



Through our initiatives toward Environmental Vision 2050, we will promote decarbonization and the transition to a circular economy, and contribute to the creation of a sustainable society.

**Takashi Obinata**  
Managing Executive Officer  
Corporate General Manager, Production & Procurement Group

In recent years, climate change has had a variety of impacts at global scale. The frequent occurrence of natural disasters such as torrential rains and heat waves as well as their impacts on ecosystems have become a threat that cannot be overlooked in nature and the social economy surrounding us. In addition, as a result of past mass consumption and mass disposal, a global environmental crisis is progressing, including the loss of biodiversity and pollution. Addressing these issues will require accelerating the transition to a circular economy in conjunction with decarbonization, and businesses have an increasingly important role to play in solving such environmental challenges.

Fuji Electric has positioned global environmental protection as a key management issue under Fuji Electric Basic Environmental Protection Policy, and we formulated our Environmental Vision 2050 in 2019. In 2022, we revised our fiscal 2030 greenhouse gas emissions reduction target to be consistent with “limiting the temperature rise to 1.5°C above pre-industrial levels,” and we are working to achieve this target. In fiscal 2023, in conjunction with the formulation of the FY2026 Medium-Term Management Plan, we verified the feasibility of the Fiscal 2030 Target, and we confirmed that all indicators are expected to be achievable as well as that we are making progress according to the plan. In conjunction with global trends related to the circular economy, we have also set Fiscal 2030 Target to achieve a recycling-oriented society and a society in harmony with nature.

Future issues include the promotion of specific initiatives to transition to a circular economy. We will continue to shift to environmentally friendly products that comply with the EU Ecodesign Regulation, and we aim to achieve zero emissions, which will minimize environmental impacts throughout the entire supply chain.

We will continue to contribute to the creation of a sustainable society by utilizing the technologies we have developed in the energy and environmental fields.

**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

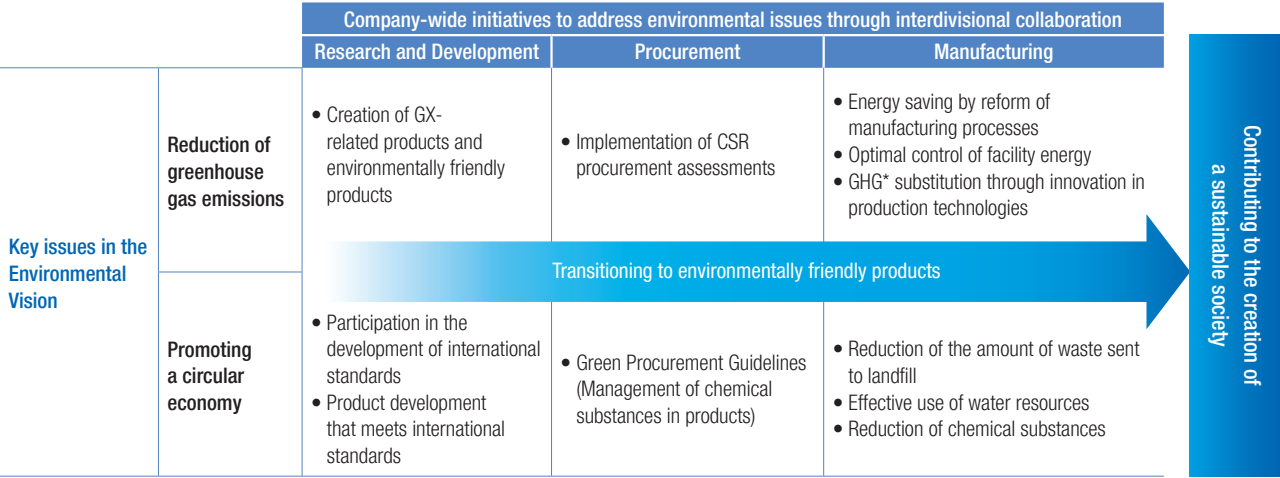
Environmental Vision 2050	
We aim to achieve a “Decarbonized Society,” “Recycling-Oriented Society,” and “Society in Harmony with Nature” by expanding use of Fuji Electric’s innovative clean energy technology and energy-saving products.	
Achieve a Decarbonized Society	Target carbon neutrality across the supply chain
Achieve a Recycling-Oriented Society	Aiming for zero environmental impacts throughout the lifecycle, we are working to establish 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 Target	
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 (Scope 1+2+3): Reduction of over 46% (compared to FY2019)	
Greenhouse gas emissions during production (Scope 1+2): Reduction of over 46% (compared to FY2019)	
Contributions to CO <sub>2</sub> emissions reduction in society through products: Over 59 million tons/year	
Promoting 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%	

Company-wide Initiatives toward Environmental Vision 2050

In its Environmental Vision 2050, Fuji Electric has positioned the reduction of greenhouse gas emissions and the promotion of a circular economy as key issues, and the company is

working to achieve this vision from a medium- to long-term perspective by addressing these issues in all of its business activities, including R&D, procurement, and factories.



\* GHG: Greenhouse gases (carbon dioxide, methane, and other greenhouse gases)

Research and Development Initiatives

We are carrying out research and development aimed at creating new products to meet new needs such as those related to Green Transformation (GX). Specifically, we are taking on the challenge of acquiring new technologies to reduce society's CO<sub>2</sub> emissions by providing products in areas such as fuel conversion to hydrogen, ammonia, and other gases; carbon

capture; electrification of heat processes; and energy storage. With regard to the circular economy, we are carrying out research and development, such as evaluation and application technologies for recycled materials in resin materials, to reduce environmental burdens in order to respond to international regulatory trends.

Procurement Initiatives

Of the greenhouse gas emissions throughout the supply chain (Scopes 1+2+3), the procurement portion (Scope 3 Category 1) is currently calculated using the basic unit (secondary data) common to procured goods. In the future, we will continue to calculate greenhouse gas emissions per unit of procurement (primary data), which can reflect the effects of reductions in procurement by business partners, and further promote the calculation of greenhouse gas emissions per unit of product (carbon footprint: CFP\*). We will work together with our business partners to reduce our greenhouse gas emissions.

We are working to reduce environmental impacts by asking our business partners to comply with the Fuji Electric Green Procurement Guidelines with respect to the chemical substances used in our products. In the future, in further collaboration with our business partners, we will expand our initiatives to visualize environmental traceability, including CFP, and to promote the circular economy throughout the supply chain.

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

Manufacturing Initiatives

Toward the Fiscal 2030 Target (a reduction of over 46% from fiscal 2019) for greenhouse gas emissions (Scopes 1+2) during production, we are promoting energy saving by switching away from greenhouse gases through production technology innovation, reforming manufacturing processes, improving production efficiency, optimizing facility energy control, and upgrading to energy-efficient equipment. As for energy creation, we are promoting the installation of solar power generation equipment at our production bases, and we are systematically working to achieve our goals by procuring

electricity from renewable sources. With regard to the transition to a circular economy, we have set a target of zero emissions (less than 0.5%) in fiscal 2030, which is an enormous reduction in the amount of waste sent to landfill. Together with initiatives to prevent air pollution through the effective use of water resources as well as the management of and reduction in the use of chemical substances, we aim to achieve a recycling-oriented society as well as a society in harmony with nature.

Initiatives to Achieve a Decarbonized Society

Fiscal 2023 Results and Progress

Environmental Vision Fiscal 2030 indicators	FY2022	FY2023			FY2030
	Result	Target	Result	Measures	Target
Greenhouse gas emissions throughout the supply chain (Scope 1+2+3) (million tons)	177	72	58	• Increase percentage of 7th-generation IGBTs	67 or less
Reduction rate (compared to 2019)	+42%	-42%	-54%		Over -46%
Greenhouse gas emissions during production (Scope 1+2) (thousand tons)	334	380	338	• Expand installation of solar power generation equipment at the Company's production bases • Upgrade to energy-efficient equipment • Expand purchasing of renewable electricity • Reduce non-CO <sub>2</sub> GHG emissions	250 or less
Reduction rate (compared to 2019)	-26%	-16%	-25%		Over -46%
Contributions to CO <sub>2</sub> emissions reduction in society through products (thousand tons)	49,790	50,000	56,220	• Increase net sales of contributing products	Over 59,000

Major Initiatives in FY2023

As part of our initiatives to reduce greenhouse gas emissions during production, we promoted installation of solar power generation equipment at our production bases, which we have been working on since the previous fiscal year. In fiscal 2023, we installed and began operation of solar panels providing approximately 1,200 kW at our Tokyo Factory in Japan and 1,900 kW at our factory in the Philippines. We also engaged in cross-sectional energy-saving activities at all factories and promoted systematic activities such as saving energy through operational improvements and selecting the most energy-efficient facilities when updating infrastructure and production facilities.

Initiatives toward 2030

Based on the FY2026 Medium-Term Management Plan, we verified the feasibility of the GHG reduction plan according to the projected increases in production through fiscal 2030. We have confirmed that we are making progress toward achieving our Fiscal 2030 Target for greenhouse gas emission reductions in in-house production activities (Scopes 1+2)

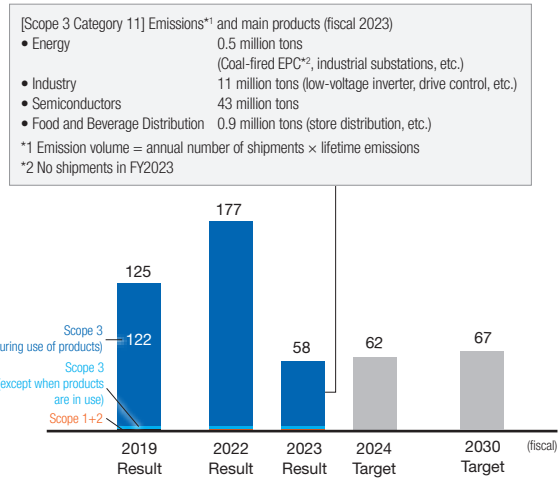
Supply chain GHG emissions (Scope 1+2+3) reduction

Greenhouse gas emissions generated in the supply chain are calculated based on the GHG Protocol, an international standard. Category 11 (emissions during product use), which accounts for the majority of greenhouse gas emissions in Scope 3, is expected to decrease in power semiconductors due to expanded sales of 7th-generation IGBT modules, which feature low power loss, and the shift to silicon carbide (SiC) products. In addition, there are no expected delivery of EPC projects for coal-fired power plants that do not include carbon capture equipment, and we aim to reduce greenhouse gas emissions throughout the supply chain in order to achieve the Fiscal 2030 Target (67 million tons or less, over 46% of the fiscal 2019 level).

Regarding emissions during product use (Scope 3 category 11), which account for approximately 98% of the total greenhouse gas emissions in the entire supply chain, we were able to curb emissions by increasing the ratio of high-efficiency products, such as new semiconductor modules. Additionally, in fiscal 2023, there were no delivery of EPC (a business form in which design, procurement, and construction are undertaken in an integrated manner) projects for coal-fired power plants without carbon capture equipment, which significantly impacts total emissions, resulting in a significant decrease compared to the previous year.

and that throughout the entire supply chain, from material procurement to product shipment and post-delivery emissions (Scope 3), as well as for the contributions to CO<sub>2</sub> emissions reduction in society through products. We will continue our initiatives to achieve a decarbonized society.

Supply Chain GHG Emissions and Reductions (million tons)



GHG emissions reduction during production (Scope 1+2)

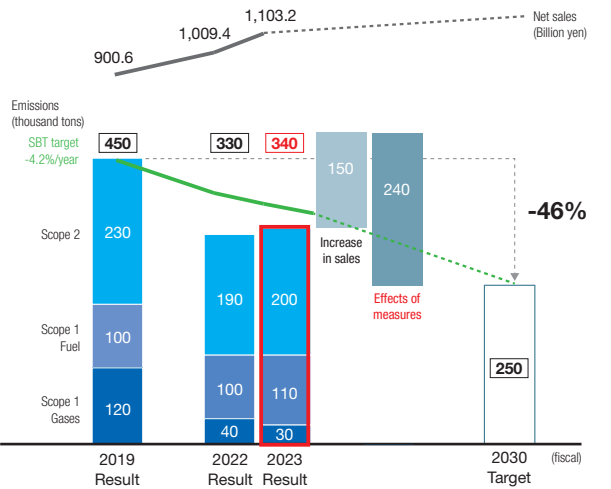
Based on the forecasted increases in production, especially that of semiconductors, we are studying the necessary measures to achieve a reduction of over 46% (compared to fiscal 2019) in greenhouse gas emissions during production. Our main measures are as follows.

Measures	Overview
Expand installation of solar power generation equipment at the Company's production bases	Operations began at two bases in fiscal 2023; operations are scheduled to begin at five bases in Japan and overseas in fiscal 2024
Updating to energy-efficient equipment	Replace production facilities, air conditioning, and lighting equipment with the latest energy-saving models
Expand purchasing of renewable electricity	Increase purchasing of renewable electricity

We are also reviewing our plans for purchasing electricity sourced from renewable energy, aiming to increase renewable electricity's share of company-wide electricity consumption\* (6% in fiscal 2023) to 55% by fiscal 2030.

\* Electricity consumption: Electricity purchased + solar power generated internally

Trends in GHG Emissions during Production

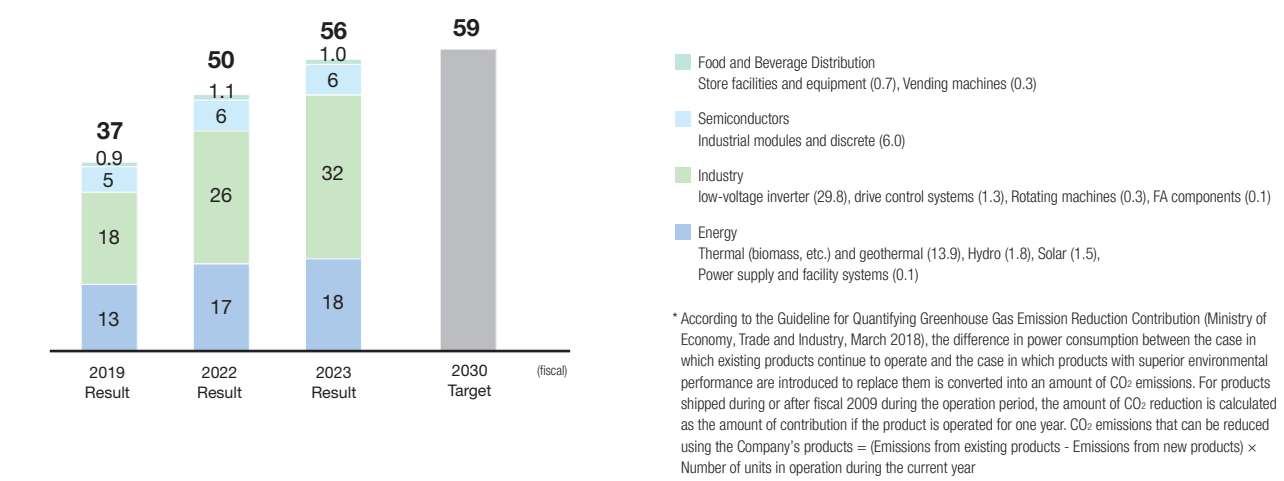


Contributions to CO<sub>2</sub> emissions reductions in society through products

The Company has designated the energy and environmental fields as its business domain, and in fiscal 2009, we began calculating the contributions to CO<sub>2</sub> emissions reduction in society through products, which helps to realize carbon

neutrality, as an indicator. We intend to increase the amount of contribution by expanding sales of equipment that generates clean energy and by offering new products that maximize reduction of power loss.

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



Sales Composition Ratio of Contributing Products (Fiscal 2023)

	Energy	Industry	Semiconductors	Food and Beverage Distribution	Total
Net sales of contributing products	21.5	48.9	175.0	68.5	313.9
Total net sales	342.8	419.9	228.0	107.3	1,103.2
Composition ratio	6%	12%	77%	64%	28%

# Initiatives to Achieve a Recycling-Oriented Society and a Society in Harmony with Nature

## Fiscal 2023 Results and Progress

### Reduction of waste, water consumption, and chemical substance emissions during production

Fiscal 2030 indicators	FY2022	FY2023			FY2030 Target (after revision)
	Result	Target	Result	Key measures and activities	
Ratio of waste sent to landfills* (%)	0.5	Less than 1.0	0.2	Reinforcement of waste sorting, mainly at overseas production bases, and development of processing companies	Less than 0.5
(Reference) Of which, plastics	0.8	—	0.2	Improved by reinforcing waste sorting	
Water consumption per unit of sales (1,000 m³/100 million yen)	0.9	1.8 or less	0.9	Recycling at a semiconductor factory	1.2 or less
Volatile organic compounds (tons)	625	1,694 or less	480	Substitution of dichloromethane at the Fukiage Factory	800 or less

\* Ratio of waste sent to landfills: Waste sent to landfills ÷ Total waste

## Major Initiatives in FY2023

We have been working to reduce the amount of waste sent to landfill, and we have significantly improved the ratio of waste sent to landfill by strengthening waste sorting and developing processing companies, especially at our overseas production bases. Furthermore, in response to laws related to promoting

resource recycling of plastics in Japan, we have been reinforcing waste sorting of plastics and developing processing companies, resulting in a significant improvement in the ratio of waste sent to landfill, which is now 0.2%.

## Initiatives toward 2030

As the regulatory trend toward the transition to a circular economy spreads, particularly in Europe, companies are being required to implement initiatives to reduce the environmental impacts generated throughout their supply chains and to disclose information.

The Company has newly formulated Fiscal 2030 Target for achieving a recycling-oriented society and a society in harmony with nature, and aims to minimize the burden imposed on nature by, for example, targeting a near-zero level (less than 0.5%) of the amount of waste sent to landfill during

production. Specifically, in addition to reducing the amount of waste sent to landfill during production and reducing the water consumption per unit of sales, we have begun to work toward manufacturing products that do not generate environmental impact throughout their entire lifecycles. In response to demands for disclosure of resource traceability and of the environmental impacts of each product, we are working to create a system that complies with the Carbon Footprint (CFP) and the EU Digital Product Passport (DPP).\*

\* Digital Product Passport (DPP): A mechanism to provide information on topics such as product sustainability in the form of an electronic record.

### Promoting a circular economy

#### <Environmentally friendly products>

We will promote conformity to the standards stipulated in Japan and overseas environmental regulations as well as increase the ratio of new products that are “environmentally friendly products” over the medium to long term. We will establish evaluation items and standards at the product development and design stages, and build a system to evaluate our products’ environmental impacts and work to reduce such environmental impacts.

#### <Environmental traceability>

To visualize whether our products are produced in a sustainable manner, we will promote the visualization of environmental traceability on a per-product basis using DPP. In cooperation with our business partners, we will disclose information on our products’ raw materials, CFP, and recyclability to customers and society at large, and we will

work to create a system that enables customers to choose our products with confidence.

Diagram of environmentally friendly products



# Approach to Disclose Information in Accordance with TCFD Recommendations

Since declaring support for the Task Force on Climate-related Financial Disclosures (TCFD) recommendations in June 2020, we have been reflecting the results of our analysis of risks and opportunities arising from climate change in our business strategies and have updated our information disclosures in line with TCFD recommendations.

In fiscal 2023, we reviewed the impacts of increased

production, and we reviewed our environmental investments and expenses in light of the FY2026 Medium-Term Management Plan. The reviewed risks, opportunities, and adaptation measures and their financial impacts are reflected in the 1.5°C scenario for “Production” and “Customers and Markets,” and we utilize this information in our business strategies after it is reported to the Board of Directors.

## Major Risks and Opportunities Identified by Fuji Electric and Adaptive Measures to Be Taken (1.5°C/4°C scenarios)

\* The areas inside the red boxes are the main areas reviewed.

	Risks	Opportunities	Adaptation Measures & Financial Impacts
1.5°C	Suppliers	• Expanded use of recycled materials in products	• Promote multi-sourcing and standardization and unification of parts • Support for decarbonization of key suppliers
	Development and Design	• Delays in technology development to meet decarbonization requirements	• Accelerate R&D of new technologies related to decarbonization, release them to the market in • Promote building a platform for common product specifications
	Manufacturing	• Cost increases associated with decarbonization of production facilities (plant and equipment investment and other costs, purchase of renewable electricity)  • Increased greenhouse gas emissions due to increased electricity consumption in response to increased production	• Strengthen reduction of greenhouse gas emission at production facilities - Install solar power generation equipment at the company's production bases - Upgrade facilities (production facilities, air conditioning, lighting, etc.) - Purchase electricity and renewable energy certificates derived from renewable sources  • Environmental investments and expenses Fiscal 2023-2030 (cumulative total): Approximately 23 billion yen* <sup>1</sup> to <sup>3</sup> * <sup>1</sup> The environmental investments and expenses required to achieve the Fiscal 2030 Target of reducing greenhouse gas emissions in production activities by over 46% (compared to fiscal 2019). * <sup>2</sup> The above environmental investment includes replacing equipment with models having energy-saving effects. * <sup>3</sup> This financial impact should be reviewed in the event of a revision of the business plan or sudden changes in the environment.
	Logistics	• Increased logistics costs, increased burden from the introduction of a border carbon tax	• Promote “local production for local consumption”
4°C	Customers and Markets	• Decrease in demand for thermal power generation  • Loss of business opportunities due to the failure to use renewable energy completely	• Shift resources to renewable energy business [Power]  • Provide products produced using renewable energy • Promote carbon footprint calculation  • Increased demand for renewable energy and energy-saving products • Decarbonization of the electricity sector • Fuel conversion for mobility  • Provide new technologies and products that contribute to decarbonization and fuel conversion
		• Delays in procurement of parts • Cost increases due to wind and flood damage in response to frequent extreme weather events • Delays in outdoor construction and service work • Delays in product delivery due to the disruption of logistics network and influence to production	• Increased demand resulting from active investment in business continuity plan (BCP) measures by customers  • Promote multi-sourcing of parts (identify parts with high procurement risk due to the disasters, and diversify risks) • Reinforce wind and flood protection measures for buildings at production bases in Japan and overseas located mainly in bay areas and areas covered by hazard maps [Identification of bases at risk of flooding*] Target: All 44 production bases in Japan and overseas Result: 6 bases (3 Japanese and 3 overseas) are at risk • We are implementing flood countermeasures to minimize damage to production bases that are at risk of flooding. • Even at bases that are considered low-risk, we will promote flood countermeasures as necessary. • We will take initiatives to stabilize the supply of parts in the event of a natural disaster by establishing a supply system from multiple bases while identifying flooding risks in the supply chain.

\* Flood risk assessment was conducted by Tokio Marine dR Co., Ltd. and carefully examined internally. For bases with a flood hazard of 0.5 m or more confirmed by official hazard information and bases without any hazard information, we have assessed them as “at risk of flooding” when flooding risk is considered high due to topographical conditions and other factors.

Please refer to our website for detailed disclosure requirements of the TCFD recommendations on Governance, Strategy, Risk Management, and Metrics and Targets.  
[https://www.fujielectric.com/csr/global\\_environment/environment01/management02\\_03.html](https://www.fujielectric.com/csr/global_environment/environment01/management02_03.html)

