

# ESG Briefing (Environment) for FY2024

**Fuji Electric Co., LTD**

**March 2025**

## 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

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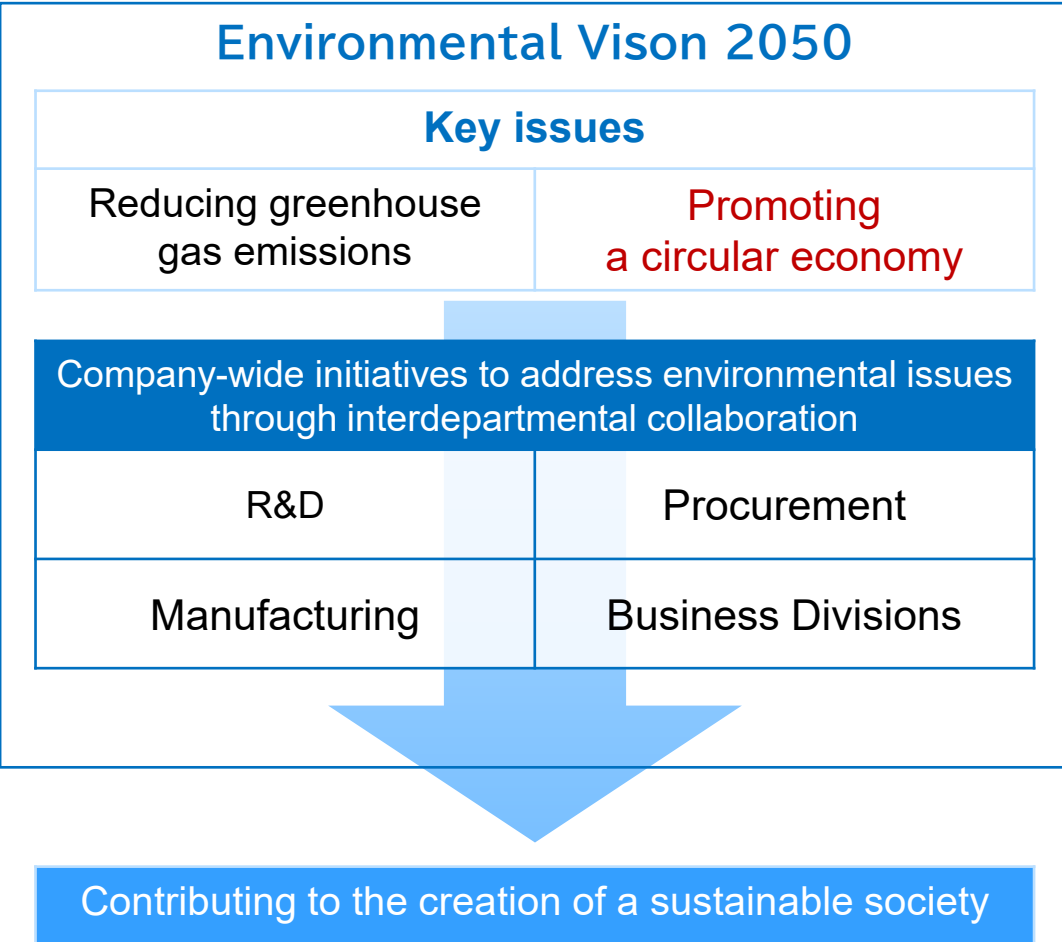
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# Fuji Electric's Basic Policy for Environmental Protection

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

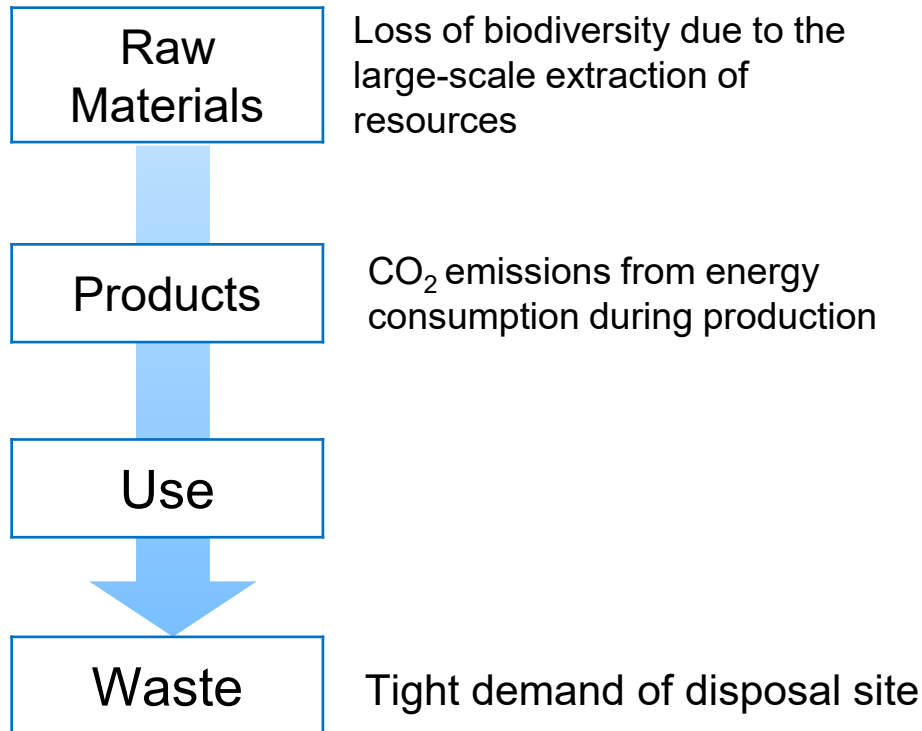
- Fuji Electric Basic Environmental Protection Policy**
1. Offering products and technologies that contribute to the global environmental protection
  2. Reduction of environmental burden throughout product life cycles
  3. Reduction of environmental burden in business activities
  4. Compliance with 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



# A Circular Economy

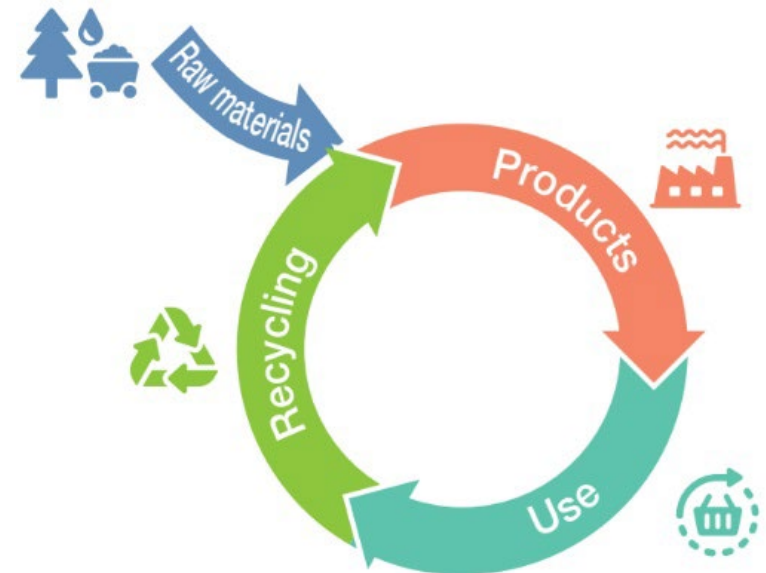
Efforts to realize a circular economy are accelerating around the world

## 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.

## 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 like 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.

# Trends Related to the Environment and Our Initiatives (Passive/Active)

- [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

**Passive**

actions for the environment

- **Nationally determined contributions (NDC) to decarbonization**
  - FY2030: -46% (compared to FY2013)
  - FY2035: -60%
  - FY2040: -73%
- **Greenhouse gas (GHG) emissions reduction throughout a supply chain**

- **Setting decarbonization targets in the light of government objectives**
  - FY2024 progress: As planned
  - FY2030 target: -46% (compared to FY2019)  
-54% (compared to FY2013)
  - FY2030 and thereafter: Targets to set and additional measures under consideration
- **Collaborative efforts towards reducing GHG emissions from procurement (upper stream of Scope 3)**

**Active**

strategies for GX

- **Growth of GX products and services markets**
- **The EU Ecodesign Regulation in force and applied**
  - Reduction of environmental impacts throughout product life cycles
  - Disclosure of product information related to the environment (DPP ※) ※Digital Product Passport

- **Developing and pursuing Fuji Electric's GX strategies**
  - Expansion of GX product lineups
  - Transition to environmentally friendly products

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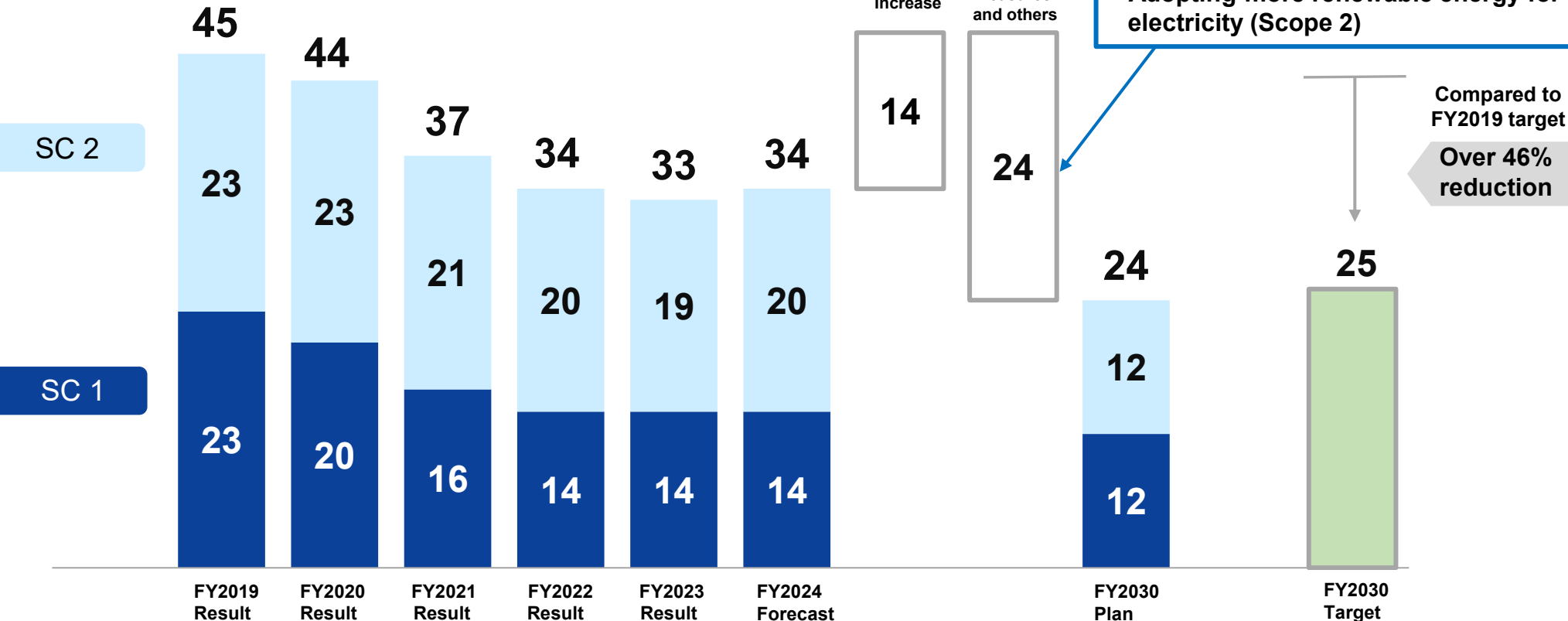
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# Greenhouse Gas Emissions Reduction (Production)

- 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>)

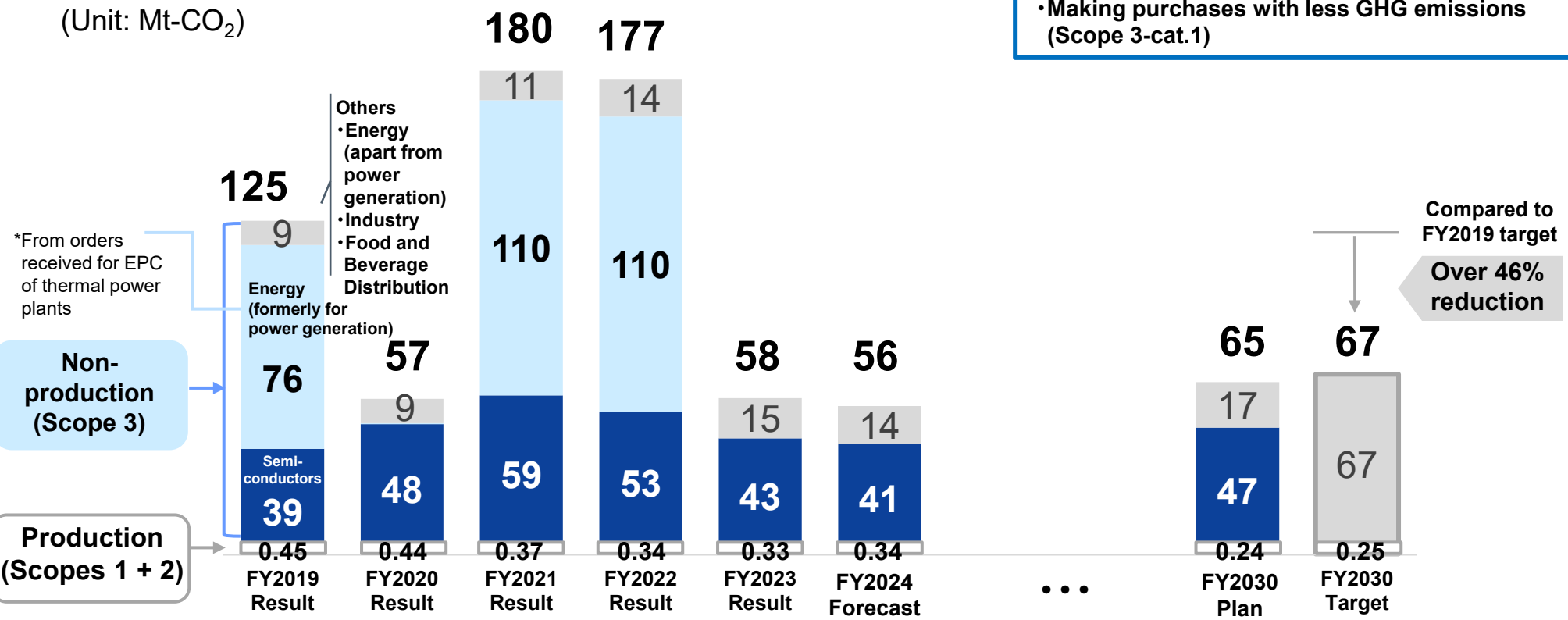


# Greenhouse Gas Emissions Reduction (Entire supply chain) **Fuji Electric** Innovating Energy Technology

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

- Key initiatives
- Creating highly efficient products (Scope 3-cat.11)
  - Making purchases with less GHG emissions (Scope 3-cat.1)

(Unit: Mt-CO<sub>2</sub>)



Compared to FY2019 target  
**Over 46% reduction**

Emission factors\* (t-CO<sub>2</sub>/MWh)

	In Japan	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024
Production (Scopes 1 + 2)	0.463	0.445	0.444	0.439	0.436	0.437	0.415
Non-production (Scope 3)	0.490	0.490	0.479	0.475	0.459	0.464	0.431

\*Our projections based on the government policy and other guidelines

# Energy and Environment Businesses to Help Reduce CO<sub>2</sub> Emissions

- 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



Power companies, power producers



Factories



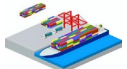
Buildings



Railways



Vehicles



Harbors

\*FY2023 net sales are shown in parentheses.

### Energy

(¥342.8 billion)

### Industry

(¥419.9 billion)

### Semiconductors

(¥228.0 billion)

### Food and Beverage Distribution

(¥107.3 billion)

Promotion of clean energy as mainstream

Stabilization and optimization of energy supply

Energy saving, automation, and electrification



Geothermal power generation



Hydro power generation



Environmentally friendly substation equipment



Energy management systems (EMS)



Inverters



Semiconductors



Vending machines



Solar power generation



Wind power generation



Uninterruptible power systems (UPS)



Power conditioning systems



Motors



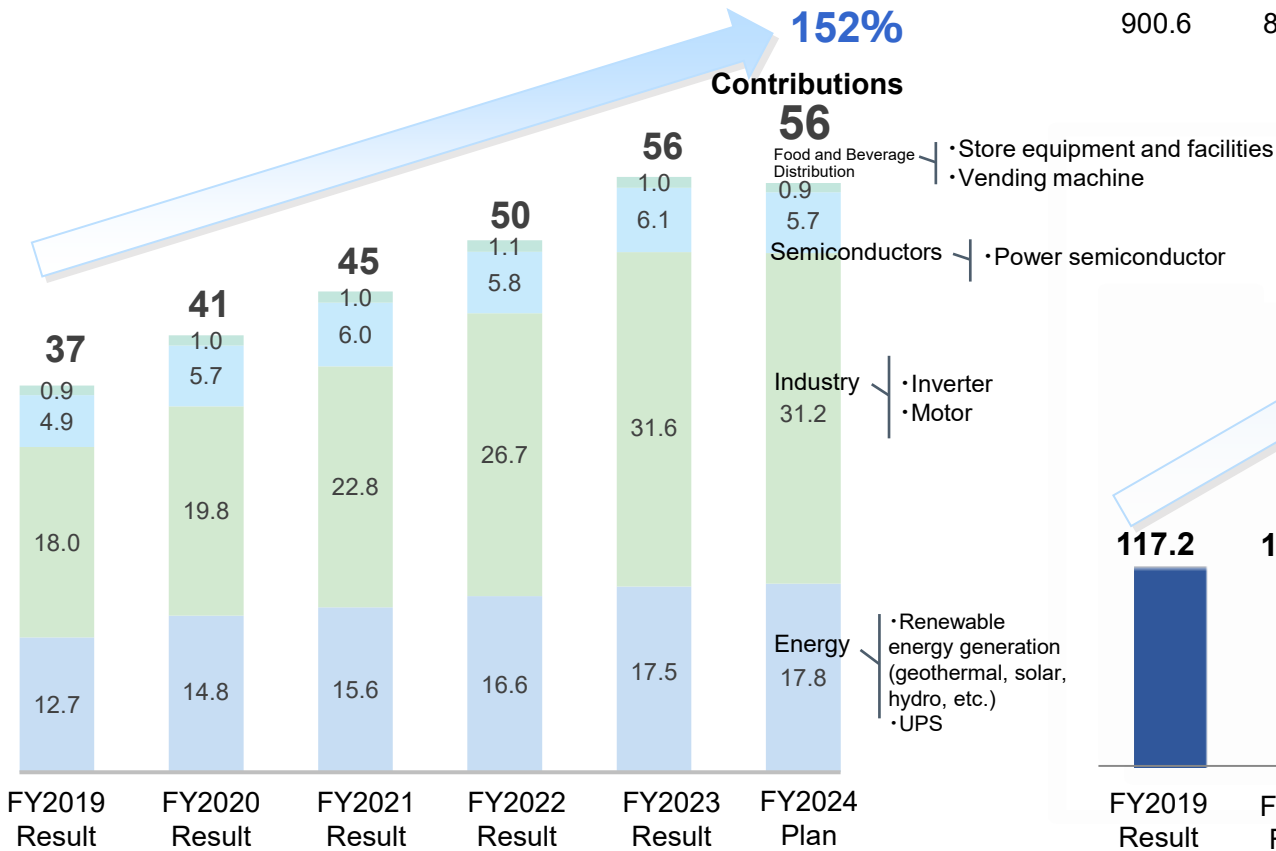
Power semiconductors for EVs



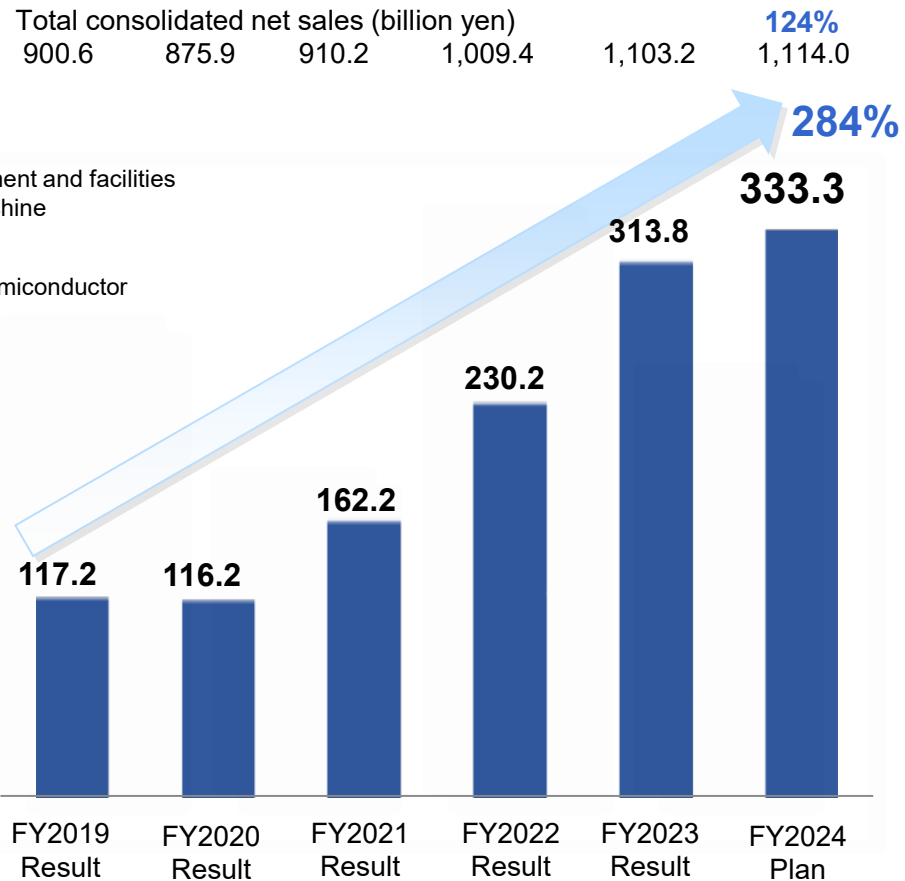
# Contributions to CO<sub>2</sub> Emissions Reduction Through Products

● 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)

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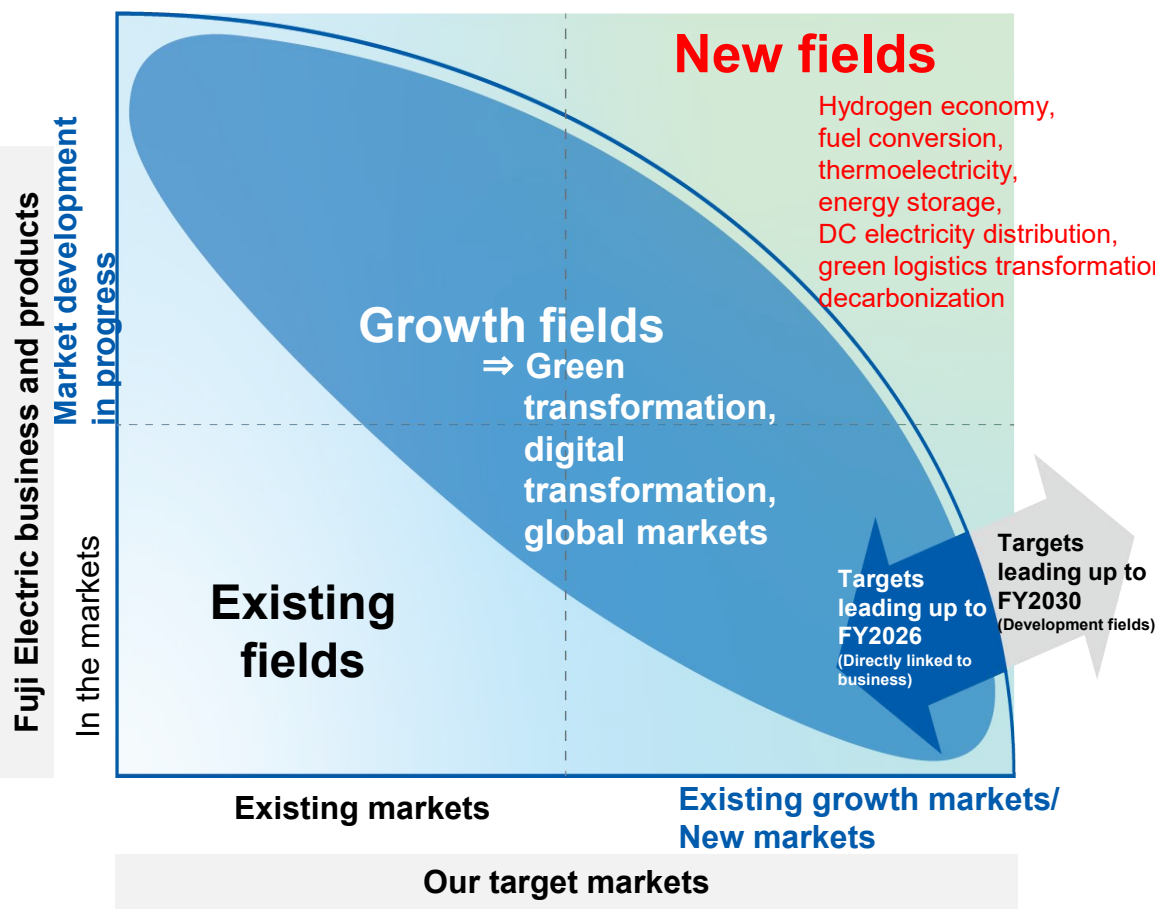
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# Expansion of New Product Lineups for the Environment

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



## Key products under development\*

### Thermoelectricity



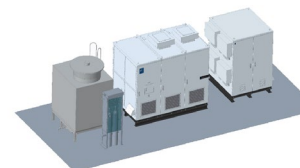
- Waste heat recovery ejector cooling systems
- CO<sub>2</sub> emissions: Up to **85%** reduction (when applied to a computing device with heat rejection temperature at 45°C and cooling temperature at 35°C)
  - Example use: Semiconductors, food, data centers, etc.

### 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

## Overview of EU Ecodesign Regulation

Adopted July 2005

**Ecodesign Directive (ErP Directive)**

A framework of rules that inherits and evolves

Effective as of July 2024

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

<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.

**Applied to:  
Energy-related  
products**

**Almost all products**

## Eco-design requirements

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



# 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 -
<b>ESPR</b>	<b>Effective</b>	<b>Requirements finalized</b>		<b>Regulation applied (Plan)</b>
<b>Environmentally friendly products</b>	Prepare guidelines	Adopt to the requirements DPP & CFP		<b>Transition (in stages)</b>



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