

# ESG Briefing (Environment) for FY2024

Fuji Electric Co., LTD  
March 2025

Good afternoon, everyone.

I am Obinata from the Production and Procurement Group.

At the 2024 ESG briefing, today I will be speaking about our environmental initiatives.

## 1. Fuji Electric's Policy to the Environment

- Basic Policy
- Promotion of Environmental Vision 2050
- Trends Related to the Environment and Our Initiatives (Passive/Active)

## 2. Our Initiatives for Decarbonization (Passive)

- Greenhouse Gas Emissions Reduction
- Energy and Environment Businesses to Help Reduce CO<sub>2</sub> Emissions
- Contributions to CO<sub>2</sub> Emissions Reduction Through Products

## 3. Initiatives for Business (Active)

- Expansion of New Product Lineups for the Environment
- Compliance with the EU Ecodesign Regulation

Today's agenda is as follows:

First, I will explain our company's environmental approach and Environmental Vision 2050. Following that, I will discuss our initiatives for greenhouse gas reduction toward decarbonization, our products' contribution to CO<sub>2</sub> reduction, the expansion of new products leading to business, and our response to the Ecodesign Regulation.

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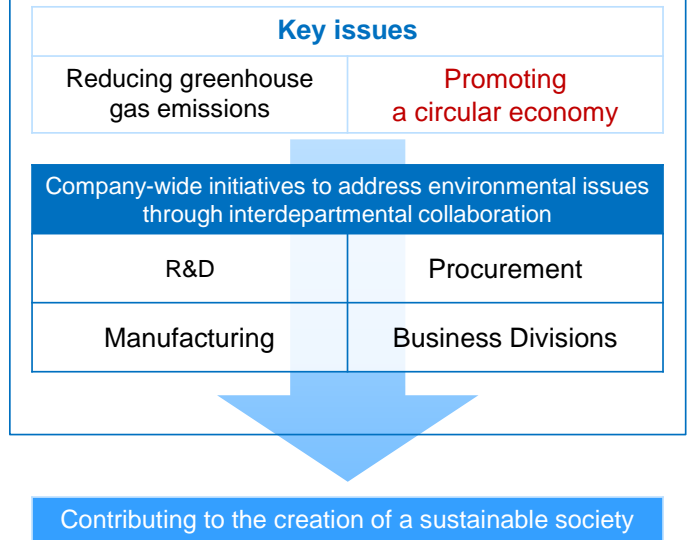
First, I will explain our company's environmental approach.

Promote Environmental Vision 2050 through interdepartmental collaboration which was established based on the Basic Environmental Protection Policy

### Fuji Electric Basic Environmental Protection Policy

1. Offering products and technologies that contribute to the global environmental protection
2. Reduction of environmental burden throughout product life cycles
3. Reduction of environmental burden in business activities
4. Compliance with laws, regulations and standards
5. Establishment of environment management systems and continuous improvements of the systems
6. Improvement of employees' environmental awareness and social contribution
7. Promotion of communication

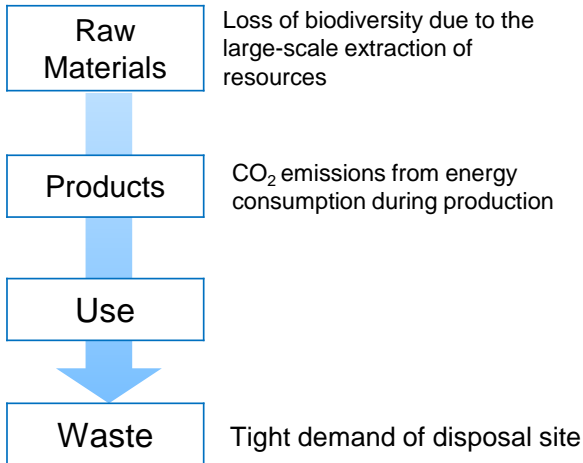
### Environmental Vision 2050



Our company has established Environmental Vision 2050 based on the seven basic policies outlined in our Basic Policy for Environmental Protection, which include providing products and technologies that contribute to global environmental protection, reducing environmental impact throughout product lifecycles, and reducing environmental impact in business activities. We aim to contribute to the realization of a sustainable society by promoting initiatives in research and development, procurement, manufacturing, and business divisions in collaboration, regarding the reduction of greenhouse gas emissions and the promotion of a circular economy, which are important issues. Among these, circular economy initiatives are accelerating worldwide.

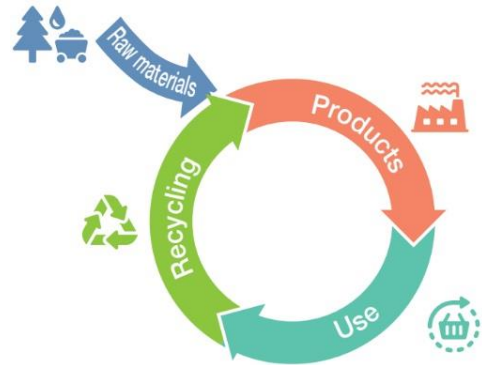
Efforts to realize a circular economy are accelerating around the world

## Conventional



## A Circular Economy

Reducing the input of resources through the cycle of products, use, and recycling.



\*Created based on materials from the Ministry of the Environment.

The concept of a circular economy is a cyclical economic system that aims to minimize waste generation and promote reuse and recycling, in contrast to the traditional linear economy of mass production, mass consumption, and mass disposal. In each process of the circular economy, it is necessary to design for resource circulation and environmental impact, and to transform the existing economic system.

## Clarification of Circular Economy Policy

### Environmental Vision 2050

We aim to achieve a “Decarbonized Society,” “Recycling-Oriented Society,” and “Society in Harmony with Nature” by expanding use of Fuji Electric’s innovative clean energy technology and energy-saving products.

**Achieve a Decarbonized Society** Target carbon neutrality across the supply chain

**Achieve a Recycling-Oriented Society** Strive to achieve zero environmental impact across the entire product life cycle while advancing the establishment of a green supply chain

**Achieve a Society in Harmony with Nature** Aim for zero influence on the ecosystem by corporate activities contributing to biodiversity

### Fiscal 2030 Targets

We aim to achieve the following goals in order to limit the temperature rise to 1.5 °C above pre-industrial levels.

- Greenhouse gas emissions throughout the supply chain: Reduction of over 46% (compared to FY2019)
- Greenhouse gas emissions during production: Reduction of over 46% (compared to FY2019)
- Contribution to CO<sub>2</sub> emissions reduction in society through products: 59 million tons/year

**We promote the circular economy while complying with global environmental regulations.**

- Transition to environmentally friendly products adapted to ecodesign regulations
- Ratio of waste sent to landfills (including waste plastics) less than 0.5%

※The text in red was revised in June 2024.

Next, I will explain our company's Environmental Vision 2050. Our company aims to realize a decarbonized society, a recycling-oriented society, and a society in harmony with nature by expanding the use of our innovative clean energy technology and energy-saving products. As milestones, we have set targets for fiscal year 2030, including greenhouse gas reduction and the amount of society's CO<sub>2</sub> reduction contribution through products, toward the realization of a decarbonized society. Additionally, toward the realization of a recycling-oriented society and a society in harmony with nature, we are promoting a circular economy while complying with international standards, and have set targets for transitioning to environmentally friendly products and reducing the waste disposal rate. The parts shown in red were revised in June last year to clarify our circular economy policy and strengthen our initiatives.

- [Passive] We aim to achieve targets to create a decarbonized society in alignment with international trends
- [Active] We aim to achieve the growth of our energy and environment business in new business fields

	Trends and demands (challenges)	Our key initiatives and directions
<p><b>Passive</b></p> <p>actions for the environment</p>	<ul style="list-style-type: none"> <li>● <b>Nationally determined contributions (NDC) to decarbonization</b> <ul style="list-style-type: none"> <li>• FY2030: -46% (compared to FY2013)</li> <li>• FY2035: -60%</li> <li>• FY2040: -73%</li> </ul> </li> <li>● <b>Greenhouse gas (GHG) emissions reduction throughout a supply chain</b></li> </ul>	<ul style="list-style-type: none"> <li>● <b>Setting decarbonization targets in the light of government objectives</b> <ul style="list-style-type: none"> <li>• FY2024 progress: As planned</li> <li>• FY2030 target: -46% (compared to FY2019) -54% (compared to FY2013)</li> <li>• FY2030 and thereafter: Targets to set and additional measures under consideration</li> </ul> </li> <li>● <b>Collaborative efforts towards reducing GHG emissions from procurement (upper stream of Scope 3)</b></li> </ul>
<p><b>Active</b></p> <p>strategies for GX</p>	<ul style="list-style-type: none"> <li>● <b>Growth of GX products and services markets</b></li> <li>● <b>The EU Ecodesign Regulation in force and applied</b> <ul style="list-style-type: none"> <li>• Reduction of environmental impacts throughout product life cycles</li> <li>• Disclosure of product information related to the environment (DPP ※) ※Digital Product Passport</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● <b>Developing and pursuing Fuji Electric's GX strategies</b> <ul style="list-style-type: none"> <li>• Expansion of GX product lineups</li> <li>• Transition to environmentally friendly products</li> </ul> </li> </ul>

Regarding the main trends related to the environment and our company's initiatives based on the Environmental Vision, these are divided into defensive and offensive approaches. Regarding defensive environmental activities to reduce our own GHG emissions, we are currently considering setting targets for FY2035 and FY2040, and additional measures, including GHG reduction in procured goods, in light of the Japanese government's decarbonization goals. On the other hand, regarding the offensive GX strategy, which involves providing products and services that contribute to decarbonization and expanding our business, we aim to expand our business in new business areas, such as expanding our GX product lineup and transitioning to environmentally friendly products, by accurately understanding market trends for GX products and trends in laws and regulations such as the EU Ecodesign Regulation. Now, I will explain each of these defensive and offensive

initiatives.



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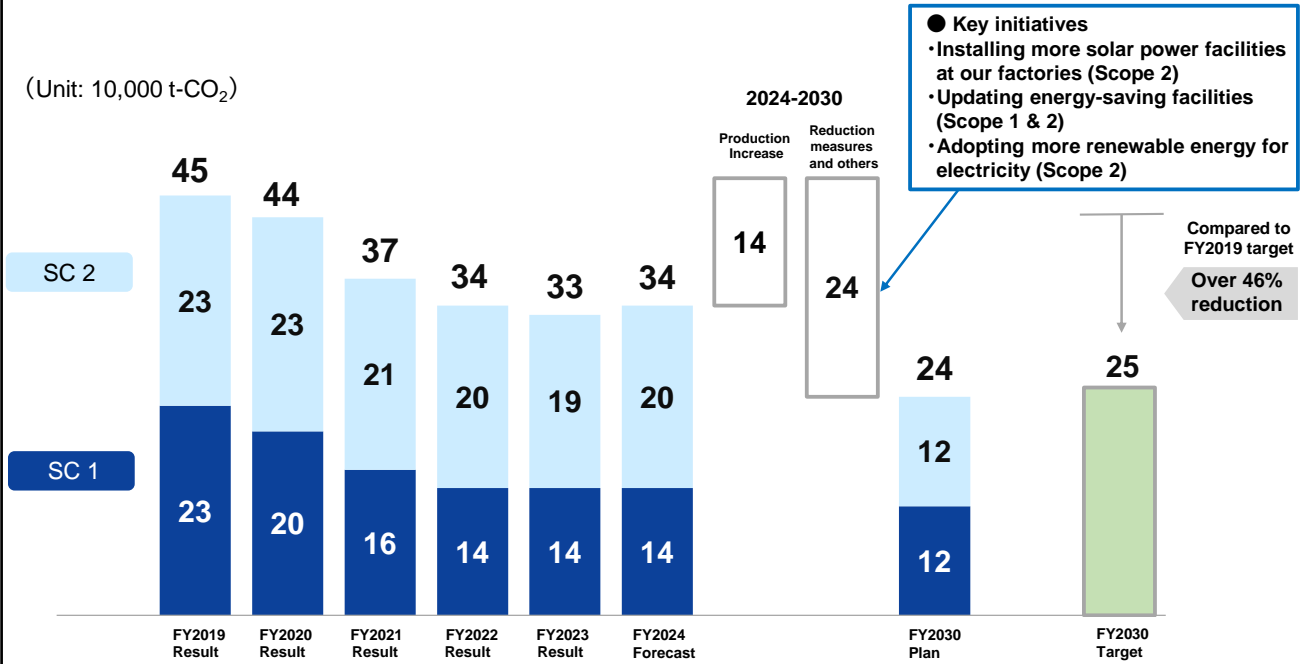
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First, I will explain our decarbonization initiatives.

# Greenhouse Gas Emissions Reduction (Production)

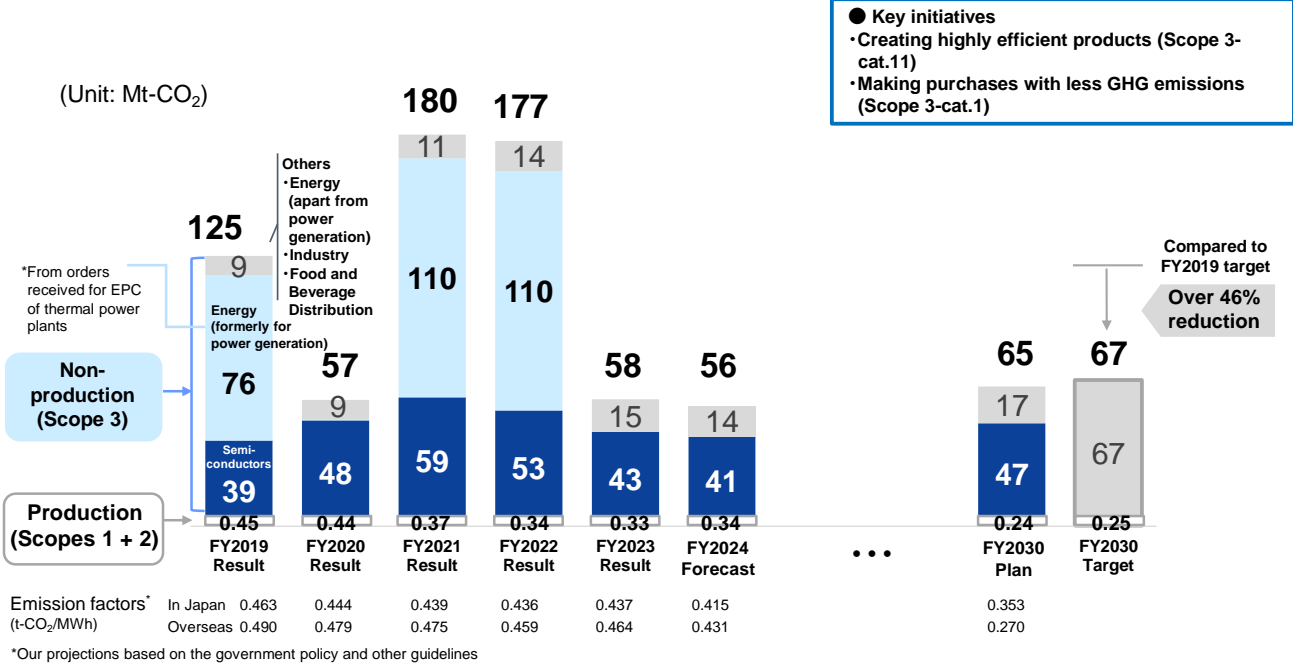
- The greenhouse gas emissions during production (SC1+2) are expected to meet the 2030 target
- Promote energy efficiency gains from facility upgrades and expand the introduction of renewable energy

(Unit: 10,000 t-CO<sub>2</sub>)



First, regarding the trend of GHG emissions during production, we have been steadily reducing emissions up to FY2024. Toward 2030, emissions will increase with increased production volume, but we expect to offset this increase and achieve our 2030 target through measures such as installing solar power facilities at our own factories, updating to energy-saving equipment, and expanding the introduction of renewable energy.

● The total emissions across the entire supply chain (Scope 1+2+3) are expected to meet the 2030 target



Next, I will show the trend of emissions for the entire supply chain, including emissions during production.

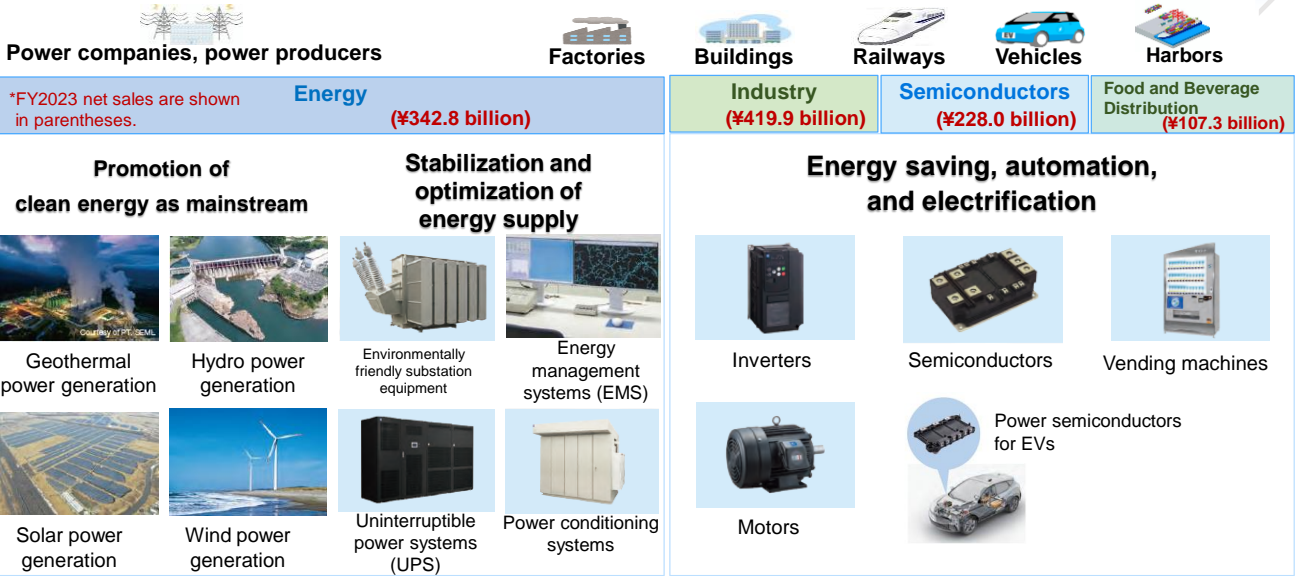
From 2021 to 2022, Scope 3 emissions significantly decreased due to the completion of EPC projects for thermal power plants, and FY2024 emissions are projected to be 56 million tons.

We expect to achieve our 2030 target by promoting measures such as improving product efficiency and reducing emissions from purchased materials.

- We provide broad ranging products from the supply side to the demand side of energy
- We contribute to the realization of carbon neutrality

## Supply side

## Demand side

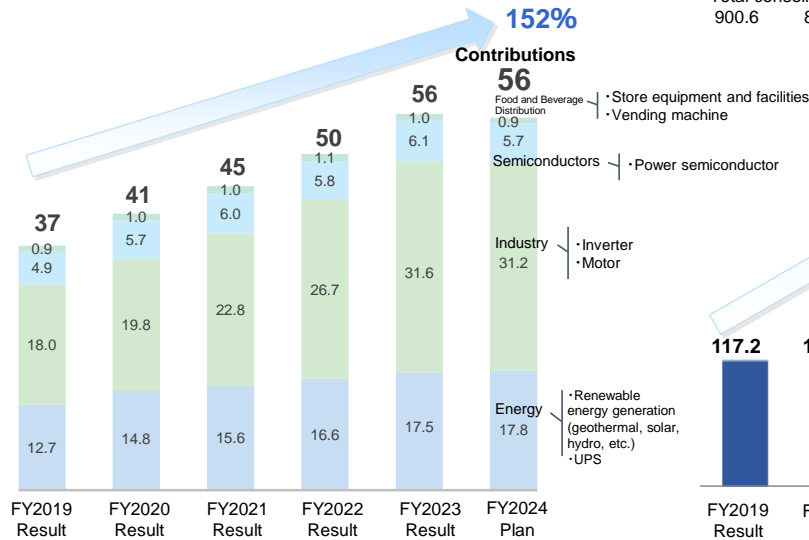


Next, I will discuss our company's energy and environmental business that contributes to decarbonization.

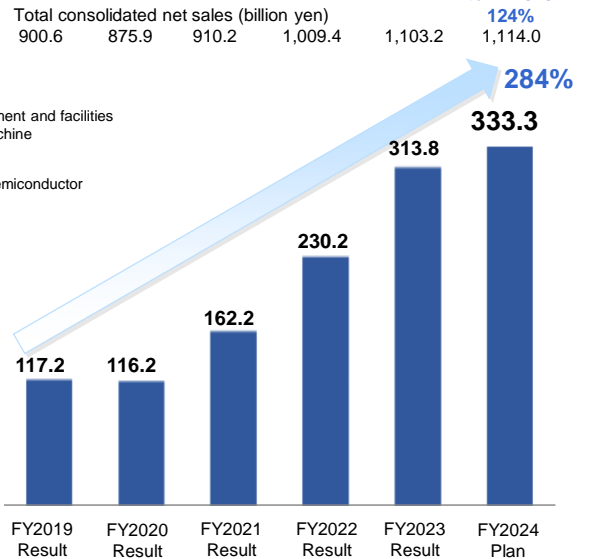
Our company has a wide range of products, services, and technologies from the energy supply side to the demand side. On the supply side, we create clean energy through renewable energy power generation and stabilize and optimize electricity with substation equipment and energy management systems. On the demand side, we achieve optimal power control, energy saving, and automation with power electronics equipment such as inverters and high-efficiency power semiconductors. Through our energy and environmental business, we will contribute to providing value through products and services and realizing carbon neutrality.

● Our contributions to CO<sub>2</sub> emissions reduction through products have been steadily growing

Contributions to CO<sub>2</sub> emissions reduction through products (million tons)



Sales of contributing products (billion yen)



(Disclosed on Jan. 30)

This shows the trend of CO<sub>2</sub> reduction contribution through our products.

The reduction contribution has increased by 152% compared to FY2019, through products such as renewable energy generation, power electronics equipment, and power semiconductors.

Sales of contributing products have also significantly increased, and we will discuss our offensive GX strategy, such as developing new products and entering new markets, on the next page to further expand sales and contribution.

We recognize that promoting this is important.

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Now, I will explain our initiatives that lead to business.

# Expansion of New Product Lineups for the Environment

We aim to achieve further growth from FY2026 onward by launching new products that will contribute to environmental protection

## Key products under development\*

### Thermoelectricity



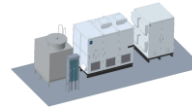
Waste heat recovery ejector cooling systems  
 • CO<sub>2</sub> emissions: Up to **85%** reduction (when applied to a computing device with heat rejection temperature at 45°C and cooling temperature at 35°C)  
 • Example use: Semiconductors, food, data centers, etc.

### Thermoelectricity



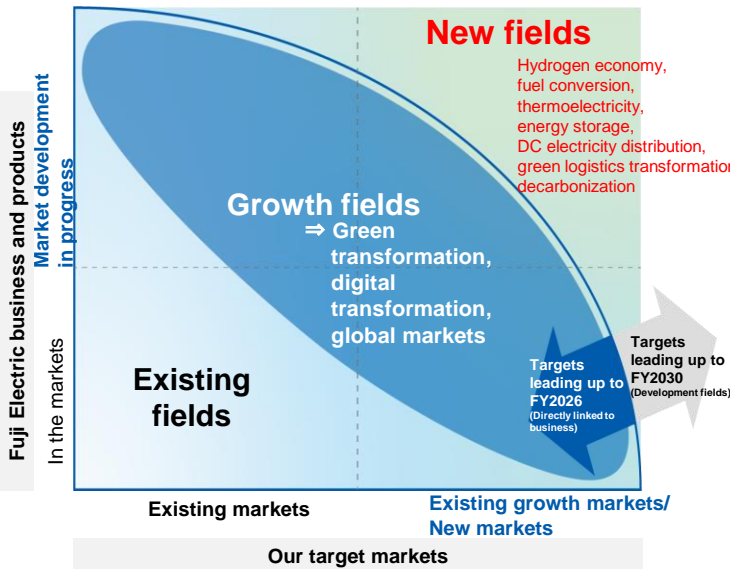
Waste heat recovery 150°C steam generation heat pump  
 • CO<sub>2</sub> emissions: Up to **60%** reduction (when applied to a gas boiler that uses 150°C steam)  
 • Example use: Factories, air conditioning/clean rooms, food and beverages, science, materials, etc.

### Hydrogen economy



Stationary fuel cell systems (solid polymer)  
 • CO<sub>2</sub> emissions: **100%** reduction (in the case of pure hydrogen-type systems)  
 • Example use: Factories, harbors, plants, etc.

\*These products are currently under development and may change in the future



Regarding the strategy for expanding new products that contribute to the environment, it is shown in a four-quadrant diagram.

The horizontal axis shows our company's target markets, with existing markets and new markets, and the vertical axis shows our company's business products, with areas where we have already entered and areas we will newly develop.

While maintaining and expanding our business in existing areas, we are also working to contribute to decarbonization and directly link to the performance of the mid-term management plan for FY2026 by launching new products into new markets, which is the growth area.

Furthermore, for new areas targeting FY2030 and beyond, we are promoting the development of GX new areas and environmentally friendly new product development, anticipating market expansion in areas such as the hydrogen society, fuel conversion, electrification of heat, and energy storage.

For example, we aim to further expand our business and contribute to the environment by commercializing products such as waste heat recovery ejectors, heat pumps, and fuel cell systems.



## Overview of EU Ecodesign Regulation

Adopted July 2005

**Ecodesign Directive (ErP Directive)**

**Applied to:  
Energy-related  
products**

A framework of rules that inherits and evolves

Effective as of July 2024

**Ecodesign Regulation (ESPR<sup>\*1</sup>)**

**Almost all products**

<sup>\*1</sup> Ecodesign for Sustainable Products Regulation:  
A framework and rules set by the European Commission. Laws and regulations will be imposed on each product group.

## Eco-design requirements

- |   |   |
|---|---|
| a. Durability<br>b. Reliability<br>c. Reusability<br>d. Upgradability<br>e. Repairability<br>f. Maintainability and retrofittability<br>g. Presence of hazardous substances<br>h. Energy consumption and efficiency | i. Water consumption and water efficiency<br>j. Resource consumption and resource efficiency<br>k. Recycled materials contained<br>l. Remanufacturing and recycling<br>m. Recyclability<br>n. Materials regeneration<br>o. Carbon footprint, environmental footprint<br>p. Waste generation |
|---|---|

⇒ **Products manufactured/imported to be sold in the EU countries must:**

- Meet the ecodesign requirements
- Use a DPP<sup>\*2</sup> to disclose product information

<sup>\*2</sup> Digital product passport:  
A tool to provide digital information on products' sustainability, etc.

On the other hand, in developing new products and launching them into the market, it is also necessary to respond to new environmental regulations.

One such example is the EU Ecodesign Regulation, which was issued in July 2024.

For products manufactured, sold, or imported within the EU, it is thought that it will be essential to meet the design requirements, such as durability, reliability, and recyclability, and to disclose product information and sustainability information using a digital passport.

# Transition to Environmentally Friendly Products

We will advance the transition to environmentally friendly products that respond to the global trend for environmental consciousness, including that of the EU

Conceptual image of environmentally friendly products



Conventional environmentally conscious design	Main requirements to add for environmentally friendly products from an ESG perspective.
Energy conservation	
Resource conservation	
Recycling	Maintenance, refurbishment, and upgrades of products Plastic recycling
Chemical substances	
Information Disclosure	CFP*
Packaging materials	
Other considerations	Waste generated from products Impact on ecosystems and biodiversity

\* CFP (Carbon footprint of products): A system to clearly indicate the amount of greenhouse gas emissions in a product's lifecycle.

	2024	2025	2026	2027 -
ESPR	Effective	Requirements finalized		Regulation applied (Plan)
Environmentally friendly products	Prepare guidelines	Adopt to the requirements DPP & CFP		Transition (in stages)

As part of responding to these Ecodesign Regulations and promoting a circular economy, we are preparing to transition to environmentally friendly products. In product development and design, in addition to conventional requirements such as energy saving and resource saving, requirements such as recyclability, carbon footprint disclosure, waste minimization, and biodiversity considerations will be necessary.

This outlines the requirements of the Ecodesign Regulation and specific responses toward the transition to environmentally friendly products. The items required by the Ecodesign Regulation cover a wide range, including durability, reliability, ease of repair, energy saving, resource saving, and recyclability. To address these requirements, we will conduct environmental impact assessments at the design stage, incorporate designs that reduce environmental impact, and build mechanisms for disclosing product information and sustainability information, such as digital passports and CFP.

We will begin these preparations from FY2024 and proceed with responding to the requirements of the Ecodesign Regulation and transitioning to environmentally friendly products in stages. This concludes my presentation. Thank you for your attention.

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