

Mitutoyo

ENVIRONMENTAL REPORT

2023



**To contribute to
the wellbeing of society
through precision
measurement technologies**

Mitutoyo Corporation



Environmental Policy

Our Actions for the Environment

The Mitutoyo Group with its management principle of “Contributing to the wellbeing of society through precision measurement technologies” provides precision measurement instruments to customers through the development, design, manufacture, sales, and service of precision measurement instruments.

We, who are working for Mitutoyo Group recognize that the preservation of the global environment is one of the most important issues for all human beings, in keeping with the “good environment” stated in our corporate motto, and we will work to continuously maintain and improve the environmental management system by participating in all business activities, products and services that affect the global environment, and to protect the global environment and prevent environmental pollution.

1. We will establish a voluntary environmental management system to reduce the environmental impact of our business activities, products, and services.
2. We will comply with all laws, regulations, ordinances, and other requirements that we have decided to accept in our business activities.
3. We will work on the following to protect the global environment and prevent environmental pollution.
 - ① Reduction in carbon dioxide emissions
 - ② Development and design of environmentally conscious products
 - ③ Promotion of resource and energy conservation
 - ④ Promotion of waste reduction and recycling
 - ⑤ Reduction of hazardous chemicals
4. We will set environmental goals and review them periodically to continuously improve environmental performance.
5. We will implement educational and awareness-raising activities on our environmental policy and make it known to all of our employees (including our permanent employees) and those who work for us.
6. We will publish the environmental policy for both internal and external use.

Established : Dec 10,2012
Implementation : Jan 1, 2023



Environmental Goals (2023)

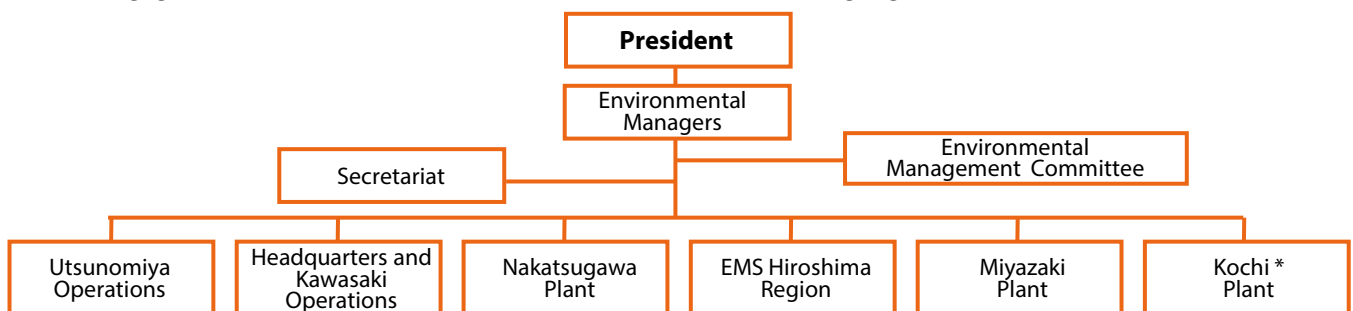
The Mitutoyo Group has set environmental goals in three areas, “Promoting energy conservation”, “Reducing waste emissions” and “Reducing carbon dioxide emissions”, and we are working on initiatives to reduce our environmental impacts.

- Promotion of energy conservation (evaluate energy consumption in crude oil equivalent per unit of production)
 - Single year target : 8% reduction based on FY2019
 - Medium-term goal : 10% reduction over 5 years from FY2020 to FY2024 based on FY2019
- Reduction of waste emissions (evaluate waste emissions per unit of production)
 - Single year target : 8% reduction based on FY2019
 - Medium-term goal : 10% reduction over 5 years from FY2020 to FY2024 based on FY2019
- Reduction of carbon dioxide emissions (Scope 1・2)
 - Single year target : 29.5% reduction based on FY2018
 - Medium-term goal : 50% reduction based on 2018 by 2030



Environmental Management System

In order to effectively implement the Mitutoyo Group's environmental management, we engage in environmental conservation activities under the following organizational structure.



* Covered from Jan 1, 2023.

Reporting Scope / Period

This report covers the Mitutoyo Group's environmental conservation activities for fiscal 2022 (Jan to Dec 2022).

Scope : Mitutoyo Group's 5 Japan domestic sites

- Utsunomiya Operations : Small Tool Plant, Microcode Plant, Kiyohara Plant
- Headquarters and Kawasaki Operations
- Nakatsugawa Plant
- EMS Hiroshima Region : Kure Plant, Shiwa Plant, Gouhara Plant
- Miyazaki Plant
- Kochi Plant (Covered from January 1, 2023)

ISO 14001 Certification

ISO 14001 Certification acquired across the entire Mitutoyo Group

The Mitutoyo Group is actively engaged in environmental conservation activities with the aim of becoming company that can coexist in harmony with society.

Until 2012, each business division had established its own voluntary environmental management system, however in order to further reduce our environmental impact, we established company-wide environmental management system in 2013 and obtained ISO 14001 certification for the entire Mitutoyo Group.

The registration certificate is posted on the Mitutoyo homepage under Environmental Initiatives.

<https://www.mitutoyo.co.jp/corporate/sustainability/ecology/>

Examination scene



Internal Audits

Mitutoyo also conducted mutual audits among site, in which auditors from one site visit another site to conduct audits. In fiscal 2022 , it was carried out at the Kure Plant (indirect department).

Purpose of mutual audits among site

To match the level of audits , and to make suggestions for operational improvement based on cases at other site.

Sites subject to mutual audits in fiscal 2023 (Divisions) :

Kochi Plant (all divisions) 、 Nakatsugawa Plant (Manufacturing Division)

Environmental Management Education

In order to effectively operate our environmental management system, we provide the following educations.

Educational results in 2022

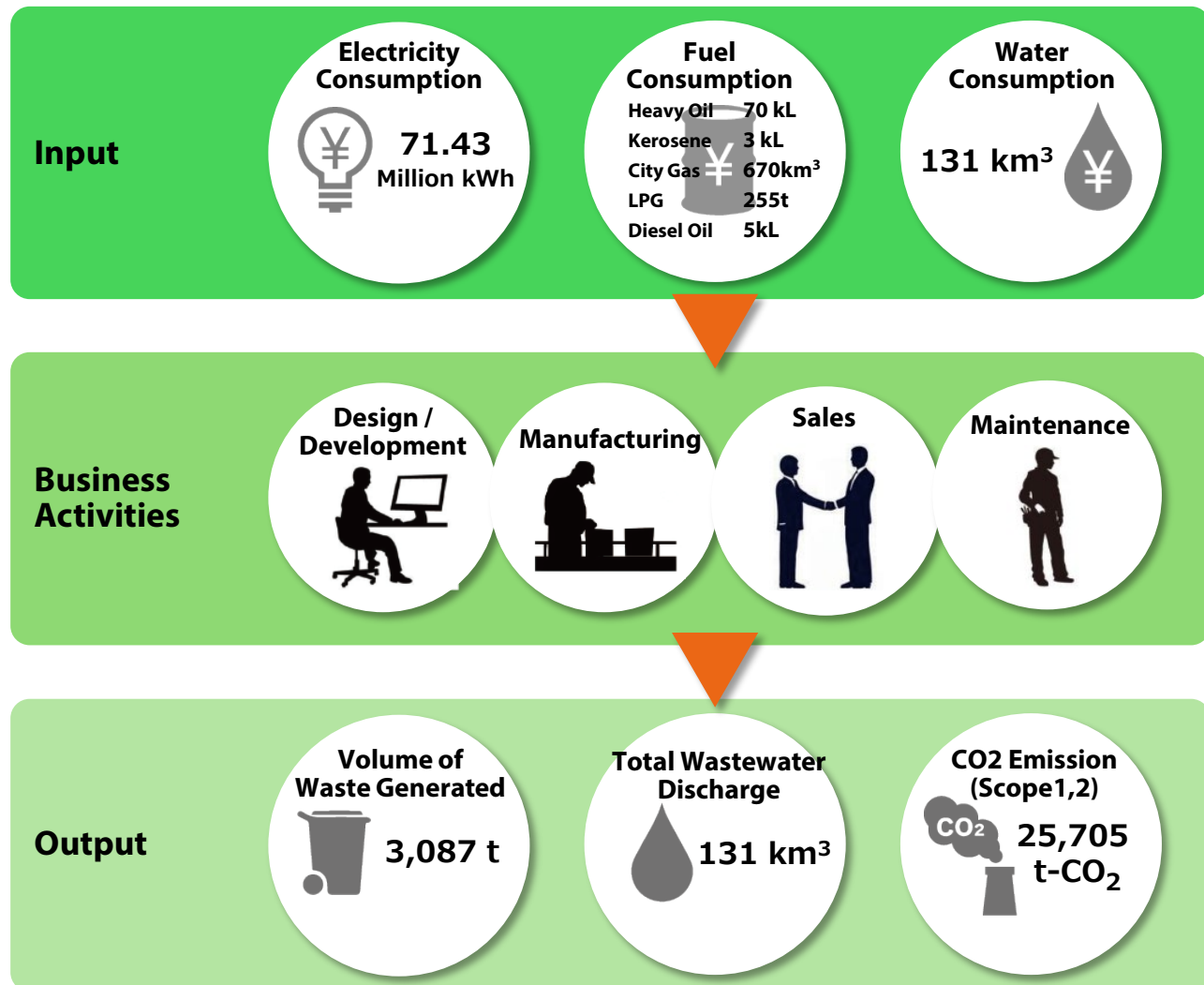
Name	Targets	Participants	Total Time (Min)
New environmental training	New employees, Mid-career hires, etc.	192	8,170
General Training	All employees (Inc Directors, Employees of affiliated companies, etc.)	3,183	98,705
Training to secure competence	Personal engaged in specific operations	284	38,055
Internal auditor training	Internal auditors	68	23,040
Total		3,727	167,970



Business Activities and Environmental Impact

Overview of Environmental Impact

The following is the total environmental impact of the Mitutoyo Group's business activities in fiscal 2022.



Environmental Impact of Each Site

The environmental impact of the Mitutoyo Group's five sites in fiscal 2022 is as follows.

ITEM UNIT		Site	Utsunomiya Operations	Headquarters and Kawasaki Operations	Nakatugawa Plant	EMS Hiroshima Region	Miyazaki Plant
Input	Fuel Consumption (Calculated as crude oil)	KL	102	683	5	405	6
	Electricity Consumption	10,000kWh	3,186	984	409	2,133	429
	Water Consumption	km ³	44	53	6	27	4
Output	CO ₂ Emission	t-CO ₂	6,302	5,679	1,600	10,429	1,697
	PRTR Substance Emission (Atmospheric)	kg	253	1,138	1	1,184	1,370
	Total Water Discharge	km ³	40	56	6	23	4
	Volume of Waste Generated	t	826	267	49	1,866	79



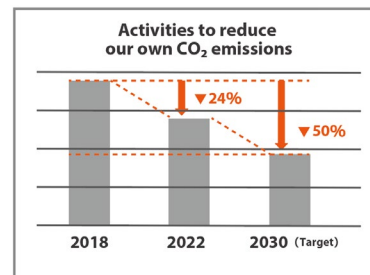
Carbon Neutral Initiatives

1. Commitment

The Mitutoyo Group will contribute to the realization of a decarbonized society toward carbon neutrality by 2050 to fulfill its corporate responsibility to address global climate change issues.

- We will reduce our CO₂ emission (Scope 1, 2) by 50% from 2018 levels by 2030.
- We formally endorsed TCFD's recommendation in Sep 2022.

*TCFD (Task Force on Climate-related Financial Disclosures)



2. Specific Initiatives

The Mitutoyo Group is actively making efforts to "Use renewable energy" and "Introduce energy-saving and highly efficient production equipment" to achieve the world most competitive "Made in Japan" manufacturing. We will continue to meet the growing demand for precision measuring instruments while future accelerating the reduction of CO₂ emissions throughout the entire value chain.

Example of Initiative

We are switching to 100% CO₂-free hydroelectric power generation in the Utsunomiya Operations and at our Kochi Plant.

● **Utsunomiya Operations**
Introduction of "Tochigi-Furusato Electric power Supply Service"



● **Kochi Plant**
Introduction of "Kochi Support Electricity"




Initiatives to Reduce Environmental Impacts

1. Efforts to Reduce Energy Consumption

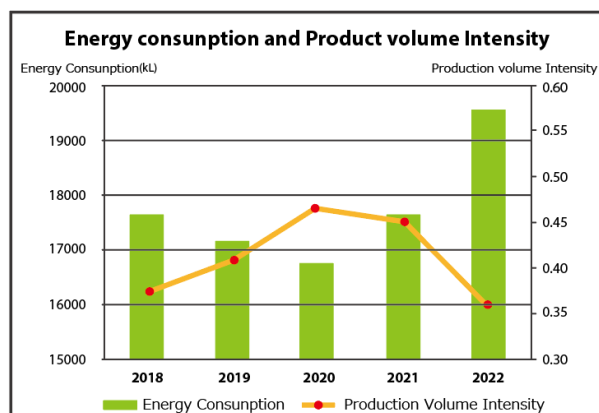
With the perspective of promoting the efficient use of electricity, fuel and other energy sources, we are switching to energy-saving equipment and enhancing energy-saving systems upon the upgrading of our equipment. Concurrently, through improvement in our business activities, we are striving to improve the efficiency of energy use.

Major capital investments related to power energy conservation

- Installation of energy-saving compressors and air monitoring system.
- Introduction of high-efficiency air-conditioning systems and renew of air-conditioning specifications
- Installation of power monitoring devices
- Use of LED for lighting fixture

Major improvement related to energy conservation

- Reduction of waste parts and streaming of operations by improving manufacturing quality
- Construction of production line to cope with production fluctuation
- Reduction of paper document and improvement of work efficiency through IT technology
- Promotion of reuse of packaging materials for large equipment





Initiatives to Reduce Environmental Impacts

2. initiatives for Recycling and Resource Recovery of Waste Materials

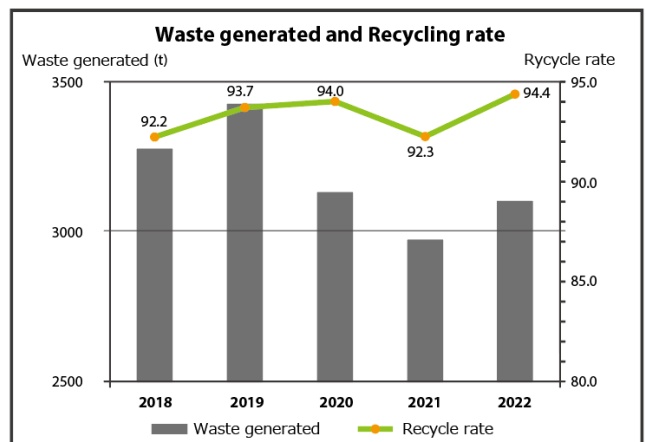
The Mitutoyo Group recycles waste as valuable resources, reducing its volume, and resource recovery.

Examples of Major Initiatives for Waste Reduction

- Use of returnable containers for parts transport
- Adoption of specialized transportation jigs and reuse of packaging materials
- Return of containers for purchased goods (pails and drums)
- Extending the service life of coolant liquid by using preservatives and floating oil separators
- Reuse of used office files, etc. •
- Common use of wooden packaging boxes for domestic and export use
- Selling used computers to specialized companies
- Dedicate processing machines for different materials and sell chips as scrap

Examples of Major Initiatives for Improve Recycling Rates

- Reducing food loss by turning food waste from the company cafeteria into feed
- Waste plastics
 - ⇒ Materials, thermal recycling
- The wood pallets used for transportation are crushed and turned into chips by a processing company and used as raw material for papermaking or fuel
- Compressed briquettes from grinding sludge
 - ⇒ Recycling
- Recycled etching waste liquid from scale manufacturing equipment
- Recycle wastewater with ion exchange tower (Regenerates into pure water and returns to line)
- Reuse through closed wastewater treatment (Plating line, scale manufacturing, water jet cutter)
- Recycling by returning used whetstones to manufacturers



3. Initiatives for Soil and Groundwater Remediation at Kawasaki Operations

Since soil and groundwater contamination was detected at the Kawasaki Operations in 1991, efforts for purification have been conducted by pumping groundwater to prevent off-site discharge and by vacuum extraction of underground gases. In February 2008, a surface gas survey and borehole investigation were conducted over the entire site (excluding areas where it was difficult for the survey to be conducted), and a report was submitted to Kawasaki City in August 2008, along with a plan for future countermeasures. The progress of the countermeasures to date is outlined below.

Substances	Target	Standard level (mg/L)	Maximum concentration in the Site (mg/L)		
			August 2008*	December 2022	
Volatile Organic Compounds (VOC)	Tetrachlorethylene	Groundwater	0.01	170	5.2
	Trichlorethylene	Groundwater	0.03	15	1.3
	Cis-1,2-dichloroethylene	Groundwater	0.04	20	2.8
Heavy Metals	Hexavalent chromium compound	Groundwater	0.02	0.41	0.01

* These figures were reported in the 2008 Environmental Report.



Environmentally Conscious Products

The Mitutoyo Group is committed to development of environmentally conscious products. The following is a list of major environmentally conscious products.

Non-contact Laser Probe for Coordinate Measuring Machines Surface Measure 201FS



Mitutoyo

- Laser probe that enables high-precision non-contact shape measurement with Point laser operation method

● Key points of environmental considerations

- Adoption of lead-free brass material for cutting parts
- Switching CFRP parts that are difficult to recycle to light alloys
- Printing the recycling mark on packaging boxes

High-Accuracy Height Gage Liner Height LH-600F/FG



Mitutoyo

- High-end machine that can be operated intuitively and is extremely easy to use
- Achieved the highest accuracy in its class of $\pm(1.1+0.6L/600) \mu\text{m}$
- Easy operation for beginners with touch panel and navigation
- Achieve various measurements such as 2D measurement and squareness measurement with one device
- Various measurements possible with optional probes
- Support measurement data management through various method

● Key points of environmental considerations

- Reduced paper usage by converting some manuals to CD
- Longer lifespan of LCD backlight (50,000 h \rightarrow 100,000 h)
- Suppressing battery consumption by improving charging control methods

Rotary Table MRT320



Mitutoyo

- Rotary table mounted on CMM (Coordinate Measuring Machine)
- Reduced workpiece measurement time by shortening acceleration time and increasing rotation speed
- Reduced downtime by shortening initialization time and recovery time
- Enables 4-axis synchronous copying

● Key points of environmental considerations

- Reduced workpiece measurement time (-5 sec* : $\phi 100\text{mm}$ ring cage) (-100 sec* : Gear)
- Reduced recovery time from emergency stop (-29 Sec*)
- Initialization time reduction (-21 sec*)
- Wide range of operating environment temperature: 10°C to 40°C (previously 20°C \pm 2°C)

*Compared to previous

Liner Scall ABS AT715 Series



Mitutoyo

- Absolute scale that does not require home alignment
- In combination with KA counter, high functionality and Providing low-cost DRO systems
- Large machine tools available with effective length up to 3000mm

● Key points of environmental considerations

- Reduced the cross-sectional shape of the packaging box and internal cushioning material, reducing the area used for cardboard by 56.3%
- Lower the operating voltage of the custom IC and microcontroller to reduce current consumption during use by 39% and during standby time by 44%.



Environmental Accounting

The Mitutoyo Group compiles environmental accounting in accordance with the guidelines set by the Ministry of the Environment's in order to quantitatively grasp the costs and effects of environmental conservation activities.

Environmental Conservation Costs

In fiscal 2022, our environmental conservation costs totaled approximately 1,580 million yen for investment and expenses.

The main investment was approximately 797 million yen for switching to LED lighting and updating air conditioning equipment, etc., and the total expenses was approximately 783 million yen for waste recycling costs and wastewater treatment facility management costs, etc.

(Unit : thousand yen)

Environmental Conservation Costs				
Category	Details of main initiatives		Investment	Expense
(1) Business area costs			788,923	553,674
Breakdown	(1)-1 Pollution prevention costs	Costs for water pollution prevention and noise prevention	27,485	104,872
	(1)-2 Global environmental conservation costs	Cost to prevent global warming Cost to save energy	757,490	265,298
	(1)-3 Resource circulation costs	Costs for recycling, processing, and disposal of waste / Costs for efficient use of resources	3,948	183,503
(2) Upstream / downstream costs			0	4,243
(3) Administrative activity costs			0	224,157
(4) R & D costs			0	0
(5) Social activity costs			7,740	1,103
(6) Environmental damage response costs			0	0
Total			796,663	783,176

Environmental Conservation Effects

Environmental Conservation Effects						
Classification of environmental conservation effects	Environmental performance index (unit)			Previous period (Base period)	Current period	Difference from base period (Environmental conservation effect)
	Environmental conservation effects related to resources input into business activities	Energy input	Electricity	MW h	64,320	
Fuel use in crude oil			KL	1,074	1,200	-126
Water input		㎥	124	134	-10	
Environmental conservation effects related to Environmental impact and Waste discharged from business activities	Green house gas emissions		t-CO ₂	32,060	25,743	6,318
	Total emission of waste and other materials		t	2,955	3,085	-130
	Final disposal of waste		t	330	253	77
	total water discharge		㎥	117	130	-13
Environmental conservation effects related to goods and services produced by business activities	Wood consumption		t	186	209	-23
	Styrofoam		kg	0	0	0

Economic Effects of Environmental Conservation Measures

(Unit : thousand yen)

Details of effects			
Revenue	Business income from recycling of waste generated in main business activities, etc.		67,383
Cost savings	Reducing energy costs through energy conservation (Purchase costs of electricity, fuel, etc.)		-400,777
	Reducing of waste disposal costs due to resource conservation or recycling		-14,724
	Others		-39,686
Total			-387,804

*The economic effects associated with environmental conservation measures represent only economic effects calculated based on a reliable basis, and do not include economic effects based on theoretical values.

Mitutoyo

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