Environment

We will take advantage of our energy and environmental technologies to contribute to solving social and environmental issues on the way to achieving our Environmental Vision 2050.

Takashi Obinata

Executive Officer
Corporate General Manager, Production & Procurement Group

As efforts toward decarbonization spread internationally, it has become more and more important for businesses to address environmental challenges.

In light of the global movement toward carbon neutrality and the Japanese government's decarbonization goals, our "Environmental Vision 2050" and "Fiscal 2030 Target" established in 2019 were revised in 2021.

Beyond the goal of achieving a decarbonized society, there are increasingly active social movements aimed at achieving a recycling-oriented society and a society in harmony with nature, and we are considering new targets that reflect these goals.

For the third consecutive year, the CDP certified Fuji Electric as an "A List Company" with excellent climate change initiatives and information disclosure. We will continue to work to solve social and environmental issues through our decarbonization initiatives, taking advantage of the technologies we have cultivated to date in the energy and environment fields.

CDP DISCLOSURE INSIGHT ACTION A LIST 2021 CLIMATE

Revised Environmental Vision 2050 and Fiscal 2030 Target

In the revisions to our Environmental Vision 2050, which sets the long-term direction of our environmental activities, we clearly stated that we target carbon neutrality across the supply chain. We also revised our interim Fiscal 2030 Target and set a new target for reducing greenhouse gas (GHG) emissions not only for our company but across the supply chain that includes our business partners.

Our new Fiscal 2030 Target corresponds to the "1.5°C level" accreditation criteria of the international Science Based Targets initiative (SBTi). Fuji Electric applied for SBT certification in March 2022.

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	Promote green supply chains and 3R activities to reduce environmental impact to zero
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_2 emissions reduction in society through our products: Over 59 million tons/year

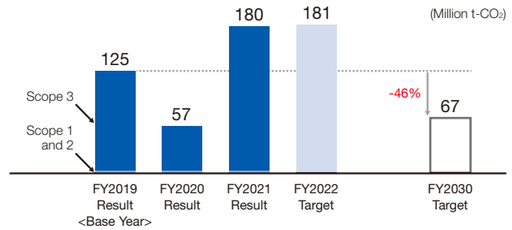
* Reduction rate from FY2013: 54%

Environmental Vision 2050 Initiatives

▶ Achieve a decarbonized society

GHG emissions throughout the supply chain (Scope 1+2+3)

Our total emissions in fiscal 2021 were 180 million tons, up approximately 123 million tons from the previous fiscal year. Of the total emissions, 99.8% are Scope 3*. The increase was mainly due to large-scale thermal power EPC (engineering, procurement, and construction) projects for power generation plants, which accounted for 61% of the total emissions at approximately 1.1 million tons. As large-scale thermal power EPC projects are expected to continue in the next fiscal year, the target for fiscal 2022 is set at the same level as fiscal 2021. However, we aim to increase the ratio of energy that does not emit greenhouse gases as we approach fiscal 2030.

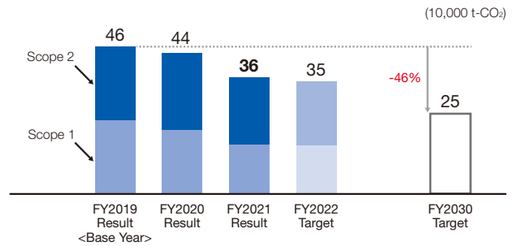


* Calculated in accordance with the Ministry of the Environment's "Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain."

GHG emissions during production (Scope 1 and 2)

Emissions in fiscal 2021 were 360,000 tons, a decrease of approximately 70,000 tons compared to the previous fiscal year. In the future, along with plant and equipment investment to reduce power and fuel consumption, we plan to reduce emissions through measures such as installing solar power generation equipment on factory premises in Japan and overseas and expanding procurement of renewable energy electricity.

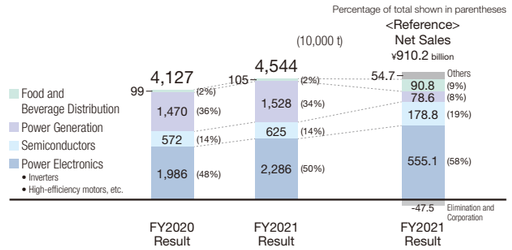
[Key emission reduction factors]
- Eliminated use of solvents by discontinuing production of magnetic disks at Fuji Electric (Malaysia) Sdn. Bhd.
- Reduced insulating gas (SF_6) used in gas abatement apparatuses and other equipment for various semiconductor processes



Contributions to CO_2 emissions reductions in society through our products

Our contributions to CO_2 emissions reductions* in fiscal 2021 was 45.44 million tons, up approximately 4.17 million tons from the previous fiscal year. By business segment, the largest contributions came from Power Electronics, which contributes to energy saving, and Power Generation, which handles geothermal, hydro, and solar power generation.

* Contribution amounts are calculated based on the reduction of CO_2 emissions from products shipped in fiscal 2009 and thereafter that are in operation for one year. CO_2 emissions that can be reduced by using Fuji Electric products = (emissions from existing products - emissions from new products) × number of units in operation in the current year



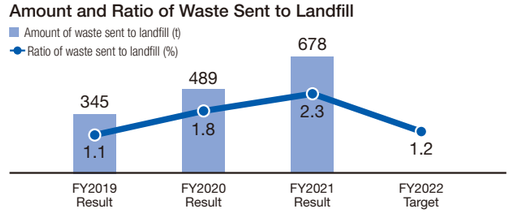
▶ Achieve a recycling-oriented society

Fuji Electric is committed to practicing the 3Rs (Reduce, Reuse, Recycle) throughout our supply chain, including through life cycle assessments at the design stage and green procurement. We are also focusing on reducing water consumption through recycling, and are installing recycling equipment in semiconductor factories, which use a lot of water. Going forward, we will promote the efficient and cyclical use of resources and consider shifting to a circular economy that increases added value in order to build a "green supply chain" as set forth in our environmental vision.

Ratio of waste sent to landfill

In fiscal 2021, the ratio of waste sent to landfill was 2.3%, a 0.5 percentage point increase from the previous fiscal year, reflecting greater disposal of sludge into landfill due to a change in the acceptance criteria at the company that recycles the sludge generated at our semiconductor plant in Malaysia into cement. In fiscal 2022, we will work to increase the recycling rate by increasing the accuracy of sludge separation.

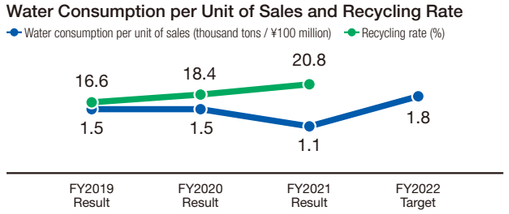
Amount and Ratio of Waste Sent to Landfill



Water consumption per unit of sales

In fiscal 2021, water consumption per unit of sales was 1,100 tons per ¥100 million, a significant decrease from the previous fiscal year. The main factor was the suspension of production at Fuji Electric (Malaysia) Sdn. Bhd. due to our withdrawal from the magnetic disk business. In addition, the company-wide recycling rate increased from 18.4% to 20.8% as a result of the expansion of water recycling facilities at the Yamanashi Factory, which produces semiconductors.

Water Consumption per Unit of Sales and Recycling Rate



▶ Achieve a society in harmony with nature

We aim to ensure that our products are designed and manufactured in a way that does not adversely affect the ecosystem so our customers can use them with peace of mind. To preserve biodiversity, meanwhile, each base in Japan and overseas engages in its own environmental protection activities to meet local needs. Going forward, we will consider specific targets and measures for achieving zero impact on ecosystems from business activities.

Amount of volatile organic compound (VOC) atmospheric emissions

Our volatile organic compound (VOC) emissions in fiscal 2021 were 617 tons, a reduction of more than 200 tons compared to the previous fiscal year. The main factors were the enhancement of VOC recovery equipment at Fuji Electric (Shenzhen) Co., Ltd., which produces semiconductors, and the discontinuation of production of magnetic disks at Fuji Electric (Malaysia) Sdn. Bhd.

Approach to Disclose Climate-Related Information in Accordance with TCFD Recommendations

The TCFD* recommendations require companies to disclose information on Governance, Strategy, Risk Management, and Metrics and Targets related to climate change. Since declaring support for the TCFD recommendations in June 2020, we have provided regular updates on the progress of our efforts in these four areas. (For more information, please visit our website.)

* TCFD: Task Force on Climate-related Financial Disclosures

Approach to Disclosing Climate-Related Information in Accordance with TCFD Recommendations
https://www.fujielectric.com/company/csr/global_environment/management_02_03.html

Items Required for Disclosure	Our Approach	Major Initiatives in Fiscal 2021
Governance	• The SDGs Promotion Committee (established in 2020 and consisting of managers from all business, sales, and corporate divisions) deliberates on climate change-related issues and evaluates policies. • The results of the Committee's deliberations and evaluations are reported to the Executive Committee (consisting of all executive officers and Standing Audit & Supervisory Board Members) and the Board of Directors for deliberation as necessary.	The SDGs Promotion Committee met twice to address climate change-related issues (in May and December 2021). • Proposed revisions to the Fiscal 2030 Target in the Environmental Vision 2050 were compiled and discussed at the Executive Committee meeting and reported to the Board of Directors. • Climate change-related risks, opportunities, and adaptation measures based on multiple scenarios were compiled and discussed at the Executive Committee meeting and reported to the Board of Directors.
Strategy	• We will analyze and identify risks and opportunities that climate change poses to our business (including supply chain) from short-, medium- and long-term perspectives using multiple temperature rise scenarios, and incorporate the impacts and adaptation measures into our business strategies. • We will disclose the risks and opportunities, adaptation measures, financial implications, and other information in a phased manner as the formulation progresses, taking into account management priorities.	• In addition to analyses using two temperature rise scenarios, "below 2°C" and "4°C," conducted in fiscal 2020, we identified risks and opportunities under the scenarios of "below 1.5°C" and "4°C" and developed adaptation measures (disclosed in March 2022). * Time frames considered: short term (up to 2022), medium term (up to around 2030), long term (up to around 2040)
Risk Management	• Fuji Electric will systematically recognize and evaluate risks that may affect its management, and appropriately manage and deal with such risks in accordance with the Fuji Electric Risk Management Rules (hereinafter referred to as the "Risk Management Rules"). • Recognizing climate change as one of the external risks that may affect management, we will assess and manage it in accordance with the Risk Management Rules.	• Recognizing climate change-related risks as one of the risks that may affect management, we added them to the list of "external risks" stipulated in the Risk Management Rules. • In accordance with the risk management process stipulated in the Risk Management Rules, we conducted segment-specific risk identification, a semi-annual (interim) assessment, and an annual assessment.
Metrics and Targets	• We will use the Fiscal 2030 Target in the Environmental Vision 2050 as indicators for assessing climate-related risks and opportunities, and the medium-term targets will cover greenhouse gas emissions along the entire supply chain (Scope 1+2+3).	• We established a new reduction target for greenhouse gas emissions across the supply chain based on the "below 1.5°C" scenario.

Risks and Opportunities and Adaptation Measures in the "Below 1.5°C" Scenario

Overview	External Scenarios Adopted
Scenario in which stringent measures are taken to limit the global average temperature rise as of 2100 to below 1.5°C above the pre-industrial average, using technologies and solutions scaled up from the "below 2°C" scenario.	IEA*1: World Energy Outlook (WEO) 2020 NZE IPCC*2: "Special Report on Global Warming of 1.5°C" RCP2.6

*1 IEA: International Energy Agency
*2 IPCC: Intergovernmental Panel on Climate Change

	Risks	Opportunities	Adaptation Measures
Suppliers	• Deterioration in profit due to procurement difficulties and cost increases	• Promotion of parts standardization and unification • Expanded use of recycled materials in products	• Promote multi-sourcing • Support for decarbonization of key suppliers • Accelerate R&D of new technologies related to decarbonization, release them to the market in a timely manner, and reduce their costs • Expand parts recycling through collaboration with customers and recycling companies • Strengthen reduction of greenhouse gas emission at production facilities • Respond to increased demand by increasing production capacity [Semiconductors] • Shift resources to renewable energy business [Power generation]
Development and Design	• Delays in technology development to meet decarbonization requirements	• Increased demand for technologies needed to promote decarbonization	
Manufacturing	• Cost increases associated with decarbonization of production facilities (plant and equipment investment and other costs, purchase of renewable electricity)	—	
Logistics	—	• Promotion of "local production for local consumption" (inventory reduction, logistics cost reduction, tax saving)	
Customers and Markets	• Loss of business opportunities due to lack of support for 100% usage of renewable energy during production • Decrease in demand for thermal power generation	• Increased demand for renewable energy and energy-saving products • Increased demand for renewal of thermal power generation services due to changes in fuel types for thermal power generation and the spread of CCS and CCUS	

Risks and Opportunities and Adaptation Measures in the "4°C" Scenario

Overview	External Scenarios Adopted
Scenario in which a global average temperature rise of around 4°C above the Industrial Revolution period is assumed unless measures exceeding the current level are taken.	IPCC: "Fifth Assessment Report" RCP8.5

Risks	Opportunities	Adaptation Measures
• Delays in procurement of parts • Cost increases due to wind and flood damage countermeasures 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 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 factory buildings in Japan and overseas located mainly in bay areas and areas covered by hazard maps