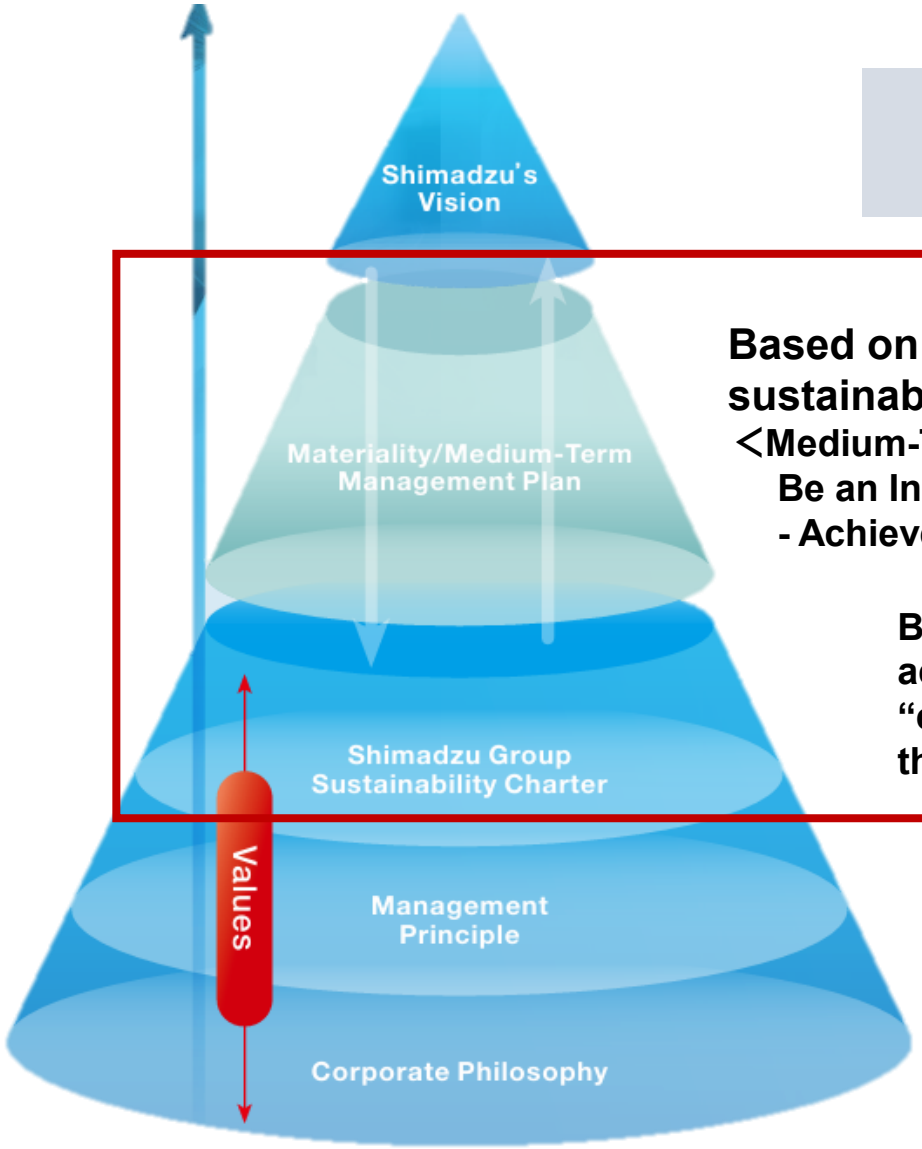
Respondents: Watanabe, Miyagawa, Kitano

Our Approach to Sustainability Management

- Through both "**addressing societal challenges through our businesses**" and "**undertaking responsible activities as a member of society**," we aim to advance sustainability for **(1) the global environment and society, (2) the Shimadzu Group, and (3) our employees**.



The Future Vision of Shimadzu



Pursuing Planetary Health
(the Well-being of Mankind and the Earth)

Based on the Shimadzu Group Sustainability Charter, we address our material sustainability issues through our Medium-Term Management Plan.
＜Medium-Term Management Plan＞
Be an Innovative Company that Solves Social Issues with Global Partners
- Achieve Sustainable Growth by Technology Development & Social Implementation -

By striving for harmony with the Earth, society, and people, we conduct our corporate activities through both "solving social issues through our business operations" and "engaging in responsible activities as a member of society," thereby contributing to the creation of a brighter future.

Realizing Our Wishes for the Well-Being of Mankind and the Earth

Contributing to Society through Science and Technology

Materiality Assessment

- We identify material issues from a wide range of societal challenges and drive our sustainability management accordingly.

Diverse Societal Challenges

Risks and Opportunities

Positioning Societal Challenges as Opportunities for Improvement and Business Growth

Regulatory Requirements (Hard Law)

- International treaties
- Laws and regulations in Japan and overseas

Societal Expectations (Soft Law)

- ESG assessments from customers
- Disclosure of sustainability-related information

Approaches to addressing societal challenges

Materiality	Business Contribution Themes	Foundational Themes
Environment	1. Well-being of the Earth	
Society	2. Human Life and Well-being	
	3. Industrial Development and a Safe and Secure Society	
	4. Progress and Advancements in Science and Technology	
		5. Improving Development and Manufacturing Capabilities
		6. Developing Human Resources
Governance		7. Reinforcing Corporate Governance

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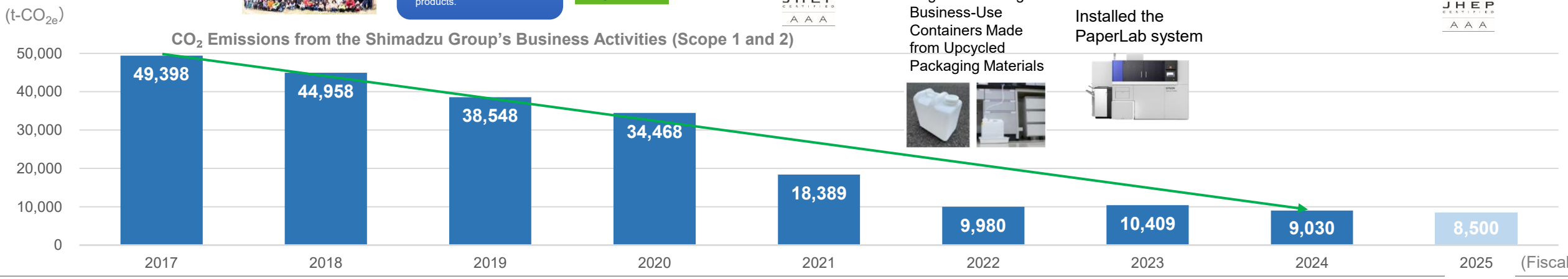
Shimadzu Group Evolution of Environmental Management

- With fiscal 2017 as the baseline year, the Shimadzu Group has promoted the adoption of renewable energy (RE100 membership) and initiatives aligned with the 1.5°C climate target (SBT certification).
- Through the **expansion of renewable energy use** and continuous **energy-saving efforts**, CO_2 emissions from our business activities in 2024 were **reduced by more than 80%** relative to 2017.

Fiscal	2017	2018	2019	2020	2021	2022	2023	2024	2025
	Baseline Year for CO_2 Emissions	Reorganized into Global Environmental Management Department	Endorsement of the TCFD Recommendations and Disclosure	SBT Certification	**Joined RE100 and Initiated Renewable Energy Adoption**	Declared a Goal of Net-Zero Carbon Emissions by 2050	TNFD-Aligned Disclosure	Registered as a TNFD Adopter	"Shimadzu Forest" Registered as an OECM (Other Effective Area-Based Conservation Measure) Nationally Certified Sustainably Managed Natural Site
	- Compliance with environmental laws and regulations, and management of ISO 14001 (core mission) - Additionally, initiated business development in the environmental and energy fields, including the development of environmentally conscious products and the promotion of their sales	10th Anniversary of the "Shimadzu Forest" Initiative	Started Implementing Eco-Design for All New Products	Certified as an Eco-First Company	First Renewal of JHEP Certification for "Shimadzu Forest"	**Certified as Aligned with the SBT 1.5°C Target**	"Shimadzu Forest" Registered in the 30by30 Alliance for Biodiversity	Ranked 4th in the Nikkei GX500 Index	JHEP Certification for "Shimadzu Forest" Renewed for the Second Time
			Energy efficiency, reduction, reuse, and recycling became mandatory considerations in the development of all new products.			Began Producing Business-Use Containers Made from Upcycled Packaging Materials	Installed the PaperLab system		



Shimadzu Group Environmental Management Policy

Aiming to Achieve Environmentally Aligned Business Growth while Enhancing Corporate Value

Toward Lower GHG Emissions

- Building a Decarbonized Society
- Transitioning to a Circular Economy
- Conserving Biodiversity

Environmentally Aligned Business Activities

Resource Circulation (Waste Paper)

Use of Recovered Energy

Resource Circulation (Waste Plastics)

Energy Efficiency Initiatives

Shimadzu Forest Conservation Activities

Contributing to Business Growth Through Solving Societal Challenges

Hydrogen Gas Impurity Analysis (New Energy Development)

Eco-Products Plus (Energy Savings for Customers' Operations)

Plastic Analyzer (Waste Plastic Recycling)

GHG Analyzer (For GHG Reduction in Agriculture and Related Fields)

Refresh of Testing Machines (Reuse)

Building a Decarbonized Society

- We are committed to reducing CO_2 emissions, expanding the use of renewable energy, and developing environmentally conscious products.

Shimadzu Group Medium- to Long-Term CO_2 Emission Reduction Targets

Year 2050
- Achieve **net-zero** CO_2 emissions from business activities (**Scope 1** and **2**)
- Increase renewable electricity usage to 100%

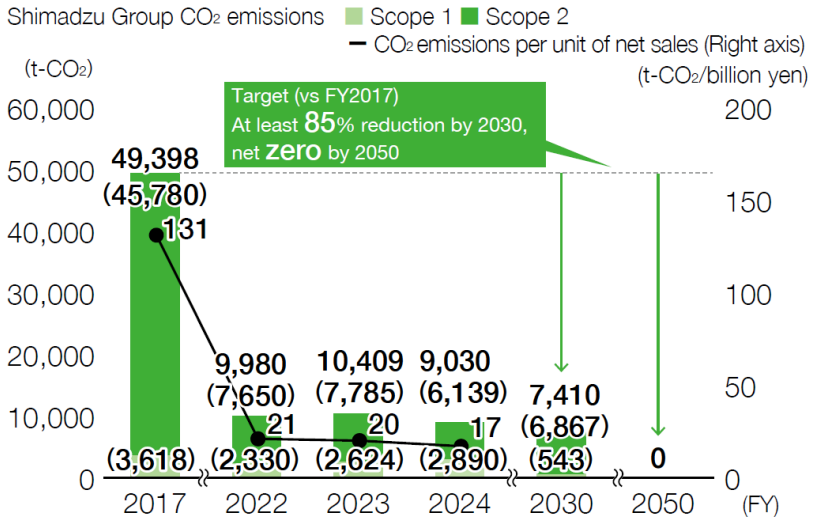
Year 2040
- Reduce CO_2 emissions from business activities **by 90% or more compared with fiscal 2017**

Year 2030
- Reduce CO_2 emissions from business activities **by 85% or more compared with fiscal 2017**
- Reduce CO_2 emissions **in the product use phase** by 30% or more compared with fiscal 2020

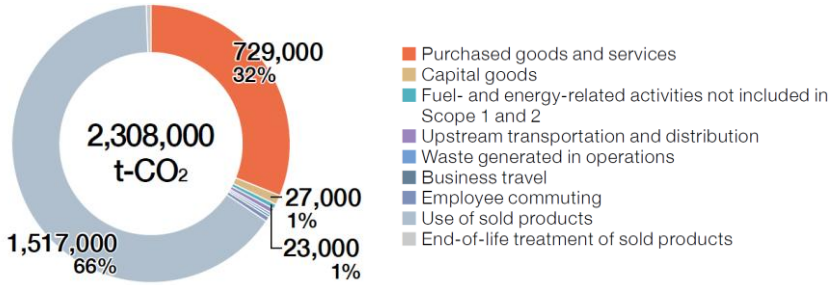
Initiatives for Achieving the Targets

- Promoting energy efficiency
- Introducing renewable energy
- Developing environmentally conscious products
- Internally certifying such products that demonstrate strong environmental performance
- Acquiring external environmental certification labels*

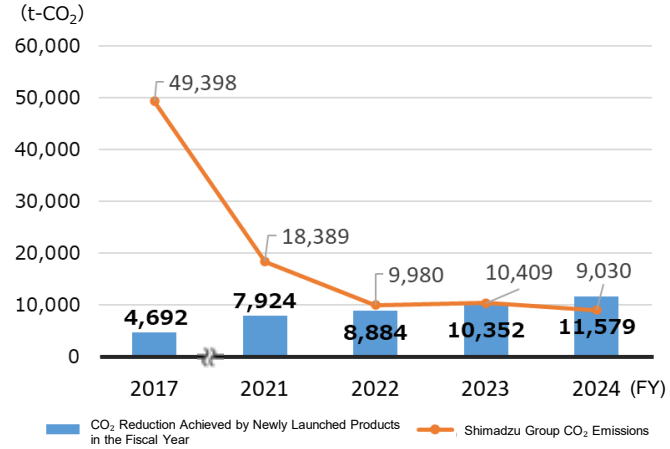
Energy-related CO_2 Emissions (Shimadzu Group Worldwide) (Scope 1 and 2)



Greenhouse Gas Emissions in the Entire Supply Chain (Scope 3, Fiscal 2024)



Shimadzu Group CO_2 Emissions and Reduction Contributions



* Evaluated based on criteria that quantify environmental impacts—such as the use of renewable energy in manufacturing laboratory products and the electricity and water consumption during product use.

Transition to a Circular Economy

- To support the transition to a circular economy, we are actively promoting product lifecycle extension and resource circulation within our manufacturing processes.

Testing Machine Refresh (Extending service life with controller-only upgrades)

- Retains the existing instrument frame while upgrading to the latest control unit, thereby enhancing functionality.
- Achieves significant CO_2 emission reductions compared with full equipment replacement.

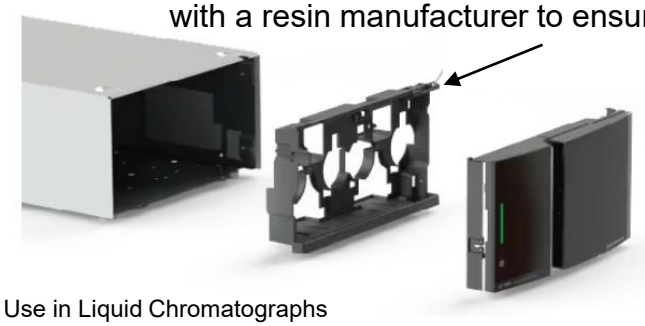
Reducing Environmental Impact by Using Sustainable Materials

- Promoting a circular society through the use of recycled and bio-based materials

Application Examples:

- Liquid Chromatographs
  ⇒ Cellulose fiber composite materials
- UV–Vis Spectrophotometers
  ⇒ Recycled PC/ABS used for exterior components
- Turbomolecular Pumps
  ⇒ Biomass-blended plastics for intake/exhaust protective caps

These resin components represent the first use of such materials in the analytical instrument industry, (co-developed with a resin manufacturer to ensure heat resistance.)



Example: Use in Liquid Chromatographs

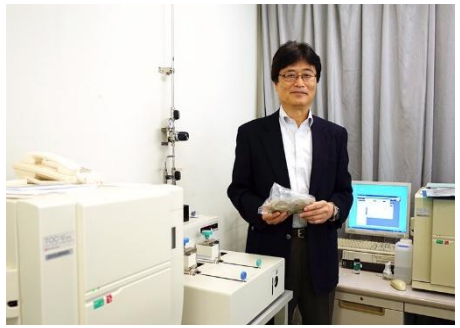
Biodiversity Conservation

- At “Shimadzu Forest,” located at the Headquarters/Sanjo Works, we maintain native plant species to conserve and enhance biodiversity.
- In March 2025, Shimadzu Forest was certified by Japan’s Ministry of the Environment as a “Nationally Certified Sustainably Managed Natural Site.” In May, the Forest’s highest AAA rating was renewed under the Japan Habitat Evaluation and Certification Program (JHEP). In August, the Forest was registered as an OECM in the global database.

Shimadzu Forest

1. Building a Sustainable Forest Through Science and Technology

For soil management, we have adopted the SOFIX (Soil Fertility Index) method developed by Professor Kubo of Ritsumeikan University. Our TOC analyzers are used for carbon measurement.



2. Certifications and Evaluations of Shimadzu Forest

OECM: Other Effective Area-based Conservation Measures — areas outside formal protected zones that contribute to biodiversity conservation.

3. Creating an Environment Where Native Species Can Live, Reproduce, and Obtain Food

The cultivation of native plants and the presence of habitats that attract native species have been validated using objective, quantitative assessments.

Futaba-aoi (Asarum caulescens)

Kikutani-giku Chrysanthemum

Chestnut Tiger Butterfly

Siberian Ruby-throat

4. Biodiversity Initiatives for Local Communities and Future Generations

Through the Shimadzu Group environmental activity team “Eco Club,” we conduct environmental outreach classes, primarily for elementary school students in Kyoto.

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Shimadzu's Strength Developed Over 150 Years

Our Role as an Innovative Partner

An innovative partner that continuously creates and further develops high-value products together with customers, leveraging our accumulated technologies and development capabilities to address societal challenges.

Creating Products through Accumulated Technologies and Development Capabilities
Consistently meeting customer needs and delivering satisfaction

Further Developing Products by Delivering Solutions that Address Societal Needs
Solving societal challenges by delivering not only products but end-to-end solutions that address evolving customer needs

Addressing Environmental Challenges Through Our Business Activities

Environmental Societal Challenges	As an Innovative Partner — Positioning Societal and Customer Challenges as Business Opportunities		Specific Business Initiatives
	<Key Themes>	<Strategic Themes>	
 **Climate Change**	Decarbonization & Climate Change Mitigation	Utilizing Next-Generation Energy Sources such as Renewables and Hydrogen	◆ Managing hydrogen purity using gas chromatographs ◆ Component testing for wind power facilities using precision universal testing machines  Gas Chromatograph  Precision Universal Testing Machine
		Advancing Biomanufacturing	◆ Analysis of metabolites produced by beneficial microorganisms using GCMS systems  Gas Chromatograph Mass Spectrometer (GCMS)
		Reducing Greenhouse Gas Emissions	◆ Measuring methane and CO_2 emissions in agricultural fields using greenhouse gas analyzers  Greenhouse Gas Analyzer
 **Environmental Pollution Issues**	Compliance with Environmental Regulations (e.g., PFAS, Microplastics)	Establishing and Complying with Environmental Regulations	◆ Measuring PFAS concentrations in drinking water using LCMS systems  Liquid Chromatograph Mass Spectrometer (LCMS)  Microplastic Automatic Preparation Device

Accelerating the Green Transformation (GX) of Agriculture Through High-Speed, High-Precision Greenhouse Gas Analysis

Greenhouse Gas Analyzer

Market Needs

- Among greenhouse gases, CO_2 has the highest emissions volume, followed by methane. **Methane's warming potential is more than 20 times that of CO_2.**[*1]
- Agricultural activities, particularly rice cultivation, account for **more than half of Japan's methane emissions**.[*2]
- With paddy field expansion in Africa and wider adoption of carbon credit systems, **demand is growing for measurement solutions that can quantify emission reduction outcomes (market size in 2024: approx. $540M, CAGR approx. 9%[*2])**.

Our Initiatives

- Released the "Greenhouse Gas Analyzer" in May 2024, enabling simultaneous measurement of greenhouse gases—a capability that was previously difficult to achieve.[*3]
- Contributing to agricultural research that aims at increasing soil uptake of greenhouse gases and reduce emissions through soil amendments and beneficial soil microorganisms.

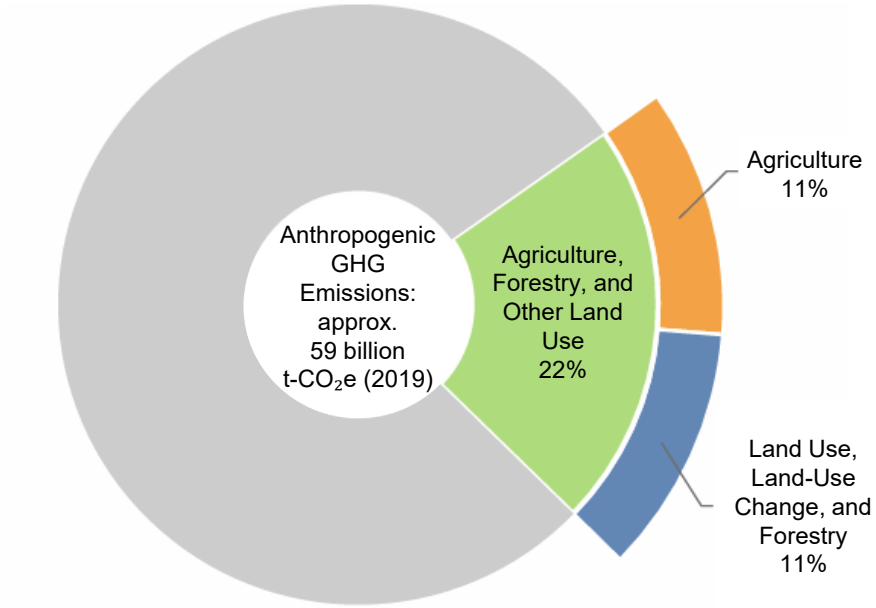
Social Impact

- **Estimated CO_2 reduction of approx. 3,000 tons per year for each system** (equivalent to the annual emissions of about 600 gasoline cars)
  * Our estimate based on the assumption that users can reduce emissions by identifying and implementing effective measures early through the use of this system.

*1 Source: Greenhouse Gas Inventory Office of Japan (GIO)
*2 Source: Global High-Precision Greenhouse Gas Analyzer Market Research Report 2025
*3 This system was co-developed with the National Agriculture and Food Research Organization (NARO).

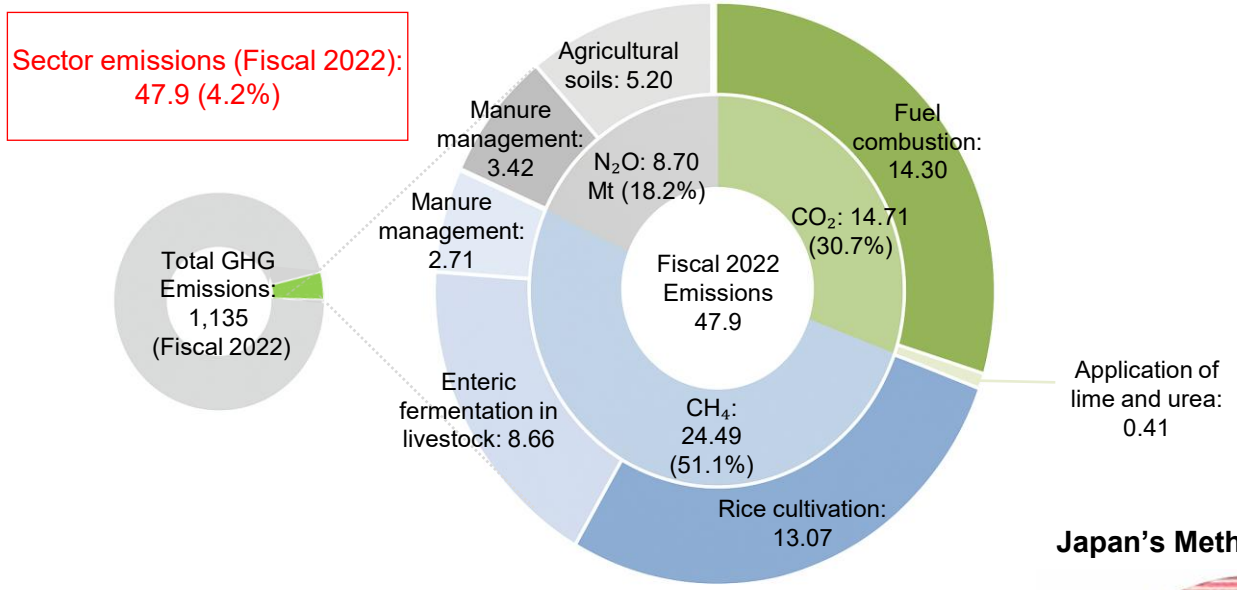
Greenhouse Gas (GHG) Emissions Related to Rice Cultivation

GHG Emissions from Global Agriculture and Forestry*1



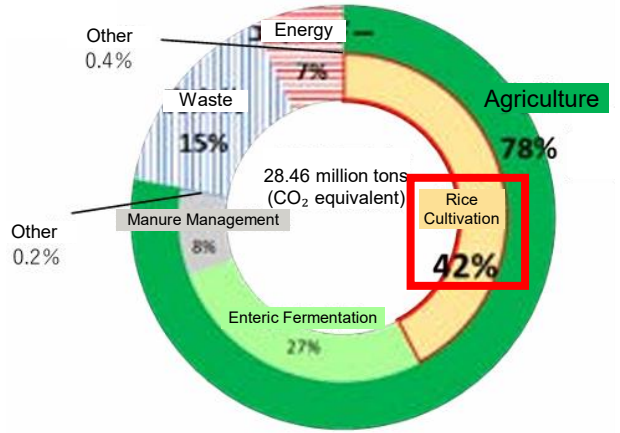
* "Agriculture" includes emissions from rice cultivation, livestock, and fertilizer application, but excludes emissions from fuel combustion.

GHG Emissions from Japan's Agriculture, Forestry, and Fisheries Sector*1



Unit: million t-CO_2e
* CH_4 and N_2O have 28× and 300× the greenhouse effect of CO_2, respectively.

Japan's Methane Emissions*2

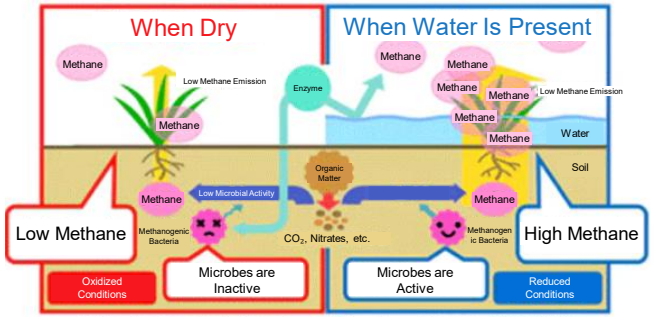


*1 Ministry of Agriculture, Forestry and Fisheries (MAFF), Progress and Outlook of Climate Change Countermeasures in the Agriculture, Forestry and Fisheries Sector, September 2024
*2 MAFF, Climate Change Measures in the Agriculture Sector, January 2024

Reducing GHG Emissions from Rice Farming Through Joint Research with NARO

Solving Customers' Research Challenges → **Solving the Challenges of Customers Working to Address Societal Challenges** → **Solving Societal Challenges**

Dr. Shigeto Sudo, National Agriculture and Food Research Organization (NARO)



Mechanism of Greenhouse Gas Generation from Agriculture (Source: NARO)

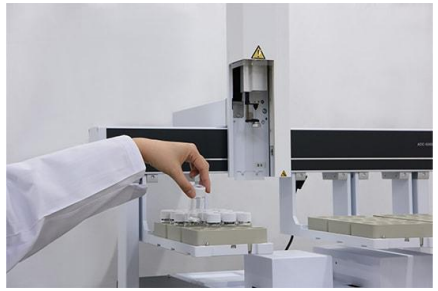
Research Theme

- Development of high-precision measurement methods for greenhouse gases emitted from farmland and their application to climate-change mitigation research
  * Recipient of the 2020 Japan Society of Soil Science and Plant Nutrition Technology Award

History of Joint Research with Shimadzu

- 2007: Developed an analyzer that measures all three major GHGs at once
- 2008: Developed next-generation automated sampling system for greenhouse gases
- 2017: Obtained a patent for simultaneous multicomponent analysis of the three gases

Gas-bag sampling combined with compact vial extraction



Automated sequential analysis of up to 108 samples

- If adopted by rice farmers across Japan, this technology could cut GHG emissions by an amount equivalent to the annual emissions of 2 million cars. Globally, the potential impact could reach 80 million cars.
- "Extended mid-season drainage in rice paddies," a method for reducing methane emissions, is now registered under Japan's crediting system, enabling wider adoption in agriculture.
- We aim to contribute to society by promoting global deployment of the technology.

Collaboration in Fundamental Research → **Product Development & Commercialization** → **Societal Deployment**

Reducing Environmental Impact Through High-Precision PFAS Analysis Solutions

Liquid Chromatograph
Mass Spectrometer
LCMS-8065XE

★ We participate in AOAC INTERNATIONAL's open call projects on PFAS analytical methods in food.

Market Needs

- PFAS (perfluoroalkyl substances) used broadly—from everyday products to industrial applications—yet they resist degradation, posing risks to ecosystems and human health.
- Tightening regulations, especially in the U.S. and Europe, are driving growth in the PFAS analysis solutions market (market size in 2024: approx. $540M, CAGR approx. 12%[*1]).

Our Initiatives

- Launched the LCMS-8065XE in August 2025, a system optimized for PFAS analysis.
- Supporting a broad range of PFAS analysis needs across environmental samples, food, chemicals, semiconductors, and biological matrices.
- Contributing to the global testing standardization of PFAS analytical methods. ★

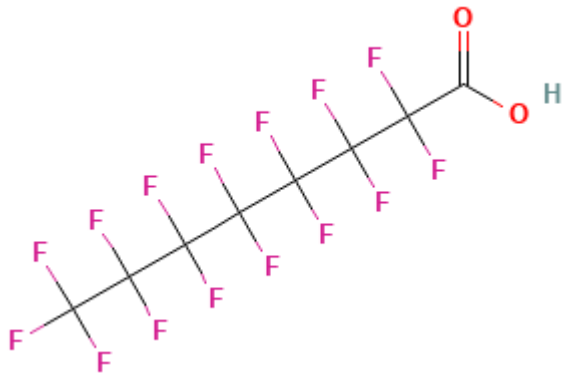
Social Impact

- Analytical capabilities that support understanding the extent of PFAS contamination and ensuring regulatory compliance help promote better management and reduction of PFAS usage and discharge, indirectly contributing to environmental protection and human health.

*1 Source: PFAS Testing Market Size & Outlook, 2025-2033

Overview of PFAS (Per- and Polyfluoroalkyl Substances)

- PFAS is a broad class of synthetic chemicals in which many or all of the carbon-chain side groups are fluorinated.
- Leveraging their water-repellent and non-stick properties, PFAS have been widely used in various coatings, firefighting foams, and numerous industrial applications.
- Because they are extremely stable and persistent in the environment, PFAS are now recognized as environmental contaminants, driving a rapid increase in analytical demand.
- In addition to drinking water, food has emerged as an important pathway of PFAS exposure, drawing significant attention from public food-safety authorities such as the U.S. FDA and the European Food Safety Authority (EFSA). This heightened focus has also led to the public call for AOAC methods (see next page).



Perfluorooctanoic Acid (PFOA)

Initiatives Toward Standardizing PFAS Analysis in Food

Solving Customers' Research Challenges → **Solving the Challenges of Customers Working to Address Societal Challenges** → **Solving Societal Challenges**

AOAC INTERNATIONAL has begun the public comment process for an Official Method of Analysis℠ (OMA) for PFAS testing in food using mass spectrometry.

Target Matrices: 11 categories

Analytes: 30 compounds

* AOAC INTERNATIONAL:
A global organization of more than 3,000 members across approx. 90 countries, centered in the U.S., engaged in establishing and evaluating analytical standards. AOAC methods are widely adopted as official analytical standards worldwide.

Shimadzu Corporation

- Subsidiaries in the U.S.
- Subsidiaries in Europe
- Subsidiaries in Singapore
- Subsidiaries in China

Shimadzu has established a Standard Development Organization across the entire Shimadzu Group to lead regulatory standard-setting initiatives across the Group.

Current Progress

- ✓ Completed the submission of the method to AOAC
- ✓ Public release of evaluation results expected this fiscal year
- ✓ If adopted, precision and ruggedness studies will be conducted next fiscal year

- When PFAS regulations for food are implemented in the U.S., the AOAC OMA is expected to serve as the official testing method.
- For Europe, the validated method can be proposed as a recommended method.
- Regions such as East and Southeast Asia tend to follow U.S. and European regulations, creating opportunities for global deployment.

Development of Analytical Methods → **Standardization and Publication** → **Broader Adoption to Ensure Food Safety**

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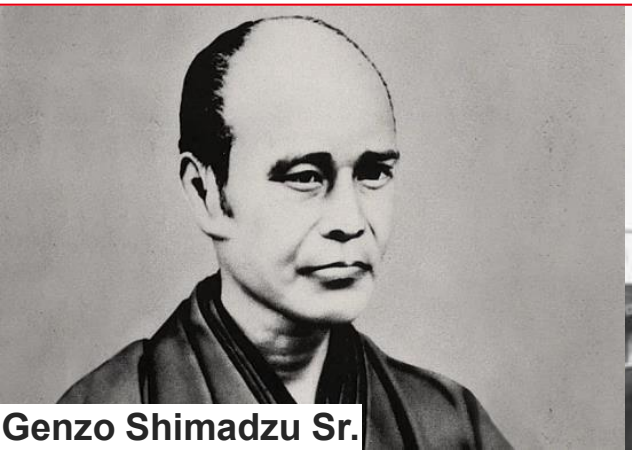
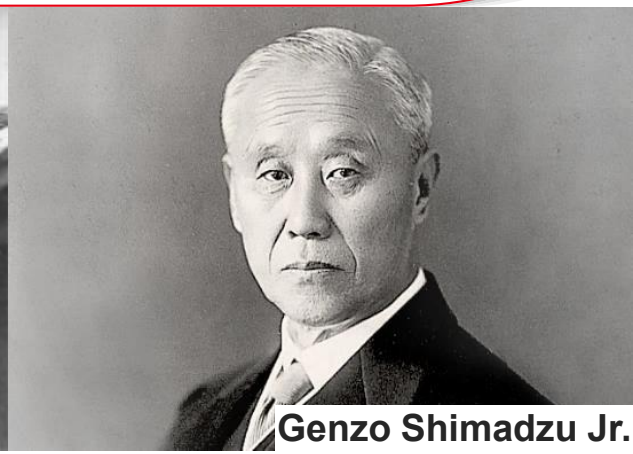
In Closing



Genzo Shimadzu Sr.



Genzo Shimadzu Jr.

By continuously listening to the needs of our stakeholders,

we marked the **150th** anniversary in March 2025 since Genzo Shimadzu Sr. founded the company.

Corporate Philosophy | Contributing to Society through Science and Technology

Management Principle | Realizing Our Wishes for the Well-Being of Mankind and the Earth

Shimadzu Group Sustainability Charter

Based on these guiding principles,
we aim to advance **planetary health** by serving as an **innovative partner** to our customers.

Introduction: Integrated Report 2025

The PDF version of the Integrated Report 2025—which compiles both financial and non-financial information—is available on our website.

A4 landscape, 16:9 format

This QR code links to the Shimadzu Integrated Report webpage. Please scan to access the full report.

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Strategy of Sharing Values and Collaboration through Materiality	Overview of Medium-Term Management Plan (FY2023 to FY2025), Business Strategies, Technological Strategies, Manufacturing Strategies, Digital Transformation (DX) Strategies, Financial Strategies, Human Resources Strategies, Environmental Strategies, Corporate Management
Financial and Corporate Information	Review of Previous Three-Year Medium-Term Management Plan, Key Financial Data Over the Past 11 Years, Key Non-Financial Data over the Past 6 Years, Corporate Overview, Stock Information

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The forward-looking statements in this presentation may differ materially from actual results due to various external factors, including economic conditions, exchange rate fluctuations, and technological developments.

Contact: Investor Relations Group
Corporate Communication Department
Shimadzu Corporation
Email: ir@group.shimadzu.co.jp