Daiichi-Sankyo

Daiichi Sankyo Group Environmental Data Book 2018

Position of This Book

The information of this book complements Daiichi Sankyo Group Value Report 2018 and the environmental data on our website. Please see them in addition.

Contents

Basic Environmental Management Policy

Safeguarding the environment is the foundation of all Group operational management. We pursue environmental management that contributes to a sustainable society and enhances our good corporate citizenship.

We implement the respective items listed below.

1. Confirm the environmental impacts of each business process, from R&D to production, distribution, usage and consumption, and disposal, and reduce environmental loads.
2. Comply strictly with environmental laws and ordinances, regional covenants, and voluntary standards.
3. Construct, operate, evaluate, and enhance an environmental management system.
4. Use resources and energy efficiently, reduce greenhouse gas emissions, and recycle and reduce waste.
5. Protect the environment and respect biodiversity by helping preserve the ecosystem.
6. Address environmental risks.
7. Educate and enlighten about the environment.
8. Communicate with internal and external stakeholders about environmental issues.

1 Environmental Management System

1-1 Our Stance on Environmental Management

Environmental issues such as global warming and extreme weather could be seen as very closely related to our lifestyles and work. We are practicing environmental management on a global scale in accordance with the Daiichi Sankyo Group Corporate Conduct Charter and the Basic Environmental Management Policy. We thereby aim to address such environmental issues through responsible corporate activities.

1-2 Promoting Environmental Management

To appropriately address environmental issues, we regard response to climate change, chemical substances management, water consumption control, waste management, and consideration for biodiversity as our main CSR challenges, while taking into account the societal demand and expectation for environmental conservation as well as the relationship with medium- and long-term business activities. Taking these CSR challenges into consideration, we promote environmental management by following the Fourth Medium-term Environmental Management Policy, which contains our targets for fiscal 2020.

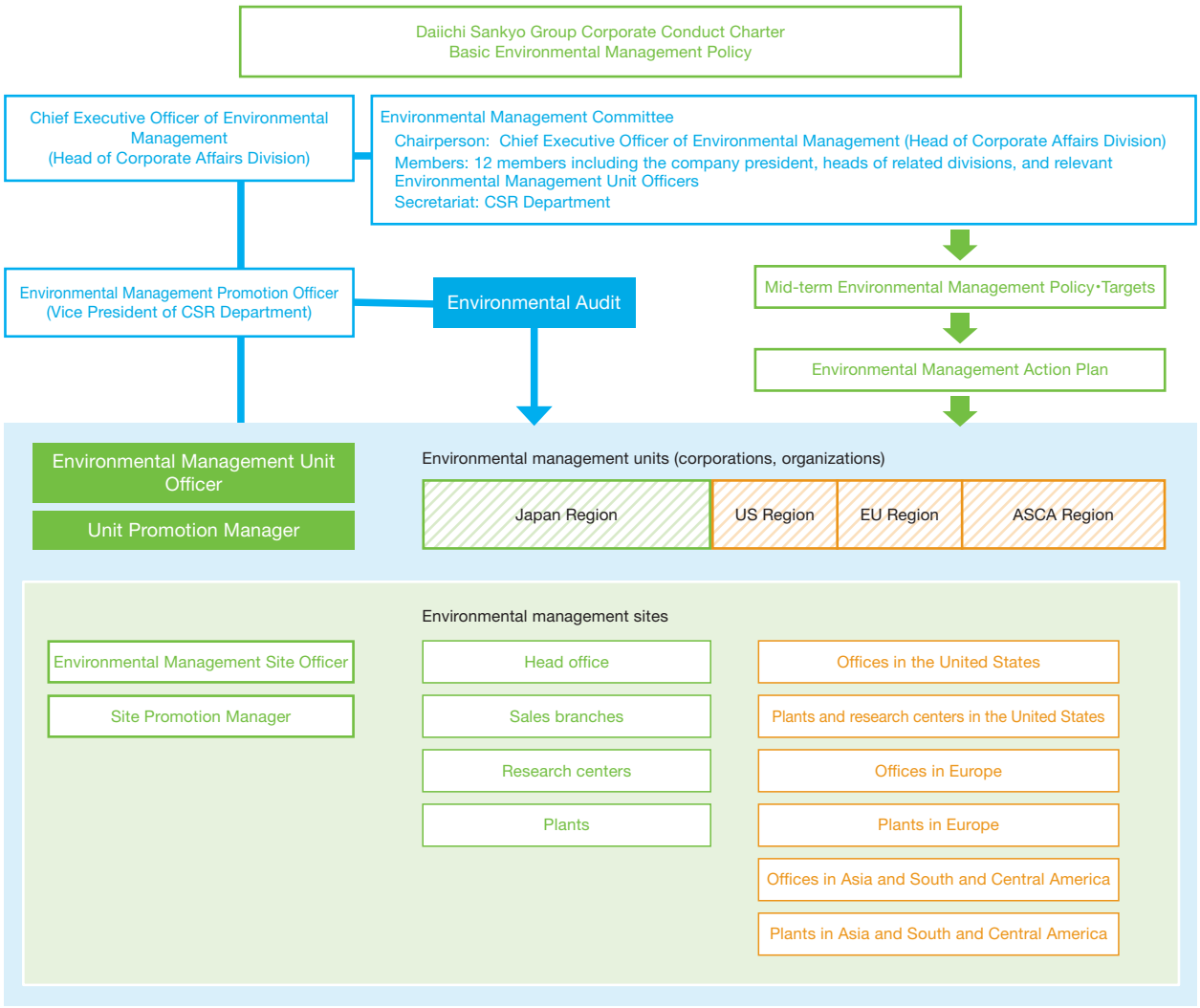
Fourth Medium-Term Environmental Management Policy and Goals (Numerical Targets and Main Activities)

Fourth Medium-Term Environmental Management Policy	Numerical Targets and Main Activities	
Lower the environmental impact of all operations by conserving energy and resources, or reducing greenhouse gas emissions and waste.	Entire group	• CO_2 emissions: 5.6% reduction compared to fiscal 2015 • Total waste generated: 5% reduction compared to fiscal 2015 • Water consumption: 5% reduction compared to fiscal 2015 • Recycle waste • Utilize renewable energy
	Group companies in Japan	• Maintain 1% or less of the final disposal rate • Office paper consumption: 5% reduction compared to fiscal 2015 • Cooperate with suppliers to reduce environmental burdens
Lower environmental risks by continuously improving our environmental management systems in such areas as environmental compliance, pollution prevention, and chemical substances management.	Entire group	• Comply with environment-related laws and regulations through environmental audit and compliance evaluation • Prevent environmental accidents and minimize pollution risks • Identify and continuously reduce pollutant emissions to the atmosphere and waters
	Group companies in Japan	• Optimize the environmental management system • Prevent improper waste treatment
Manage the external risks that have the potential to generate a change in business operations, such as climate change and water risks.	Entire group	• Identify and address climate change and water risks
Ensure that operations reflect the need to preserve biodiversity and use ecosystem services sustainably.	Entire group	• Facilitate environmental conservation activities in cooperation with business partners and pursue procurement that takes environmental burdens and biodiversity into account • Take proper care of the environment around operating sites
	Group companies in Japan	• Evaluate environmental impacts by water discharged from plants and research facilities • Identify and minimize environmental burdens by utilizing biodiversity indicators • Contribute to a biodiversity-friendly society
Enhance environmental disclosure, improve the reliability of information, and engage in environmental communications with stakeholders.	Entire group	• Improve the reliability of discloser data through third-party verification • Enhance environmental awareness
	Group companies in Japan	• Provide environmental education throughout the entire company and professional education • Communicate with communities, suppliers, NPOs, and other entities

1-3 Environmental Management Promotion System

The head of the General Affairs Division of Daiichi Sankyo serves as the chief executive officer of environmental management and oversees environmental management on a Group basis, while the vice president of the CSR Department promotes environmental management as the environmental management officer. As a system for promoting environmental management, we have established an environmental management unit that takes business activities into consideration, and each environmental management unit establishes an environmental management site that considers regions and functions as necessary and manages the goals. In addition, we have established the Environmental Management Committee, chaired by the chief executive officer of environmental management. This committee discusses the formulation of environmental management policies and other important matters to report to the Board of Directors.

Diagram of the Daiichi Sankyo Group Environmental Management Promotion System



1-4 ISO 14001 Certification

Operating sites with production functions that have high environmental burdens have acquired ISO 14001 certification.

List of ISO 14001 Certified Plants (As of the End of June 2018)

	Company	Site	ISO 14001 Acquisition Period
Daiichi Sankyo Group (multisite certification)	Daiichi Sankyo Co., Ltd.	CSR Department	January, 1998
		Pharmaceutical Technology Division	
		Biologics Division (Tatebayashi)	
	Daiichi Sankyo Propharma Co., Ltd.	Hiratsuka Plant	
		Technology Department	
		Takatsuki Plant	
	Daiichi Sankyo Chemical Pharma Co., Ltd.	Onahama Plant	
		Tatebayashi Plant	
		Biologics Technology Department	
		Odawara Plant	
		Technology Department (Hiratsuka, Odawara)	
	Kitasato Daiichi Sankyo Vaccine Co., Ltd.	Kitamoto Site	
	Daiichi Sankyo Happiness Co., Ltd.	(Hiratsuka)	
Daiichi Sankyo Brasil Farmacêutica		Alphaville Plant	March, 2012

ISO 14001 Certification Acquisition Rate of Production Sites (on the basis of FY2017 CO_2 emissions)	Japan	100%
	Entire group	81.2%

Furthermore, we established the Daiichi Sankyo Group Environmental Management system in accordance with ISO 14001 for other sites.

1-5 Environmental Supply Chain Management

Main Efforts	Details
Setting of CSR procurement standards	We request that our business partners make efforts based on the CSR procurement standards of our group. The environment-related items in the CSR procurement standards are as follows. (1) Reduction of greenhouse gas emissions (2) Appropriate management and reduction of waste and emissions (3) Prevention or mitigation of leakage (4) Promotion of conservation of energy and resources (5) Response to biodiversity conservation
Cooperation with Suppliers	We ascertain the amount of CO_2 emissions from our major suppliers and how much water they use. We also ask of any supplier that has no CO_2 reduction target to set one as a good opportunity for improvement. These efforts are based on the Science Based Targets* initiative. *An international initiative that calls on companies to set CO_2 emission reduction targets in line with scientific evidence to achieve the Paris Agreement target of keeping the average global temperature increase below 2°C compared to pre-industrial levels.
Cooperation with logistics partners	We request our logistics partners to strive to reduce greenhouse gas emissions, such as by sharing the transportation weight and distance data of product transportation, stopping excessive idling on the premises of logistics centers, and practicing eco-driving.
Cooperation for environment audit	Partner companies storing and delivering our products and promotional goods cooperate for the environment audit on environment-related laws and regulations including waste management.

1-6 Environmental Auditing

Operating sites Subject to Environment Audit in Fiscal 2017

Company	Operating site, etc.
Daiichi Sankyo	Head office
	Shinagawa R&D Center
	Kasai R&D Center
Daiichi Sankyo Healthcare	Head office, distribution center, etc.
Im Co., Ltd.	Head office, distribution center, etc.
Daiichi Sankyo Pharmaceutical	Beijing plant
	Shanghai plant

*There were no findings that might cause serious environmental risks.

1-7 Emergency preparedness and response

Plants and research facilities with particularly high environmental risks have protocols to prepare for and respond to emergencies, including prevention and mitigation of environmental pollution due to disasters and accidents. They also conduct periodic education and emergency drills while maintaining necessary equipment.

Emergency Drills Conducted (Plants and Research Facilities)

Company	Operating site	Details of Emergency Drills (Possible accidents/incidents)	Number of Emergency Drills	Total Number of Participants
Daiichi Sankyo	Shinagawa R&D Center	Large-scale earthquake, fire, handling of hazardous materials	12 drills	2,925
	Kasai R&D Center	Large-scale earthquake, fire, handling of hazardous materials	14 drills	2,504
Daiichi Sankyo Propharma	Hiratsuka Plant	Large-scale earthquake, fire, leakage, and emergency report	38 drills	1,852
	Takatsuki Plant	Large-scale earthquake, fire, leakage, and oxygen shortage	22 drills	1,244
Daiichi Sankyo Chemical Pharma	Onahama Plant	Large-scale earthquake, fire, and leakage and workplace accidents	29 drills	804
	Tatebayashi Plant	Large-scale earthquake, fire, and leakage	20 drills	653
	Odawara Plant	Large-scale earthquake, fire, leakage, and emergency report	70 drills	1,839
Kitasato Daiichi Sankyo Vaccine	Kitamoto Site	Large-scale earthquake and fire	7 drills	1,142

1-8 Business Activity and Environmental Performance

Business Activity and Input/Output (Entire Group)

INPUT

Energies	
Electricity	233,166,000 kWh 2,270,529 GJ
City gas	37,117,000 m^3 1,671,450 GJ
LPG	62 t 3,152 GJ
Light oil	291 KL 10,975 GJ
Heavy oil	11 KL 414 GJ
Kerosene	278 KL 10,203 GJ
Steam	45,833 GJ
Gasoline	7,247 KL 250,748 GJ
Gas oil for diesel engines	1,504 KL 56,686 GJ
Total	4,327,129 GJ

Water	
Service water	1,596 ,000 m^3
Industrial water	7,443,000 m^3
Groundwater	1,789,000 m^3
Total	10,828,000 m^3

Daiichi Sankyo Group

〈 R&D 〉
Research into new drugs, nonclinical studies, clinical trials, pharmaceutical substances production research and technological development, and drug research
➡ Approval applications

〈 Manufacturing 〉
Active pharmaceutical ingredient manufacturing, formulation, packaging, and quality control

〈 Offices 〉
Planning and management, sales and information provision, quality assurance, and safety management

Pharmaceuticals wholesalers

Hospitals and pharmacies, Research and inspection institutions, etc.

OUTPUT

Air	
CO_2	228,557 t-CO_2
NOx	42 t
SOx	0.53 t

Water	
Discharged water	10,283,000 m^3
BOD	43.1 t
COD	63.7 t

Waste	
Generated amount	16,747 t
Emission	12,345 t
Recycling amount	4,786 t
Final disposing amount	840 t

Business Activity and Input/Output (Group in Japan)

INPUT

Energies	
Electricity	179,783,000 kWh 1,749,509 GJ
City gas	32,988,000 m^3 1,485,679 GJ
LPG	10 t 514 GJ
Light oil	1 KL 53 GJ
Heavy oil	10.60 KL 414.5 GJ
Kerosene	278 KL 10,203 GJ
Gasoline	2,684 KL 92,882 GJ
Diesel oil	4 KL 147 GJ
Total	3,339,402 GJ

Water	
Service water	1,079,000 m^3
Industrial water	7,443,000 m^3
Groundwater	1,789,000 m^3
Total	10,311,000 m^3

Daiichi Sankyo Group

〈 R&D 〉
Research into new drugs, nonclinical studies, clinical trials, pharmaceutical substances production research and technological development, and drug research
➡ Approval applications

〈 Manufacturing 〉
Active pharmaceutical ingredient manufacturing, formulation, packaging, and quality control

〈 Offices 〉
Planning and management, sales and information provision, quality assurance, and safety management

Pharmaceuticals wholesalers

Hospitals and pharmacies, Research and inspection institutions, etc.

Product usage

OUTPUT

Air	
CO_2	169,664 t-CO_2
NOx	36 t
SOx	0.20 t

Water	
Discharged water	9,856,000 m^3
BOD	22 t
COD	16 t

Waste	
Generated amount	14,682 t
Emission	10,281 t
Recycling amount	3,771 t
Final disposing amount	63 t

Recovery/Recycling	
Glass bottle (colorless)	158 t
Glass bottle (brown)	266 t
Plastic containers and packaging	1,341 t
Paper containers and packaging	42 t
Total	1,807 t

Note: Packaging containing post-consumer waste as required under the Containers and Packaging Recycling Law.

1-9 Environmental Accounting

Environment Conservation Cost (Group in Japan)

Unit: million yen

Environmental Item	FY2016		FY2017	
	Investment	Cost	Investment	Cost
Pollution Prevention Cost	486	171	487	153
Global Environmental Conservation Cost	1,468	622	1,542	517
Resource Circulation Cost	0	458	131	430
Upstream / Downstream Costs	0	27	0	66
Administration Cost	49	824	57	758
R&D Cost	0	33	0	30
Social Activity Cost	0	3	0	1
Environmental Remediation Cost	0	12	97	76
Total	2,003	2,148	2,315	2,032

*There were no findings that might cause serious environmental risks.

Economic Benefit (Group in Japan)

Unit: million yen

	FY2016	FY2017
Value of sales of valuables	27	2.6

Environmental Conservation Benefit (Group in Japan)

	Unit	FY2016	FY2017	Increase/Decrease Compared to the Previous Year	Increase/Decrease Rate Compared to the Previous Year
Total volume of energy consumed	GJ	3,567,177	3,339,402	△ 227,775	△ 6.4%
Water used	1,000m³	10,986	10,311	△ 675	△ 6.1%
PRTR substances used	t	3,182	1,202	△ 1,980	△ 62.2%
CO_2 emission	t-CO_2	176,732	165,933	△ 10,799	△ 6.1%
Total volume of waste	t	20,588	14,683	△ 5,905	△ 28.7%
Waste emissions (= Outsourced treating volume)	t	15,626	10,281	△ 5,345	△ 34.2%
Volume of recycled waste	t	5,466	3,771	△ 1,695	△ 31.0%
Final disposing amount of waste	t	143	63	△ 80	△ 56.2%
Recycling rate	%	35.0	36.7	–	9.4%
Recovered or recycled volume of containers and packages	t	2,003	1,807	△ 196	△ 9.8%
SOx emissions	t	0.34	0.2	△ 0.1	△ 42.4%
NOx emissions	t	49	36	△ 13	△ 25.8%

1-10 Environmental Efficiency (Group in Japan)

Environmental Efficiency Index	Index Definition	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017
CO_2	Sales/CO_2 emissions	100	104	101	111	114	125
Waste	Sales/Total waste emissions	100	115	170	218	216	311
Water	Sales/Water consumption	100	114	113	134	150	164

* The figures as of fiscal 2012 have been set to 100. Higher index shows higher level of efficiency.

2 Conserving Energy and Combatting Global Warming

2-1 Our Basic Stance

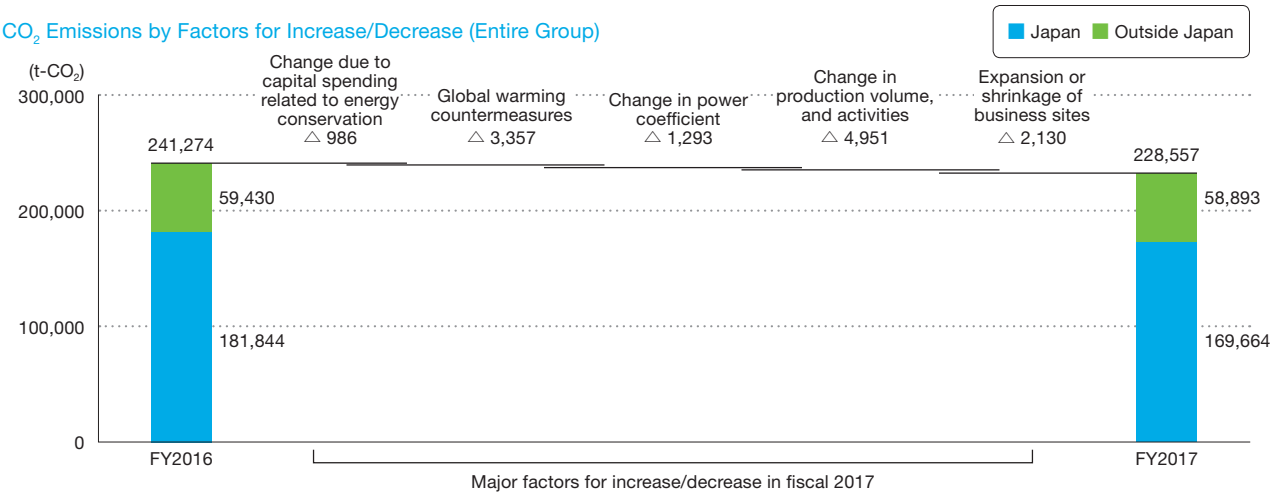
To facilitate responsible corporate activities that address climate change, we have set a CO_2 emissions target for fiscal 2020 the final year of the 5-year business plan of pursuing a 5.6% reduction from fiscal 2015 based on our long-term CO_2 emissions target for fiscal 2030 and the approach of the Science Based Targets initiative*.

Possible climate change impacts include tightened controls on CO_2 emissions in accordance with the international framework for greenhouse gas emissions reduction, physical effects such as a rise in average temperature, drought, flood, change in disease structure, and health impacts. The Medium-Term Environmental Management Policy of our group includes "Manage the external risks that have the potential to generate a change in business operations, such as climate change and water risks". By doing so, we facilitate the efforts not only to mitigate the emissions of CO_2 and other substances, but also to adapt to climate change-driven impacts as well as influences that are inevitable in the medium- and long-term.

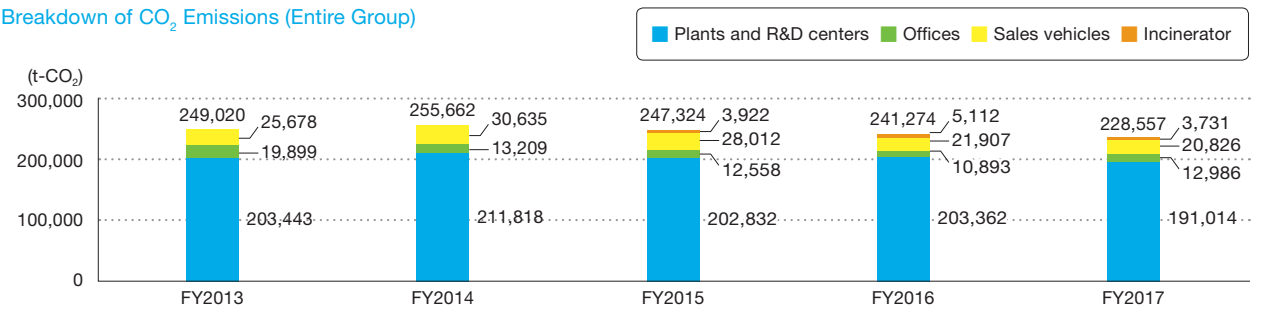
*An international initiative that encourages companies to set CO_2 reduction targets based on scientific evidence in order to help accomplish the goal of the Paris Agreement of keeping the average increase in global temperature below 2°C

2-2 Target and Result of CO_2 Emissions Reduction

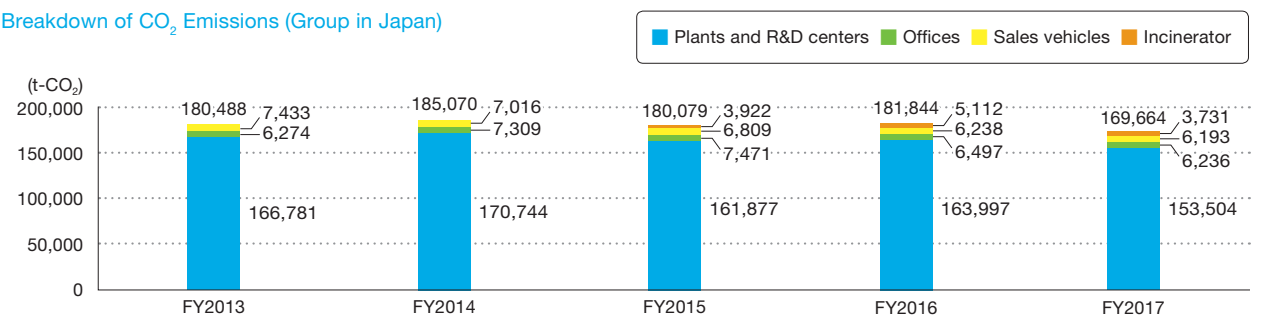
CO_2 Emissions by Factors for Increase/Decrease (Entire Group)



Breakdown of CO_2 Emissions (Entire Group)



Breakdown of CO_2 Emissions (Group in Japan)



2-3 CO_2 Emissions by Scope

Total CO_2 Emissions by Region (Scope 1 and Scope 2)

(t-CO_2)

	SCOPE1	SCOPE2	Total
In Japan	84,283	85,382	169,664
Outside Japan	23,823	35,069	58,892
Total	108,106	120,451	228,557

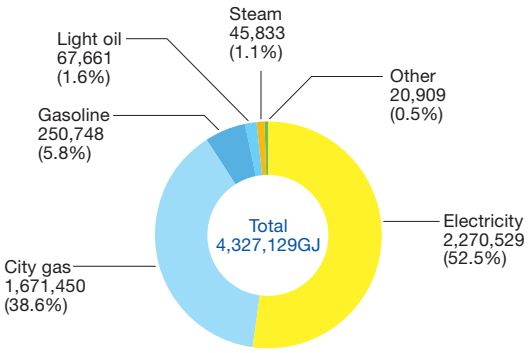
2-4 Supply Chain GHG Emission (Scope 3) (Group in Japan)

Sources	CO_2 emissions (t-CO_2) FY2017	CO_2 emissions (t-CO_2) FY2016	Increase/Decrease Rate Compared to the Previous Year (%)	Emissions Calculation Methodology	Explanation
Purchased goods and services	646,985	515,388	3.5	The figures are calculated by multiplying the emission basic unit based on guidelines* by the weight or purchase amount of raw materials, ingredients, and stock goods.	Geographic scope is Japan.
Capital goods	50,017	44,564	△ 16.8	It computed based on the amount of money for acquisition of the fixed assets and CO_2 emission coefficients of the guidelines* issued by Ministry of Environment and Ministry of Economy, Trade and Industry.	Geographic scope is Japan.
Fuel-and-energy-related activities (not included in Scope 1 or 2)	6,364	6,748	1.9	It computed based on the usage of electricity and steam and CO_2 emission coefficients of the guidelines* issued by Ministry of Environment and Ministry of Economy, Trade and Industry.	Geographic scope is Japan.
Upstream transportation and distribution	9,571	9,773	△ 7.5	In accordance with guidelines*, etc., the figures are calculated with the transportation distance between the logistics centers of our group and the destinations (pharmaceutical wholesalers, etc.) based on the fuel consumption method.	Geographic scope is Japan.
Waste generated in operations	7,657	10,071	△ 12.2	It computed based on the weight of each waste discharged from the plants and R&D center and CO_2 emission coefficients of the guidelines* issued by Ministry of Environment and Ministry of Economy, Trade and Industry.	Geographic scope is Japan.
Business travel	16,193	15,322	△ 0.2	It computed based on the travel and accommodation expenses and CO_2 emission coefficients of the guidelines* issued by Ministry of Environment and Ministry of Economy, Trade and Industry. For travel expenses, CO_2 emission coefficients for aircraft were adopted.	Geographic scope is Japan. The amount of emissions on business trips using company vehicles is included in Scope 1.
Employee commuting	3,057	3,283	1.8	The figures are calculated by multiplying the emission basic unit based on guidelines* by the commutation expenses of public transportation systems used by employees. The amount of emissions from the commuter cars of employees is calculated based on the amount of gasoline used.	Geographic scope is Japan.
Upstream leased assets	—	—	—	—	It is irrelevant because all emissions form the leased assets are counted in Scopes 1 and 2.
Downstream transportation and distribution	21,723	16,755	10.0	The emission basic unit of sales at wholesalers is estimated based on the sales of major pharmaceutical wholesalers and the CO_2 emissions. The figures are calculated based on the total sales of the pharmaceutical wholesalers and our ratio of the sales volume.	Geographic scope is Japan.
Processing of sold products	—	—	—	—	—
Use of sold products	—	—	—	—	There is no energy use for product use, because of the characteristic of medical supplies. Therefore, it is estimated irrelevant.
End of life treatment of sold products	1,681	2,476	△ 14.5	It computed based on the weight of each materials for the containers of the sold product and CO_2 emission coefficients of the guidelines* issued by Ministry of Environment and Ministry of Economy, Trade and Industry.	Geographic scope is Japan. Recycling is included.
Downstream leased assets	6,943	6,617	△ 11.2	It computed based on the floor area according to the purpose of using the rented assets and CO_2 emission coefficients of the guidelines* issued by Ministry of Environment and Ministry of Economy, Trade and Industry.	Geographic scope is Japan.
Franchises	—	—	—	—	Since we have no franchise, it is irrelevant.
Investments	—	—	—	—	—

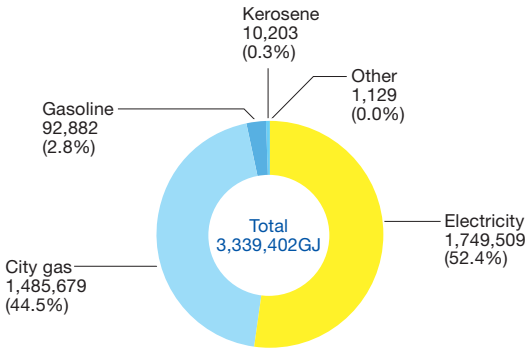
* Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain (Ver. 2.4), Policy on Emissions Unit Values for Accounting of Greenhouse Gas Emissions, etc., by Organizations Throughout the Supply Chain (Ver. 2.4), and the Emissions Unit Value Database (Ver. 2.4)

2-5 Breakdown of Energy Use

Breakdown of Energy Use (Entire Group)



Breakdown of Energy Use (Group in Japan)



2-6 Using Renewable Energy

Renewable Energy Usage and Breakdown

Types of Renewable Energy	Power Supply (MWh)	Remarks
Solar energy generation	36	Electricity generated by solar energy equipment installed in plants and research facilities. Not included in energy consumption.
Hydroelectric power generation	8,761	Purchased by our group companies in Germany.
Biomass power generation	500	Purchased by group companies in Japan. Not subtracted from the amount of emissions in Scope 2.
Biomass heat	1,579	Purchased by our group companies in Germany. Not subtracted from the amount of emissions in Scope 2.
Other renewable energies	4,581	Purchased by group companies in Spain, Portugal, Austria, Brazil and other countries

2-7 Emissions Trading

Carbon Offset

Offset Amount	Project Type	Project ID	Certification Standards
30t-CO_2	Fuel shift from coal	Clean and Efficient Cooking and Heating Project, China [GS949]	Gold Standard

2-8 Supplementary Notes

❶ Conversion factors and their sources

The conversion factors used in this data book are as follows:

Conversion factors of the Accounting and Reporting System under the Act on Promotion of Global Warming Countermeasures (the Global Warming Countermeasures Act) are used for the CO_2 conversion factor and the energy conversion factor.

Regarding the countries outside Japan, the factors commonly used in such countries or the factors based on GHG protocol are used in this data book.

List of conversion factors in Japan

Energy Source		Conversion Factor			
		Unit Calorific Value		CO_2 Emission	
Electricity	General electricity utility (Day time)	9.97	GJ/1,000 kWh	Emission coefficients for power utilities (used for calculating greenhouse gas emissions of specified emitters) for FY2016	t-CO_2/1,000 kWh
	General electricity utility (Night time)	9.28	GJ/1,000 kWh	Emission coefficients for power utilities (used for calculating greenhouse gas emissions of specified emitters) for FY2016	t-CO_2/1,000 kWh
	Other	9.76	GJ/1,000 kWh	Emission coefficients for power utilities (used for calculating greenhouse gas emissions of specified emitters) for FY2016	t-CO_2/1,000 kWh
A-type heavy oil		39.1	GJ/KL	2.71	t-CO_2/KL
Diesel oil		37.7	GJ/KL	2.58	t-CO_2/KL
Kerosene		36.7	GJ/KL	2.49	t-CO_2/KL
LPG		50.8	GJ/t	3.00	t-CO_2/t
City gas (13A)		44.8	GJ/1,000 m^3	2.23	t-CO_2/1,000 m^3
LNG		54.6	GJ/t	2.70	t-CO_2/t
Gasoline		34.6	GJ/KL	2.32	t-CO_2/KL
Steam for industry		1.02	GJ/GJ	0.060	t-CO_2/GJ

❷ Emissions not subject to accounting

Of the emission data, both Scope 1 and Scope 2 emissions do not include emissions from small offices outside Japan.

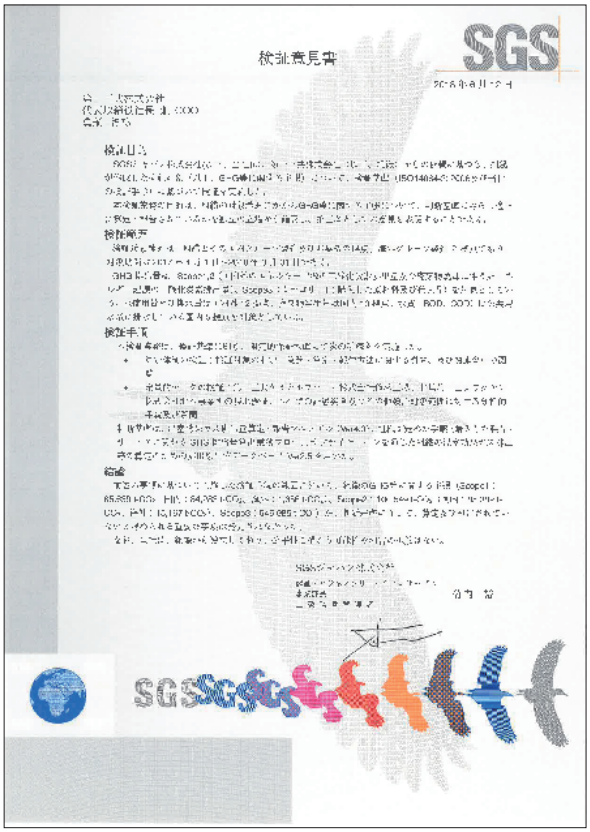
Emissions of greenhouse gasses other than CO_2 are not included either, due to the small quantity.

❸ GHG emissions from sold products

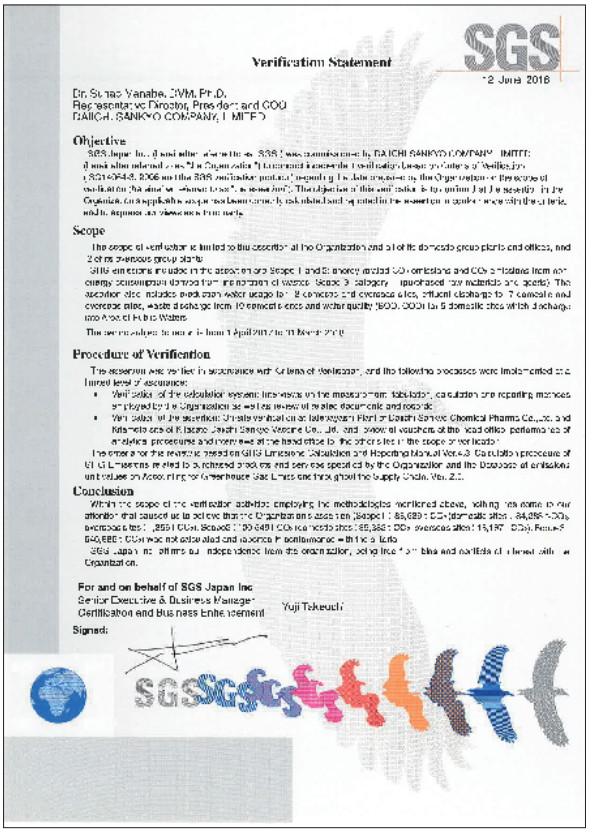
Any use of sold products will not help reduce GHS emissions.

❹ Third-party verification

An external examining organization conducted inspections covering the Daiichi Sankyo Group's production and nonproduction sites in Japan and two production sites overseas. GHG emissions included in the assertion are Scopes 1 and 2: energy-related CO_2 emissions and CO_2 emissions from non-energy consumption derived from incineration of wastes, Scope 3: category 1: (purchased raw materials and goods). The assertion also includes production water usage for 12 domestic and overseas sites, waste discharge from 10 domestic sites and water quality (BOD, COD) for 5 domestic sites that discharge into Area of Public Waters. The period subject to reporting is from April 1, 2017 to March 31, 2018.


検証意見書

SGS


Verification Statement

SGS

2 June 2018

Dr. Sunao Yanabe, DVM, Ph.D.
Representative Director, President and COO
DAIICHI SANKYO COMPANY, LIMITED

Objective

Scope

Procedure of Verification

Conclusion

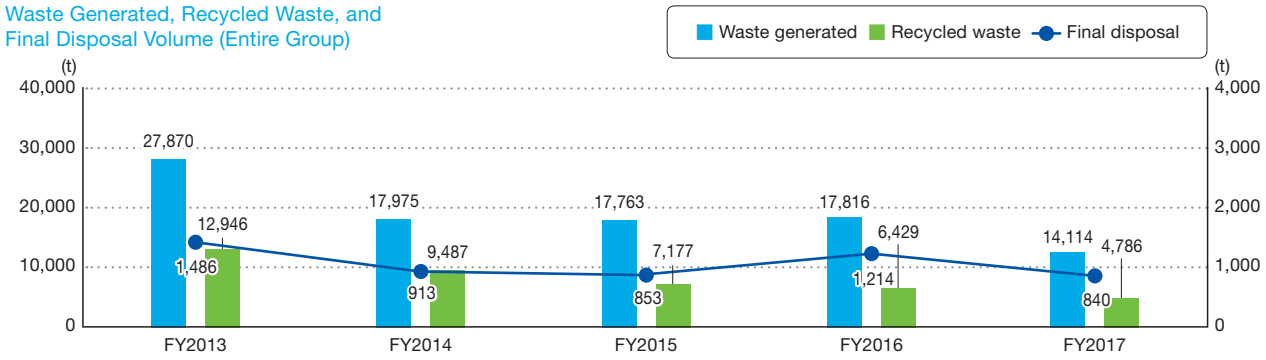
For and on behalf of SGS Japan Inc.
Senior Executive & Business Manager
Certification and Business Enhancement
Yuji Takeuchi

Signed:

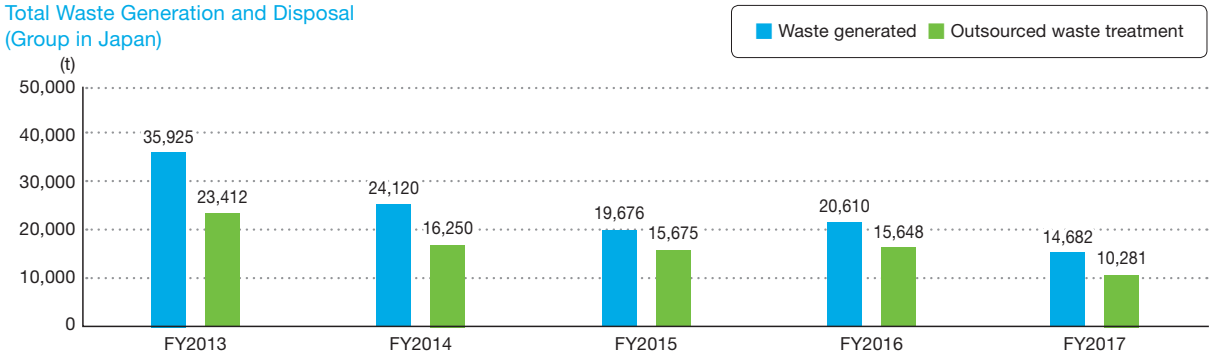
3 Effective Use of Resources and Reduction of Environmental Burdens

3-1 Waste Reduction Targets and Achievements

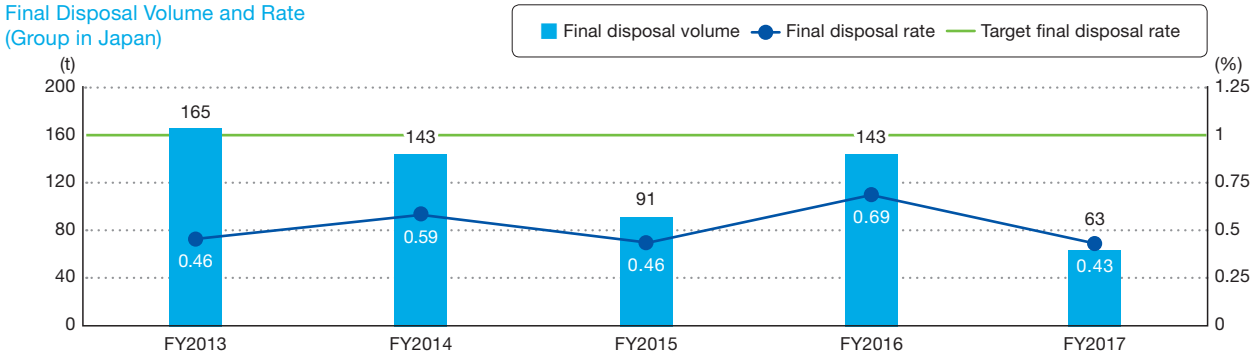
Waste Generated, Recycled Waste, and Final Disposal Volume (Entire Group)



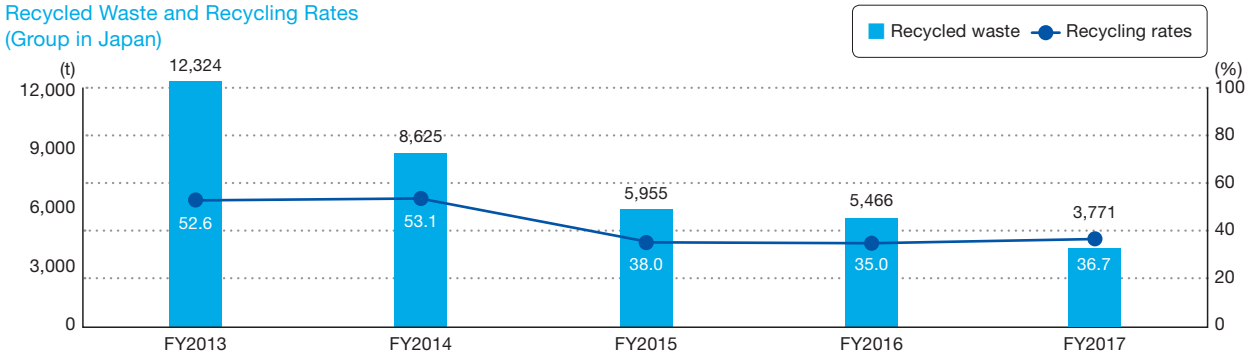
Total Waste Generation and Disposal (Group in Japan)



Final Disposal Volume and Rate (Group in Japan)



Recycled Waste and Recycling Rates (Group in Japan)

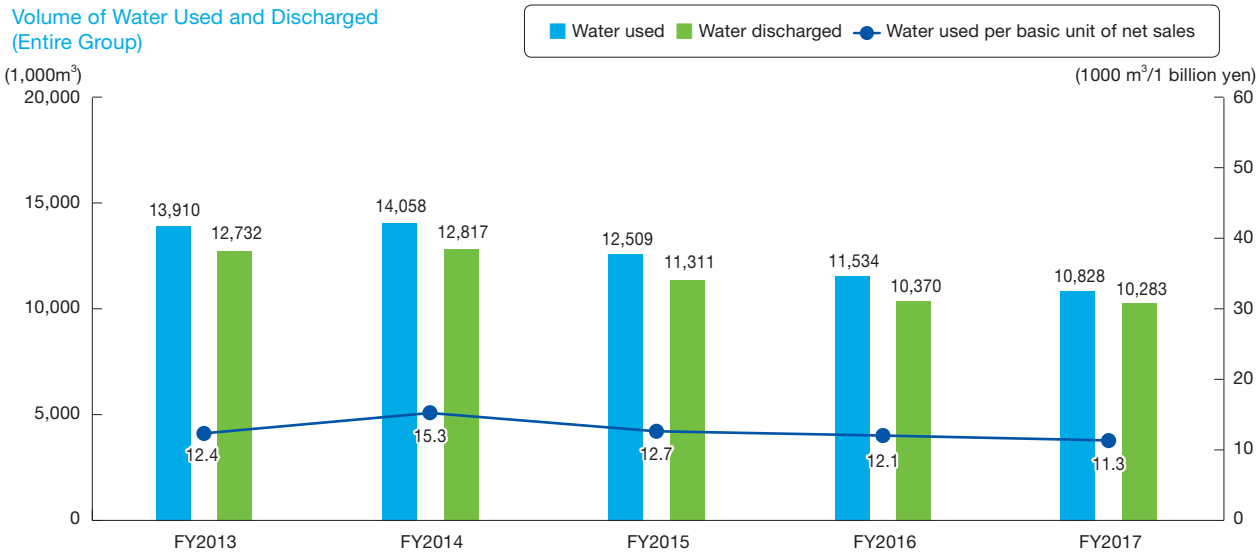


3-2 Efforts to Reduce Waste

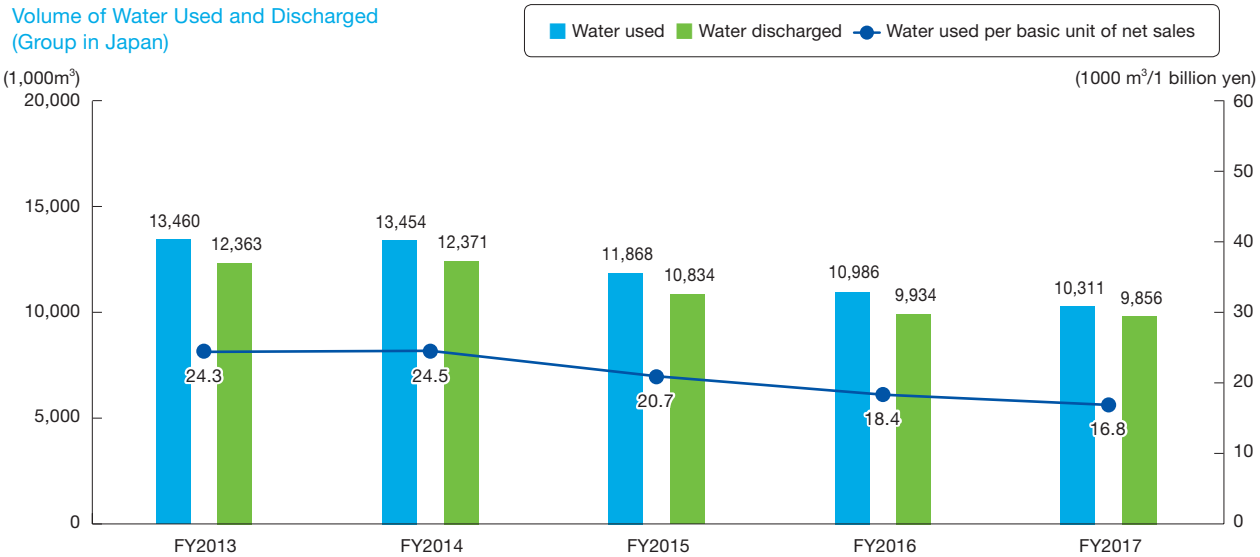
Name of Operating site, etc.	Main Efforts
Offices, sales branches, plants, etc.	Reduce office paper consumption
Headquarters, R&D centers, etc.	Promote reuse of stationery, devices and equipment
Plants, etc.	Reuse collected organic solvents
Cooperation between plants/research facilities and waste disposal contractors	Promote recycling work clothes and latex gloves

3-3 Appropriate Use of Water Resources

Volume of Water Used and Discharged (Entire Group)



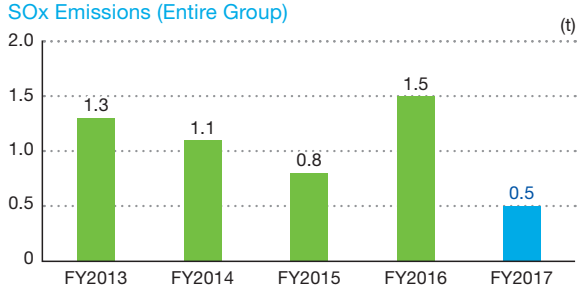
Volume of Water Used and Discharged (Group in Japan)



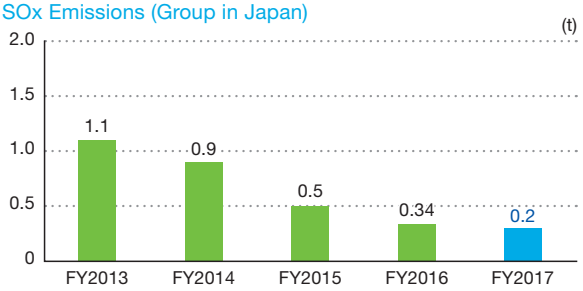
4 Reduction of Environmental Risks

4-1 Preventing Air and Water Pollution

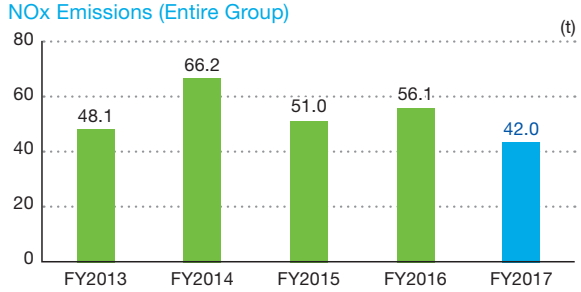
SOx Emissions (Entire Group)



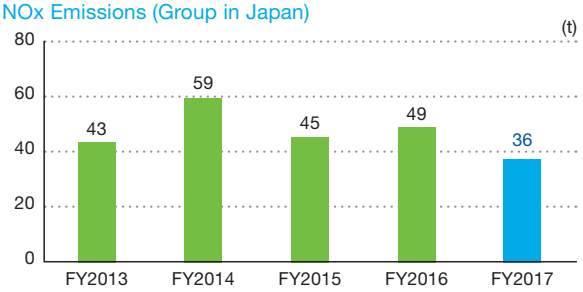
SOx Emissions (Group in Japan)



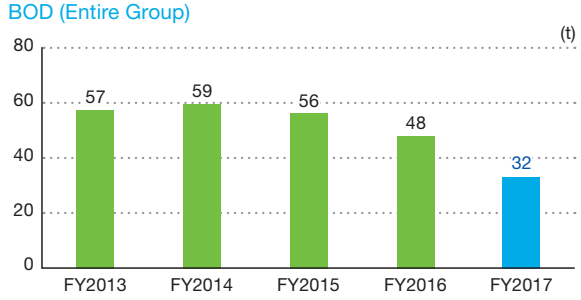
NOx Emissions (Entire Group)



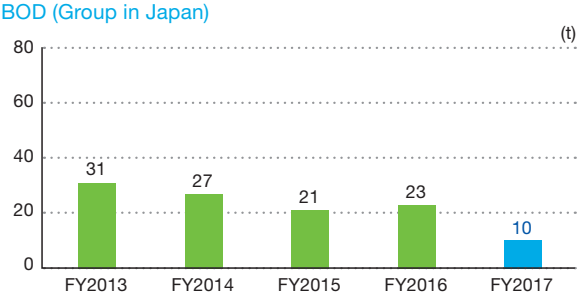
NOx Emissions (Group in Japan)



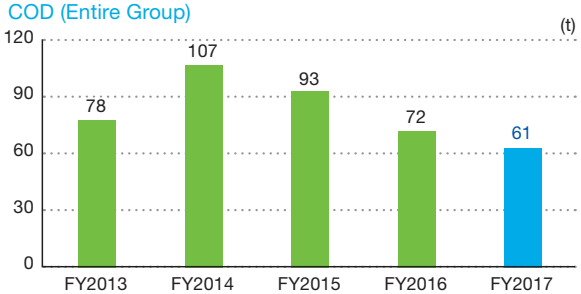
BOD (Entire Group)



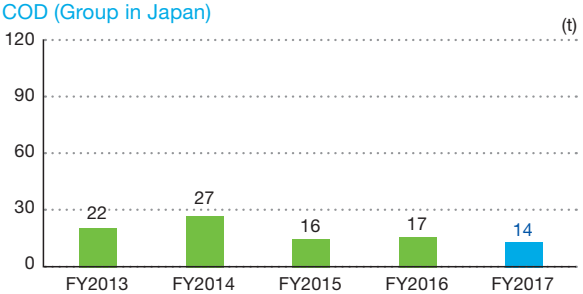
BOD (Group in Japan)



COD (Entire Group)



COD (Group in Japan)



4-2 Preventing Soil and Groundwater Contamination and its Countermeasures

Progress of Measures for Soil Purification

Office	Overview
Shinagawa R&D Center (Shinagawa-ku, Tokyo)	We performed a soil investigation associated with the construction of new research facilities according to Tokyo municipal ordinance. As a result, contamination was found in a part of soil. Thus we performed purification work appropriately on discussion with the governmental offices.
Takatsuki Plant Daiichi Sankyo Propharma Co., Ltd. (Takatsuki City, Osaka)	We continue to perform groundwater monitoring and to take countermeasures after purification work of soil contaminated with VOC* and arsenic in 2004.

*Volatile Organic Compounds

4-3 Prevention of Noise, Vibration, and Offensive Odor

We conduct appropriate measures and continuous monitoring to comply with the laws and regulations related to noise, vibration, and offensive odor.

4-4 Usage Reduction and Emission/Transfer Control of Chemical Substances

Emission/Transfer Chemical Substances (Group in Japan)

(Unit: metric ton; mg-TEQ for dioxins)

Substance (Annual handling amount of 1 or more metric tons)	Handling Amount	Emission (except for emission into soil)		Transfer Amount		
		Air	Public Water	Sewage	Out of Offices (Recycling)	Out of Offices (Other)
Acetonitrile	620.6	0.6	0.0	0.0	0.0	616.1
Xylene	2.4	0.0	0.0	0.0	2.4	0.0
Chloroform	49.0	0.4	0.0	0.0	48.6	0.0
Cyanamide	3.8	0.0	0.0	0.0	3.8	0.0
Dichloromethane (also known as methylene chloride)	11.8	0.6	0.0	0.0	11.2	0.0
N,N-Dimethylformamide	206.8	0.0	0.0	0.0	0.0	152.0
N,N-Dimethylacetamide	11.8	0.0	0.0	0.0	0.0	11.7
Dimethylamine	2.8	0.0	0.0	0.0	0.0	0.0
Toluene	313.7	2.6	0.0	0.0	311.1	0.0
Triethylamine	43.2	0.1	0.0	0.0	0.0	43.1
N-Hexane	12.0	0.9	0.0	0.0	0.0	11.2
Total	1,278.0	5.3	0.0	0.0	377.2	834.1
Dioxins	—	0.000	0.018	0.000	0.000	0.000

PCB Usage

Types of PCBs	Quantity
Capacitors	0
Fluorescent lamp ballasts, etc.	0

PCB Storage

Types of PCBs	Quantity		
	Heavy PCB	Light PCB	Total
Capacitors	319	0	319
Fluorescent lamp ballasts, etc.	676	0	676
PCB-containing oil	0	0	0
PCB-adhering materials	1	0	1
Other electric devices	10	0	10
Other polluted products	3	0	3

*We sorted and measured the PCB-contaminated materials and completed the registration of the packaging information with the Japan Environmental Storage & Safety Corporation (JESCO). We have already completed the disposal of low-concentration PCBs.

5 Climate Change and Water Risks

5-1 Climate Change Risks

Climate Change Risks That Have the Potential to Affect Our Business

Risk Driver		Description	Potential Impact
Risks driven by changes in regulation	Cap and trade schemes	If it is subject to the greenhouse gas cap and trade scheme, an emissions credit must be purchased when the required reduction volume is not satisfied.	Increased operational cost
	International agreements	If regulations in each country are strengthened in accordance with the ratification of the Paris Agreement, necessary measures must be taken to ensure compliance with the regulations.	Increased operational cost
Risks that are driven by change in physical climate parameters	Change in highest and lowest temperatures	Temperature control costs will rise at research facilities and plants of our group.	Increased operational cost
	Increase in the number of typhoons, etc.	An increase in the number of localized torrential rainfall and large-scale typhoons will hamper the supply chain of our group's business operations.	Increased operational cost
	Change in disease structure, etc.	A change in disease structure, etc. due to climate change will cause quantitative and qualitative impact to the humanitarian assistance activities of our group, including providing access to medical care and pharmaceutical products.	Increased operational cost
Reputation-driven risks	Evaluation by external stakeholders	Evaluation by external stakeholders on our group's efforts to mitigate and adapt climate change will adversely affect our stock price.	Drop in our stock price (market valuation)

Climate Change Opportunities that Have the Potential to Affect Our Business

Opportunity Driver		Description	Potential Impact
Opportunities that are driven by changes in regulation	Emission reporting obligations	Energy costs will be reduced by taking various measures to mitigate greenhouse gases and energy.	Reduced operational costs
	Cap and trade schemes	Appropriate response to the emissions trading scheme will provide scheme-based incentives.	Reduced operational costs
Opportunity that are driven by changes in physical climate parameters	Change in disease structure	Development and sales of pharmaceutical products in response to an increased number of tropical infectious diseases or regional changes in disease patterns will augment revenue.	New products/business services
	Increase in the number of floods	Taking appropriate measures against flood damage in plants will ensure stable supply of products.	Increase in demand for existing products
Reputation-driven opportunities	Evaluation by external stakeholders	Evaluation by external stakeholders of our group's efforts to mitigate and adapt to climate change will positively affect our stock price.	Increased stock price (market valuation)

5-2 Water Risk

We carry out comprehensive risk evaluations based on the results of analysis of local water risks using the WWF-DEG Water Risk Filter and the survey results on water risks due to plants and research facilities.
The evaluations indicate that the operating sites with the highest water risks among our group are two plants in China, one in Brazil. Water withdraw restrictions and other strengthened regulations are considered to be major risk factors.

Volume of Water Used at the Offices at the Highest Water Risk in Group

	Volume of Water Used (Withdrawn)	Volume of Water Discharged	Volume of Water Actual Used
FY2017	215,000m^3	146,000m^3	69,000m^3

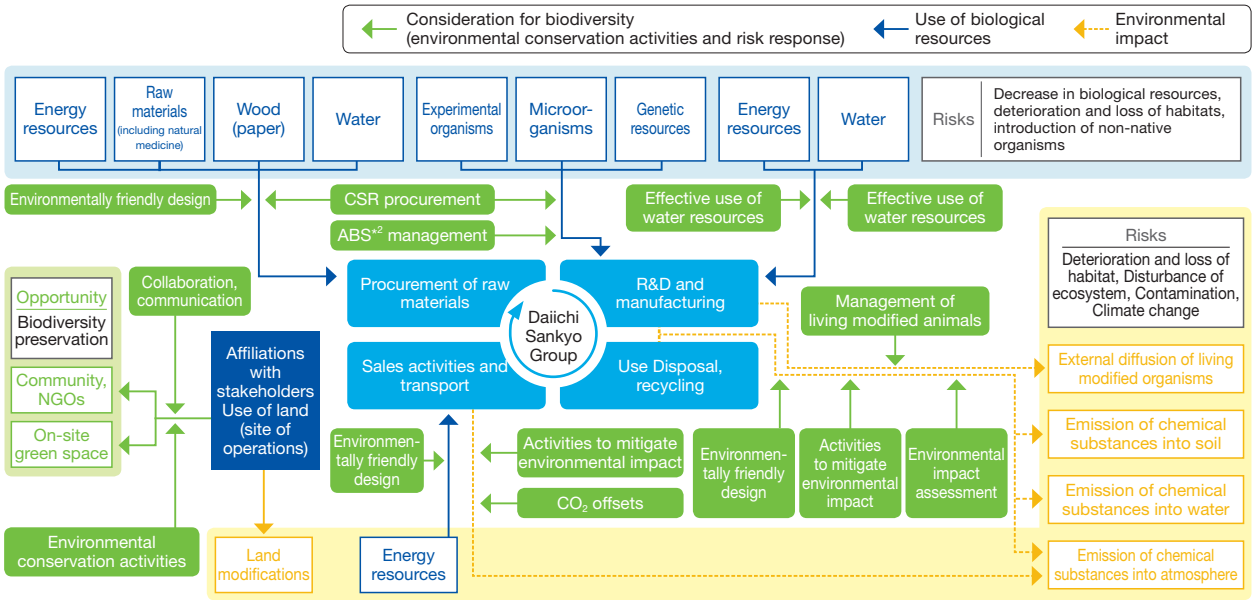
6 Initiatives for Biodiversity Conservation

6-1 Our Basic Stance

Basic Biodiversity Principles and Action Guidelines

Basic Policy	
• Our Basic Environmental Management Policy states that, “Safeguarding the environment is the bedrock of all Group operational management.” We have therefore acted to prevent pollution and global warming and contribute to recycling. Through our initiatives, we have used biological resources properly to minimize the impacts of our operations on biodiversity and have sustainably reduced chemical and other discharges. • We will continue striving to preserve biodiversity and respect the principles of the Convention on Biological Diversity by adhering to the following Biodiversity Action Guidelines, thereby enhancing social sustainability.	
Action Guidance	
1. Actively promote to address biodiversity conservation in all business activity	• Under take ongoing endeavors to avoid or reduce operational impacts on biodiversity, devoting particular attention to lowering the environmental burdens of air and water emissions and wastes.
2. Identify the biodiversity impacts of ecosystem services, using those services sustainably	• Recognize the operational importance of ecosystem services while understanding and minimizing their impacts on biodiversity, using those services sustainably.
3. Use genetically modified organisms responsibly	• Maintain biosafety by continuing to responsibly use genetically modified organisms in drug discovery and production in keeping with the Cartagena Protocol on Biosafety and national laws and ordinances.
4. Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization	• Comply with the Convention on Biological Diversity, the Bonn Guidelines, and other relevant rules to access and utilize genetic resources of the provider countries appropriately and to share benefits arising from their utilization in a fair and equitable manner.
5. Communicate with stakeholders and improve in-house awareness	• Foster biodiversity preservation by communicating and liaising better with public and private entities. • Educate employees to better understand how operations affect biodiversity and encourage internal and external efforts to safeguard biodiversity.

Map of Corporate Activities and Biodiversity*1



*1 Prepared with reference to the “Map of Corporate Activities and Biodiversity” developed by the Japan Business Initiative for Conservation and Sustainable Use of Biodiversity (JBIB)

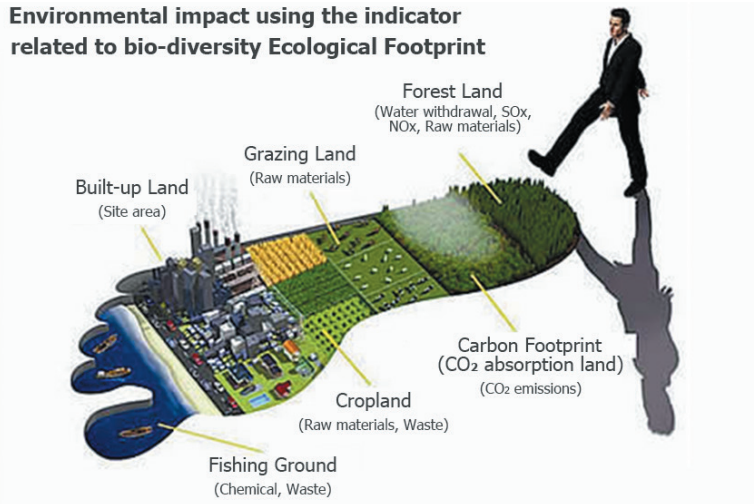
*2 Access to genetic resources and benefit sharing

6-2 Initiatives for Biodiversity Conservation

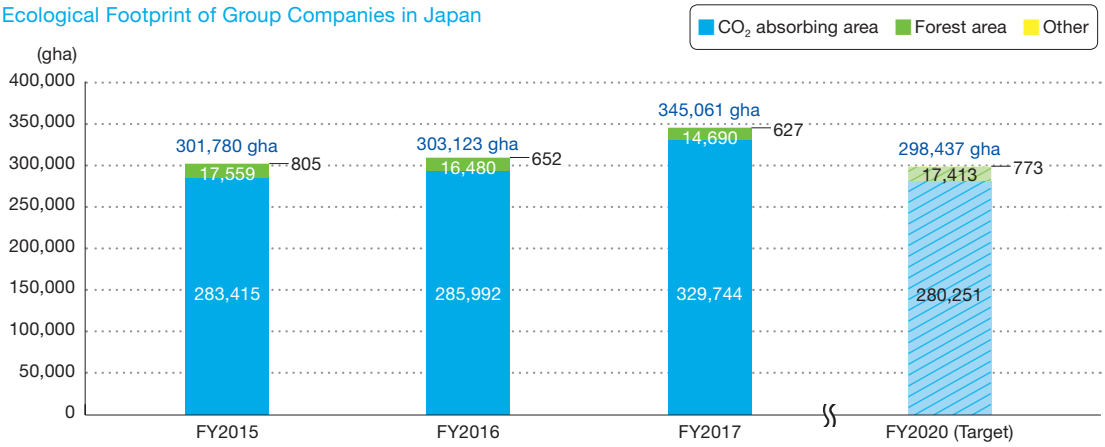
● Assessment of the biodiversity indicator called ecological footprint

We have been assessing our ecological footprint (EF), an indicator of biodiversity, jointly with experts from the NGO Global Footprint Network since fiscal 2014 to examine all environmental impacts resulting from the business activities of group companies in Japan. Moreover, we are using the assessed EF as a comprehensive indicator of environmental impacts, including those related to biodiversity, by checking and monitoring long-term changes in the relationship between the group's reduction of environmental impacts and its biodiversity conservation (trade-off).

In addition, assessing EF has been recognized as an action for achieving the Aichi Target (20 targets) that was adopted at COP10 (the 10th Meeting of the Conference of the Parties to the Convention on Biological Diversity, in Nagoya) and registered on the Nijyu-Maru Project as well.



Ecological Footprint of Group Companies in Japan



● Implementation of WET testing

In fiscal 2017, WET test*s were conducted as environmental impact assessments to examine water discharged from all plants and research facilities in Japan, confirming that the discharged water has no serious impact on river ecosystems.

*A testing method that utilizes the biological responses of fish, Daphnia, and seaweed to determine the whole toxicity of discharged water.

7 Environmental Communication

7-1 Main Efforts

Efforts	Details
Briefing on ISO 14001 environmental internal audit procedures	Date: Thursday, March 15, 2018 Time: 11:00–16:00 Place: Kitasato Daiichi Sankyo Vaccine Kitamoto Site meeting room Target Attendees: Promotion managers at environmental management units and sites within the scope of ISO 14001 certification Agenda: (1) Procedures for the Daiichi Sankyo Group's environmental internal audit (2) Information on the Kitasato Daiichi Sankyo Vaccine Kitamoto Site, a site tour (3) Discussion Number of participants: 15
Briefing on ISO 14001:2015 internal audit	Date: Tuesday, May 9, 2017 Time: 13:00–16:00 Place: Daiichi Sankyo's main office building A, 4th floor, Meeting room A4A Target attendees: employees concerned with ISO 14001 internal audit (20 in total) Agenda: (1) Internal audit themes in ISO 14001:2015 (2) Explanations of the internal audit check list
Workshop for employees in charge of environmental issues	Date: Wednesday, August 30, 2017 Time: 13:00–16:00 Place: Head office building A, 4th floor, Meeting room D Target attendees: promotion managers, employees engaged in environment-related operations (28 in total) Agenda: lecture entitled "Revisions to the Waste Management and Public Cleansing Law and Relevant Orders, etc. (On Mercury)" by Masazumi Horiguchi, a senior consultant at MAJOR VENOUS JAPAN Co., Ltd.
Working session on combating global warming	Date: Wednesday, September 22, 2017 Time: 11:00–16:00 Place: Obayashi Technical Research Institute Target attendees: employees tasked with saving energy, promotion managers (26 in total) Agenda: tour of the institute, lecture entitled "Measures for ZEB and Smart Energy System" by Hajime Onojima, general manager of the Technical Division of Obayashi Corporation
Reporting of ISO 14001 examination results	Date: Tuesday, February 6, 2018 Time: 13:00–16:00 Place: IT Building, Meeting room 3B Target attendees: promotion managers and employees concerned with ISO 14001 (25 in total) Agenda: (1) Lecture entitled "Significance of the Transition to the ISO 14001:2015" by Hiroshi Mizukami, a board director and examination general manager at the Japan Audit and Certification Organization for Environment and Quality (JACO) (2) Results of ISO 14001 examination
Environmental Art Contest	We received 1,284 applications (1,280 applications in the previous contest) from group companies in and outside Japan. Categories Images: 349 works (333 works) from group companies in Japan and 179 works (203 works) from group companies outside Japan "Senryu" and slogans: 742 works (710 works) from group companies in Japan and 14 works (34 works) from group companies outside Japan The awards ceremony was held on Tuesday, November 15, 2016.
Environmental e-learning	Theme: "Basic Knowledge of Environmental Problems and Environmental Management" Number of participants: 9,197 (participation rate: 97.5%)
COOL CHOICE Program	Period: June 19–September 8 Number of enrollees: 1,206 (1,120 for the previous program)
Participation in the Carbon Dioxide (CO_2) Reduction/Light-Down Campaign	We turned off external signage, internal lighting, etc., on June 21, July 7 of 2017. Number of participating facilities: 66 business sites (57 business sites in the previous campaign) Electricity saved: 2,671 kWh (equivalent to that covering the daily power consumption of about 300 households and to a reduction of about 1.5 tons of CO_2 emissions) A press release from the Ministry of the Environment is available at http://www.env.go.jp/press/104357.html. Companies that joined the campaign at 100 locations or more are introduced in the document.
Posters for raising environmental awareness	A total of 404 posters were displayed at 140 locations.

7-2 Environment-related Awards

Daiichi Sankyo Co. Ltd.	FY2016 Kanto Bureau of Economy, Trade and Industry Director-General's Award for Excellence in Plant Energy Management
Shinagawa R&D Center, Daiichi Sankyo Co. Ltd.	Corporate Award in the Shinagawa Ward Environmental Conservation Activity Awards

8 Site Data

Business Activity and Input/Output in fiscal 2017 (Group in Japan: Plants and R&D Centers)

INPUT		Unit	Shinagawa	Kasai	Onahama	Tatebayashi	Hiratsuka	Takatsuki	Odawara	Kitamoto
Energies	Electricity	1,000 kWh	26,499	16,144	9,623	3,274	33,741	14,444	11,765	46,627
		GJ	256,782	156,195	95,940	31,231	328,919	140,245	114,512	452,239
	City gas	1,000m^2	2,019	3,833	1,967	2,355	9,171	5,440	1,532	5,543
		GJ	90,950	172,646	88,588	106,057	413,027	245,005	68,993	249,658
	LPG	t	0	0	1	2	0	0	6	0
		GJ	0	0	65	107	18	5	319	0
	Light oil	t	0	0	0	0	0	0	1	0
		GJ	0	0	0	0	0	0	53	0
	Heavy oil	KL	9	0	0	0	0	0	0	2
		GJ	352	0	0	0	0	0	0	63
	Kerosene	KL	0	0	0	0	0	0	0	278
		GJ	0	0	0	0	0	0	0	10,203
	Gasoline	KL	1	0	0	0	2	1	0	0
		GJ	47	0	11	2	54	24	5	0
	Gas oil for diesel engines	KL	0	0	0	0	3	0	1	0
		GJ	47	0	13	2	151	35	42	0
	Total	GJ	348,132	328,842	184,606	137,397	742,115	385,291	183,919	712,162
Water	Service water	1,000m^3	120	122	107	29	323	19	30	298
	Industrial water	1,000m^3	0	0	6,370	51	0	1,022	0	0
	Groundwater	1,000m^3	8	0	0	0	1	0	1,736	0
	Total	1,000m^3	128	122	6,477	80	324	1,040	1,765	298
Chemical substances	PRTR substances (amounts handled)	t	27.3	4.5	500.4	3.6	76.3	0.0	666.8	0.0

OUTPUT		Unit	Shinagawa	Kasai	Onahama	Tatebayashi	Hiratsuka	Takatsuki	Odawara	Kitamoto
Air pollution	CO_2	t–CO_2	17,091	16,201	9,016	6,701	36,455	18,879	9,017	35,159
	NOx	t	3.0	5.8	2.3	8.8	11.7	0.0	2.2	2.7
	SOx	t	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
	PRTR substances	t	1.6	0.1	0.4	0.4	0.0	0.0	2.7	0.0
Water pollution	Water discharged	t	78	52	6,367	59	235	867	1,918	216
	BOD	t	3.5	1.1	7.5	0.1	4.4	1.4	2.2	0.4
	COD	t	0.0	0.0	10.1	0.2	0.0	3.8	1.1	0.9
	PRTR substances	t	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Waste	Generated amount	t	529	278	1,958	248	2,645	302	7,563	1,021
	Emission	t	529	278	1,509	248	2,095	302	4,178	1,004
	Recycling amount	t	423	246	162	238	515	293	1,395	397
	Final disposal amount	t	2.8	0.7	6.8	0.4	0.0	0.7	50.4	0.3
	PRTR substances	t	25.2	4.4	499.8	0.0	75.9	0.0	606.6	0.0

9 ESG Data (Environment)

Goal Reference	Classification	Breakdown	Scope	Unit	FY2013	FY2014	FY2015	FY2016	FY2017
Basic Information	Sales		Outside Japan	Million yen	563,700	370,200	411,946	359,224	347,295
			In Japan	Million yen	554,500	549,200	574,500	595,900	612,900
			Entire group	Million yen	1,118,200	919,400	986,446	955,124	960,195
	Employees		Entire group	Person	32,791	16,459	15,249	14,670	14,446
CO_2	Energy-originated CO_2 emissions	Sales vehicles *1	Outside Japan	t-CO_2	18,245	23,619	21,204	15,669	14,633
			In Japan	t-CO_2	7,433	7,016	6,809	6,238	6,193
			Entire group	t-CO_2	25,678	30,635	28,012	21,907	20,826
		Offices	Outside Japan	t-CO_2	13,625	5,900	5,087	4,396	6,750
			In Japan	t-CO_2	6,274	7,309	7,471	6,497	6,236
			Entire group	t-CO_2	19,899	13,209	12,558	10,893	12,986
		Plants and R&D centers	Outside Japan	t-CO_2	36,662	41,074	40,955	39,365	37,509
			In Japan	t-CO_2	166,781	170,744	161,877	163,997	153,504
			Entire group	t-CO_2	203,443	211,818	202,832	203,362	191,013
		Total	Outside Japan	t-CO_2	68,532	70,593	67,246	59,430	58,893
			In Japan	t-CO_2	180,488	185,070	176,157	176,732	165,933
			Total	t-CO_2	249,020	255,662	243,402	236,162	224,826
	Non–energy oriented CO_2 emissions	Incinerator	Entire group	t-CO_2			3,922	5,112	3,731
	Total of CO_2 emissions	Total	Entire group	t-CO_2	249,020	255,662	247,324	241,274	228,557
	CO_2 emissions by Greenhouse Gas Protocol	Scope 1	Outside Japan	t-CO_2	37,520	33,165	30,199	23,812	23,823
			In Japan	t-CO_2	98,444	90,795	88,967	91,662	84,283
			Total	t-CO_2	135,964	123,960	119,165	115,474	108,106
		Scope 2	Outside Japan	t-CO_2	31,012	37,428	37,047	35,618	35,069
			In Japan	t-CO_2	82,044	94,274	91,112	90,182	85,382
			Total	t-CO_2	113,056	131,702	128,159	125,799	120,451
		Category 1: Purchased goods and services	In Japan	t-CO_2	532,469	474,824	497,843	515,388	646,985
		Category 2: Capital goods	In Japan	t-CO_2	88,807	85,705	53,541	44,564	50,017
		Category 3: Activities related to fuel and energy (not included in Scopes 1 or 2)	In Japan	t-CO_2	7,117	6,332	6,623	6,748	6,364
		Category 4: Upstream transportation and distribution	In Japan	t-CO_2	11,687	11,039	10,569	9,773	9,571
		Category 5: Waste generated in operations	In Japan	t-CO_2	11,213	10,764	8,974	10,071	7,657
		Category 6: Business travel	In Japan	t-CO_2	17,077	17,410	15,348	15,322	16,193
		Category 7: Employee commuting	In Japan	t-CO_2	3,094	2,867	3,225	3,283	3,057
		Category 9: Downstream transportation and distribution	In Japan	t-CO_2	13,920	15,574	15,231	16,755	21,723
		Category 12: End-of-life treatment of sold products	In Japan	t-CO_2	2,853	3,207	2,896	2,476	1,681
		Category 13: Downstream leased assets	In Japan	t-CO_2	7,098	7,712	7,451	6,617	6,943
		Scope 3	In Japan	t-CO_2	695,335	635,434	621,701	630,996	770,193
		Scopes 1 + 2 + 3	Total in Japan	t-CO_2	944,355	891,096	869,025	872,270	998,750
	Emissions by group site in Japan	Shinagawa	In Japan	t-CO_2	15,290	19,655	18,406	17,978	17,091
		Kasai	In Japan	t-CO_2	17,920	17,761	17,184	16,808	16,201
		Daiichi Sankyo Propharma (Hiratsuka)*2	In Japan	t-CO_2	38,907	41,337	38,036	36,704	36,455
		Daiichi Sankyo Propharma (Takatsuki)*3	In Japan	t-CO_2	19,006	20,072	19,024	18,156	18,879
		Daiichi Sankyo Chemical Pharma (Onahama)	In Japan	t-CO_2	11,610	11,774	7,641	12,439	9,016
		Daiichi Sankyo Chemical Pharma (Tatebayashi)*4	In Japan	t-CO_2	6,373	7,068	6,446	6,626	6,701
		Daiichi Sankyo Chemical Pharma (Hiratsuka)	In Japan	t-CO_2	4,055	2,353	3,464	2,296	161
		Daiichi Sankyo Chemical Pharma (Odawara)	In Japan	t-CO_2	9,652	8,969	8,191	10,345	9,017
		Asubio Pharma (Kobe)	In Japan	t-CO_2	5,733	5,987	5,897	5,523	4,825
		Kitasato Daiichi Sankyo Vaccine	In Japan	t-CO_2	30,845	29,209	37,587	37,120	35,159

9 ESG Data (Environment)

Goal Reference	Classification	Breakdown	Scope	Unit	FY2013	FY2014	FY2015	FY2016	FY2017
Energy	Energy consumption by group companies in Japan	Electricity	In Japan	1,000kWh	188,971	184,002	187,102	190,635	179,783
				GJ	1,850,214	1,803,212	1,821,193	1,855,855	1,749,509
		City gas	In Japan	1,000m^3	36,660	33,932	33,176	35,700	32,988
				GJ	1,649,705	1,526,948	1,492,942	1,607,796	1,485,679
		LPG	In Japan	t	18	14	10	11	10
				GJ	889	717	529	548	514
		LNG	In Japan	t	2,357	2,307	1,361	0	0
				GJ	128,709	125,986	74,330	0	0
		Heavy oil	In Japan	KL	2	0	0	3	11
				GJ	92	15	10	116	414
		Kerosene	In Japan	KL	886	726	208	258	278
				GJ	32,520	26,652	7,635	9,469	10,203
		Light oil	In Japan	KL	3	3	2	1	5
				GJ	116	95	89	36	200
		Steam	In Japan	GJ	31,387	25,516	0	0	0
		Gasoline (Plants and R&D centers)	In Japan	KL	6	6	5	5	4
				GJ	220	214	186	156	137
		Gasoline (Business-use vehicles)	In Japan	KL	3,204	2,920	2,935	2,554	2,681
				GJ	110,855	101,039	101,557	88,361	92,746
		Total	In Japan	GJ	3,805,502	3,609,892	3,498,577	3,567,177	3,339,402
	Energy use by entire group	Electricity	Entire group	1,000kWh	241,756	242,135	250,445	253,147	233,166
			Entire group	GJ	2,365,396	2,370,592	2,439,421	2,366,436	2,270,529
		City gas	Entire group	1,000m^3	41,385	37,996	36,799	39,079	37,117
			Entire group	GJ	1,862,323	1,709,822	1,655,966	1,758,555	1,671,450
		LPG	Entire group	t	106	65	60	58	62
			Entire group	GJ	5,379	3,325	3,040	2,969	3,152
		LNG	Entire group	t	2,357	2,307	1,361	0	0
			Entire group	GJ	128,709	125,986	74,330	0	0
		Heavy oil	Entire group	KL	2	0	10	11	11
			Entire group	GJ	92	15	401	438	414
		Kerosene	Entire group	KL	886	726	208	258	278
			Entire group	GJ	32,520	26,652	7,635	9,469	10,203
		Light oil and diesel	Entire group	KL	62	72	77	1,908	1,795
			Entire group	GJ	2,355	2,708	2,900	71,934	67,661
		Steam	Entire group	GJ	31,387	87,023	49,750	44,021	45,833
		Gasoline	Entire group	KL	11,729	13,055	10,851	7,499	7,247
			Entire group	GJ	405,366	451,214	376,938	259,454	250,748
		Thermal energy	Entire group	GJ					5,683
		Entire group	Entire group	GJ	4,905,186	4,748,243	4,664,152	4,618,657	4,327,129
	Fluorocarbons	Fluorocarbon leakage	In Japan	t-CO_2				1,312	546
Water resources	Water used and discharged by group companies in Japan	Service water	In Japan	1,000m^3	1,294	1,179	1,230	1,165	1,079
		Industrial water	In Japan	1,000m^3	10,513	10,502	8,764	7,600	7,443
		Ground water	In Japan	1,000m^3	1,653	1,773	1,874	2,221	1,789
		Total water used	In Japan	1,000m^3	13,460	13,454	11,868	10,986	10,311
		Water discharged	In Japan	1,000m^3	12,363	12,371	10,834	9,934	9,856
	Water used and discharged by group companies outside Japan	Water used	Outside Japan	1,000m^3	450	603	641	547	517
		Water discharged	Outside Japan	1,000m^3	369	447	477	436	428
	Water used and discharged by the entire group	Water used	Entire group	1,000m^3	13,910	14,058	12,509	11,534	10,828
		Water discharged	Entire group	1,000m^3	12,732	12,817	11,311	10,370	10,283
	Water recycled in Japan (Kobe City recycles water)	Purchases by Asubio Pharma (ASB)	ASB	1,000m^3	7	8	8	11	7
	Water used in water-stressed regions	Waster used	Entire group	1,000m^3				256	215

9 ESG Data (Environment)

Goal Reference	Classification	Breakdown	Scope	Unit	FY2013	FY2014	FY2015	FY2016	FY2017
Water pollution	Water pollution loads	BOD	In Japan	t	31	27	21	23	10
		COD	In Japan	t	22	29	16	17	14
		BOD	Outside Japan	t	26	32	35	24	22
		COD	Outside Japan	t	56	77	77	55	47
		BOD	Entire group	t	56.7	58.8	56.4	47.5	31.9
		COD	Entire group	t	78.2	106.5	93.2	72.3	61.1
Waste	Waste at group companies in Japan	Waste generated	In Japan	t	35,925	24,120	19,676	20,610	14,682
		Waste treated externally	In Japan	t	23,412	16,250	15,675	15,648	10,281
		Waste recycled	In Japan	t	12,324	8,625	5,955	5,485	3,771
		Recycling rate	In Japan	%	52.6	53.1	38.0	35.0	36.7
		Final disposal	In Japan	t	165	143	91	143	63
		Final disposal rate	In Japan	%	0.46	0.59	0.46	0.69	0.43
	Waste at group companies outside Japan	Waste treated externally	Outside Japan	t	4,458	1,724	2,088	2,168	3,832
		Waste recycled	Outside Japan	t	622	863	1,222	945	1,014
		Final disposal	Outside Japan	t	1,434	860	762	1,071	778
	Waste by the entire group	Waste treated externally	Entire group	t	27,870	17,975	17,763	17,816	14,114
		Waste recycled	Entire group	t	12,946	9,487	7,177	6,429	4,786
		Final disposal	Entire group	t	1,486	913	853	1,214	840
	Office paper used	Amount	In Japan	10,000 sheets	7,305	5,950	5,469	5,355	5,360
Air pollution	SOx emissions		Outside Japan	t	0.2	0.3	0.3	1.2	0.3
			In Japan	t	1.13	0.87	0.50	0.34	0.20
			Entire group	t	1.33	1.13	0.78	1.54	0.53
	NOx emissions		Outside Japan	t	5	7	5	7	6
			In Japan	t	43	59	45	49	36
			Entire group	t	48	66	51	56	42
PRTR substances	Amounts handled		In Japan	t	6,249	2,726	3,686	3,182	1,278
	Amounts discharged and transferred (Air)		In Japan	t	109	37	83	49	5
	Amounts discharged and transferred (Water)		In Japan	t	4	4	0	0	0
	Amounts discharged and transferred (Sewers)		In Japan	t	48	23	120	120	0
	Amounts discharged and transferred (Water + sewers)		In Japan	t	0	27	120	120	0
	Amounts discharged and transferred (Waste)		In Japan	t	1,958	594	667	428	1,211
VOC	100 VOCs specified by Japan's Ministry of the Environment	Amount emitted into the atmosphere	In Japan	t	35	60	26	1	1
Containers and packaging	Containers and packaging collected and recycled (obligatory recycling amount)	Glass bottle (colorless)	In Japan	t	207	202	158	175	158
		Glass bottle (brown)	In Japan	t	567	474	386	300	266
		PET plastic bottles	In Japan	t				0	0
		Plastic containers and packaging	In Japan	t	1,419	1,557	1,436	1,413	1,341
		Paper containers and packaging	In Japan	t	30	30	59	115	42
		Total	In Japan	t	2,222	2,263	2,039	2,003	1,807
Environmental efficiency	CO_2/carbon intensity	CO_2 emissions/sales in Japan	In Japan	t-CO_2/million yen	0.325	0.337	0.307	0.297	0.271
	CO_2 environmental efficiency	Sales in Japan/CO_2 emissions	In Japan	Million yen/t-CO_2	3.07	2.97	3.26	3.37	3.69
	CO_2 environmental efficiency index	Relative to the value of 100 for the base year of FY2012	In Japan	–	104	101	111	114	125
	Waste generation intensity	Waste generated/sales in Japan	In Japan	t/million yen	0.065	0.044	0.034	0.035	0.024
	Waste and environmental efficiency	Sales in Japan/waste generated	In Japan	Million yen/t-CO_2	15.4	22.8	29.2	28.9	41.7
	Waste and environmental efficiency index	Relative to the value of 100 for the base year of FY2012	In Japan	–	115	170	218	216	311
	Water use intensity	Water use/sales in Japan	In Japan	1,000m^3/million yen	0.024	0.024	0.021	0.018	0.017
	Water and environmental efficiency	Sales in Japan/water use	In Japan	Million yen/1,000m^3	41.2	40.8	48.4	54.2	59.4
	Waste and environmental efficiency index	Relative to the value of 100 for the base year FY2012	In Japan	–	114	113	134	150	164

9 ESG Data (Environment)

Goal Reference	Classification	Breakdown	Scope	Unit	FY2013	FY2014	FY2015	FY2016	FY2017
Intensity	CO_2 intensity (sales)	CO_2 emissions/sales (million yen)	Entire group	t-CO_2/million yen	0.223	0.278	0.251	0.253	0.238
	CO_2 intensity (sales) (year-on-year comparison)	Intensity compared to the preceding fiscal year	Entire group	%	90	125	90	101	94
	CO_2 intensity (number of regular employees)	CO_2 emissions/number of employees	Entire group	t-CO_2/person	7.6	15.5	16.2	16.4	15.8
	CO_2 intensity (sales)	CO_2 emissions/sales (million yen)	In Japan	t-CO_2/million yen	0.325	0.337	0.307	0.297	0.271
	Office paper use intensity (sales)	Amount of office paper used/ sales (billion yen)	In Japan	10,000 sheets/billion yen	13.2	10.8	9.5	9.0	8.7
	PRTR emission intensity (sales)	PRTR emissions (air, water)/ sales (billion yen)	In Japan	t/billion yen	0.00175	0.00065	0.00068	0.00045	0.00118
	Water use intensity (sales)	Water use/sales (billion yen)	In Japan	m^3/billion yen	0.424	0.854	0.820	0.786	0.750
Management	Status of acquisition of ISO 14001 certification		In Japan	sites	7	7	7	6	6
			Outside Japan	sites	8	1	1	1	1
			Entire group	sites	15	8	8	7	7

*1: CO_2 emissions from sales vehicles for FY2012 were entirely offset through a carbon offset auto leasing contract.
*2: Includes Daiichi Sankyo Co., Ltd., Daiichi Sankyo Chemical Pharma Co., Ltd., and Daiichi Sankyo Happiness Co., Ltd
*3: Includes Daiichi Sankyo Logistics Co., Ltd.
*4: Includes Daiichi Sankyo Co., Ltd.
*There were no fines, etc. with respect to the environment.

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