



# Hitachi Global Life Solutions

# Environmental Report 2023 (FY2022 results)

Hitachi Global Life Solutions Environmental Report 2023

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# Aiming to Improve Everyone's QoL (Quality of Life) and Achieve a Sustainable Society Through Digital, Green, and Innovation

We at Hitachi Global Life Solutions (hereinafter, "our company") aim for "Happy living for one and all. A more comfortable tomorrow for people and society. With innovations that deliver happiness to the world, we open new doors to the future" and we promote diverse environmental initiatives based on that purpose.

1. Message from the President

Hitachi Global Life Solutions Group (hereinafter, "the Group"), as a member of the Connective Industries Sector within the Hitachi Group, aims to create sustainable value through innovation by integrating the business foundations we have cultivated to date, namely products and technologies, with digital technologies. Furthermore, a major pillar of our 2024 Medium-Term Management Plan is to transform ourselves into a recyclingoriented manufacturing company.

In the 2024 Medium-Term Management Plan, Hitachi Group declared its aspiration to "support people's quality of life with data and technology that fosters a sustainable society." With the aim of achieving our long-term environmental targets, we formulated a green growth strategy with two pillars: GX for GROWTH (carbon neutral for customers and society) and GX for CORE (carbon neutral within the Hitachi Group). In concrete terms, we aim to reduce 100 million metric tons of CO<sub>2</sub> emissions in FY2024 and achieve carbon neutrality in the value chain in FY2050.





In line with this, our company promotes the reduction of its own  $CO_2$  emissions as well as those of customers as part of our efforts towards decarbonization. We aim to achieve carbon neutrality at our company's manufacturing sites by FY2030 and throughout our entire value chain by FY2050. In addition, we are enhancing manufacturing to support a resource-efficient society.

In addition to focusing on developing products with low environmental impacts through the use of recycled material and resource conservation, we are also focusing on developing new recycling technologies that promote resource recycling, and working to improve our recycling rates of used home appliances. Furthermore, we are developing ways to enable our products to be used longer while aiming to expand recurring business.

We are working on efforts to solve various environmental issues and contribute to create a sustainable society that does not exceed the planetary boundary.

Targets of Hitachi Global Life Solutions

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# Hitachi Group Environmental Vision and Long-Term Environmental Targets

Hitachi's mission is to "contribute to society through the development of superior, original technology and products." We seek solutions to environmental issues, which are of serious concern to society, through our business operations and promote environmental management from a long-term perspective. We contribute to the realization of a carbon-neutral society with our superior green technologies, by providing value to customers in all business segments. We also promote resource efficiency toward the transition to a circular economy.

Our "Environmental Vision" clearly outlines Hitachi's vision for society from a long-term perspective, in light of global environmental challenges including the climate change crisis, and based on our management policies. In working toward achieving this vision, we have established a set of long-term environmental targets aimed at building a low-carbon society, a resource-efficient society, and a harmonized society with nature under the banner of Hitachi Environmental Innovation 2050 and are working to advance these targets.

As a member of Hitachi Group, the Group is engaging in an Environmental Action Plan that sets concrete action items every three years in order to achieve Hitachi Environmental Innovation 2050. In concrete terms, we focus on developing products with low environmental impact and green solutions, CO<sub>2</sub> reduction activities to achieve carbon neutrality, and manufacturing to achieve a resource-efficient society.

#### Environmental Vision



Environmental Vision and Hitachi Environmental Innovation 2050

	Items Targets	
Low-carbon society	Reduce total CO <sub>2</sub>	Reduction rate of total CO <sub>2</sub> (compared to FY2010)
	Reduce CO <sub>2</sub> emissions of products and services	Reduction rate of CO <sub>2</sub> emissions (compared to FY2010)
Resource-efficient society		Water usage improvement per unit (compared to FY2010)
	Enhance efficiency in the use of	Valuable waste generated improvement per unit (compared to FY2010)
	resources	Number of sites achieving zero landfill waste
		Effective utilization rate of plastic waste
Society harmonized with nature	Reduce chemical emissions	Improvement of chemical atmospheric emissions per unit (compared to FY2010)

Targets of Hitachi Global Life Solutions 2024 Environmental Action Plan

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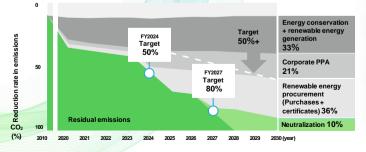
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## Efforts to Achieve a Low-Carbon Society

Hitachi Group aims to achieve a low-carbon society and is pursuing initiatives with the goals of achieving carbon neutrality by FY2050 throughout our value chain, and by FY2030 in our factories and offices. In working toward achieving this, our company is promoting the activities aiming to reduce  $CO_2$  emissions of our own, those of our customers, and of society.

As for decarbonization in our company, we are promoting increasing in-house power generation by installing solar power systems, and purchasing renewable energy. We will continue to work toward the goal of reducing more than 50% of CO<sub>2</sub> emissions through measures such as the introduction and expansion of renewable energy with additionality and promoting energy conservation measures. In addition, for more effective use of power generated in-house, we will also consider introducing an energy storage system.

We are accelerating the reduction of  $CO_2$  emissions in our production processes by utilizing our Hitachi Internal Carbon Pricing System and promoting the introduction of energy conservation equipment.



CO<sub>2</sub> reduction promotion plan at factories and offices within Hitachi Group (as of Mar. 2023) As for contributing to reducing our customer's CO<sub>2</sub> emissions while using our products, we will provide products with excellent energy-saving performance and with low environmental impact, as well as services and solutions. In terms of products, we offer refrigerators, washers, and air conditioners with high energy-saving performance. In terms of services and solutions, we started to provide the service for the revision of the Act on Rational Use and Appropriate Management of Fluorocarbons <sup>1</sup> in September 2022, which came into effect in August 2022, as an optional menu item of the air-conditioning IoT solution "exiida Remote Monitoring and Predictive Diagnosis," which is a Lumada solution.

\*1 Act on Rational Use and Appropriate Management of Fluorocarbons

#### Developing ample solutions that contribute to solving social issues



"exida" is a coined word that combines the first letters of expansion + Internet + individuality + data, and it represents the concept of connecting Hitachi Global Life Solutions' refrigeration and AC systems to the Internet to take on the chalenge of creating new value.

Overview and goals of "exiida" air-conditioning IoT solution, a Lumada solution

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## Efforts to Achieve a Resource Efficient Society

Aiming to build a resource-efficient society, Hitachi Group is advancing a shift from the conventional linear economy to a circular economy. To achieve this, our company promotes reduction of water consumption in the production process, the 3 Rs (Reduce, Reuse, Recycle), and extending product life and making our products smaller and lightweight.

### 3R (Reduce, Reuse, Recycle) activities

For Reduce, we are working on reducing the size and weight of our products in order to minimize the use of resources. For Reuse, we are working to increase the amount of resources reused through product alterations, repairs, and the use of leftover materials. And for Recycle, we are working on initiatives such as the reuse of our own raw materials, both in-house and in cooperation with other companies. For recycling of home appliances, we have a dedicated plant (Kanto Eco Recycle Co., Ltd.) on the premises of our Tochigi Plant, which is a production base, and we have established a system that allows us to engage in the entire process, from development and design to recycling. We are also actively engaged in the development of new recycling systems that were previously discarded.

In particular, to further promote the recycling of plastic resources, the entire Hitachi Global Life Solutions Group is working to build plastic recycling systems for recycling our own home appliance products. By using this system, we aim to increase the use of recycled plastic in our products such as stick vacuum cleaners, refrigerators and washers.

In addition, since October 2022, we have been engaged in the business of refurbishing and selling initial returns (refurbishing business), which we have been operating through an online store run by our company.

Reuse

Recycle

resources (reuse of own raw materials

in-house and in cooperation with

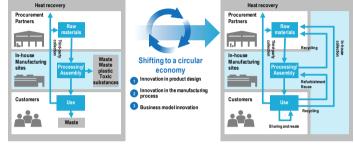
Recycle the used product as

other companies, etc.)

#### Reduce

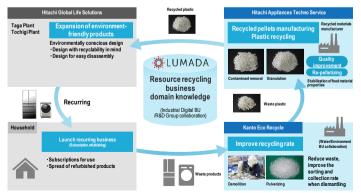
Reduce the amount of waste that is discarded as end-of-life (Improve manufacturing quality and structure, weight-saving. etc.) Reuse the used product instead of discarding (product alterations, repairs, and the use of leftover materials, etc.)

#### The aim of 3R (Reduce, Reuse, Recycle) activities



#### Approach to transitioning to a circular economy

Note: Hitachi Group normally refers to suppliers (including vendors and providers) as procurement partners, with whom we build business together on an equal footing.



Self-circulating plastic recycling systems for home appliances

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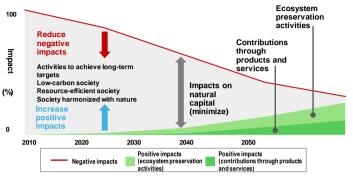
# Efforts to Achieve a Society Harmonized with Nature

To achieve a society harmonized with nature, Hitachi Group has established targets to minimize our impact on natural capital as part of our long-term environmental targets.

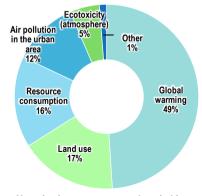
We classify the emission of greenhouse gases and chemical substances into the atmosphere and the generation of waste materials in the course of our business activities as negative impact activities. Providing products and services that contribute to ecosystem preservation and undertaking activities to preserve biodiversity and ecosystems are categorized as positive impact activities. We aim to minimize the difference between positive and negative impacts by 2050.

### Initiatives to minimize impacts on natural capital

Our company assesses the negative impacts that our business activities had on natural capital by using the LCI (Life Cycle Inventory) database as we aim to reduce such impacts. In the FY2022 assessment, the field of global warming, land use, resource consumption, and air pollution in the urban area accounted for 94% of the total. Since those factors are caused by use of energy and raw material procurement, we aim to reduce the negative impacts by further strengthening the initiatives to realize a low-carbon society and resource-efficient society. To expand positive impacts, we will engage in social contribution activities related to nature conservation.







Negative impacts on natural capital in Hitachi Global Life Solutions' business activities (FY2022)

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# 3. Environmental Activity Report (FY2022 results) - (1) Environmental Management

## Action Guidelines for Environmental Conservation

The Group has set its Action Guidelines for Environmental Conservation to present our policies for environmental conservation efforts concerning business activities. The Action Guidelines for Environmental Conservation are based on the Code of Ethics and Conduct Guidelines of the Hitachi Group as our basic philosophy, and consist of 10 items. The Group considers that one of its top priorities in management is to realize a sustainable society harmonized with the environment under these guidelines, and accordingly engages in a various environmental actions.

### Hitachi Global Life Solutions Group Action Guidelines for Environmental Conservation

# Purpose

In order to realize an environmentally harmonious and sustainable society through products and services, we are committed to meeting our social responsibilities by promoting globally-applicable "MONOZUKURI" (designing, manufacturing or repairing of products), which is aimed at reducing the environmental burdens of products throughout their entire life cycles, ensuring global environmental conservation.

#### Action guidelines

- Global environmental conservation is a critical challenge shared by all humans. We
  are committed, therefore, to fulfilling our responsibilities by assisting in the realization
  of an environmentally harmonious and sustainable society as one of our management
  priorities.
- We will make efforts to contribute to society by developing highly reliable technologies and production processes, while identifying needs in view of concerns related to the prevention of global warming, conservation of resources, and preservation of ecosystems.
- 3. Members of the board in charge of environmental conservation are responsible for facilitating appropriate environmental conservation activities. Departments responsible for environmental conservation endeavor to promote and ensure environmental conservation activities, including improving environment-related rules and regulations and setting goals for environmental burden reduction. These departments also confirm that their environmental conservation activities are maintained and improved.
- We will promote globally-applicable "MONOZUKURI" with the aim of understanding and reducing environmental burdens at every stage, including product research and development, design, production, distribution, sales, usage, and final disposal.

- 5. We will investigate and review the environmental impact caused in the course of the "MONOZUKURI" processes. We will also introduce excellent technologies and materials useful to safeguard the environment; in other words, to reduce environmental burdens through energy and resource saving, recycling, chemical substance management, consideration for the ecosystem, and other measures.
- 6. Our environmental conservation efforts are not only to be focused on observing international environmental regulations and those of national and local governments, but also on conserving the environment by implementing voluntary environmental standards when necessary.
- Regarding globally-applicable "MONOZUKURI" activities, impact on the local environment and community are to be considered. In addition, measures that meet local communities' requests should be implemented.
- We will educate our employees to take action in order to comply with environmentrelated laws, raise their global environmental awareness, and encourage their interest in environmental conservation having a broad view of societal activities.
- We will evaluate potential environmental problems and prevent them from occurring. In the event that any environmental problem occurs, we will take appropriate measures to minimize the environmental burden.
- 10. We will make efforts to disclose information on our environmental conservation activities to our relevant stakeholders. We will also actively communicate with these stakeholders so as to strengthen mutual understanding and forge cooperative relationships with them.

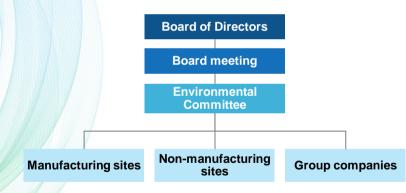
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# 3. Environmental Activity Report (FY2022 results) - (1) Environmental Management

## **Environmental Management System**

The Group establishes a promotion system for environmental management for the entire Group with the purposes of business strategy promotion in the environmental field through company-wide activities and establishing environmental management. The Environment Committee, chaired by the President and composed of all Managing Officers and Executive Officers, deliberates and decides on Group-wide business strategies, policies, and environmental action plans. The Committee also discusses measures to prevent environment-related problems, as well as improving

operations and environmental activities. Based on the decisions made at these meetings, manufacturing bases, non-manufacturing bases (head offices, branches, service centers) and Group companies collaborate to promote each measure.



Promotion system for environmental management

#### **Details of Environmental Committee**

Members	Purpose	Frequency of meeting
President; Managing Officers; Executive Officers	Formulate and promote business strategies in environmental field and establish environmental management	Twice a year

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## **Environmental Compliance**

The Group is committed to environmental compliance in order to minimize environmental risks in our business activities. We also confirm compliance through internal audits.

Internal audits are conducted by two methods: self-assessments made by supervisors on-site, and on-site audits made by the Environment Promotion

Division. By verifying the compliance status of environmental laws and voluntary management criteria at our sites through internal audits, we strive to improve the compliance awareness of supervisors on-site and reduce environmental risks. The issues pointed out by the internal audit in FY2022 have been remedied.

### **Environmental Education**

The Group offers e-learning on topics regarding high environmental risks for all employees.

To be able to appropriately comply with environmental laws and regulations, which are becoming more and more restrictive every year, we distribute procedure manuals to environmental management officers to improve their understanding and reduce the risk associated with environmental laws and regulations.

In addition, in manufacturing sites, information on electricity consumption of the entire plant, amount of waste discharged, and disposal methods, etc. is regularly distributed to Environmental Committee members via email. We are working to raise the environmental awareness of our employees by installing digital signage displays at the main gate and cafeteria, etc., and disseminating a variety of environment-related information.

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# 3. Environmental Activity Report (FY2022 results) - (1) Environmental Management

## **Environmental Action Plan for 2024**

To achieve our Environmental Vision and our Environmental Innovation 2050 longterm targets, the Group sets concrete action plans every three years and steadily promotes its implementation. From FY2022, we will promote environmental activities under the new Environmental Action Plan for 2024 until FY2024. The following are the results for FY2022, the first year of the plan.

	Targets	FY2022 targets	FY2022 results (achievement level)		FY2023 targets	FY2024 targets
Efforts to achieve a low-carbon Society	Reduction rate of total CO <sub>2</sub> (compared to FY2010)	82.0%	82.6%	0	82.5%	83.2%
	Reduce CO <sub>2</sub> emissions of products and services (compared to FY2010)	31.8%	25.6%	×	38.9%	43.3%
	Water usage improvement per unit (compared to FY2010)	62.4%	48.9%	0	62.0%	61.6%
Efforts to achieve a resource-efficient society	Valuable waste generated improvement per unit (compared to FY2010)	115.7%	85.3%	0	114.3%	113.0%
	Number of offices achieving zero landfill waste	1	2	0	2	2
Ŭ	Effective utilization rate of plastic waste	94.6%	99.6%	0	95.3%	96.0%
Efforts to achieve a society harmonized with nature	Improvement of chemical atmospheric emissions per unit (compared to FY2010)	76.2%	75.9%	0	76.1%	76.1%

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## Efforts to reduce CO<sub>2</sub> emissions at manufacturing sites

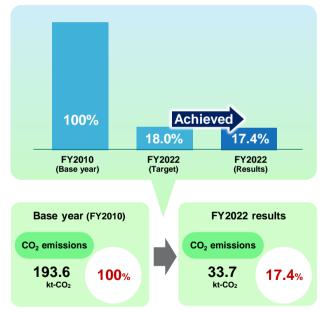
In working toward realizing a low-carbon society, the Group has set the goal of realizing carbon neutrality by FY2030 at our manufacturing sites as part of its long-term environmental targets called Hitachi Environmental Innovation 2050. Measures to reduce  $CO_2$  emissions include installing energy-saving and renewable energy equipment and purchasing electricity from renewable sources, renewable power, renewable energy certificates, and credits for neutralization (environmental value obtained by removing carbon from the atmosphere).

Priority will be given to promoting the installation of equipment for energy-saving and renewable energy with additionality, with the goal of reducing more than 50% of our  $CO_2$  emission in FY2030 through these measures.

### Activity results

In FY2022, through steady implementation of measures such as solar power systems and energy-saving equipment (LED lighting, etc.), and the introduction of electric forklift trucks, we achieved a 82.6% reduction in  $CO_2$  emissions, compared to our target of 82.0% of the base year FY2010 level.

- \* CO<sub>2</sub> emissions from manufacturing sites (Scope 1 and 2)
- Scope 1: Direct emissions from in-house fuel use and industrial processes
   Scope 2: Indirect emissions from production of electricity and heat purchased by the company
- \* CO<sub>2</sub> electrical power conversion factors: We used adjusted conversion factors for individual power businesses based on the Act on Promotion of Global Warming Countermeasures.



CO<sub>2</sub> emissions at manufacturing sites

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# Efforts to Reduce CO<sub>2</sub> Emissions During the Use of Products and Services

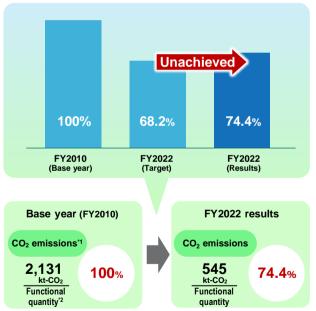
To achieve a low-carbon society, the Group has set the reduction of  $CO_2$  emissions during the use of products and services and is promoting development and dissemination of its products and services.

The calculation of CO<sub>2</sub> emission reductions is based on the Guidelines on Calculating CO<sub>2</sub> Emission Reductions for Hitachi Group Products and Services, and is calculated for the reduction of CO<sub>2</sub> emissions from products through efficiency enhancements such as energy-saving feature enhancement in products and the avoided emissions as reductions in CO<sub>2</sub> emissions through the introduction of new systems and solutions.

When calculating CO<sub>2</sub> emissions reductions from efficiency enhancements in products, the evaluation is made by comparing models with comparable product features, such as volume of refrigerator and washing capacity of washers, in order to achieve a balance between efficiency enhancement and feature improvement. In calculating CO<sub>2</sub> emissions reductions from new systems and solutions, we have calculated the CO<sub>2</sub> reductions resulting from the diffusion of new systems and solutions that emit less CO<sub>2</sub> while providing equivalent value to existing services through new technologies such as IoT.

### Activity results

In FY2022, we targeted a 31.8% reduction of  $CO_2$  emissions per unit compared to the base year of FY2010. However, the reduction rate we achieved was only 25.6% because the production volume of some products did not meet the target.



#### Reduction rate of CO<sub>2</sub> emissions of products and services

\*1 Sum of the amount of CO<sub>2</sub> emissions before adopting solutions and services and the amount of CO<sub>2</sub> emissions based on the assumption that a required number of units which corresponds to that of the product from the assessment fiscal year were used for the whole lifetime.
2 Of the main product functions, those relevant to CO<sub>2</sub> emissions.

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News release: June 30, 2022

Install the solar power generation systems with the aim of achieving carbon neutrality in home appliance manufacturing

For more information

News release: October 3, 2022

Advancing carbon neutrality by introducing power from renewable energy sources at headquarters



# 3. Environmental Activity Report (FY2022 results) - (2) Efforts to Achieve a Low-carbon Society

## **Topic 1: Introduce Renewable Energy**

Hitachi Group is aiming to achieve carbon neutrality at our manufacturing sites by FY2030.

Our company has also been promoting various initiatives, and has already introduced solar power systems at some of our sales offices. To introduce these to our manufacturing sites, we installed solar power systems with PPA model<sup>1</sup> at the Tochigi Plant, which manufactures refrigerators and other products, and started its operation on July 1, 2022.

The Tochigi Plant is expected to have a power generating capacity of 60 kW and an annual energy production of approximately 115 MWh, resulting in a reduction of approximately 50 tons of  $CO_2$  emissions per year. Furthermore, in addition to expanding the installation of solar power systems at the Tochigi Plant in the future, we are also working on installing it at the Taga Plant, which manufactures washers and cleaners. The total power generating capacity of these two sites is targeted to be approximately 3,000 kW by 2030.

In October of the same year, all the electricity for the lighting and AC of our headquarters was switched to power from renewable energy sources. This is expected to reduce CO<sub>2</sub> emissions by about 660 tons/year<sup>2</sup>.

We will continue to work toward the goal of reducing more than 50% of  $CO_2$  emission through measures such as the introduction and expansion of renewable energy and promoting energy conservation measures. We will also consider introducing an energy storage system.

\*1 PPA model stands for Power Purchase Agreement.

\*2 Calculated from annual electric consumption of 2021, before switching to renewable energy.



Solar power systems installed at Tochigi Plant



Exterior of the building that Hitachi Global Life Solutions HQ is located in ©Hitachi Global Life Solutions, Inc. 2023 All right reserved.

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# 3. Environmental Activity Report (FY2022 results) - (2) Efforts to Achieve a Low-carbon Society

# **Topic 2: Improve Energy Use Efficiency by Installing Energy-Saving Equipment**

In order to reduce CO<sub>2</sub> emissions in the production process, we are systematically introducing and updating energy-saving equipment such as LED lighting and inverter air conditioners at individual manufacturing sites to improve the energy use efficiency of lighting and equipment.

Hitachi Group has been introducing our Hitachi Internal Carbon Pricing System<sup>\*1</sup> since 2019 to promote CO<sub>2</sub> reductions from our factories and offices.

At the Tochigi and Taga Plants, which are our manufacturing sites, we are actively working to reduce CO<sub>2</sub> emissions by introducing energy-saving equipment through the use of the Internal Carbon Pricing System.

\*1 An in-house tool for assessing in monetary terms the amount of carbon generated or reduced in order to voluntarily make investment decisions and conduct risk management.



Air conditioners

Amorphous transformer

Main equipment installed utilizing the Internal Carbon Pricing System [FY2022]

- Air conditioners
- · Amorphous transformer
- 4.8t crane
- Cooling tower
- · High temperature and constant humidity water bath
- · AC regulated power supply
- · Secondary substation transformer
- · Compressor for press
- Compressor for molding



4.8t crane



LED lighting fixtures for high ceilings

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News release: March 1, 2023

Electric forklift trucks introduced as part of initiatives towards carbon neutrality



# 3. Environmental Activity Report (FY2022 results) - (2) Efforts to Achieve a Low-carbon Society

## **Topic 3: Introduction of Electric Forklift Trucks**

In March 2023, as part of our initiative for Scope 1: Reduce, we introduced electric forklift trucks at our Taga Plant manufacturing site.

We intend to gradually switch most of the forklift trucks in operation at the Tochigi Plant to electric forklift trucks. By switching to electric forklifts, we expect to reduce CO<sub>2</sub> emissions by approximately 520 tons per year<sup>11</sup>.

\*1 Calculated from the number of forklifts to be switched at Taga and Tochigi Plants. (Not including some lead-battery types)



Electric forklift truck introduced at Taga Plant

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News release: September 26, 2022

Air-conditioning IoT solution "exiida Remote Monitoring and Predictive Diagnosis" substitutes for simple inspection of refrigeration and air conditioning equipment for business use due to amendments of Act on Rational Use and Appropriate Management of Fluorocarbons



# 3. Environmental Activity Report (FY2022 results) - (2) Efforts to Achieve a Low-carbon Society

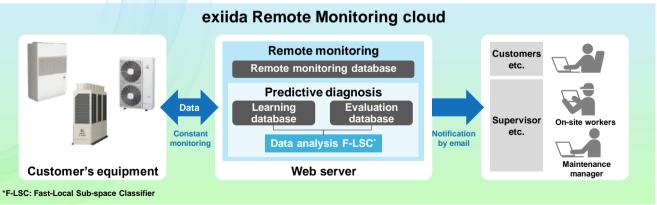
# Topic 4: "exiida Remote Monitoring and Predictive Diagnosis" Corresponding to the Act on Rational Use and Appropriate Management of Fluorocarbons

The "exiida Remote Monitoring and Predictive Diagnosis" our company offers can be used as an alternative to the simple inspection of refrigeration and air conditioning equipment for business use<sup>1</sup> as required by the Act on Rational Use and Appropriate Management of Fluorocarbons.

With the revision of this Act<sup>2</sup>, which came into effect August 2022, a constant monitoring system of refrigeration and air conditioning equipment for business use is positioned as an alternative to the simple visual inspections that have been conducted in the past. This contributes to reducing the workload. The Act on Rational Use and Appropriate Management of Fluorocarbons requires a simple inspection at least once every three months to prevent leakage of fluorocarbon gas, which is used as a coolant in refrigeration and air conditioning

equipment for business use. Therefore, the supervisor (customer and person in charge of equipment management) must visually inspect the equipment and record and preserve the inspection. In case of violation, the supervisor will be penalized. Our company's "exiida Remote Monitoring and Predictive Diagnosis" is a constant monitoring system that provides new value to customers by accumulating operating data (refrigerant pressure, temperature, current values, etc.) collected from refrigeration and air conditioning equipment for business use and applies AI to perform highly accurate diagnostics. It supports stable operation of equipment by detecting changes that may lead to failures.

- \*1 This refers to Class I specified products as defined in the Act on Rational Use and Appropriate Management of Fluorocarbons.
- \*2 Partial amendment to Article 16, Paragraph 1 of the Act on Rational Use and Appropriate Management of Fluorocarbons (Act No. 64 of 2001).



System overview of exiida Remote Monitoring and Predictive Diagnosis

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# 3. Environmental Activity Report (FY2022 results) - (3) Efforts to Achieve a Resource Efficient Society

## Enhancing Water Use Efficiency and Responding to Water Risks in Manufacturing Sites

To achieve a resource-efficient society, our company sets a target to improve the efficiency of water use by 50% (compared with FY2010) by FY2050 in our long-term targets under Hitachi Environmental Innovation 2050.

Our manufacturing sites use water in the production processes, such as for product testing, facility cooling and painting processes. In order to enhance water use efficiency, we are making efforts to strengthen management, such as by control of water consumption via visualization through IoT and investigation of plumbing leaks by patrol.

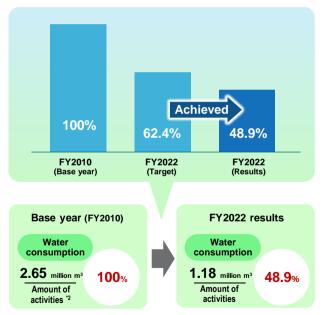
In addition, as a response to water risks, identification and evaluation of water risk at manufacturing sites is conducted once a year in accordance with the Hitachi Group Water Risk Guidelines.

## Activity results

In FY2022, the target set for water usage per unit <sup>1</sup> was 62.4% of the base year FY2010 level, and we achieved the target at 48.9%.

The results of the water risk evaluation did not identify any sites with significant risks that need to be addressed immediately.

\*1 Quotient of water consumption divided by amount of activities
 \*2 A value linked closely to water consumption (such as production and quantity produced)



Water usage improvement per unit

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## Efforts to Reduce Waste at Manufacturing Sites

To achieve a resource-efficient society, our company sets a target to improve the efficiency of resource use by 50% (compared with FY2010) by FY2050 in our long-term targets under Hitachi Environmental Innovation 2050. To achieve the long-term goals, the Environmental Action Plan for 2024 establishes targets for valuable waste generated per unit, zero waste to landfill, and effective utilization rates related to plastic waste as indicators, and promotes

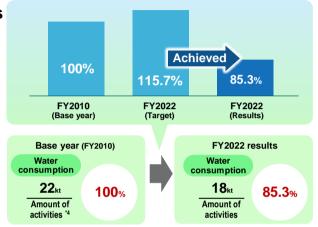
## Activity results

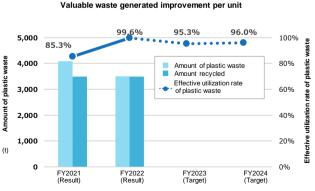
3R (Reduce, Reuse, Recycle) activities\*1.

In FY2022, the target set for valuable waste generated per unif<sup>2</sup> was 115.7% of the base year FY2010 level, and we achieved the target at 85.3%.

In addition, we achieved zero waste to landfill<sup>3</sup> at both Taga and Tochigi Plants, which reduces the amount of waste disposed of in landfills as close to zero as possible. For effective utilization rates related to plastic waste, we achieved the target of FY2024 ahead of time at 99.6%.

- \*1 Efforts to use resources effectively.
  - This is created by taking the first letters of the words Reduce, Reuse, and Recycle. Their meanings are as follows.
  - Reduce: Reduce the amount of waste that is discarded as end-of-life. Reuse: Reuse the used product instead of discarding. Recvcle: Recvcle the used product as resources.
- \*2 Quotient of the amount of waste and valuable materials divided by the amount of activities.
- \*3 Defined as a final disposal rate (landfill disposal/waste and valuables) of less than 0.5% in any given fiscal year in the Hitachi Group.
- \*4 A value liked closely to the amount of waste and valuable materials (such as production and quantity produced).





Effective use of plastic waste

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## **Promoting Home Appliances Recycling**

The Act on Recycling of Specified Home Appliances<sup>11</sup> mandates that manufacturers, etc. (manufacturers, importers and distributors) recycle end-of-life home appliances which they manufactured and imported in four product categories (room air conditioners, TVs, refrigerators and freezers, and washing machines and clothes dryers). The Act also sets recycling rate<sup>22</sup> standards for each product, and manufacturers are required to achieve a rate above the standards. In response to this Act, we are collaborating with 4 other companies (Group B)<sup>23</sup> in the same industry, and working to build and operate efficient recycling

systems on a national scale.

As a result of these efforts, the number of our used home appliances collected in FY2022 was approximately 1,732,000 units for three categories (TVs, refrigerators and freezers, and washing machines and clothes dryers), and the weight recycled was approximately 66 kt. We achieved recycling rates such as 80% for refrigerators/freezers, 94% for washing machines/clothes dryers, 74% for CRT TVs, and 87% for LCD and plasma TVs, which are rates that exceed the legal standards. We will continue to develop new recycling technologies to contribute to the realization of a resource-efficient society and promote the improvement of recycling rates.

\*1 The Act on Recycling of Specified Home Appliances

- \*2 Evaluated by the percentage of used home appliances collected by manufacturers, etc., that are transferred as parts and raw materials for a fee or for free, by weight.
  - Legal standards for recycling rates: 70% for refrigerators and freezers, 82% for washing machines and clothes dryers, 55% for CRT TVs, and 74% for LCD and plasma TVs.
- \*3 Sharp Corporation, Sony Corporation, Fujitsu General Limited, Mitsubishi Electric Corporation, Hitachi Global Life Solutions, Inc. (5 companies in total)

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News release: November 12, 2021

Developed a system that automatically separates glass panels in the recycling process of refrigerators with glass doors

For more information

News release: June 22, 2023

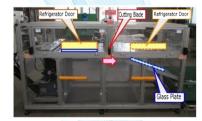
Developed glass polishing system to further promote full-cycle oriented manufacturing



# 3. Environmental Activity Report (FY2022 results) - (3) Efforts to Achieve a Resource Efficient Society

# **Topic 1: Development of Recycling Technologies**

As a manufacturer and distributor of refrigerators with glass doors, we have been conducting R&D to efficiently separate and polish glass panels of glass doors in the recycling process with the aim of promoting recycling, and in November 2021 we developed a machine for disassembling the glass doors of refrigerators.



Machine for disassembling glass doors of refrigerators

This machine separates the glass door into the door part and the glass panel, enabling recycling of plastics and metals used in the door part. However, it was difficult to recycle glass panels as glass materials because of the urethane and painting materials adhered to the panels, so this has been used as roadbed material.

We therefore developed a glass polishing system, which polishes these glass panels to cleanly remove adhered urethanes, paint, and other substances. This allows the panels to be used as the same glass material (closed recycling system), thereby expanding the range of applications for the separated glass panels. This system has been in operation at Kanto Eco Recycle Co., Ltd. since July 2023. We are working on further improvement of the system now that it is in full operation.



Glass polishing system

#### Features of glass polishing system

- Glass polishing system employs the surface polishing method, which removes adherent substances by polishing the surface of the glass panel with multiple rotating brushes.
- By combining the angle at which the glass panels are inserted and the rotation of the brushes, the polishing process enables the removal of urethanes, painting materials, and other adherent materials.

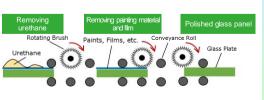


Image diagram of surface polishing method (Removes adherent material gradually with a rotating brush)



Glass panel before and after polishing

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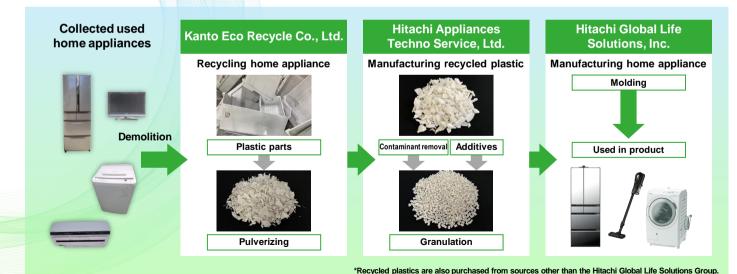
# **Topic 2: Expanded Use of Recycled Plastics**

The Group is promoting the expanded use of recycled plastic materials as part of our resource-recycling initiative.

At Kanto Eco Recycle Co., Ltd., used home appliances are dismantled and crushed for recycling. In order to establish a process to convert the mixed plastics generated in the process of dismantling and crushing into mono materials, we will install material sorting equipment to expand the supply of waste plastics. Hitachi Appliances Techno Service, Ltd., one of our procurement routes, also manufactures functional plastic materials and recycled plastic materials. In order to

expand the supply of recycled pellets, we will install more extrusion molding production lines in the future.

In addition to promoting these activities, we will develop technologies for use of recycled plastics with the aim of realizing resource-recycling within the Group.



Flow of recycled plastic use in Hitachi Global Life Solutions Group

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# **③** Development of Products with Low Environmental Impact - Washer/Dryer

Contribution to a resource-efficient society through long-term use: Front-loading washer dryer BD-STX120H

In addition to energy saving, we also consider the long-term use of our products by making products more resource-efficient and easier to care for.

#### Consideration for saving resources

The drying process from washing to drying operation has been revised to shorten the time and reduce power consumption compared to our previous model (BD-STX110G). At the same time, washing capacity has been increased from 11 kg to 12 kg without changing the dimensions of the main body, and the volumetric efficiency (washing capacity/body volume) has been improved with a view to saving resources.

changing the dimensions of the main body, and the volumetric efficiency (washing capacity/body volume) has been improved with a view to saving resources.

Innovations for easy care

- The Dry Filter-less structure has been adopted, which eliminates the drying filter on the top
  of the product body. Automatic Door Gasket Cleaning has also been newly equipped in
  addition to the existing features of Automatic Washing Tank Cleaning and Automatic Drying
  Duct Cleaning.
- Three automatic cleaning functions gather dust and lint from the drying operation in a box shaped High Capacity Lint Filter located on the lower left side of the main body, collecting dust and lint in one place, thereby reducing cleaning time and the frequency of waste disposal.



Diagram of dry filter-less, high-capacity lint filter and three automatic cleaning functions



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## **③** Development of Products with Low Environmental Impact: Microwave Oven

### Contribution to a resource-efficient society through long-term use: Microwave oven MRO-W10A

In addition to the cooking assist function linked with a smartphone, various innovations have been made to prevent stains inside the cooking cabinet and make it easy to clean the cabinet for long-term use. It is also designed to be easy to disassemble by reducing the number of parts. <sup>\*1</sup>

\*1 A similar structure has been adopted for the 2023 models (MRO - W10B, MRO - W1B, MRO - S8B) to ensure long-term use and disassembly of the products.

#### Care for disassembly

The number of parts has been reduced by reviewing the wiring inside the product, etc., and care has also been taken to ensure that the product can be disassembled.



MRO-W10A [Launched in July 2022]

- Innovations for easy care
- Silicone-based coating is used for stain resistance and easy cleaning inside the cabinet
- Removable and fully washable ceramic table plate
- Flat top surface inside the cabinet for easy cleaning without exposed heaters
- Removable and washable water tank and dew basin
  - Improved cooking software and made table plate rim higher to reduce leakage of juices from cooked food not only during the microwave operation but also during oven/grill cooking

#### Easy-to-clean side surface

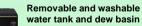
The sides of the cabinet inside are finished with a silicon-based coating. It is stain-resistant and easy to clean.

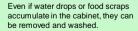


Removable and fully washable table plate

# Flat top surface for easy cleaning

Flat top surface without exposed heaters for easy cleaning.





Water tank Dew basin

Designed to reduce stains and ease cleaning (image)

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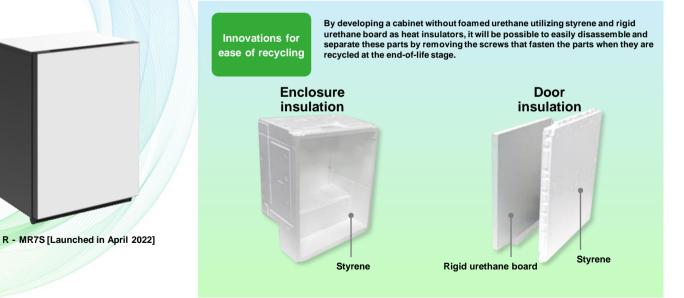
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# **③ Development of Products with Low Environmental Impact: Refrigerator**

## Improved product recyclability

### We are working to develop technologies that enable both design and ease of disassembly.

Conventional refrigerators using foamed polyurethane as heat insulators had issues with ease of disassembly during product recycling because urethane and other parts adhered to each other. Therefore, we developed a refrigerator without foamed urethane to improve its disassembly process.



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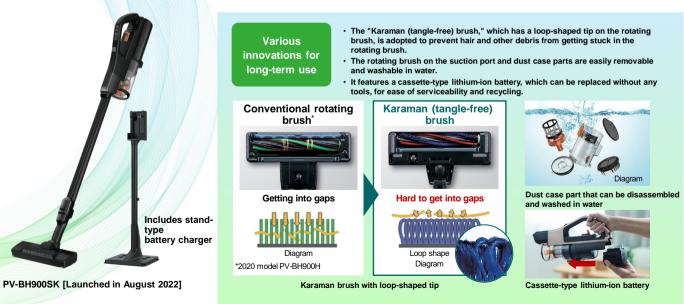
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**③ Development of Products with Low Environmental Impact: Stick vacuum cleaner** 

Contribution to a resource-efficient society through long-term use: Cordless stick vacuum cleaner PV-BH900SK

We are taking into consideration the long-term use of our products by making them easy to care for. \*1

\*1 A similar structure has been adopted for the 2023 model (PV-BH900SL) to ensure long-term use of the products.



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# **Topic 4: Expansion of Service Business Corresponding to Resource Recycling**

In order to promote resource-recycling, our company has been expanding our service business by commencing sales of outlet items from November 2021 and a refurbishing business from October 2022. A refurbished product is a reconditioned product that was returned to the manufacturer with some defects in appearance or performance when it was unpacked after being delivered to the customer's home or after being used for a short period of time.

In addition to the replacement of defective parts, internal cleaning, visual inspection, and performance testing are conducted, and the products that pass these tests are sold as refurbished products in our online store.

Outlet products are items that have stains, tears, or scratches on the packing materials but no problems with the product itself, and these are described in our

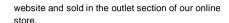
### Process to sell as refurbished products



Thorough inspection and cleaning inside and out (Cleaned)



**Operation test conducted** 





Note: An example of packaging condition (illustration)

In this way, we will also contribute to the reduction of environmental impact through our service business of refurbished and outlet products.



Hitachi home appliances, online store for refurbished products https://store.kadenfan.hitachi.co.jp/store/e/erefurbis/



Hitachi home appliances, online store for outlet products https://store.kadenfan.hitachi.co.jp/store/e/eOutlet/



Packing box also replaced

Includes 1 year manufacturer's warranty from purchase

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# **Efforts to Conserve Ecosystem**

The Group has set the goal of minimizing impacts on natural capital in our long-term environmental targets. We classify the emission of greenhouse gases and chemical substances into the atmosphere and the generation of waste materials in the course of our business activities as negative impact activities. Providing products and services that contribute to

ecosystem preservation and social contribution activities to preserve biodiversity and ecosystems are categorized as positive impact activities. We are working to minimize the gap between positive and negative impacts by 2050.

The Group has a considerable impact on ecosystems in all value chains, including the procurement of raw

materials, the manufacture of products, and the use of energy during transportation. Therefore, in order to take ecosystems into consideration, we conduct activities at each of our offices based on the Hitachi Group Ecosystem Preservation Activities menu, which outlines the specific activities we will undertake.

### **Overview of Hitachi Group Ecosystem Preservation Activities menu**

	Category	Activities	No. of menu items
	Production	Reduce the use of resources that cannot be reused	4
	Transportation	Use packaging that takes ecosystem into consideration	7
	Collection, disposal, and recycling	Reduce hazardous materials in products	2
Business sites	Product planning, development, and design	Estimate the impact of R&D on biodiversity during the product life cycle and implement mitigation measures, if needed	3
	Site management	Use native species and establish biotopes	17
	Wateruse	Use rain water	1
	Investment and acquisition	Confirm the impact on biodiversity when investing in or acquiring a business, and implement measures to minimize such impacts	1
	Market entry and expansion	Include biodiversity as an investment benchmark	1
	Business development	Develop products and services to purify water, air and soil, and expand such businesses	1
Value chain	Procurement	Procure paper and other office supplies with a preference for products that take biodiversity into consideration	17
value chain	Transportation	Implement ballast water measures during marine transportation	2
	Sales	Expand the sales of products that take biodiversity into consideration	9
	Collection, disposal, and recycling	Reuse and recycle components	7
	Entire value chain	Pursue the use of renewable energy	1
Community	engagement	Promote employee activities outside the company	3
Community	Social contribution	Conduct desert greening and afforestation activities	12
Water use that	Intake	Observe and collect biota information (impact on ecosystem depending on intake volume)	14
takes watershed ecosystems into consideration	Discharge	Establish biota management indicators and make observations (species and numbers of inhabiting organisms)	14

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# 3. Environmental Activity Report (FY2022 results) - (4) Efforts to Achieve a Society Harmonized With Nature

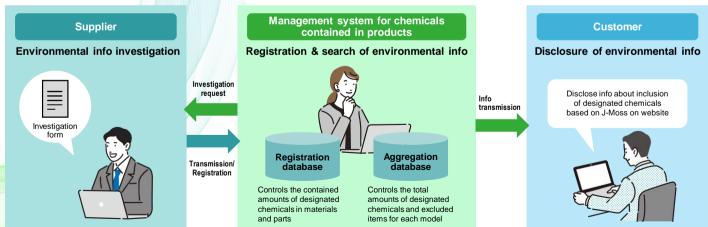
# **Controlling Chemicals Contained in Products**

To minimize the impact on natural capital, we are working to control chemicals contained in our products.

Our company formulated the Environment and CSR-Based Monozukuri Standards to control chemical substances contained in materials and parts at each stage of process, starting from the product development and design stage, procurement of materials and parts, and manufacturing of the products. Among these, chemical control in procurement of materials and parts is particularly important, and our management is particularly stringent, in line with the Hitachi Group Green Procurement Guidelines published by Hitachi Group. We work in cooperation with our suppliers to investigate the content of chemicals in the materials and parts built into products, and also the oils used in manufacturing processes, and all other purchased materials used in production. Also, based on J-Moss<sup>11</sup>, we disclose information about the inclusion of chemicals in our products to outside parties through the website. <sup>12</sup>

- \*1 A common designation for JIS C 0950 (Marking for the presence of specific chemical substances for electrical and electronic equipment)
- \*2 For refrigerators, washing machines and clothes dryers, and microwave ovens

## Overview of controlling chemicals contained in products



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# **Controlling Chemicals at Manufacturing Sites**

To minimize our impact on natural capital, we are committed to the management and reduction of chemical substances such as volatile organic compounds (VOCs), which are one of the causes of urban air pollution.

For chemical substances emitted from our manufacturing sites, we promote activities to reduce atmospheric emissions by setting targets in the Environmental Action Plan for 2024 using the amount of chemical atmospheric emissions per unit<sup>11</sup> as an indicator.

In FY2022, we achieved a reduction rate of 75.9% toward the target of reducing

\*1 Quotient of chemical substance emissions into the atmosphere divided by the amount of

\*2 Act on the Assessment of Releases of Specified Chemical Substances in the Environment

\*3 A value linked closely with the atmospheric emissions of chemical substances (such as the

atmospheric emissions of chemical substances per unit<sup>3</sup> by 76.2% compared with

**Activity results** 

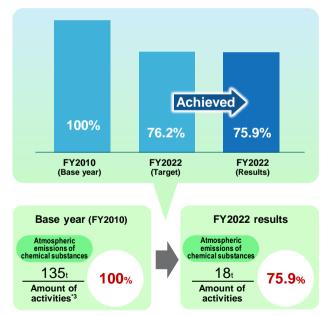
the base year of FY2010.

and the Promotion of Management Improvement

amount of chemical substances handled and their production)

activities

In accordance with Japan's Pollutant Release and Transfer Register (PRTR) Act<sup>2</sup>, we monitor the target chemical substances released into the atmosphere or into public waters, removed outside our sites as waste or discharged into sewage systems, and report the results to local governments for each manufacturing site.



#### Improvement in chemical atmospheric emissions per unit

# 4. Overall Environmental Impact of Business Activities (FY2022 results)

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# Overall Environmental Impact of Business Activities (FY2022 results)\*1

An overall picture of the amount of resource (energy, resources etc.) inputs for business activities in FY2022 and their resulting environmental impacts (greenhouse gases, waste, etc.) are shown below.

Busines

activitie

INPUT (Amount of input resources)				
Energy input (Crude oil equivalents)	22.6ML (874TJ)			
Renewable energy				
Electricity	1.4GWh (11TJ)			
Non-renewable energy				
Electric power	81.5GWh (795TJ)			
Gas (Natural)	0.4 million m <sup>3</sup> (18TJ)			
Gas (LPG, LNG, etc.)	0.9kt (42TJ)			
Fuel oil (heavy, light, etc.)	0.3ML (8TJ)			
Raw material inputs*2	97.3kt			
Metal	40.7kt			
Plastic*3	38.4kt			
Other materials <sup>*3</sup>	18.3kt			
Chemical inputs	0.87kt			
PRTR chemical substances handled	0.87kt			
Water resources inputs	1.231 millions m <sup>3</sup>			
Surface water				
Tap water (domestic water for drinking, etc.)	96,000 m <sup>3</sup>			
Industrial and/or river water	177,000 m <sup>3</sup>			
Groundwater	957,000 m <sup>3</sup>			

OUTPUTS (Environmental impact emitted)				
Greenhouse gas emissions*4 65.0kt-CO2				
CO <sup>2</sup> emissions <sup>*6*7*8</sup>	41.4kt-CO2e			
Hydrofluorocarbons (HFC)	23.6kt-CO2e			

Valuable gas generated	22.6kt
Amount reduced	3.0kt
Amount recycled	16.7kt
Amount to landfill	2.8kt
Chemical substances emitted/transferred	0.02kt
Amount of chemical substances subject to PRTR emitted/transferred	0.02kt
<b>T</b> · · · · · · · · · · · · · · · · · · ·	1
Total wastewater <sup>•9</sup>	1.231 millions m <sup>3</sup>
Public waters	1.231 millions m <sup>3</sup> 819,000 m <sup>3</sup>
Public waters	819,000 m <sup>3</sup>
Public waters Sewerage	819,000 m <sup>3</sup> 120,000 m <sup>3</sup>
Public waters Sewerage Underground seepage, evaporation, etc.	819,000 m <sup>3</sup> 120,000 m <sup>3</sup>
Public waters Sewerage Underground seepage, evaporation, etc. Water quality	819,000 m <sup>3</sup> 120,000 m <sup>3</sup> 291,000 m <sup>3</sup>

#### Scope: Hitachi Global Life Solutions Group sites.

However, for inputs of raw materials and chemical, and emissions/transfer of chemicals, the scope is manufacturing sites of Htachi Global Life Solutions.

- \*1 The total may vary from sums of items due to rounding. \*2 Amounts of raw material inputs are the amounts of raw materials
- purchased from external suppliers. Parts, semi-finished products and finished products are not included.
- \*3 "Plastics" includes recycled plastics and packaging materials. "Other materials" includes containers and packaging materials.
- \*4 Total of Scope 1 and Scope 2. No emissions of CO2, CH4, N2O, PFC, SF6, or NF3 of a non-energy origin, based on the Act on Promotion of Global Warming Countermeasures.
- \*5 CO<sub>2</sub> emissions equivalent
- \*6 Gas and fuel conversion factors are based on the "Table of Calculation Methods and Emissions Factors in the Calculation, Reporting and Publication System" complied by the Ministry of the Environment.
- \*7 CO<sub>2</sub> emissions are the sum of Scope 1 and Scope 2 resulting from the use of energy.
- Emissions from renewable energies are assumed to be zero.

\*8 CO<sub>2</sub> emissions from electricity use are calculated based on market standards.

Electricity CO<sub>2</sub>emissions coefficients are based on the adjusted emissions coefficient for each electric power utility, as per the Act on Promotion of Global Warming Countermeasures.

\*9 For sites where wastewater discharge cannot be determined, the amount of water input is used as the wastewater discharge.

# 5. Environmental Activity Report (FY2023 results) Topics

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# **Topic 1: Expanded Use of Recycled Plastics - Refrigerators**

## Utilization of GPPS<sup>\*1</sup> recycling technology

We are working to expand the use of recycled plastic by utilizing technology to improve the transparency of GPPS recycled plastic, which is mixed with impurities. \*1 General purpose polystyrene

- In order to achieve a high degree of transparency, we evaluated and studied recycled pellets together with recycled material manufacturers, and established a washing process and a salt water sorting process in the manufacturing process. This removes impurities and enables the raw material to be recycled from its brown color to a transparent GPPS.
- By adopting GPPS recycled plastic with high transparency which can be used for interior parts of refrigerators, we are expanding the use of recycled plastic in our products.





Color tone of GPPS by recycling process

# 5. Environmental Activity Report (FY2023 results) Topics

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# Topic 1: Expanded Use of Recycled Plastics - Washer/Dryer

### Efforts to expand the use of recycled plastic for design parts

Many large plastic components are used in the design parts, and applying recycled plastic to the design parts is essential for expanding their use.

- Plastic materials may contain black carbides due to the generation of gas stains during the manufacturing process of recycled plastics.
   Since carbides appear as black spots on the design part of the product, these parts had to be discarded.
- Since white appearance is popular for washing machines, the exterior components are white-based hues. For this reason, only inconspicuous large plastic components are colored gray.
- By changing from white to gray color, the black carbides produced during the manufacture of recycled plastic materials can be made less noticeable, thereby reducing defects that occur during part molding and reducing waste.





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News release: July 25, 2023

Hitachi cordless stick vacuum cleaner achieved lightest ever standard weight of 0.97kg Launched cordless stick vacuum cleaner, Sugokaru (ultra-lightweight) stick



## Topic 1: Expanded Use of Recycled Plastics - Stick Vacuum Cleaner

### Cordless stick vacuum cleaner PV-BH900SL

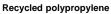
As with the 2022 model PV-BH900SK, this product uses at least 40% recycled plastic by weight in the plastic materials used for the handle cover of the product body and the accessory, a stand-type battery charger. In addition, the type of recycled plastic used is reviewed from the perspective of availability and texture, and is actively utilized while maintaining a high sense of quality.

Furthermore, we continue to give consideration to recyclability by eliminating secondary processing such as painting and printing as much as possible, which are likely to result in foreign substances when the product is disposed of or recycled.

In recognition of this environmentally friendly manufacturing and design that is in tune with people's lifestyles, we were also able to receive the Good Design Gold Award 2022 for our new product PV - BH900SL, which we received for the 2022 Model PV-BH900SK. It also received the iF Design Award 2023 and Red Dot Design Award 2023, two of the world's three major design awards.







Example of recycled plastic



Recycled ABS





Body

Powerful smart head

Engraved logo

Parts made from recycled materials (example)

#### 5. Environmental Activity Report (FY2023 results) Topics

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News release: October 4, 2023

New heat pump system shortens time and saves energy while maintaining the fine finish Launched the Big Drum, front-loading washer dryer



# Topic 2: Front-Loading Washer/Dryer with New Heat Pump that Saves Time, **Energy and Water**

## Front-loading washer/drver BD-STX130J, BD-SX120J

For this product, we have newly adopted the heat pump technology developed for refrigerators and EcoCute, and we developed the Rakuhava (easy and fast) wind iron, which combines high-speed airflow with high air volume. The dry filter-less structure of Raku (easy) maintenance, which improves airflow resistance in the area where the dry filter used to be\*1, contributes to the combination of high-speed airflow and high air volume.

These features save time and energy while maintaining the same high guality of finish. In addition, the heat pump system saves water<sup>\*2</sup> by eliminating the use of water for cooling and dehumidification during drying.

Structure of Rakuhaya (easy and fast) wind iron

\*1 2021 model BD-STX110G (Model with dry filter) \*2 See "Comparison of new and old models in wash-to-dry operation."

Direct wind

Heat pump

the front

from

Improved airflow resistance thanks to drv filter-less structure

High-speed airflow x high air volume

Compact, high airflow fan motor

\* Operation time varies depending on the amount and type of clothes and the environment in which it is used. \* The data are based on the the Drving Performance Evaluation Method voluntary standards of the Japan Electrical Manufacturers' Association.

\*1 According to our research, Calculated as if used once a day for 365 days.

O[Electricity cost]: Approximate unit price of electricity: 31 ven/kWh (tax included): revised July 2022; based on research by Home Electric Appliances Fair Trade Conference.

[Water cost]: Approximate unit price of water: 262 yen/m3 (water rate: 137 yen/m3, sewage rate: 125 ven/m3) (tax included), based on a survey by the Japan Electrical Manufacturers' Association, as of July 2023.

Electricity and water costs may vary due to changes in conditions and unit prices.

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BD-STX130J [Launched in November 2023]

Comparison of new and old models in wash-to-dry operation

•	(Standard course)	2022 model BD-STX120H (At 6 kg from washing to drying)	BD-STX130J (At 7 kg from washing to drying)	BD-SX120J (At 6 kg from washing to drying)	
	Estimated time	Approx. 98 min.	Approx. 93 min.	Approx. 80 min.	
	Power consumption	Approx. 1,570 Wh	Approx. 1,150 Wh (reduced 26% approx.)	Approx. 980 Wh (reduced 37% approx.)	
	Standard water consumption	Approx. 86 L	Approx. 65 L (reduced 24% approx.)	Approx. 64 L (reduced 25% approx.)	
	Annual electricity +	Approx. 25,989 yen	Approx. 19,229 yen (Save approx. 6,760 yen)	Approx. 17,210 yen (Save approx. 8,779 yen)	
	water costs*1	*Electricity and water costs vary depending on the amount and type of clothes, the environment in which it is used, and contract details.			

# 5. Environmental Activity Report (FY2023 results)

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# Topic 3: Efforts to Achieve a Society Harmonized With Nature - Cleanup Activities at Kawarago Beach in Hitachi City, Ibaraki

On Friday 7 July, 2023, a cleanup of the Kawarago Beach in Hitachi City, Ibaraki, was conducted by volunteer members of our Taga Plant as part of our initiatives to achieve a society harmonized with nature.

This cleanup activity is held every year, and this year it was attended by about 200 participants, including employees of Taga Plant. They collected litter from the beach and boardwalk and also weighed the litter after it was collected to determine what types of litter were most common. The majority of the litter collected was tree branches, etc., while the next most common type was plastics, including plastic bottles.

The results will be used for future cleanup activities and efforts to conserve biodiversity.



Cleaning up the beach while separating and collecting trash



Volunteer members of Taga Plant

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# What This Report Covers (Scope of Environmental Report)

6. What Environmental Report 2023 Covers

- Applicable period
- ·Results related to environmental impact: FY2022 (April 1, 2022 to March 31, 2023)
- ·The results of FY2023 activities are also included in the topics
- Applicable organization

Hitachi Global Life Solutions, Inc. and its consolidated subsidiaries

## Method of setting data for the reference year

See JIS Q 14064-1:2010 (Greenhouse Gases - Part 1: Specifications and Guidelines for Quantifying and Reporting the Emission and Absorption Levels of Greenhouse Gases in Organizations).

#### Guidelines referred to GRI Standards (Global Reporting Initiative)

Reporting cycle Published every year as an annual report

- Date published November 2023
- Other
  - •Notations in the report

Our company: Hitachi Global Life Solutions, Inc.

- The Group: Hitachi Global Life Solutions, Inc. and its consolidated subsidiaries
- Hitachi Group: The Hitachi Group including Hitachi, Ltd. (Global)
- · About topics
  - Includes activities and products/services launched in FY2022 and FY2023

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