

3.1 Environmental Policy and Management System

3.1.1 Basic Approach

The Fujifilm Group organizes activities aimed at contributions to “sustainable development” in all the Group’s business activities, in accordance with its environmental policy (Fujifilm Group Green Policy).

Fujifilm Group Green Policy

Basic Policy

“Sustainable development” is the most important issue for our planet, the human race, and all business entities in the 21st century. Through all products and services and businesses, we will strive our contributions to “sustainable development” by initiative to address climate change, promote resource circulation, ensure chemical safety, preservation for regional environment and biodiversity conservation.

Action Guidelines

1. We will contribute to solving environmental issues with original and advanced technology in the product life cycle.
2. We will comply with the rules established by each country and region, self-regulations of the Fujifilm Group companies, standards, individually agreed requirements.
3. As a member of the supply chain and community, we will work with each stakeholder to promote activities to solve environmental issues.
4. We will actively disclose information on environmental initiatives and their results to various stakeholders such as local communities, governments, shareholders and investors, NGOs and NPOs, employees of the Fujifilm Group companies, and ensure good communication.
5. We strengthen the foundation to address environmental issues voluntarily by providing education to employees of each group company thoroughly to raise awareness.

Established in October 2002, Revised in April 2019

3.1.2 Environmental Management

The Fujifilm Group collects environmental performance data from all of our sites each year to determine the priority actions for the following fiscal year. Each site operates based on the priority action list to improve their environmental performance and reduce environmental risks. Utilizing the Integrated Management System (IMS)* for these continuing environmental activities, enhances their effect.

In 2017, we released SVP 2030, the Fujifilm Group CSR Plan toward 2030, setting targets in six areas to build a sustainable society. VISION 2019, the Medium-Term Management Plan released in the same year, is a concrete business strategy to achieve the SVP 2030 targets. The Priority Issues listed below are the environmental and other items we need to resolve chiefly within fiscal 2020 in order to achieve the SVP 2030 targets.

* Integrated management system (IMS): Management system integrating, quality management system (QMS), occupational health and safety assessment system (OHSAS) and information security management system (ISMS).

<https://holdings.fujifilm.com/en/sustainability/vision/management/management-system>

FY2020 Fujifilm Group Priority Issues

Priority Issues	Priority Measures
1. Address Climate Change	(1) Reduce CO ₂ emissions across the entire product lifecycle from material procurement, product manufacturing, transportation, to use and disposal. (2) Develop and disseminate products and services that contribute to CO ₂ emissions reduction in society. (Creation of the Fujifilm Group environmentally conscious products, Green Value Products) (3) Globally promote strategic energy-saving activities. ① Group-wide expansion of energy-saving and renewable-energy-usage measures. ② More efficient energy usage using cogeneration systems. (4) Assess risks and opportunities concerning climate change, reflect the assessment results in the business strategy, and disclose relevant information.
2. Promote Recycling of Resources	(1) Promote efficient water usage. (2) Develop and disseminate products and services that contribute to water resource conservation in society. (Creation of the Fujifilm Group environmentally conscious products, Green Value Products) (3) Improve resource usage per unit in production. (4) Promote waste reduction. (5) Improve the quality of resource recycling. ① Promotion of recycling and recovering valuable materials from waste. ② Increase recycling of used products.
3. Address Energy Issues	(1) Develop technologies that contribute to energy saving, storage and creation.
4. Ensure Product and Chemical Safety	(1) Promote voluntary control over high priority substances for risk management; and continue management of VOC emissions. (2) Contribute to chemical safety utilizing the chemical library. (3) Develop a safety assessment method taking account of animal welfare and apply the method to intra-company chemical management. (4) Disseminate management of chemicals in products across the supply chain. (5) Promote safe chemical handling. (6) Assess and improve performance of internal rules concerning product safety and chemical management. (7) Continue improving legal compliance to support product expansion.
5. Promote Management of a Healthy Workplace (work accident prevention)	(1) Improve management level by standardizing biological material handling across the group. (2) Prevention of work accidents by assessing occupational safety and health risks.
6. Strengthen CSR Foundations across the Entire Supply Chain	(1) Request suppliers to run their business with consideration for the environment, ethics, and human rights. (2) Establish regular onsite "Visit and Check" in critical suppliers and reinforce improvement activities. (3) Appropriately procure plant-derived materials.
7. Improve Communications, and Information Disclosure & Provision	(1) Proactively disclose corporate information through the official website and the Sustainability Report. (2) Enhance the quality of environmental performance information.
8. Employee Training	(1) Thoroughly educate employees about product safety, workplace safety, and environmental laws.

3.1.3 EMS: Certification/Audit/Verification

Status of EMS Certification and Audit in FY2019

* Main sites with production function and some non-production sites

Certification/audit/verification system by specialized companies with International Certification (ISO14001, EMAS)	Coverage: 88.2% Target sites: 68 Certified sites: 60
Certification/audit/verification system by internal experts	Coverage: 11.8% Our internal experts verify the status of environmental activities based on the Environmental Policy and the priority issues. Target sites: 68 Certified sites: 8
Total Coverage of Environmental Management System (EMS) for our company (The sum of the above two)	100%

<https://www.fujifilmholdings.com/en/sustainability/vision/activity.html>

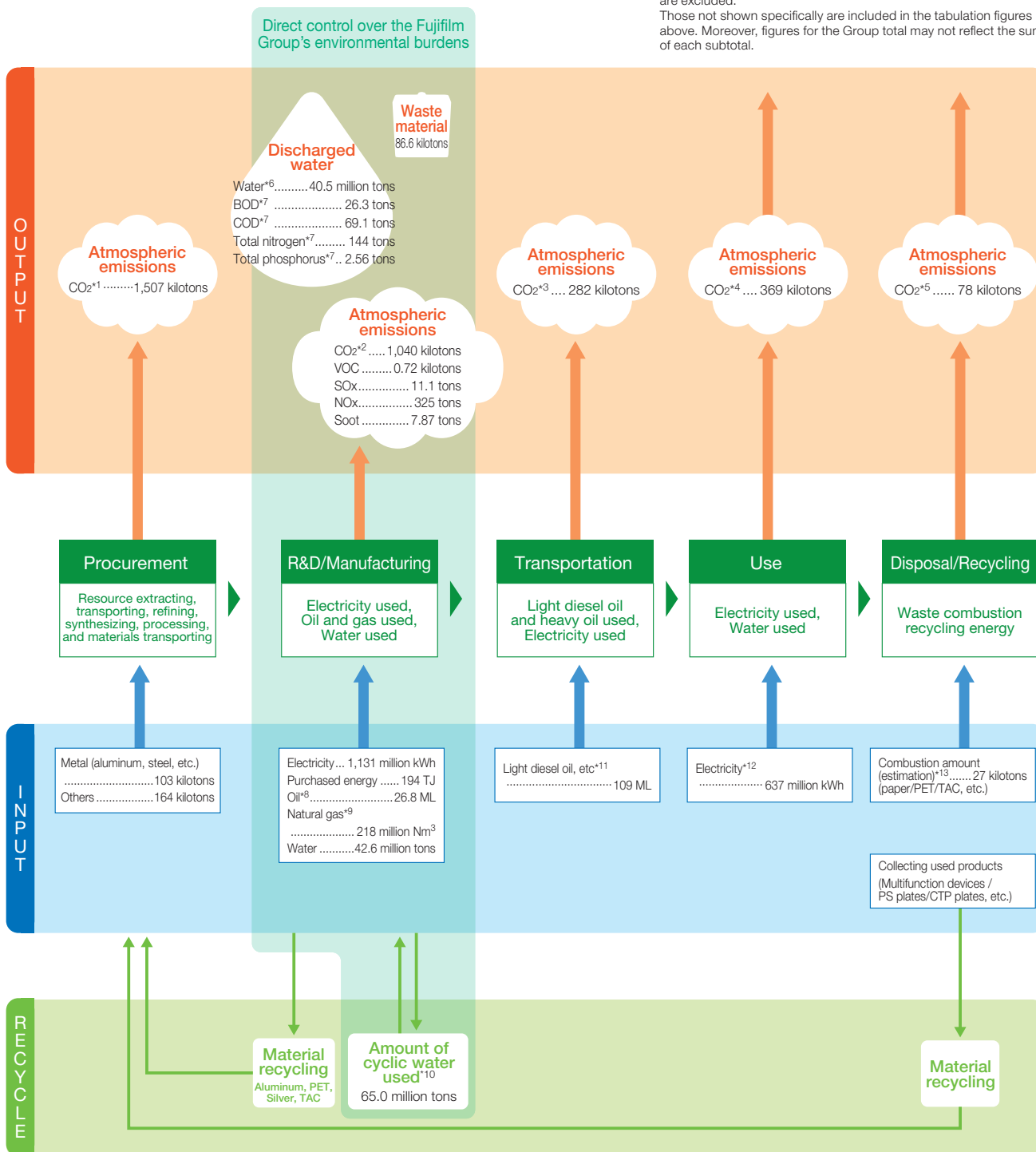
3.1.4 Risk Management by Environmental Due Diligence

When we acquire lands and buildings through M&A, we undertake environmental due diligence, including a pollution assessment of the land and underground water. In addition to conducting surveys on the history and contamination level of the lands and buildings, we check whether they comply with environmental laws to minimize any environmental risks.

3.1.5 Overview of FY2019

1. Material flow

* Organizations covered in the environmental performance data are, as a general rule, those that are shown in the consolidated financial statements, and are significant in terms of environmental burden. However, certain sales and manufacturing (assembly) subsidiaries are excluded. Those not shown specifically are included in the tabulation figures above. Moreover, figures for the Group total may not reflect the sum of each subtotal.



*1 Environmental burdens due to raw materials procurement (CO₂ emitted during the process of extracting, transporting, refining, synthesizing, processing, and transporting raw materials) is calculated for the main raw materials procured.

*2 Environmental burdens due to product manufacture is calculated based on the total amount of energy (electricity, petroleum, and gas) consumed in the production process.

*3 For the calculation of environmental burdens due to product transportation, estimates are made based on domestic and overseas transportation methods and distances traveled. The typical amount of CO₂ emissions per unit of weight and distance for each method and correction factors such as the yield rate are multiplied by the weight of the raw materials procured.

*4 For copy machines, printers, and fax machines, environmental burdens due to use of products is calculated as energy consumption for a 5-year period for the machines installed this year. For other products, the estimated number of machines in operation is multiplied by typical energy consumption.

*5 Environmental burdens due to product disposal is calculated based on the estimation of stress on the environment caused by the disposal of the raw materials procured.

*6 Wastewater released as a result of business activities

*7 Volume released to public water

*8 Total of heavy oil A, heavy oil C, kerosene, light diesel oil, and gasoline (Amounts of the petroleum-based products are summed after appropriated energy conversions, and the total is expressed in terms of the amount of heavy oil A.)

*9 Total of natural gas, liquefied natural gas (LNG), urban gas, butane, and liquefied petroleum gas (LPG) (Amounts of the gases are summed after appropriate energy conversions, and the total is expressed in terms of the amount of urban gas.)

*10 This includes the amount of water used in a cyclic manner.

*11 Calculation assuming transport by truck

*12 Based on the average CO₂ emission coefficient of the Federation of Electric Power Companies of Japan

*13 Hypothetical combustion rate for each substance used

(For the above, data from the input-output table and other sources are used to obtain CO₂ emissions per unit of output.)

2. Response to environmental laws and regulations

Legal Compliance and Reports on Complaints in FY2019

In 2019, there were two violations of environment-related laws and no customer complaints, and no incidents. The legal violation issue concerned shipment/notification of deleterious substances in Japan and expired storage of hazardous waste in the United States— in both case preventive measures have already been completed.

	Fujifilm Group total
Number of legal violations (number of cases solved)	2 (2)
Penalty	0 yen
Number of complaints (number of cases solved)	0 (0)
Number of incidents (number of cases solved)	0 (0)

Responses to Environment-Related Complaints and Legal Violations in FY2019*

Company/Site name	Description	Responses
Fujifilm Kaisei area	Violation associated with shipment/ notification of products containing deleterious substances	Review of work procedures and check system
FUJIFILM Manufacturing U.S.A. Inc.	Expired storage of hazardous waste	Improvement of waste management system

* Relatively minor violations have been excluded.

3.2 Climate Change Strategy

3.2.1 Basic Approach

The Fujifilm Group has set CO₂ emissions reduction targets toward 2030 to create of a carbon neutral society aimed at by the Paris Agreement. Along with CO₂ emissions reduction across the entire product lifecycle (from material procurement, product manufacturing, transportation, use and disposal), we are continuing to actively reduce CO₂ emissions in society through providing our products and services. At the manufacturing stage, we direct our efforts at using lower carbon energy sources, including adopting and utilizing renewable energy, in addition to the promotion of energy saving and efficient energy usage. We aim to achieve zero CO₂ emissions in all the energy we use by converting our electricity purchasing to 100% renewable energy sources by fiscal 2050 and by adopting new technologies, such as changing the fuel for cogeneration system to hydrogen.

Targets and Progresses of Climate Change

Long-term target: Reduce the Fujifilm Group's CO₂ emissions by 45% by the end of FY2030 (compared to the FY2013 level)

Progress: 30% reduction at the end of FY2019 (compared to the FY2013 level).

Mid-term target: Reduce the Fujifilm Group's CO₂ emissions by 35% by the end of FY2020 (compared to the FY2005 level)

Progress: 30% reduction at the end of FY2019 (compared to the FY2005 level).

Short-term target: Reduce the Fujifilm Group's CO₂ emissions by 2% by the end of FY2020 (compared to the FY2019 level).

* Long-term targets are set down in SVP 2030 and certified as Science Based Targets by the SBT Initiative.

From fiscal 2020, we are promoting CO₂ emissions reduction by setting an activity target of "implement one or more CO₂ emissions reduction measures in each site per year."

3.2.2 Climate Change Strategy and Management

At the Fujifilm Group, the Energy Strategy Promotion Committee has been working group-wide to maximize efficiency in energy usage and to seek further CO₂ emissions reductions at the procurement stage. We are promoting these measures proactively throughout the Group. We are utilizing the carbon pricing scheme (price of CO₂ emissions) to evaluate risks and opportunities for climate change, and are now examining impact probabilities and future measures.

At the manufacturing stage, we promote CO₂ emissions reduction measures that include improvements to efficient energy usage, conversion to renewable energy-derived electric power, conversion of natural gas and heavy oil used in our in-house cogeneration systems to hydrogen sources (after fiscal 2030). At the procurement stage, we are reducing the input of material resources by a more sophisticated system for reusing and recycling them. In response to the physical risks accompanying the climate change, we are introducing risk countermeasures for product supplies in procurement and manufacturing in various countries.

Furthermore, we are contributing to reducing CO₂ emissions on a global scale by promoting design for the environment and providing, disclosing and introducing appealing products and solutions that have a high CO₂ reduction efficiency through the FUJIFILM Holdings Environment Conscious Certification System (established in May 2018).

1. Information disclosure based on TCFD

In December 2018, the Fujifilm Group announced that it would endorse the recommendations issued by the Task Force on Climate-related Financial Disclosures (TCFD). Furthermore, we are participating in the TCFD support program of the Ministry of the Environment and have started a scenario analysis on climate change.

Governance	Risk Management
<ul style="list-style-type: none"> Deliberate on climate change risks and opportunities at the ESG Committee (chaired by the President) to reflect them in our management, and report to the Board of Directors. <p>[Examples]</p> <ul style="list-style-type: none"> Establish a target for renewable energy use and endorse the TCFD recommendations. Join RE100, the global corporate leadership initiative. 	<ul style="list-style-type: none"> Monitor the levels of CO₂ emitted by each business and through the product lifecycle with the global system. Analyze factors affecting energy efficiency and CO₂ emissions at the Energy Strategy Promotion Committee. Identify water risks using indexes for “water stress,” “water usage” and “relation to business” at all sites.
Strategy	Index and Target
<p>[Establishing the CSR Plan]</p> <ul style="list-style-type: none"> Establish Sustainable Value Plan 2030 (SVP 2030) with FY2030 as its long-term targets. <p>[Risks and opportunities derived from climate change]</p> <ul style="list-style-type: none"> Identifying risks based on scenario analysis and establishing countermeasures. As a business opportunity, develop and distribute products that mitigate and address climate change by making use of the internal certification system for environmentally conscious products. <p>* See the following scenario analysis results for details.</p> <p>[Other CO₂ emissions reduction strategies]</p> <ul style="list-style-type: none"> Aim at zero CO₂ emissions not only by changing our electricity purchasing to renewable sources, but also by adopting new technologies, such as by utilizing hydrogen as the fuel for private cogeneration power systems. Clarify our approach to a non-carbon society through RE100, the international initiative, and promote infrastructure development as a consumer. 	<ul style="list-style-type: none"> Target for reducing CO₂ emissions (Certified by Science Based Targets). <ul style="list-style-type: none"> Reduce CO₂ emissions by 30% across the entire product lifecycle by FY2030 (compared to the FY2013 level). Renewable energy usage target <ul style="list-style-type: none"> Convert 50% of purchased electric power to renewable energy-derived power by FY2030. Convert 100% of purchased electric power to renewable energy-derived power by FY2050. (Aim at zero CO₂ emissions from energy such as electricity, fuels, etc.) Water usage reduction target <ul style="list-style-type: none"> Reduce the amount of water used in production by 30% by FY2030 (compared to the FY2013 level).

2. Analysis results of our scenario based on TCFD recommendations

Based on the Representative Concentration Pathway (RCP) 2.6 to 8.5 presented in the Intergovernmental Panel on Climate Change (IPCC) Assessment, we established our own 2°C and 4°C scenarios and undertook analyses based on these scenarios. The risks we identified in the 4°C scenario include the negative impact of extreme weather on production facilities and possible cessation of supplies of product materials, and factory shutdowns from power cuts. We are now forming countermeasures for these risks, such as decentralization of production sites and material suppliers and installation of private power generators. The major risk in the 2°C scenario is a financial risk due to the possible introduction of carbon taxes. The countermeasure for this is adoption of renewable energy and a range of energy-saving activities to meet the CO₂ emissions reduction targets.

Opportunities associated with the 2°C scenario include offering energy-saving equipment and solution services that support the future remote working society. Such solution services can save travelling, transportation time, and office space, all of which can contribute to CO₂ emissions reduction.

Analysis of Risks and Opportunities by Scenario Based on 4°C and 2°C Scenario

4°C scenario: Continued CO ₂ emissions, attributable to man, causes CO ₂ buildup on the Earth, increasing temperatures by 4 degrees Celsius or above from the level at the Industrial Revolution.			
	Environment, social conditions and systems	Risks	Measures
Risks	Temperature increase triggers weather events frequently, including torrential rains, floods and drought.	<ul style="list-style-type: none"> • Cessation in material procurement and factory production due to natural disasters, such as flooding. • Factory production stoppages due to drought. • Power grid breakdown and Power cuts due to typhoons. 	<ul style="list-style-type: none"> • Create a BCP to secure emergency suppliers and distribute production sites. • Obtain and monitor the latest rain forecast and flood prevention by controlling water gates to factories. • Continual water risk assessment for all sites by our own water risk assessment system (Please refer to 3.3.5 <i>Effective Use of Water Resources</i>.) • Install regular and emergency in-house cogeneration systems.
	<p>Changes in temperature and precipitation patterns alter animal habitats, lowering their population and even driving them into extinction.</p> <p>This causes supply instability and a price increase of plant-derived materials.</p> <p>Other results include depletion of fossil fuel as well as supply instability and a price increase of oil-derived materials.</p>	<ul style="list-style-type: none"> • Material shortages due to tree and forest withering. (Paper: pulp, Film: cellulose) 	<p>[Paper]</p> <ul style="list-style-type: none"> • Reduce paper with Document Solution Services utilizing digital and IT technologies. <p>[Film]</p> <ul style="list-style-type: none"> • Reduce film materials by using thinner films and promotion of recycle.
Opportunities*1	<p>There is an increased demand for systems, products and technologies required for society to adapt to climate change.</p> <ul style="list-style-type: none"> • Monitoring and predicting climate • Deterioration diagnosis of infrastructures such as structures and catchments <p>Changes in climate and ecosystems make it difficult to secure drinking water and foods, boosting the manufacturing of drinking water and production at plant factories.</p>	<ul style="list-style-type: none"> • Providing high-sensitivity surveillance cameras capable of monitoring rivers and weather even in rough weather or at night <p>https://holdings.fujifilm.com/en/sustainability/activity/other-activities/social-contribution-activities/kyushu</p> <ul style="list-style-type: none"> • Offer infrastructure degradation diagnosis services for bridges, dam walls, and embankments in case of typhoons. <p>https://www.fujifilm.com/jp/ja/business/inspection/infra-service/hibimikke (in Japanese only)</p> <ul style="list-style-type: none"> • Contribution to measures for water shortage by water filtration technology and ion exchange membranes. <p>https://www.fujifilmmembranes.com/water-membranes/technology</p>	<ul style="list-style-type: none"> • Utilizing used multifunction devices. (reuse) <p>https://www.fujixerox.com/eng/company/csr/svp2030/environment/recycle.html</p> <ul style="list-style-type: none"> • Aim at appropriate number of multifunction devices by expanding sharing services. <p>https://www.fujixerox.com/eng/solution/outsourcingservices/services/next_gen_mps.html</p>

2°C scenario: Human-caused CO ₂ emissions become virtually eliminated due to technological innovation and the development of social systems, keeping the temperature increase by no more than 2 degrees Celsius from the time of Industrial Revolution.			
	Environment, social conditions and systems	Risks	Measures
Risks	<p>During transition into a decarbonized society, the government imposes a carbon tax as a policy for restricting the use of fossil fuels and promoting technological innovation. A border carbon tax is introduced to mitigate industrial transfer, prompted by disparity in carbon tax rates in different countries.</p>	<ul style="list-style-type: none"> • Increase in manufacturing costs due to carbon taxes on fossil fuel. * Total financial effects on direct CO₂ emissions from our manufacturing must bear some 5 billion yen/year.*² 	<p>[Promote energy saving and renewable energy usage.]</p> <ul style="list-style-type: none"> • Convert 50% of purchasing energy to renewables by FY2030. • Achieve no CO₂ emissions in the manufacturing stage by converting energy purchasing to 100% renewables by FY2050, and using hydrogen for in-house cogeneration systems. <p>https://holdings.fujifilm.com/en/news/list/500</p> <p>[Prediction for 2030]</p> <ul style="list-style-type: none"> • Accomplish CO₂ emission targets in our SVP 2030 by these measures and other energy saving measures. Cost reduction of 2.3 billion yen/year for CO₂ emissions at manufacturing stage.*²
Opportunities* ¹	<p>Systems and products with high energy efficiency are given priority in social implementation in order to minimize the load of energy-supply systems. Society adopts a distributed structure due to its affinity with natural energy, creating the demand for reducing transportation of humans and goods and time required for it.</p>	<ul style="list-style-type: none"> • Providing environmentally conscious products. Energy-saving multifunction devices. Energy-saving data storage by high-capacity magnetic tape data archiving systems. https://www.fujifilm.com/about/profile/business_fields/recording_media/ • Reduce CO₂ emissions by cutting back on time, transportation and space with Document Solution Services utilizing digital and IT technologies. https://www.fujixerox.co.jp/solution/work_style_reform/telework_202003.html#clm05 (Telework Solution) (in Japanese only) https://www.fujixerox.co.jp/solution/menu/cocodesk (CocoDesk) (in Japanese only) • Resource and energy usage reduction by process-less thermal CTP plates for printing. https://fujifilm.com/products/graphic_systems/ctp/processless_plate/ 	

*1 Develop and offer products that contribute to alleviation of and adaptation to climate change by utilizing the Green Value Products Certification Program. (Please refer to 3.4.3 "Green Value Products" Certification Program.)

*2 When calculating with 5,000 yen/ton-CO₂ for carbon tax.

3.2.3 Activity Overview

To reduce impact by Fujifilm Group's business activities, the Energy Strategy Promotion Committee has been working group-wide to maximize efficiency in energy usage and to seek CO₂ reduction measures in the energy procurement. We have been actively working to disseminate these measures across the Group.

Recently, we are directed efforts to the active introduction of renewable energy, both in Japan and other countries, including the introduction of wind power-generated electricity at FUJIFILM Manufacturing Europe B.V. (Netherlands), installation of a photovoltaic power facility at its Kumamoto Plant (Japan) and installation of a new large-scale photovoltaic power facility at FUJIFILM Printing Plate (China) Co., Ltd., in fiscal 2018. In January 2019, we established a renewable energy usage target, and we plan to continue pursuing further energy conservation and introducing renewable energy sources to meet our CSR targets for the year 2030 as established in SVP 2030.

In developing environmentally conscious products, we are developing products that have a low impact on the environment. We try to design products that not only reduce their environment impact by themselves such as energy- and resource-saving design but that also contribute to reducing CO₂ emissions in society. Based on the internal rules and guidelines for Design for Environment, we evaluate the level of environmental impact reduction and calculation results of the contribution to reduce CO₂ emissions from our products and services in society. We are working to reduce environmental impact accordingly.

We believe that developing products to address climate change issues is the first step to resolving environmental issues in society as well as to creating business opportunities. (For further details, please refer to 3.4 Product Stewardship (Design for the Environment).)

3.2.4 Status of Renewable Energy Usage

Renewable Energy Usage Targets

- Converting 50% of purchased electric power to renewable energy-derived power by FY2030.
- Converting 100% of purchased electric power to renewable energy-derived power aiming at zero CO₂ emissions from our energy consumption by converting using fuels to hydrogen in our in-house cogeneration systems by FY2050.
- This target was certified as being in line with the purpose of the RE100 by the Climate Group, an international NPO; we joined the RE100 in April 2019.

Renewable Energy (Electric Power) Consumption

Unit: MWh

		FY2015	FY2016	FY2017	FY2018	FY2019
Renewable energy consumption	Fujifilm Group Total	46,675	102,552	101,435	96,100	95,827
	Fujifilm	44,848	100,772	99,883	94,738	94,658
	Fuji Xerox	1,827	1,780	1,552	1,362	1,170

Year	Site		Status	Type	Capacity
1998	FUJIFILM Kanagawa Factory	Japan	Installed	Solar power	20 KW (Suspended)
2006	FUJIFILM Kyushu	Japan	Installed	Solar power	100 KW
2006	FUJIFILM Kaisei Factory	Japan	Installed	Solar power	72 KW
2009	FUJIFILM Manufacturing U.S.A., Inc. (Greenwood)	USA	Purchase of methane gas generated from waste landfills	Methane gas (Biogas)	(Purchase)
2011	FUJIFILM Manufacturing Europe B.V.	Netherlands	Installed	Wind power	10,000KW (2,000 kW×5)
2012	FUJIFILM Manufacturing U.S.A., Inc. (North Kansas City)	USA	Installed	Solar power	71 KW
2014	FUJIFILM Recording Media U.S.A., Inc.	USA	Installed	Solar power	667 KW
2015	FUJIFILM Manufacturing Europe B.V.	Netherlands	Purchased	Wind power	(Purchase)
2015	FUJIFILM Speciality Ink Systems Limited	UK	Installed	Solar power	200 KW
2018	FUJIFILM Printing Plate (China) Co., Ltd	China	Installed	Solar power	1,440 KW
2018	FUJIFILM Wako Pure Chemical Corporation Osaka Factory	Japan	Purchased	Water power	(Purchase)
2019	FUJIFILM Techno Products Sano Factory	Japan	Installed	Solar power	95 KW
2019	FUJIFILM Electronic Materials (Europe) N.V.	Belgium	Purchased	Solar power, wind power, and others	(Purchase)
2019	FUJIFILM Belgium N.V.	Belgium	Purchased	Solar power, wind power, and others	(Purchase)

* Some sites purchase renewable power and Tradable Green Certificates.

3.2.5 Data Related to Climate Change Measures (GHG and CO₂ emissions)

GHG Emissions (Scope 1, 2)

		Unit		FY2015	FY2016	FY2017	FY2018	FY2019
Total direct GHG emissions (Scope 1)	Total emissions	t CO ₂ e (metric tons CO ₂ equivalents)	Fujifilm Group Total	687,000	659,000	637,000	624,000	593,000
			Fujifilm	643,000	617,000	595,000	584,000	555,000
			Fuji Xerox	44,000	42,000	42,000	40,000	38,000
		Unit		FY2015	FY2016	FY2017	FY2018	FY2019
Total indirect GHG emissions (Scope 2)	Total emissions	t CO ₂ e (metric tons CO ₂ equivalents)	Fujifilm Group Total	616,000	580,000	526,000	502,000	474,000
			Fujifilm	449,000	417,000	373,000	358,000	343,000
			Fuji Xerox	167,000	163,000	153,000	144,000	131,000

* Scope 1: CO₂ emissions in fuel.

* Data coverage is for 100% of total sales

* The above Scope 1 & 2 data have been verified by the third party organization: SGS Japan, Inc.

FY2019 Results of GHG Scope 3 Emissions for Fujifilm Group

Unit: %

	Purchased goods and services	Capital goods	Energy excluding Scope 1,2	Upstream transportation and distribution	Waste generated in operation	Business travel	Employee commuting	Upstream leased assets	Downstream transportation and distribution	Use of sold products	Disposal or products	Downstream leased assets	Downstream leased assets
Fujifilm Group Total	54.5	9.2	2.0	0.3	0.3	1.2	1.0	-	10.5	2.5	3.4	4.0	11.1
Fujifilm	64.9	10.5	2.4	0.3	0.4	0.8	0.6	-	6.7	3.4	4.6	5.4	-
Fuji Xerox	24.9	5.5	0.8	0.2	0.1	2.6	2.0	-	21.4	-	-	-	42.5

CO₂ Emissions (Scope 1, 2, 3)

	FY2015	FY2016	FY2017	FY2018	FY2019
CO ₂ Emissions (kt- CO ₂ /year)	5,017	4,839	4,389	4,102	3,738
Scope 1	14%	14%	15%	15%	16%
Scope 2	12%	11%	12%	12%	13%
Scope 3	74%	75%	74%	73%	71%

FY2019 Result of CO₂ Emission for Fujifilm Group

 Unit: kt-CO₂/year

		Procurement	Manufacturing		Transportation	Use		Disposal	Total
		1,507	1,040		282	369		78	3,276
Items	PET, TAC, etc.	306	Gas	493	282	Medical equipment	60	78 (including emission trading)	
	Aluminum	1,027	Petroleum	73		Minilab	24		
	Copiers/Printers/Fax machines	174	Electricity	474		Copiers/Printers/Fax machines	296		
						Others (including emission trading)	-12		

CO₂ Emissions*

 Unit: kt- CO₂/year

		FY2015	FY2016	FY2017	FY2018	FY2019
R&D/ Manufacturing/ Office	Japan/Manufacturing	894	853	783	757	724
	Japan/ Non-manufacturing	30	33	32	30	27
	Overseas/Manufacturing	311	273	275	270	255
	Overseas/ Non-manufacturing	37	50	42	39	35
	Group total	1,272	1,209	1,132	1,097	1,040
Vehicle		31	31	31	29	27
Total		1,303	1,240	1,163	1,126	1,068

* Calculation method: Calculation of CO₂ emission by energy usage specified in the Act on the Rational Use of Energy. Emission coefficient by electric power utility used for purchased power.

FY2019 CO₂ Emission by Region* (R&D/Manufacturing/Office)

 Unit: kt-CO₂/year

Japan		751
Overseas	Americas (USA, Canada & Brazil)	144
	Europe (Netherlands, Germany, Belgium, UK & France)	53
	China	57
	Asia excl. China & Oceania (Australia, South Korea, Singapore, etc.)	36
Group total		1,040

* Calculation method: Calculation of CO₂ emission by energy usage specified in the Act on the Rational Use of Energy. Emission coefficient by electric power utility used for purchased power in Japan, and emission coefficient released by IEA for each country used for other countries.

Annual Changes in Transport Volume* (Japan)

Unit: million tons/kilometer

	FY2015	FY2016	FY2017	FY2018	FY2019
Transportation volume	190	190	168	155	135

* Range of transportation volume is calculated within the range of ownership in compliance with reporting under the Act on the Rational Use of Energy

Annual Changes in Total CO₂ Emissions in Logistics* (Japan)

 Unit: t- CO₂/year

	FY2015	FY2016	FY2017	FY2018	FY2019
Total CO ₂ emissions	50,229	49,761	47,100	45,846	43,205

* Total CO₂ emissions are calculated as the amount of CO₂ emitted by FUJIFILM Logistics Co., Ltd. in its logistics activities for the Fujifilm Group companies. Since FY2006, we shifted calculation method to the method based on revised Energy Conservation Law (travel distance of empty cars not included in calculations, etc.).

Amount of CO₂ Reductions and Reduction Rates through Transportation Efficiency Improvements in Distribution* (Japan)

	FY2015	FY2016	FY2017	FY2018	FY2019
Amount of CO ₂ reductions (tons of CO ₂ /year)	12,692	15,790	13,156	12,927	10,775
CO ₂ reduction rate (%)	20.2	25.4	21.8	22.0	20.0

* CO₂ reduction rate (%) = $\frac{\text{Amount of CO}_2 \text{ reductions}}{\text{Total CO}_2 \text{ emissions} + \text{CO}_2 \text{ reductions}}$

* In the FY2019, we enforced our activities for CO₂ reductions in collaboration with a specified consigner. Major reduction initiatives, which proved effective, include starting modal shifts (road transport to sea transport) in FY2017, as well as improving carrying efficiency by double stacking during transport and enhancing gasoline mileage by eco-driving. The amount was a total figure of each facility's CO₂ reduction measure.

Utilizing carbon offset

Efforts in FY2019

Business fields	Coverage
Life Science	We offset CO ₂ emissions by customers per day when a customer purchases either an ASTALIFT Jelly Aquarysta or Moist Lotion (Registered with third-party certification by Japan Management Association)
Graphic System	Conducting the Green Graphic Project through which all the CO ₂ emissions can be offset by using our SUPERIA Process-less Thermal CTP Plate and providing a carbon zero plate to customers. (METI Acorn Mark acquired)
Document Solution	We utilize the Tradable Green Certificate (issued by Japan Natural Energy Co., Ltd. for wind power energy) to use renewable energy of approx. 44,000 kWh in total for the venue of FUJI XEROX SUPER CUP 2020, All Japan High School Soccer Tournament (semi-finals and final), events and seminars for customers, and our welfare events.

3.2.6 Energy Consumption Data

Annual Changes in Energy Consumption*1

Unit: TJ

Fujifilm Group Total			FY2015	FY2016	FY2017	FY2018	FY2019
Japan	Electric power, purchased electric power	Fujifilm Group Total	6,718	6,583	6,032	5,760	5,530
		Fujifilm	4,621	4,523	4,019	3,853	3,750
		Fuji Xerox	2,097	2,060	2,013	1,906	1,780
	Heavy oil, etc.*2	Fujifilm Group Total	2,040	1,569	1,299	1,110	1,023
		Fujifilm	2,039	1,568	1,299	1,110	1,022
		Fuji Xerox	1	1	0	0	0
	Gas*3	Fujifilm Group Total	8,495	8,609	8,348	8,507	8,097
		Fujifilm	8,158	8,284	8,023	8,172	7,762
		Fuji Xerox	337	325	325	335	334
	Renewable energy	Fujifilm Group Total	1	1	1	4	5
		Fujifilm	1	1	1	4	5
		Fuji Xerox	0	0	0	0	0
Overseas	Electric power, purchased electric power	Fujifilm Group Total	5,215	4,922	4,983	4,990	5,016
		Fujifilm	4,325	3,994	4,120	4,169	4,313
		Fuji Xerox	890	927	862	820	703
	Heavy oil, etc.*2	Fujifilm Group Total	33	30	24	23	23
		Fujifilm	18	19	18	19	20
		Fuji Xerox	15	10	6	4	3
	Gas*3	Fujifilm Group Total	1,796	1,811	1,798	1,713	1,687
		Fujifilm	1,772	1,784	1,768	1,686	1,669
		Fuji Xerox	24	27	30	27	18
	Renewable energy*4	Fujifilm Group Total	291	874	844	788	646
		Fujifilm	284	867	839	783	641
		Fuji Xerox	7	6	6	5	4
Total	Fujifilm Group Total	24,588	24,397	23,328	22,895	22,026	
	Fujifilm	21,217	21,040	20,087	19,797	19,183	
	Fuji Xerox	3,371	3,357	3,242	3,098	2,843	

*1 Per unit calorific value is based on the Energy Conservation Act.

*2 Total of heavy oil A, heavy oil C, kerosene, light oil and gasoline

*3 Total of natural gas, liquefied natural gas (LNG), city gas, butane and liquefied petroleum gas (LPG)

*4 FUJIFILM Manufacturing Europe B.V. (EF) classified its energy usage as renewable energy because the supply of wind-generated power has been 100% since FY2015.

Breakdown of Consumption of Heavy Oil, Etc. (FY2019)*

Unit: thousand kiloliters

	Heavy oil	Kerosene	Light oil	Gasoline
Japan	24.5	1.1	0.1	0.0
Overseas	0.0	0.0	1.3	0.0
Group total	24.5	1.1	1.5	0.0

*Consumption in manufacturing only

3.3 Promoting Resource Recycling

3.3.1 Basic Approach

Since our establishment, the Fujifilm Group has been actively recycling resources, through reducing water usage, recycling and reusing water, recovering and reusing resources (e.g. silver), and establishing a recycling system for multifunction devices and copiers, etc. We are conducting efforts to use resources effectively and reduce waste through measures which take into account the total lifecycle of a product, by considering the 3Rs (reduce, reuse, recycle) in the product design, reducing loss at the manufacturing stage, collecting, reusing and recycling used products, and recycling or converting into valuables.

3.3.2 Reducing Waste and Using Resources Effectively

The Fujifilm Group is proceeding more effective use for resources and reduction of waste, not only at the manufacturing stage but across the entire product lifecycle as well. In addition to the emphasis on recycling and conservation of resources at the product design stage, reductions in the waste generated at the manufacturing stage are underway in ways that suit each region. We have been promoting Group-wide optimization, including extracting valuables from waste and improving the quality of recycling, not only at our production sites but over our entire business operations including offices and warehouses.

Since fiscal 2016, the amount of waste disposed of by incineration or in landfill has been increasing because of the increase in wastes resulting from our new business expansion and difficulties in recycling plastics by reinforcement of international regulations on plastics. We are working for the entire Group to reduce the amount of waste by improving processes and by recycling plastics to achieve our SVP 2030 targets.

Targets and Progresses on Waste Reduction and Resource Recycling (Target for 2030)

Long-term target

Target 1: Reduce the amount of waste generated by the Fujifilm Group by 30% by FY2030 (compared to the FY2013 level).

Progress: Increased by 11% at the end of FY2019 (compared to the FY2013 level).

New targets

Target 2: Recycle index: More than 10.

Progress: 6.8 at the end of FY2019.

Target 3: Valuable conversion index: More than 1.

Progress: 0.63 at the end of FY2019.

Waste Generation

Unit: ton

	FY2016	FY2017	FY2018	FY2019
A. Total waste generated volume* ¹	83,000	83,400	85,400	86,600
B. Total wastes used, recycled or sold	68,400	68,600	69,000	69,800
Total volume of simple disposal waste*² (A – B)	14,600	14,800	16,400	16,800

* Data coverage is for 100% of total sales.

* The above data has been verified by the third party organization: SGS Japan, Inc.

*¹ Processed by external service providers and simple incineration or landfill disposal on sites.

*² Simple incineration or landfill disposal by external service providers and on sites.

Annual Changes in Valuable-converted Waste*

Unit: thousand tons/year

	FY2016	FY2017	FY2018	FY2019
Valuable-converted waste	72.4	57.4	47.0	43.8

* Valuable resources sold to the third party.

Annual Changes in Recycling Index* and Valuables Conversion Index**

Unit: thousand tons/year

	FY2016	FY2017	FY2018	FY2019
Recycling index	9.6	8.5	7.1	6.8
Valuables conversion index	1.06	0.84	0.68	0.63

* Recycling index = (Recycled volume + Valuable-converted volume)/Simple disposal volume

** Valuables conversion index = Valuable-converted volume/Recycled volume

Product packaging

Annual Changes in Container and Packaging Material* Used (Fujifilm non-consolidated)

Unit: thousand tons/year

	FY2015	FY2016	FY2017	FY2018	FY2019
Total consumption	15.2	15.6	15.6	16.3	16.1

*Total of corrugated paper boxes, paper materials, paper containers, metal materials, plastic molds, plastic film/sheet and glass used.

Annual Changes in Reduction in export Packaging Material Weight*¹ (Cumulative total)

Unit: %

	FY2015	FY2016	FY2017	FY2018	FY2019
Packaging material reduction rate* ²	10.5	12.7	17.5	17.8	14.1

*¹ Total weight of export packaging materials handled by FUJIFILM Logistics in FY2019.

*² Packaging material reduction rate (%) = $\frac{\text{Weight reduced}}{\text{Total material weight} + \text{weight reduced}}$

3.3.3 Reducing Resource Input

The Fujifilm Group develops and offers a wide range of products such as chemical products, functional materials, optical devices, office equipment, and medical equipment, etc. For this reason, we formulated the Assessment Method of Resource Input per Unit (resource material input weight per converted production volume) that utilizes the “Converted Production Volume (production volume of each product converted using the energy used during production)” which is authorized by the Energy Saving Act in Japan. We started to use this method in fiscal 2017.

Target: Improve the Fujifilm Group’s Resource Input per Unit by 30% by FY2030.

Progress: Improved by 32% (Achieved)

Resource Input per Unit (Fujifilm Group)

	FY2017	FY2018	FY2019
Improvement rate of Resource Input per Unit (compared to the FY2013 level)	22%	28%	32%

3.3.4 Effective Recycling of Used Products

As a part of resource input reduction, we employ the Closed Loop System of recycling in different business areas.

1. Resource recycling system in Document Solution business

(1) Product recycling policy in Document Solution business

Promoting reuse of resources for infinite “Zero disposal”

Based on the concept that “used products are valuable resources, not waste,” our resource recycling system for multifunction devices and copiers in the Document Solution business takes the following three approaches for manufacturing aiming to reduce environmental impact across the product lifecycle.

Resource recycling system for multifunction devices and copiers	Closed Loop System	Utilize used products as a resource
	Inverse Manufacturing	Create products under the premise of reusing parts to minimize environmental impact
	Zero Emissions	Parts that cannot be reused are separated and recycled to be utilized again as new materials

(2) Basic principle of international resource recycling system construction

As our business becomes globalized, we aim to create an International Resource Recycling System across the areas we operate (Japan, China, and the Asia Pacific Region). In light of this aim, we have established the following systems for the resource recycling system for overseas operations so that our stakeholders can work with us without concern.

[Basic approach in overseas operations]

- ① Manage and operate factories under the manufacturer’s responsibility to avoid potential risks
- ② Ensure consistent recycling quality equivalent to that in Japan
- ③ Reduce environmental impact in each country and region

[Four principles]

- ① Prevent illegal dumping by collecting used products under the manufacturer’s responsibility
- ② Do not import items that could potentially end as waste
- ③ Do no cause environmental impact to the importer countries and regions (where recycling sites are established)
- ④ Offer benefits to the importer countries and regions (where recycling sites are established)

About collecting used cartridges <http://www.fujixerox.co.jp/support/cru/printer> (in Japanese only)

Resource recycling system in Document Solution business <https://www.fujixerox.com/eng/company/csr/svp2030/environment/recycle.html>

New Resource Reduction by Using Reuse Parts in Document Solution business*

Unit: tons

	FY2015	FY2016	FY2017	FY2018	FY2019
New Resource Reduction	3,273	3,809	3,730	2,967	3,393

* The total amount of new resource reduction in the production stage by using reuse parts.

* Total for Japan, the Asia-Pacific Region, and China as Fuji Xerox trading areas.

The Percentage of Used Product Recycling by Sites in Document Solution business*

	FY2015	FY2016	FY2017	FY2018	FY2019
Japan	99.9%	99.9%	99.9%	99.9%	99.9%
China	99.9%	99.9%	99.9%	99.8%	99.7%
Other Asia-Pacific Region		99.6%~99.9%	99.6%~99.9%	80.0%~99.9%	90.0%~99.9%

* Our recycling system adheres to the Basel Convention

* Asia Pacific Region: Australia, Philippines, Hong Kong, Indonesia, Korea, Malaysia, New Zealand, Singapore, and Thailand.

2. PLATE to PLATE – Closed loop recycling system in the Graphic System business

We have established a closed loop recycling system called “PLATE to PLATE” in the printing supply chain, through which we extract aluminum as pure as newly purchased aluminum from used CTP and PS plates and reuse it in the next plate production. Various stakeholders, including printing companies, aluminum recycling companies, alloy manufacturers, and roller manufacturers are involved in this system. Through this PLATE to PLATE system, we have reduced CO₂ emissions throughout the CTP and PS plate lifecycle by up to 60%, compared with using new aluminum. Compared to cascade recycling, in which lower grade materials are recycled from the original product, closed loop recycling is a more advanced and stable recycling system that can maintain the original quality without being affected by the quality of the materials purchased from recycled material vendors.

* Closed loop system for used CTP and PS plates <https://holdings.fujifilm.com/en/sustainability/activity/environment/fpd#link01>

3.3.5 Effective Use of Water Resources

In the production of the motion picture and photographic film that had formed the mainstay of its business operations since its foundation, the Fujifilm Group had made extravagant use of clean water. For this reason, the Group has taken early steps in reducing water use and in water recycling. In face of the recent growth in the interest focused on water risks as an important international issue, the Group is implementing further steps for the reduction and efficient use of water resources.

Due to the concern over the possible expansion of areas stricken by water shortage issues, the Group created a matrix system for water risk evaluation in 2014 that uses conditions in “water stress regions” and “impact on businesses based on water usage” as its two indicators, and has engaged in continual evaluation of water risks for all business operations under the Group.

At the same time, we contributes to issues on water treatment in society by providing our product and services, including filtration materials.

Targets and Progresses on Water

Long-term target: Reduce the amount of water the Fujifilm Group uses for production by 30% by FY2030 (compared to the FY2013 level).

Progress: 15% reduction at the end of FY2019 (compared to the FY2013 level).

Mid-term target: Reduce the amount of water the Fujifilm Group uses for production by 20% by FY2025 (compared to the FY2013 level).

Progress: 15% reduction at the end of FY2019 (compared to the FY2013 level).

Short-term Target: Reduce the amount of water the Fujifilm Group uses for production by 1% by FY2020 (compared to the FY2019 level).

Water Withdrawal/Discharge/Intensity in FY2019

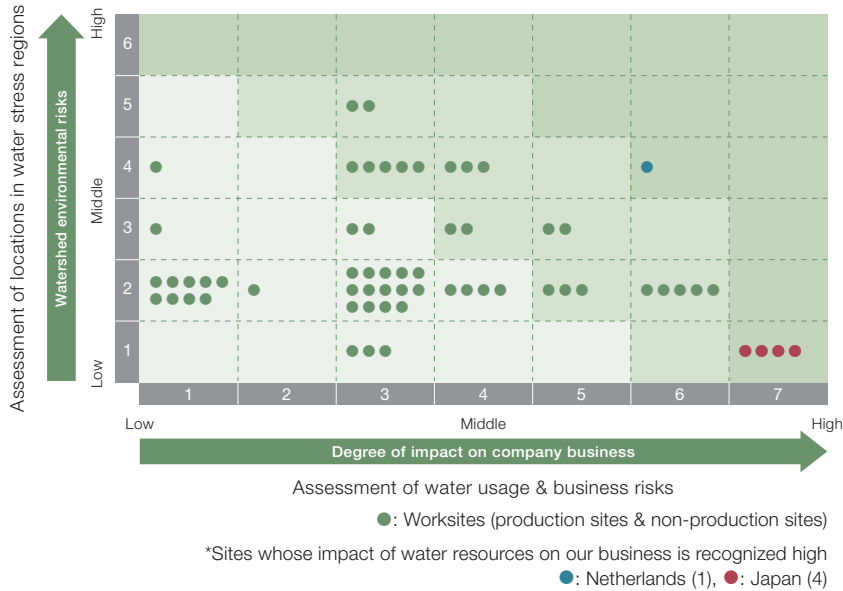
		Unit	FY2016	FY2017	FY2018	FY2019
Water withdrawal	Clean water	million m ³	5.1	5.0	4.9	4.6
	Industrial water	million m ³	3.5	3.3	3.3	3.1
	Underground water	million m ³	37.5	35.6	34.5	34.6
	Rain water. others	million m ³	0.2	0.2	0.3	0.2
Water discharge	Sewage water	million m ³	18.9	18.0	17.8	18.7
	Rivers	million m ³	22.5	22.2	21.8	22.7
	Others	million m ³	0.1	0.1	0.1	0.0
Revenue intensity	Withdrawal	million m ³ / 100 million yen	1.99	1.82	1.77	1.84
	Water consumption		1.84	1.70	1.68	1.79

* Data coverage for Fujifilm Group’s production sites & non-production sites

* The above data has been verified by the third party organization: SGS Japan, Inc.

3.3.6 Response to Water Risks

Assessment Map of the Impact of Water Resources on Company Business



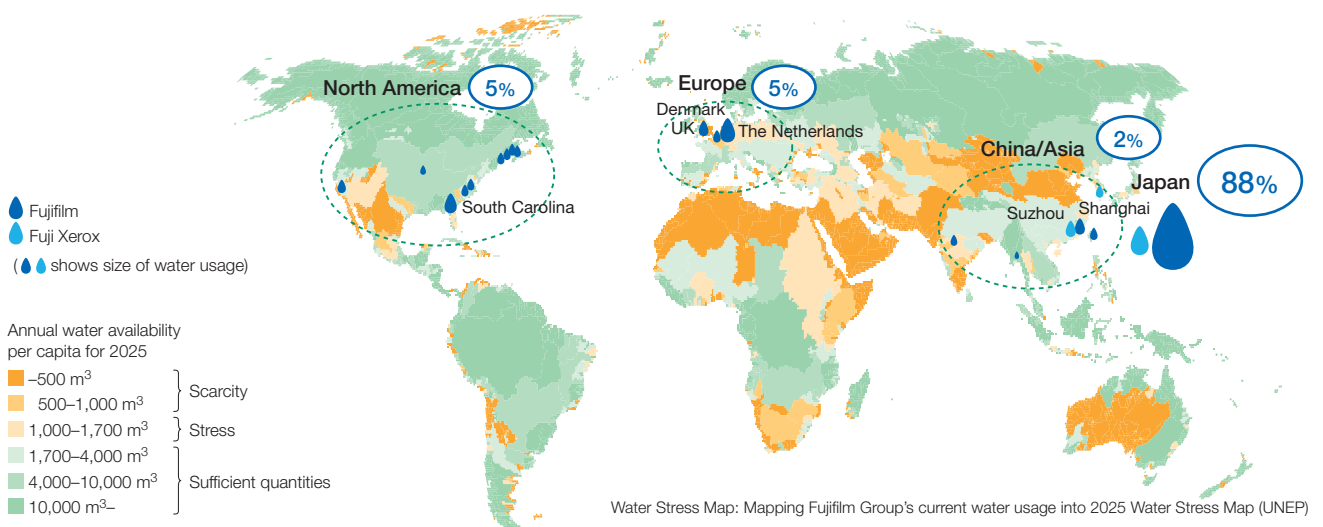
FY2019 Water Withdrawal by Region

Unit: %

		Japan	Americas	Europe	China, Asia/Oceania	Total
Water withdrawal	Clean water	20	48	11	21	100
	Industrial water	99	0	0	1	100
	Underground water	95	0	5	0	100
	Rain water, Others	98	0	2	0	100

*Data coverage for Fujifilm Group's production sites & non-production sites

2025 Water Stress Map and 2019 Fujifilm Group's Water Usage



3.3.7 Working Together with Water-Related Stakeholders

The Fujifilm Group is promoting environmental protection activities together with local residents and NGOs. In the production of the motion picture and photographic film that had formed the mainstay of our business operations since our foundation, we have been working to protect water sources up to the present.

Major Activities

Sites	Details	Stakeholders
FUJIFILM Kyushu Co., Ltd.	Tree planting in the important water recharge zone of the Shirakawa river	Minami-Aso village, Kumamoto
FUJIFILM (Shanghai) Trading Co., Ltd.	Voluntary tree planting for 23 years	Local NPO
FUJIFILM (Shanghai) Trading Co., Ltd.	Involved in Tree Planting Activities by the Industrial Collaboration of Green Printing since 2015	Printing Technology Association of China
FUJIFILM Manufacturing Europe B.V.	Conducting joint wastewater treatment with four neighboring corporations by installing a large-capacity water treatment facility in our own premises. This has also helped cost reduction.	Neighboring four companies

Suiden-Otasuke-Tai, FUJIFILM Kyusyu

<https://holdings.fujifilm.com/en/sustainability/activity/other-activities/social-contribution-activities/kyushu>

Collaboration with initiatives regarding biodiversity

FUJIFILM Europe GmbH has been promoting water conservation activities in collaboration with the international non-governmental organization, WaterAid since 2012.

3.4 Product Stewardship (Design for Environment)

3.4.1 Basic Approach

Based on the Fujifilm Group Green Policy (Environmental Policy), we are working to implement Design for Environment in all new and re-designed products. We set environmental quality targets at the product development stage, then we conduct product assessment in the design and development stage in order to understand the level of achievement against our set environmental targets before market introduction of products. The assessment results and requirements from the market are then reflected in the targets for future product development. This approach is applied not only to the development of material products and equipment products, but also to software and solution development in a bid to reduce the environmental impact on society through our products, services and technologies. Along with the objective and quantitative appraisal of environmental impact by means of Life Cycle Assessment, we proactively demonstrate our environmental consideration through environmental labels.

Development and promotion of environmentally conscious products and services
<https://holdings.fujifilm.com/en/sustainability/activity/environment#link07>

3.4.2 Design for Environment

The Fujifilm Group manages Design for Environment following the two standards below.

1. Standards of Design for Environment

(1) Materials and equipment

In the development of environmentally conscious products, we also set targets concerning environmental quality from the perspective of climate change mitigation (reduced power use, etc.), the Reduce, Reuse & Recycle principle of resource saving and recycling, risk reduction of chemical substances, and biodiversity by considering each stage of product lifecycle including material procurement, manufacturing, transportation, use and disposal. The degree of target achievement is then assessed once a product has been developed.

(2) Software, service, and IT solutions

In the area of software and service solutions, we set resource conservation, energy conservation, transportation reduction, space saving, and time saving in customers' sites as our environmentally conscious evaluation items. We are working to create products that can contribute to environmental impact reduction throughout the whole of society.

2. Life Cycle Assessment (LCA)

The Fujifilm Group is developing products with less environmental impact through objective and quantitative environmental impact assessment throughout product life cycle (material procurement, manufacturing, transportation, use, and disposal) utilizing Life Cycle Assessment (LCA) in the product development stage.

LCA is also used to assess the progress of efforts for the Group target, which is to reduce CO₂ emissions across our product lifecycle by 45% by FY2030 (compared to the FY2013 level).

3.4.3 "Green Value Products" Certification Program

As a new means to create products with environmental consideration, the Fujifilm Group introduced the Fujifilm Group "Green Value Products" certification program in fiscal 2018 to certify products incorporating outstanding environmental consciousness. The standards and their operation of Design for Environment are made common across the Group so that the degree of environmental value is quantified through the standards set for each product and service. The products and services are then classified as Silver, Gold, or Diamond to indicate the improvement level. This also helps clarify the environmental issues to be addressed next for further reduction of environmental impact.

Level	Certification criteria
Diamond	Products and services that use their respective industries' innovative technologies to substantially contribute to reducing environmental impact
Gold	Products and services that reduce environmental impact at their respective industries' highest level
Silver	Products and services that reduce environmental impact at a higher level than their respective industries' standard

3.4.4 Result of Design for Environment

1. Certifications of Fujifilm Group Green Value Products

We established a new target for the environmentally conscious products in fiscal 2019.

Target: Make Green Value Products rate per sales 60% by FY2030.
Result: 32% per sales.

Level	Number of products		Green Value Products
	FY2019	Total	
Diamond	0	1	<ul style="list-style-type: none"> • SUPERIA ZN-II system for process-less CTP plates for newspaper printing
Gold	5	36	<ul style="list-style-type: none"> • SUPERIA ZD-II system for process-less CTP plates for commercial printing • Digital inkjet press Jet Press 750S • Data Archive Storage System “dternity on-site archive” • ApeosPort/DocuCentre-V1 C7773/7771 series of color multifunction devices • Document Management Cloud Services “Working Folder” • Document handling software “DocuWorks”
Silver	26	99	<ul style="list-style-type: none"> • ApeosPort-V 7080N/6080N/5080N series of black-and-white multifunction devices, etc. • DocuPrint P450d/P450ps series of black-and-white printers, etc. • SYNAPSE series for medical imaging IT systems, etc.

“Green Value Products” Certified Products <https://holdings.fujifilm.com/en/sustainability/activity/environment/green-value-products>

2. Products in response to climate change

(1) Measures for mitigating climate change

We reviewed the target for environmental impact reduction in product usage at customers’ sites (society) and changed the target from 50 million to 90 million in fiscal 2019.

CO2 emissions reduction in the entire product lifecycle	<p>(1) Target: Reduce CO2 emissions across the entire product lifecycle by 45% by FY2030, compared to the FY2013 level.</p> <p>(2) Results: Reduce by 30% compared to the FY2030 level.</p> <p>(3) Major products:</p> <ul style="list-style-type: none"> • Process-less thermal CTP plates: No film development process and closed loop recycle by used plates • Digital inkjet press: Reduction of processes by digital printing • Multifunction devices/printers: Design for Environment; reuse, reduce and reuse by used products • TAC Display films: thinner film; using biomass materials • Cosmetics: Using refill container
The Contribution of Products to Avoid Greenhouse Gas at customers’ site	<p>(1) Target: Contribute to 90 million tons CO2 emissions reduction by FY2030.</p> <p>(2) FY2018 results: Contribution amount was 16.1 million tons. Progress: 18%</p> <p>(3) Major products:</p> <ul style="list-style-type: none"> • High capacity magnetic tape: Energy-saving by archive data storage • Multifunction devices/printers: Reducing energy consumption • Document handling software: Paper reduction • Medical IT System: Streamlining business process

(2) Measures in response to climate change

Major product examples:

“Hibimikke (Crack Finder)”: Offer infrastructure degradation diagnosis services for bridges, dam walls, and embankments.

Document Management Cloud Services “Working Folder”: Improving business environment in response to social changes with secured large cloud storage services

3.4.5 Disclosing Environment-Related Information for Products

The Fujifilm Group actively discloses environment-related data for products, while aiming to contribute to the resolution of environmental issues through our products and services.

1. Environmental labels

The environmental labels indicate products with low environmental impact. We actively use the label as a part of environmental information disclosure. We use the following labels:

Environmental Labels Which the Fujifilm Group Obtained

<p>Type I: Third party certification (ISO14024)</p>	<p>A third party certifier defines and operates product classification and judgment criteria for environmental certification. In response to a company's request, the certifier examines the product and permits use of their mark if the product meets their criteria. The certified product can then display the mark, which encourages consumers to choose products that support environmental protection.</p>	<p>Japan China Taiwan South Korea Thailand Vietnam Singapore Malaysia Philippines New Zealand Germany The US Canada</p>	<ul style="list-style-type: none"> • Eco Mark (JEM) • Environmental Labelling (CEL) • Green Mark (TGM) • Eco-Label (KEL) • Green Label (TGL) • Green Label (VGL) • Green Label (SGL) • MyHIJAU Mark • Green Choice (GCP) • Environmental Choice (ECNZ) • Blue Angel (BA) • EPEAT • EcoLogo
<p>Type II: Self-declared environmental claims (ISO14021)</p>	<p>This is a program by manufacturers to promote the environmental quality of their products, services, and systems to the market through self-declaration. No third-party judgment is involved. Environmental quality is demonstrated by labels attached to products and descriptions in instruction manuals, promotional materials, and CSR reports.</p>	<p>Fujifilm</p>	<ul style="list-style-type: none"> • Green Value Products (for all products) • PLATE to PLATE aluminum recycling label (CTP plates/PS plates)
<p>Type III: Environmental Product Declarations (ISO14025)</p>	<p>This is a method to indicate quantitative data on a product's environmental impact calculated by the Life Cycle Assessment (LCA). ECO LEAF is an environmental label that displays quantitative environmental data for various ranges, while Carbon Footprint shows simply quantitative data on global warming potential.</p>	<p>Japan Japan</p>	<ul style="list-style-type: none"> • EcoLeaf • Carbon footprint (ISO14067)
<p>Others</p>	<p>There are environmental labels other than Type I to III, including energy-saving labels that display the achievement level of a certain environmental performance. Also, green purchase systems are available to encourage consumers (including public organizations) to choose products and services with lower environmental impact.</p>	<p>Japan Japan, the US China China Hong Kong South Korea Taiwan Vietnam Europe (EU)</p>	<ul style="list-style-type: none"> • Act on Promoting Green Purchasing • Energy Star Program • China Energy Label • Energy Efficiency Certification • Energy Label (VEELS) • e-Standby Power Program • Energy Efficiency Certification • Energy Efficiency Label • EU ErP (Lot 4, Lot 6/26)

2. Safety Data Sheet (SDS) and Article Information Sheet (AIS)

To ensure customers' safety when handling our chemical products*¹ and material products*², the Fujifilm Group publishes safety information on the chemical substances contained in the products and handling precautions.

*1 Chemical products: Fine chemicals, various treatment chemicals, and other chemical substances or mixtures.

*2 Material products: Various functional films, photographic papers, and other articles manufactured from chemical substances.

3.5 Management of Chemical Substances

3.5.1 Basic Approach

In addition to thorough compliance with the current laws and regulations of chemicals, the Fujifilm Group is voluntarily reducing the usage of chemicals that have been found to be seriously hazardous and a potential concern to society ahead of the introduction of new legal requirements. We lower chemical risks by reducing the usage of the substances or replacing them with safer alternative chemicals.

The Fujifilm Group established a safety test facility in 1975 and has been assessing the safety of the materials we have developed in terms of human health and the global environment. In recent years, we have been focusing on replacing animal testing for safety assessments from the viewpoint of animal welfare*1. Utilizing the safety data and the chemical library we have accumulated to date, we are developing safer materials grounded upon our core technologies that contribute to resolving various social issues.

The products offered by the Fujifilm Group cover from the upstream to the downstream of supply chains, including fine chemicals, highly functional materials, optical devices, office equipment, and medical devices. This is why we are working to contribute to appropriate chemical management throughout the supply chains by disseminating our expertise and operational structure for the safe handling of chemicals.

*1 3Rs of animal protection (Replacement: Use of alternative method; Reduction: Reduction of the number of animals used; and Refinement: Relief of animal pain)

3.5.2 Anticipatory Risk Management of Chemical Substances

The Fujifilm Group specifies the chemical substances that require special attention based on their hazard levels, the strictness of requirements specified by the applicable laws and regulations, and our own management policy. These chemical substances are classified into the S category and we have established a voluntary management policy for each category. Those chemical substances that are deemed to potentially fall into the S category are designated as “priority risk management chemical substances,” and we are starting to reduce their usage or to replace them as soon as possible to minimize the related risks.

Target of Anticipatory Risk Management of Chemical Substances

- Target:** Replace or reduce usage of “priority risk management chemical substances” by FY2030.
- Progress:** We have designated seven chemical substances as priority risk management chemical substances.

Since the commencement of S category and its voluntary management policy in 2011, we have made progress in reducing the usage of one of S3 substances, which was used most, to 13% of the maximum usage.

Table of the Classification of Our Chemical Management

S category and its voluntary management policy	
S0	Ban on use
S1	Substitute
S2	Reduce the usage or the emissions
S3	Plan to substitute
Priority risk management chemical substances	
Not classified	

3.5.3 Promoting Animal Testing Alternatives

The Fujifilm Group is actively developing alternative methods for skin sensitization testing, skin irritation testing, etc. as well as participating in joint studies on alternative methods in the safety evaluation of chemical substances.

- Target:** Adopting animal testing alternatives in all safety assessments.
 Conduct all the safety evaluation as alternatives to animal testing.
- (1) Conduct the safety evaluation for our newly developed chemical substances using alternative methods for animal testing by FY2025*1.
 - (2) Obtain the safety data on the safety data sheet for our chemical products using alternative methods for animal testing by FY2030*2.

Result: The skin sensitization test, “Amino acid Derivative Reactivity Assay (ADRA)”, developed by Fujifilm, was evaluated as skin sensitization method with higher accuracy than conventional methods and was adopted in the OECD Guidelines (OECD TG 442C) in June 2019.

The skin corrosive test using the in-vitro 3D human skin tissue model developed by Japan Tissue Engineering Co., Ltd. (J-TEC) was also adopted in the OECD guidelines (OECD TG 431).

*1 We haven't already tested with animals for safety evaluation of chemical substances used in cosmetics (including quasi-pharmaceutical products). We do not plan to conduct animal testing for this purpose unless such testing is required to achieve accountability of chemical safety or is instructed by the authorities concerned.

Note that we conduct legally specified safety evaluation for chemical substances used in medicines and foods.

*2 Chemical products: Fine chemicals, various treatment chemicals, chemical substance or mixture.










3.5.4 Contribute to Resolving Social Issues through Development of New Materials and Processes

Based on our core technology of material and process development, the Fujifilm Group offers products and services that resolve various social issues.

Target: Contribute to resolving social issues through development of new materials and processes.

Result: Disclose our exclusive materials and processes developed by our Group to contribute SDGs.

Examples of Our Exclusive Materials and Processes to Contribute SDGs

Materials and processes	Applicable SDGs	Contribution details
Water-soluble polymerized materials	  	<ul style="list-style-type: none"> Water-soluble polyfunctional acrylamide monomer that can contribute to VOC reduction. It is both reactive and safe. Can be used as a material for various purposes, including medical equipment and components, electronic optics, data storage, and printing plates.
Flow synthesis process	  	<ul style="list-style-type: none"> Reduction of waste and heavy metal catalysts. Saving energy, space, and human labor. Enables on-demand production and short-period setup. Controls sensitive reaction process safely.
Ion exchange membranes	 	<ul style="list-style-type: none"> Can remove salt from irrigation water, brackish water, and river water to secure drinking and agricultural water in remote islands or arid lands. Can concentrate industrial wastewater to reduce or eliminate waste, contributing to cost reduction.
RoHS testing reagents		<ul style="list-style-type: none"> Reagents to accurately and quickly analyze restricted substances under the EU RoHS Directive.

Water-soluble polymerized materials <https://specchem-wako-jp.fujifilm.com/en/whm/index.htm>

Flow synthesis process https://specchem-wako-jp.fujifilm.com/en/cdmo_chemicals/

Ion exchange membranes <https://www.fujifilmmembranes.com/>

RoHS testing reagents <https://labchem-wako.fujifilm.com/europe/category/analysis/environmental/index.html>

3.5.5 Contribution to Appropriate Chemical Substance Management Across the Supply Chain

It is indispensable for effective chemical substance management to share information about the chemical substances contained in products and safe handling methods for such chemicals and products across the supply chain.

The Fujifilm Group uses chemSHERPA, a chemical information communication system compliant with international standards, to share information about chemical substances in our products with suppliers and customers. We are a member of the system's operational consortium, helping promote chemSHERPA throughout the supply chain by offering explanatory meetings and individual consultations to our transaction partners. It is a legal requirement to provide product safety information using Safety Data Sheet (SDS) for inks, treatment chemicals, and chemical products (i.e. articles). Voluntary use of an Article Information Sheet (AIS) in the photographic industry has been a common practice to communicate safety information concerning articles such as photographic films and printing paper. Now, the Fujifilm Group is proactively using AISs beyond our photographic products for other industrial materials, printing products, display monitor materials, etc. to communicate with our customers and ensure safe usage of our products.

Target 1: Communicate information on chemical substances in our products in compliant with international standards.

Result: Upgraded to a new version of chemSHERPA, in compliance with international standard IEC62474.

Target 2: Continue providing Article Information Sheets (AIS).

Result: Total of 231 AISs have been newly created or updated and published on our official website.

Target 3: Disseminate knowhow about the safe handling of chemical substances.

Result: As a reagent manufacturer, FUJIFILM Wako Pure Chemical Corporation has provided a total of 430 training program on the Safe Handling of Reagents for customers since fiscal 2000.

We provided training to the persons in charge of chemical management of the Fujifilm Group to learn about the safe handling of chemicals and related laws and regulations.

3.5.6 Perfluorocarbons (PFC) Emissions/Volatile Organic Compounds (VOC) Emissions

We are introducing measures to reduce perfluorocarbons (PFC), one of the greenhouse gases, according to the regulations in each country. We have set a target to reduce VOC emissions to less than half the previous year's level.

PFC and VOC Emissions

	Unit	FY2015	FY2016	FY2017	FY2018	FY2019
Direct PFC emissions	kg PFC/ metric tons produced	0	1,257	62	112	0
Direct VOC emissions	metric tons	834	750	800	707	724

* Data coverage (ratio to total profit or total employees) is 100% of the production volume.

* PFC emissions data has been verified by a third-party organization, SGS Japan, Inc.; however, the production volume used in the calculations is out of certification.

Response to the PRTR Law (Fujifilm Group) in Japan

Fujifilm controls substances that must be reported under the PRTR Law (Pollutant Release and Transfer Register Law) and another substances on a voluntary basis, and has been endeavoring to reduce those emission. Data (usage volume, atmospheric emissions volume, emission into public water, volume going into sewage water, volume moved outside of facilities, and volume recycled) on substances used in amounts of one ton or more per year by Fujifilm and its domestic affiliates may be found on the following Fujifilm website.

https://holdings.fujifilm.com/en/sustainability/activity/environment/environmental-preservation#nav_02

Annual Changes in Atmospheric Emissions of VOCs

Unit: hundred tons/year

	FY2015	FY2016	FY2017	FY2018	FY2019
Japan	6.5	5.9	6.4	5.8	6.1
Overseas	1.8	1.6	1.6	1.3	1.2
Group total	8.3	7.5	8.0	7.1	7.2

Reductions in VOCs Atmospheric Emissions* (Fujifilm non-consolidated)

Category	Name of substance	Reduction (tons)	Reduction rate in comparison to previous fiscal year (%)
Substances requiring reporting under the PRTR Law	Dichloromethane	8	10
Substances voluntarily controlled by the company	Methyl alcohol	17	9
	Ethyl acetate	-38	-37
	Methyl ethyl ketone	-1	-2
	Acetone	-5	-12

*Reduction in volumes in FY2019 compared with actual levels in previous year

3.5.7 Managing Hazardous Waste

We store hazardous waste in a place designated by a certified officer under appropriate management, and then treated by authorized disposers.

Items that contain polychlorinated biphenyls (PCBs) are strictly managed following the laws of different countries and treated according to a predetermined disposal plan.

Annual Changes in Amount of Specified Hazardous Waste

	Unit	FY2015	FY2016	FY2017	FY2018	FY2019
Amount of specified hazardous waste	t	1,231	2,235	2,094	1,570	1,304

Storage and Management of Devices/Equipment Containing PCBs* (FY2019)

Types of equipment containing PCBs Unit	Unit	Storing and managing amount	
		Japan	Group total
High voltage transformers	Quantity	7	24
High voltage condensers	Quantity	0	90
PCB oil waste, etc.	kg	0.0	0.0
Sludge, etc.	m ³	0.0	0.0
Fluorescent lamp stabilizers	Quantity	10,658	10,669
Low voltage condenser excluding fluorescent lamps	Quantity	90,548	90,548
Low voltage transformer Quantity	Quantity	0	0
Rags	kg	1,145	1,145
Other devices Quantity	Quantity	295	295

*Excludes PCB in low concentration

3.5.8 Managing Pollutants

We have established management standards for air and water pollutants to meet the requirements and limit values concerning concentrations and emission quantities specified by the laws and regulations applicable to each site. Pollutant emissions are monitored and regularly checked for compliance with these specified limits.

We also conduct environmental risk assessments to prevent accidents that may emit excess pollutants beyond our premises.

Annual Changes in Volume of Atmospheric Emissions

Unit: tons/year

		FY2015	FY2016	FY2017	FY2018	FY2019
Sox emissions	Japan	9	19	15	19	10
	Overseas	10	2	3	3	1
	Group total	19	21	18	22	11
NOx emissions	Japan	424	369	290	232	242
	Overseas	78	86	111	94	82
	Group total	502	455	401	326	325
Soot particle emissions	Japan	3.1	2.3	2.4	1.8	2.1
	Overseas	4.2	1.0	1.8	3.3	5.7
	Group total	7.3	3.3	4.2	5.1	7.9
Atmospheric emissions of specified CFCs*	CFC-11	0.21	0.00	0.16	0.00	0.00
	CFC-12	0.00	0.00	0.00	0.00	0.00

*Group total, below the limit of detection = 0

Annual Changes in Water Contaminant Burden & Emissions*1

Unit: tons/year

		FY2015	FY2016	FY2017	FY2018	FY2019
Total amount of COD*2	Japan	82.1	69.0	55.9	68.6	49.4
	Overseas	67.3	55.5	49.6	27.2	19.7
	Group total	149.4	124.5	105.4	95.8	69.1
Total amount of BOD*3	Japan	37.1	30.2	24.3	26.8	25.1
	Overseas	16.6	0.5	0.1	0.6	1.2
	Group total	53.7	30.7	24.4	27.4	26.3
Total amount of nitrogen emissions	Japan	232.3	170.9	181.7	167.2	143.1
Total amount of phosphorous emissions	Japan	4.2	1.4	2.7	1.8	2.0

*1 Effluent release into public water bodies

*2 COD (Chemical Oxygen Demand): An indicator of water pollution. COD indicates the amount of oxygen consumed when water-borne pollutants (primarily organic contaminants) are oxidized upon the introduction of an oxidant.

*3 BOD (Biochemical Oxygen Demand): BOD is a way to measure the degree of water pollution, and indicates how much oxygen in the water is being used by organisms to decompose contaminants by looking at the reduction in oxygen in the water.

Surveying and remediating soil and underground water pollution (Fujifilm Group companies in Japan)

The Fujifilm Group autonomously conducts environmental surveys on soil and underground water pollution. Regarding substances that are used at manufacturing facilities and that are subject to environmental limits set by regulations, the Group rigorously manages the usage and storage of such substances and monitors the concentrations of such substances in underground water. We are prepared to deal with any unforeseen pollution incidents in a timely fashion.

<https://holdings.fujifilm.com/en/sustainability/activity/environment/environmental-preservation>

3.6 Biodiversity Conservation

3.6.1 Basic Approach

For the preservation and maintenance of biodiversity, the Fujifilm Group has established the Fujifilm Group Basic Concepts and Action Guidelines for Biodiversity Conservation (also known as Guidelines for Biodiversity) as the group-wide policy based on the Fujifilm Charter for Corporate Behavior and Code of Conduct.

To prevent our business activities having an adverse impact on biodiversity, we are committed to preservation, conservation and sustainable use and are working to reduce the destruction of biodiversity. We are engaged in constant communication with our stakeholders in this area from an international standpoint to ensure that we are responding to the needs of society.

- FUJIFILM Holdings “Guidelines for Biodiversity” <https://www.fujifilmholdings.com/en/sustainability/vision/creature.html>
- Fujifilm “Policies for Wood Pulp Procurement” https://www.fujifilm.com/about/procurement/purchasing_policy/wood_pulp/
- Fuji Xerox “Sustainable Paper Procurement” https://www.fujixerox.com/eng/company/csr/svp2030/environment/chem_bio.html#anc02

3.6.2 Risk Assessments of Our Business Activities

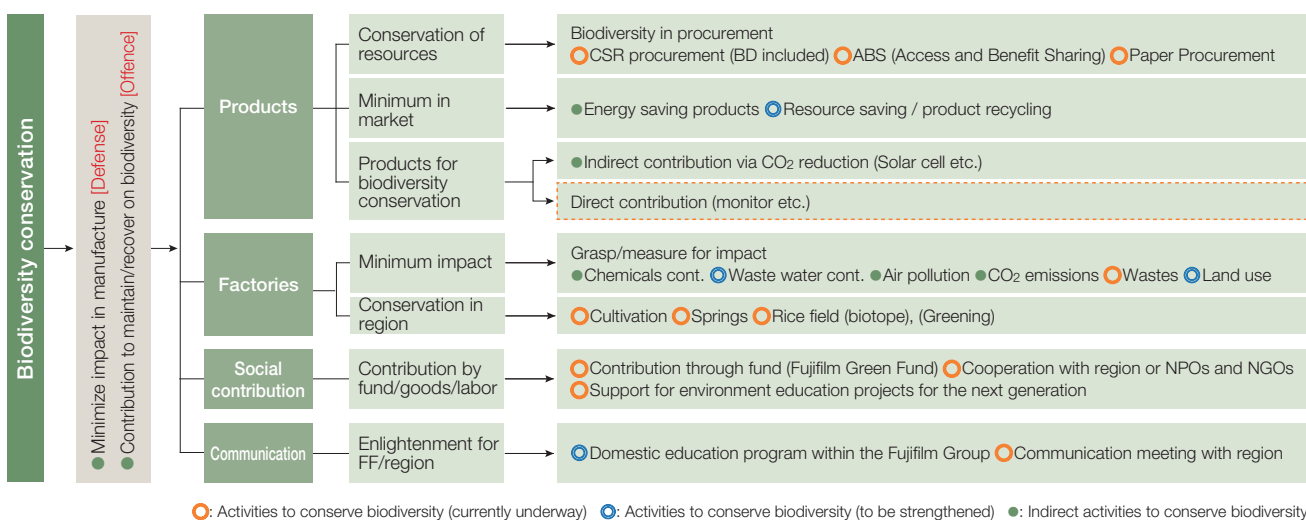
The Fujifilm Group assesses and promotes to minimize biodiversity risks in its business operations. Our findings regarding the impact of our business activities on biodiversity led to our designating paper procurement in our Document Solutions business as a priority area affecting forest resources. In 2018, in compiling the Natural Capital Accounting data we disclose in our Integrated Report, we used the Natural Capital Protocol from the Natural Capital Coalition to assess the impact of our Document Solution business on paper procurement and its dependency on natural capital. Specifically, we compared procurement of raw materials for paper production from sustainably managed forest resources with procurement from forest resources that have problems with sustainability and evaluated their respective impacts on climate change, public health and sanitation and biodiversity. The results showed that procurement from sustainable resources reduced our social loss in the range from 20 (in minimum) to 750 (in maximum) million dollars in comparison to procurement from unsustainable resources.

These findings substantiate the monetary value of our paper procurement activities, which we have been carrying out since 2004 with an awareness of ecosystems, biodiversity and the human rights of local communities. We now intend to expand the scope of our measures.

3.6.3 Activities for Biodiversity

In addition to the measures taken with paper procurement, we are introducing measures that address risks and opportunities in biodiversity, arranged into the key elements of “products,” “factories,” “social contribution” and “communication.”

Activities on Biodiversity Conservation —Outline—



1. Biodiversity in products

The Fujifilm Group manufactures environmentally conscious products that do not adversely affect biodiversity.

(1) Design for the Environment

In product development, we have adopted conservation of biodiversity as a theme in Design for the Environment. Biodiversity assessments are conducted across the entire product lifecycle.

The key points in assessment are (1) reduction of environmental impact from the production stage to minimize or reduce the impact on the ecosystem; (2) investigation of losses, reductions, splits, etc., in the growth and habitat of biological resources at procurement locations; and (3) availability of sustainable biological resources. Confirming that there are no issues in these three assessment areas ensures that our products and services are sustainable and have high environmental value.

(2) Efforts in paper procurement

As Fuji Xerox sells paper for printers and copiers, the company declares that it procures pulp from forests that are managed with consideration for the environment and human rights, avoiding any involvement in forest destruction and human rights infringements.

To realize this, we established the Environmental, Health, and Safety Requirements regarding Paper Procurement. These rules specify paper quality standards for procurement, as well as selection criteria for material suppliers. Through these rules, we request material suppliers to pay attention to biodiversity and respect the rights of local residents in their business operations.

We also hold an annual meeting of the CSR Paper Procurement Committee, chaired by the director responsible for procurement, in order to confirm the compliance status of existing suppliers and to select new suppliers.

Percentage of suppliers fully meeting our paper procurement standards for shared paper procurement (Document Solutions): 100%

Percentage of FSC®-certified paper brands for paper products in Document Solutions: 29%

Fuji Xerox paper procurement regulations:

https://www.fujixerox.com/eng/company/csr/svp2030/environment/chem_bio.html#anc02

2. Reducing environmental impact at our factories and contributing to local communities

(1) Minimizing impact

Our factories handle a range of hazardous materials that adversely affect biodiversity. Air pollution, water quality contamination and soil contamination have led to the degradation of biodiversity, not only in areas where our factories are located, but also in surrounding regions and nearby river systems, which in some cases require a very long period of time for recovery. To prevent such incidents, in addition to compliance with relevant laws, we have established voluntary control levels designed to raise site management to a higher level.

(2) Environmental protection in local communities

- Preservation of paddy fields in areas that are water sources

FUJIFILM Kyushu has signed contracts with farmers in Minami-Aso Village to support rice cultivation with the aim of replenishing groundwater levels and preserving the paddy field landscape. Employees of the company and their families participate in planting and harvesting rice every year.

- Maintaining forests that protect watersheds

FUJIFILM Kyushu cooperates in planting trees and maintaining forests that protect the catchment function of the watershed on the upper reaches of the Shirakawa River. This has contributed to providing sustainable water supplies for people living in the Kumamoto City area. Thirteen thousand broad-leaf trees including konara oak and yamazakura cherry have been planted over 5.24 hectares of land.

3. Social contributions

(1) Tokyo Greenship Action

Since 2004, Fuji Xerox Tama has been participating in Tokyo Greenship Action, a greenery conservation activity organized by the Tokyo Metropolitan Government in cooperation with businesses and NPOs. Employees and their families participate every year as volunteers and learn about the importance of nature.

(2) Promoting Environmental Awareness in Cooperation with NPOs and Other Organizations

Activities to promote greater environmental awareness among young people have been organized in cooperation with NPOs.

- Network for Coexistence with Nature, an approved NPO and others: 100 experts explained about the sea and the mountains to 100 high school students in the “Kikigaki-Koshien” project.
- Charitable Trust Fujifilm Green Fund and other funds: “Watashi-no-Shizenkansatsuro Competition” features elementary and junior high school students submitting picture maps of nature observation trails along with a text description.
- Green Cross Japan: Roughly 100,000 children think about and take actions related to nature close to their lives in the Kankyo Nikki program, “Midori-no-Komichi.”

4. Collaboration with initiatives regarding biodiversity

Fuji Xerox participates in the Japan Business Initiative for Biodiversity (JBIB), an organization promoting innovative actions to conserve biodiversity in Japan and contributes to member businesses conserving biodiversity in the supply chain by sharing standards on paper procurement and knowledge on inspection and audit methods.