

Sustainability Initiatives | Environment

Environmental Management



Environmental Policy

At FUKUSHIMA GALILEI, we acknowledge that making our operations environmentally friendly is a crucial task. We are committed to continuously and actively implementing initiatives that consider and reduce our environmental impact.

1. We will offer and recommend products, systems, and services designed to minimize environmental impact throughout the manufacturing, sales, installation, and maintenance processes.
2. In our commitment to environmental protection, we will closely monitor the impact of our business activities on the environment and continuously enhance our environmental management systems.
3. We will adhere to laws, regulations, and codes of industry associations of which we are members, as well as community rules pertaining to environmental management.
4. In the course of our business activities, we will address and manage key issues that impact the environment:
 - (1) Promote the development, manufacture, and sales of environmentally friendly products, systems, and services.
 - (2) Reduce the use of environmentally harmful chemicals and enhance the control levels of such chemicals.
 - (3) Promote the effective use of resources.
 - (4) Combat climate change.
 - (5) Protect the environment.
5. We will establish environmental targets, formulate and implement an action plan, and regularly review these targets and the plan as necessary.
6. We will document, implement, and maintain the environmental management system.
7. We will ensure all employees are familiar with the Environmental Policy and conduct training to increase awareness of the importance of environmental protection. Additionally, we will inform our business partners about the Environmental Policy and encourage them to engage in environmental protection efforts.
8. We will regularly disclose our environmental protection efforts on our website.

Environmental Management System

We have obtained ISO14001 certification and implemented an environmental management system (EMS).

The EMS is implemented in accordance with the management program of each of our business locations. The business locations that have obtained EMS certification conduct annual environmental audits (internal environmental audits) and external assessments. Other business locations and group companies have their EMS reviewed by senior management, who incorporate it into their environmental targets for the following fiscal year for continued improvement.

Environmental audits

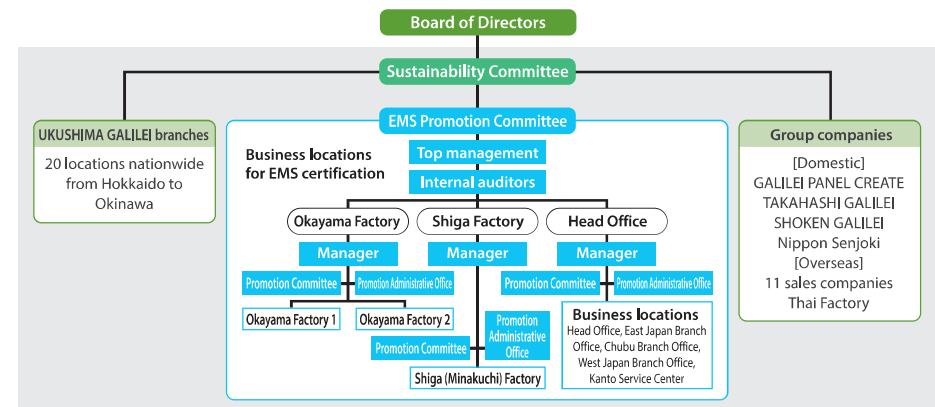
To ensure the effective functioning of our Environmental Management System (EMS), we conduct an annual internal audit as well as an annual external audit performed by an external certification body. The internal auditor is appointed from among registered staff who have completed an internal auditor training seminar and have recognized competencies. Prompt actions are taken to address issues identified during internal audits.

Promotion system

At business locations that have obtained EMS certification, an EMS Promotion Committee has been established under the supervision of the EMS Manager. Similar bodies at other business locations hold regular meetings to set targets, review progress, and share information.

Environmental training

We conduct annual environmental training for our employees. The recovery of CFCs is a critical environmental activity for our organization. We have established our own certification criteria for the operation, which can only be performed by certified engineers. Each year, our CFC recovery engineers receive specialized training to improve their emergency response skills.



Our major environmental performance metrics are disclosed on our website.

https://www.galilei.co.jp/company/sustainability/e_management/#achievements



Response to Climate Change



TCFD-related Financial Disclosures

The GALILEI Group supports the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD), and analyzes its risks and opportunities using the TCFD framework.

Governance

The Sustainability Committee has been established to promote sustainability throughout the GALILEI Group. A subcommittee of the Sustainability Committee that is responsible for one of the material issues, "Achieve a carbon-free society" addresses climate change issues under the supervision of the subcommittee chairman.

Strategy

As part of our commitment to addressing climate change and leaving a sustainable environment for future generations, we established a sustainable vision, Dramatic Future 2050. We also established the Environment Vision 2050 to achieve a carbon-neutral and carbon-free society by 2050, and developed the Environment Vision 2030, which outlines specific steps and initiatives. As an environmentally conscious company, we recognize the importance of meeting stakeholder expectations and fulfilling social obligations. The GALILEI Group has conducted comprehensive scenario analyses based on potential increases of 1.5°C and 4°C. For more information on our scenario analysis, please see the table on the right.

Major climate-related risks and opportunities

Risks and opportunities	Types	Outline of risks and opportunities	Financial impact		Actions
			1.5°C	4°C	
Risks	Transition risks	More stringent refrigerant regulations and increased compliance costs (for products and at business locations)	High	Low	<ul style="list-style-type: none"> Transition to green refrigerants and prevent refrigerant gas leaks, as outlined in the Environment Action 2030. Invest capital for the launch new refrigerants. Engage in research and development, and organize training for acquiring technical skills.
		More stringent energy efficiency regulations and increased compliance costs (for products and at business locations)	Medium	Low	<ul style="list-style-type: none"> Develop and offer products with superior environmental performance, as stated in the Environment Action 2030.
		Increased costs due to the introduction of a decarbonization tax	Medium	Low	<ul style="list-style-type: none"> Reduce CO₂ emissions, as stated in the Environment Action 2030.
		Rising raw material prices and procurement costs	High	Medium	<ul style="list-style-type: none"> Launch the GALILEI Supplier Hub and the GALILEI Contractor Hub. Implement supply chain measures to address the situation and incorporate cost increases into pricing.
Risks	Physical risks	Increased impact on business operations from more devastating natural disasters and extreme weather conditions	Medium	High	<ul style="list-style-type: none"> Develop a Business Continuity Plan (BCP) and establish alternatives for high-risk locations.
		Delays in procurement due to supply chain disruptions	Medium	High	<ul style="list-style-type: none"> Diversify purchases, use multi-purpose parts, and increase inventory levels.
Opportunities	Products / Services	Growing demand for environmentally friendly products (green refrigerants and energy efficient products)	High	Medium	<ul style="list-style-type: none"> Transition to green refrigerants and develop and offer products with superior environmental performance, as outlined in the Environment Action 2030.
		Increased use of thermal insulation panels in non-refrigerated spaces	High	Medium	<ul style="list-style-type: none"> Promote the use of panels in non-refrigerated spaces. Advance the application of technologies in highly insulated houses.
		Customer trust and confidence earned through the Zero Call Company strategy	Medium	Medium	<ul style="list-style-type: none"> Prevent refrigerant gas leaks, as specified in the Environment Action 2030.
		Growing demand for freezing equipment and panels due to the expansion of cold storage chains	Medium	High	<ul style="list-style-type: none"> Expand group synergies to the upstream of the entire food production stream. Improve productivity and installation efficiency.
		Reduced costs of renewable energy	Medium	Low	<ul style="list-style-type: none"> Optimize the use of renewable energy.

Risk management

Climate change risk management is carried out by a subcommittee of the Sustainability Committee that is responsible for one of the material issues, "Achieve a carbon-free society."

Metrics and targets

We have set metrics and targets for each item of the Environment Action 2030. Please see the table below for the key themes and medium- to long-term targets.

Key themes and medium- to long-term targets

Key theme	Indicator	Medium-to long-term target	
		Target	Target year
Transition to green refrigerants			
Plug-in type products	Weighted average Global Warming Potential (GWP)	GWP 150 or below	2029
Remote type products and installation	Weighted average Global Warming Potential (GWP)	GWP 750 or below	2029
Customers' products / equipment	Replace products containing CFC refrigerants that have greater environmental impact	-	Every year
Prevent refrigerant gas leaks			
Amount of refrigerants leaks	Refrigerant leaks (t-CO ₂) from products manufactured and projects completed within the past 10 years	0	2035
Plug-in type products	10-year CFC refrigerant leak warranty	Start	2025
Remote type products and installation	10-year CFC refrigerant leak warranty under a maintenance agreement	Start	2025
Develop and offer products with superior environmental performance			
Life cycle assessments (LCA)	LCA for major models	Disclosure	2023
Transition to environmentally friendly products	Transition to products with less environmental impact based on LCA results	-	Every year
Reduce CO ₂ emissions			
Decarbonization	Scope 1 and 2 CO ₂ emissions (absolute amount) reduction rate (from 2013)	50%	2030
	Reduction of CO ₂ emissions by working with customers	-	Every year

Environment Action 2030

As part of our commitment to leaving a sustainable environment for future generations, we established the Environment Vision 2050 to achieve a carbon neutral and carbon free society by 2050, and we also developed the Environment Vision 2030 as our medium-term target. At the GALILEI Group, we make concerted efforts to achieve the following four key themes.

Transition to green refrigerants

Transition to a CFC-free refrigerant, R1234yf

As part of our efforts to transition to green refrigerants, we began phasing in a CFC-free refrigerant, R1234yf, for our flagship commercial refrigerators and freezers and ice makers in October 2023, and began production of 222 models of commercial refrigerators and freezers and 9 models of ice makers. We aim to complete our transition to a full range of CFC-free refrigerators and freezers by the end of 2024, and will working toward making all our products CFC-free.



GRD-121PX
CFC-free commercial refrigerator

FIC-95KTX
CFC-free ice maker

What is R1234yf? R1234yf is a non-toxic refrigerant with a lower burning velocity, an Ozone Depletion Potential (ODP) of 0, and a Global Warming Potential (GWP) of 1. R1234yf is safe to handle, making it suitable for on-site repairs and inspections.

Transition to a natural refrigerant, R744 (CO₂)

R744 (CO₂) is a natural refrigerant with a GWP of 1, and it is non-flammable and safe to use. We have proactively used natural refrigerants for refrigerated and freezer showcases since

the Act on Rational Use and Appropriate Management of Fluorocarbons was enforced in April 2015. Since the introduction of the Axia-Zero system with a CO₂ freezer in February 2015, approximately 2,400 CO₂ freezers with a total capacity of 16,000 horsepower have been supplied as of June 2024. In 2022, we developed our own brand, NOBRAC, a CO₂ refrigeration system, and the number of the systems supplied in FY2023 steadily increased to 13. In the plug-in type products category, we started production of plug-in reach-in showcases with R744 in August 2023.



MGK-53FKCY5BOR
CO₂ plug-in type showcase

Prevent refrigerant gas leaks

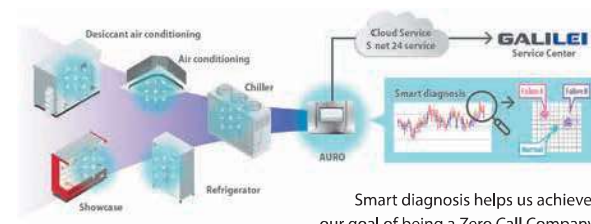
10-year refrigerant gas leak warranties launched

In April 2024, we started 10-year refrigerant gas leak warranties for commercial refrigerators and freezers and ice makers with CFC-free refrigerants. The warranties provide a 10-year cover for cooling failures and repairs in the event of refrigerant gas leaks. All plug-in type products manufactured by us will be covered from FY2025.



Refrigerant gas leak prediction and detection service started

We now offer Smart Diagnosis, an AI- and IoT-based service that predicts and detects refrigerant gas leaks in remote type products installed in stores. This service will help us to prevent unexpected repair works and to reduce food loss and loss of sales opportunities, and we aim to be a Zero Call Company through this initiative. Smart Diagnosis complies with the Guidelines on CFC Leak Detection Systems through Continuous Monitoring of Commercial Refrigeration and Air-Conditioning Equipment (JRA GL-17), which is a standard issued by the Japan Refrigeration and Air Conditioning Industry Association (JRAIA). Smart Diagnosis effectively detects potential cycle failures and refrigerant leaks, issuing alerts quickly so that customers can act promptly.



Smart diagnosis helps us achieve our goal of being a Zero Call Company

Initiative on Fluorocarbons Life Cycle Management (IFL)

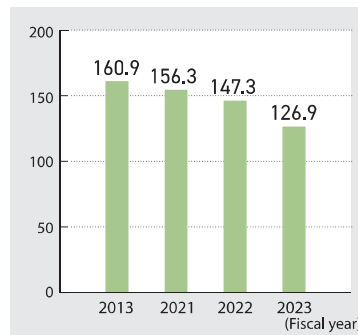
The GALILEI Group has signed up for the Initiative on Fluorocarbons Life Cycle Management (IFL), an international initiative led and established by the Ministry of the Environment in an effort to reduce CFC emissions from the entire life cycles of products. By utilizing our technical capabilities in developing countries where no established CFC recovery and treatment technologies are available, we are dedicated to reducing greenhouse gas emissions and fostering a sustainable balance between environmental preservation and economic growth.



CFC emissions reduction efforts

Before the Act on Rational Use and Appropriate Management of Fluorocarbons came into force, we obtained ISO14001 certification for our major business locations. One of our important tasks is to prevent CFC leaks. The EMS Promotion Committee identifies CFC-using equipment and conducts regular inspections and maintenance based on the equipment control register. Leakage for FY2023 was 126.9t-CO₂ (CO₂ equivalent), which is below 1,000t-CO₂, the value required by law to be reported to the Japanese government.

Amount of HFC leaked (t-CO₂)



Develop and offer products with superior environmental performance

Life Cycle Assessments (LCA) of major models

What is LCA?

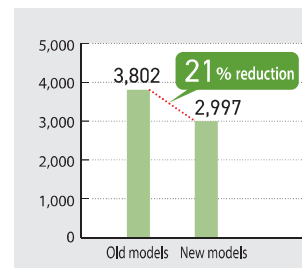
Life Cycle Assessment is a method that quantitatively assesses the environmental impact of the entire life cycle of a product or service (from resource extraction, raw material production, product production, distribution and consumption through disposal and recycling) or of a specific stage of the life cycle. In FY2021, we began preparations to conduct LCA, and in FY2022, we calculated the impact of our major models of upright refrigerators and plug-in type showcases, including previous years' models, on climate change, and conducted comparisons.

Upright refrigerators

- (1) Assessment of impact on climate change by product life cycle stage
 - GHG* emissions at the market distribution (use) stage accounted for approximately 84.4% of total emissions.
 - GHG emissions at the product production stage accounted for approximately 15.5% of total emissions.
- (2) GHG emissions from a new model (GRD-120EM) were reduced by approximately 21% from an old model (ARD-120RM) as a fewer number of parts were used and energy efficiency was improved (power consumption was reduced) during use.

* GHG stands for greenhouse gas, and it is a generic term for greenhouse gases such as carbon dioxide and methane.

Comparison of greenhouse gas emissions (CO₂ equivalent (kg-CO₂e))

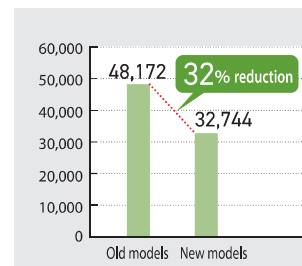


GRD-121PX
Commercial refrigerator

Plug-in type showcases

- (1) Assessment of impact on climate change by product life cycle stage
 - GHG* emissions at the market distribution (use) stage accounted for approximately 97% of the total GHG emissions.
 - GHG emissions at the product production stage accounted for approximately 2.1% of the total GHG emissions.
- (2) GHG emissions from a new model (AMC-61PGFTAXOR) were reduced by approximately 32% from an old model (IMC-64PGFTAXR) as fewer parts were used and energy efficiency was improved (power consumption was reduced) during use.

Comparison of greenhouse gas emissions (CO₂ equivalent (kg-CO₂e))



AMC-61QGFTAXOR
Plug-in island showcase

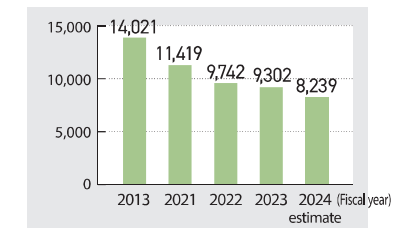
Reduce CO₂ emissions

The GALILEI Group's initiative to reduce CO₂ emissions

The GALILEI Group aims to reduce its CO₂ emissions by 50% by 2030 (compared to FY2013).

In FY2024, we expect to reduce CO₂ emissions by approximately 40% through transition to CO₂-free power sources.

CO₂ emissions (t-CO₂)



CO₂-free power sources

Our Shiga (Minakuchi) Factory transitioned to CO₂-free power sources in July 2024. With this transition, all of our domestic factories now have zero CO₂ emissions. We plan to use CO₂-free power sources for our future production and R&D activities.



Reduction of Scope 3 emissions

We have supplied a GALILEI Air-tec System to Harashin store in Shirone, Minami Ward, Niigata City as energy efficient equipment to achieve the ZEB (Zero Energy Building) concept. Harashin is the first supermarket to obtain the highest ZEB energy efficiency certification. As a registered ZEB Planner, the GALILEI Group is committed to working closely with customers to promote ZEB and reduce Scope 3 emissions toward a carbon-free society.



Biodiversity Conservation Initiatives

Biodiversity Conservation Policy

To protect life on Earth, the GALILEI Group is committed to protecting and maintaining the natural environment.

1. We will strive to achieve net zero greenhouse gas emissions, as outlined in our sustainable vision, "Dramatic Future 2050."

2. We will collaborate with NPOs and public interest incorporated foundations to protect and restore nature and conserve biodiversity.
3. We will regularly disclose our biodiversity conservation efforts on our website.

Beach Cleanup

The GALILEI 1% Club (please see page 45) started the Beach Cleanup, an environmental preservation activity, in FY2023 as part of its social engagement activities. To date, the Club has carried out the activity seven times in six locations with a total of 509 participants. Through the Beach Cleanup, the GALILEI Group is dedicated to advancing a carbon-free society, increasing social engagement, and conserving biodiversity.

Some of our recent activities

May 2024	Miyagahama Beach, Shiga Prefecture	142 people
June 2024	Iwaya Beach, Chikugo River bank (Aikawa area), Keya Beach, Fukuoka Prefecture	68 people
September 2024	Yodogawa River, Osaka Prefecture	104 people



Initiative participation

In April 2023, Osaka Prefecture launched the Osaka Biodiversity Support Declaration registration scheme to work with businesses and organizations to conserve biodiversity. In August 2023, the GALILEI Group registered under the following declaration category.

Declaration 4: **We will strive to protect the environment and to improve habitats.**

Awareness-Raising Activities

In April 2024, the GALILEI Group invited an instructor from NPO Osaka Umisakura to the Osaka Head Office to give a lecture to all employees on the significance of conserving biodiversity and conservation activities. The lecture was conducted in a hybrid format, combining in-person and online participation.



Topics

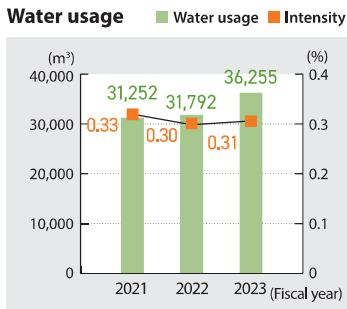
Effective use of resources

We at the GALILEI Group have made the promotion of effective use of resources one of our key themes, and our efforts include preventing environmental pollution, reducing the usage of water and other resources, extending the service life of products, minimizing the amount of waste generated from production sites, and recycling used products and parts.

Management of water resources

Our production processes use minimal water, primarily for indirect cooling. Our factories are located in an area that is less prone to drought, and we use tap water, water for industrial use, or groundwater depending on the requirements of the location.

We properly treat wastewater before discharging it into the sewage system and public waters.



Waste management

In FY2023, we successfully reduced industrial waste generation by 6.6% from the previous year to 2,827 tons. It is the results of our proactive efforts to improve the yield rate of scrap metal and scrap plastic materials, to reduce defective products in the production process, and to properly control inventory. We maintained a waste recycling rate of over 80% by separating and reusing waste. We will continue to reduce waste generation and increase the reuse rate.