

Environment

By deploying our strengths in energy and environment technology, we will help address environmental issues across the supply chain.

Michio Abe

Senior Managing Executive Officer
Corporate General Manager, Production & Procurement Group



The expanding efforts of the international community to fulfill the SDGs are making it increasingly important to engage in environmental activities such as mitigating global warming, efficiently using natural resources, and preserving biodiversity. In June 2019 we formulated the Environmental Vision 2050 to determine the direction of the Company's environmental activities. Guided by this vision, we continue to achieve steady results.

Meanwhile, countries around the world are taking major steps toward decarbonization, and this movement is spreading to the social and industrial sectors as a new growth strategy. With this in mind, we have decided to review our Environmental Vision 2050 in fiscal 2021 from the perspective of strengthening our business, and also to consider specific measures to realize the vision. We will clarify the environmental goals that we must actively address in the long term and strive to make our entire supply chain carbon neutral by 2050 in order to achieve a decarbonized society.

We are rigorously reinforcing measures related to the 3Rs (Reduce, Reuse, Recycle) to make effective use of limited resources. Amid increasing expectations to create a recycling-oriented circular economy, we will also pursue environmental load mitigation measures to reduce the ratio of waste sent to landfills and lessen the impact on the ecosystem from the perspective of decarbonization.

With respect to information disclosure, since declaring our support for the Task Force on Climate-related Financial Disclosures (TCFD) last year, we have been identifying the risks and opportunities that climate change poses to our business activities, while analyzing potential

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.

Realize a Decarbonized Society	Target carbon neutrality across the supply chain
Realize a Recycling-Oriented Society	Promote green supply chains and 3R activities to reduce environmental impact to zero
Realize a Society in Harmony with Nature	Aim for zero influence on the ecosystem by corporate activities contributing to biodiversity

Fiscal 2030 Target

To limit the temperature rise to 1.5°C above pre-industrial levels, reduce greenhouse gas emissions in production by more than 46% (compared to FY2013) and strive to reduce society’s CO₂ emissions through our products.*

* Our targets for reducing CO₂ emissions from our products will be disclosed in 2022.

countermeasures and associated financial impacts, and we will disclose details sequentially.

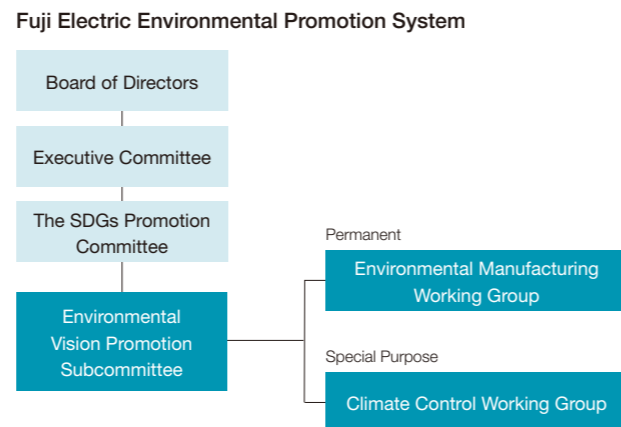
In fiscal 2020, the CDP certified Fuji Electric for the second consecutive year as an “A List Company” with excellent climate change initiatives and information disclosure. We will continue contributing to the creation of a sustainable society by utilizing energy and environment technology to resolve environmental issues.



Environmental Management Promotion System

To advance discussions about issues related to the SDGs, such as protecting the environment and tackling climate change, as well as to evaluate viable countermeasures, we established the SDGs Promotion Committee, a company-wide body consisting of executive officers, and its subordinate organization, the Environmental Vision Promotion Subcommittee. Under the umbrella of the subcommittee, we have set up specialized organizations for individual environmental management issues to formulate policies and action plans and to manage progress.

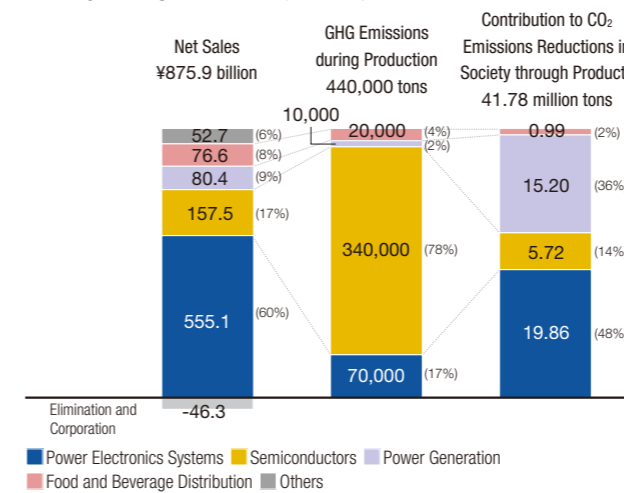
The policies and results of these initiatives are deliberated and evaluated by the SDGs Promotion Committee, then reported to the Executive Committee and the Board of Directors (for deliberation as necessary).



Performance against Key Environmental Indicators

Environmental Vision	Indicator	Fiscal 2019 Result	Fiscal 2020 Target	Fiscal 2020 Result	Fiscal 2021 Target
Realize a Decarbonized Society	Greenhouse gas emissions during production	460 (thousand tons)	480 or less (thousand tons)	440 (thousand tons)	460 (thousand tons)
	Contributions to CO ₂ emissions reduction in society through products	36,510 (thousand tons / year)	34,000 or more (thousand tons / year)	41,780 (thousand tons / year)	36,000 (thousand tons / year)
Realize a Recycling-Oriented Society	Ratio of waste sent to landfills	1.1%	2.0% or less	1.8%	Less than 1.5%
	Water consumption per unit of sales	1.5 (tons / ¥100 million)	1.8 or less (tons / ¥100 million)	1.5 (tons / ¥100 million)	1.8 or less (tons / ¥100 million)
Realize a Society in Harmony with Nature	Amount of emissions of volatile organic compound (VOC) atmospheric emissions	1,083 (tons)	1,694 or less (tons)	819 (tons)	1,694 or less (tons)

Net Sales, Greenhouse Gas (GHG) Emissions during Production, and Contribution to CO₂ Emissions Reduction in Society through Products (FY2020)



Sales of Our Products that Contribute to CO₂ Emissions Reductions in Society (FY2020)

(Unit: Billions of yen)

	Power Electronics Systems	Semiconductors	Power Generation	Food and Beverage Distribution	Total
Sales of Products that Contribute to CO ₂ Emissions Reductions	23.3	57.3	39.4	35.4	155.4
Net Sales	555.1	157.5	80.4	76.6	875.9
Composition Ratio	4%	36%	49%	46%	18%

* Contribution amounts are calculated based on the reduction of CO₂ emissions from products shipped in fiscal 2009 and thereafter that are in operation for one year.

FY2020 Calculation of Greenhouse Gas Emissions through the Supply Chain

In addition to greenhouse gas emissions from our own business activities (Scope 1 and 2), we calculate indirect emissions generated in our supply chain (Scope 3¹) based

on the Greenhouse Gas Protocol. We aim to reduce emissions throughout the entire supply chain in order to realize a decarbonized society.

Scope: All global bases
Unit: 1,000 t-CO₂

Scope 1 and 2	Scope 3						
CO₂: 335 (Use of fuel and electricity) Non-CO₂ GHGs: 102 (Use of insulating gas, CFC substitutes, etc.)	<table border="1"> <thead> <tr> <th>Upstream</th> <th>Downstream</th> </tr> </thead> <tbody> <tr> <td> Purchased materials²: 1,794 <Calculation range> All purchased materials/parts/outsourced services • Materials: Iron, copper, plastic, etc. • Parts: Electronic parts, mechanical parts, etc. • Outsourced services: Processing, assembly, construction, utility work, etc. </td> <td> Product use: 3,612 <Calculation range> Consumer products³ • Power supply components for TVs and PCs • Vending machines, showcases, change dispensers • Compact UPSs • Document management systems </td> </tr> <tr> <td> Capital goods: 103 Fuel procurement: 53 Movement, transportation, etc.: 13 Waste: 6 Business travel: 4 Commuting: 14 Emissions from offices: 6 </td> <td></td> </tr> </tbody> </table>	Upstream	Downstream	Purchased materials²: 1,794 <Calculation range> All purchased materials/parts/outsourced services • Materials: Iron, copper, plastic, etc. • Parts: Electronic parts, mechanical parts, etc. • Outsourced services: Processing, assembly, construction, utility work, etc.	Product use: 3,612 <Calculation range> Consumer products ³ • Power supply components for TVs and PCs • Vending machines, showcases, change dispensers • Compact UPSs • Document management systems	Capital goods: 103 Fuel procurement: 53 Movement, transportation, etc.: 13 Waste: 6 Business travel: 4 Commuting: 14 Emissions from offices: 6	
Upstream	Downstream						
Purchased materials²: 1,794 <Calculation range> All purchased materials/parts/outsourced services • Materials: Iron, copper, plastic, etc. • Parts: Electronic parts, mechanical parts, etc. • Outsourced services: Processing, assembly, construction, utility work, etc.	Product use: 3,612 <Calculation range> Consumer products ³ • Power supply components for TVs and PCs • Vending machines, showcases, change dispensers • Compact UPSs • Document management systems						
Capital goods: 103 Fuel procurement: 53 Movement, transportation, etc.: 13 Waste: 6 Business travel: 4 Commuting: 14 Emissions from offices: 6							
	Scope 1, 2, & 3 total: 6,042						

¹ Calculated in accordance with the Ministry of the Environment's "Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain (Ver. 3.0)."
² Starting in fiscal 2020, we have included products and services procured from company-wide direct materials in our calculations.
³ Calculated to the extent that it affects the final product. The calculation method for industrial products is under development. By the end of fiscal 2021, we plan to expand the coverage to 80% or more of the total emissions of all products, and release the results to the public.

Realize a Decarbonized Society

We have expressed our commitment to help realize a decarbonized society. Going forward, we will work to achieve carbon neutrality throughout our supply chain by reducing CO₂ emissions generated during the operation of our products, in addition to production-related activities, including procurement and transportation.

Reducing GHG emissions during production

Our Fiscal 2030 Target includes efforts to reduce greenhouse gas (GHG) emissions during production. Based on this plan, we have created annual targets and are working to achieve them.

In fiscal 2020, our use of electricity and fuel increased in line with strong sales of semiconductors, resulting in an increase in CO₂ emissions from the relevant divisions. However, overall GHG emissions were pushed down thanks to various factors. These included ongoing production-related technological development at the semiconductor factory of Fuji Electric (Malaysia) Sdn. Bhd., and at the Fukiage Factory, which produces high-voltage circuit breakers, as well as our switch from sulfur hexafluoride (SF₆) and other high-potency GHGs to those with lower potency. In addition, the switch to energy-saving equipment throughout the Company helped us reduce GHG emissions during production to 440,000 tons, which exceeded our target.

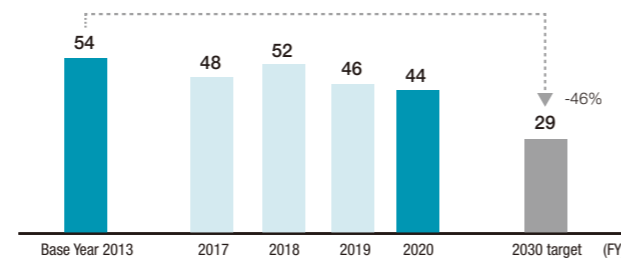
We have announced that we will raise our fiscal 2030 reduction target to over 46% (compared with fiscal 2013) and will study specific measures to achieve this going forward.

Contribution to CO₂ emissions reductions in society through products

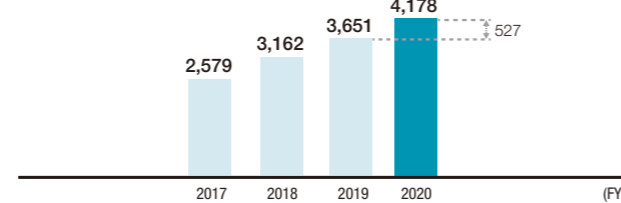
As part of our efforts to create environmental value through our business activities, we have set a target for contribution to CO₂ emissions reductions in society through products.

The use of our clean energy and energy-efficient equipment by our customers contributes to the reduction of CO₂ emissions during equipment operation.

GHG Emissions during Production (10,000 t-CO₂)



Contribution to CO₂ Emissions Reductions in Society through Our Products (10,000 t-CO₂)



Contribution to emissions reductions in FY2020 (compared with previous year) and main contributing products	
Power electronics systems : 179 Inverters (10 years) High-efficiency motors (10 years), etc.	Power generation : 258 Biomass-based power generation (20 years) Geothermal power generation (30 years), etc.
Semiconductors : 84 IGBT modules (7 years), etc.	Food and beverage distribution : 5 Vending machines (8 years), etc.

Figures in parentheses indicate number of years of operation used in calculation.

In fiscal 2020, the CO₂ emissions reduction effect of our products was 41.78 million tons*, which exceeded our target.

A significant contributor to this result was our power generation plant business, which took delivery of four clean biomass power generation systems that use heat from wood waste and agricultural waste as fuel. Our increased production of IGBTs in the semiconductor business also made a contribution.

* Contribution amounts are calculated based on the reduction of CO₂ emissions from products shipped in fiscal 2009 and thereafter that are in operation for one year.

Realize a Recycling-Oriented Society

We are committed to practicing the 3Rs (Reduce, Reuse, Recycle) throughout our supply chain, including through life cycle assessments at the design stage, green procurement, and reducing the ratio of waste sent to landfill. We have also set targets for the Fiscal 2030 Target to reduce the ratio of waste sent to landfill (less than 1.0%) and water consumption per unit of sales (less than 1.8 tons per ¥100 million).

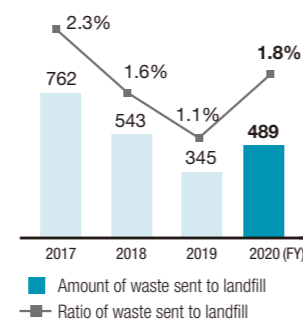
In fiscal 2020, the ratio of waste sent to landfill was 1.8%. With regard to sludge treatment at overseas semiconductor factories, sludge recycling was temporarily suspended due to COVID-19, and the sludge was sent to landfill. Although this caused the disposal rate to deteriorate by 0.7 percentage points (compared with previous year), our sludge reprocessing activities have now returned to pre-COVID levels.

We are focusing on reducing water consumption volumes through recycling, and we are installing recycling equipment in semiconductor factories, which use a lot of water. In fiscal 2020, the recycling rate for the entire company increased from

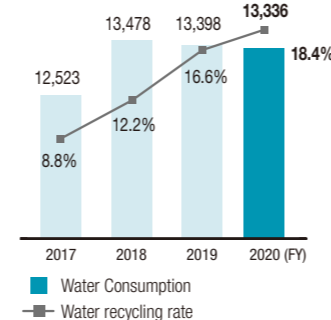
16.6% to 18.4%. At the Matsumoto Factory, we increased the recovery rate of recycled water by improving methods used for maintaining the filtration membranes.

We will continue promoting a transition from the traditional linear economy to a recycling-oriented economy in order to establish "green supply chains" as stated in our Environmental Vision 2050.

Amount and Ratio of Waste Sent to Landfill (t)



Water Consumption and Recycling Rate (1,000 t)



■ Amount of waste sent to landfill
— Ratio of waste sent to landfill

■ Water Consumption
— Water recycling rate

Realize 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. We set indicators for reducing the use of volatile organic compounds (VOCs), which are chemical substances that lead to environmental degradation, and conduct

evaluations annually. To preserve biodiversity, meanwhile, each site engages in its own environmental protection activities to meet local needs. In the future, we study ways to foster greater coexistence with nature from the perspective of contributing to decarbonization.

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

In June 2020, we declared our support for the TCFD* recommendations and have since progressively disclosed climate-related information.

Among the TCFD disclosure request items, our efforts related to the Strategy section are being considered as below. Here, we analyzed climate-related risks and opportunities

using two temperature rise scenarios, below 2°C and 4°C for the entire value chain.

* The Task Force on Climate-related Financial Disclosures (TCFD) is an international framework that promotes the disclosure of climate-related risks, opportunities, and financial impacts. In 2017, it announced a proposal to require companies to disclose climate-related information.

	Overview	Adoption Scenario
Below 2°C Scenario	Scenario in which stringent measures are taken to limit the global average temperature rise as of 2100 to 2°C above the pre-industrial average.	World Energy Outlook 2020 Issued by the International Energy Agency (IEA)
4°C Scenario	Scenario in which a global temperature rise of around 4°C above the Industrial Revolution period is assumed unless measures exceeding the current level are taken.	IPCC Fifth Report Issued by United Nations Intergovernmental Panel on Climate Change (IPCC)

After identifying risks and opportunities for each business segment and value chain process, we pinpoint items of high importance and summarize them from a company-wide perspective.

The table below shows the main risks and opportunities that we should consider. Based on these, we will continue promoting disclosure of adaptation measures and financial impacts.

Scenario	Main External Factors to Consider	Risks	Opportunities
Below 2°C	Increase in power demand due to advances in electrification • Strengthening of energy saving • Dissemination of power storage • Strengthening of digital infrastructure etc.	• Loss of sales opportunities due to delay in adopting CO ₂ reduction technology	• Increase in demand for energy-saving products and environmentally friendly products
		• Increased costs associated with decarbonization of existing production equipment (capital investment, etc.)	• Increase in demand from RE100 customers through decarbonization of manufacturing processes
4°C	Shifts in the energy mix • Stricter regulations on fossil fuels • Increased use of renewable energy etc.	• Prohibition of use of solvents and refrigerants containing gases with high greenhouse effect	• Increase in demand due to development as a result of establishing production processes that do not use greenhouse gases
		• Soaring prices of currently used metals and materials (iron, silicon, etc.)	• Increased usage rate of recycled materials
4°C	Frequent occurrence of extreme weather events • Increasing frequency and severity of disasters • Sea level rise etc.	• Loss of business opportunities due to delay in establishing CO ₂ emission control technologies for thermal power generation facilities	• Increased demand for related products due to changes in power source composition (increased use of renewable energy)
		• Delays in parts delivery due to damage to suppliers and distribution warehouses • Delays in parts procurement, shipping and delivery due to disrupted distribution network • Shutdown due to damage to factories • Delays in plant works	• Increase in demand resulting from active investment in BCP measures by customers



Items other than Strategy are available on our website.

https://www.fujielectric.com/company/csr/global_environment/management_02_03.html