Eisai Environmental Report 2018

Ongoing Efforts to Ensure Coexistence with the Global Environment

The Eisai Group conducts business operations while emphasizing protection of the global environment based on the Eisai Network Companies (ENW) Environmental Protection Policy. By quantitatively assessing resource input and environmental impact of our operations, we strive to reduce our burden on the environment and promote environmental protection activities worldwide.

Reduction of Environmental Impact

In addition to observing environmental laws and regulations, ordinances and agreements with local governments, the Eisai Group implements more stringent voluntary standards and undertakes business activities to ensure harmony with the global environment. In the course of conducting business activities worldwide, we are working to reduce the environmental impact at each stage of business, while also committing to contributing to the achievement of the U.N.'s medium-term development plan (SDGs). The Eisai Group, which has signed the United Nations Global Compact, recognizes the importance of protecting the global environment and executes its social responsibilities from an environmental perspective.

Today, the issue of climate change is a major concern for creating sustainable society. To address this issue, the Eisai Group has committed to set Science Based Targets (the plan for reducing greenhouse gas (GHG) emissions based on scientific grounds) and work positively on contributing to solve the issue from a medium- to long-term perspective. In addition, according to the internal questionnaire survey, it was found that there was no concern regarding water shortage for any facilities of the Group in the near future. However, we recognized that it is also necessary to ascertain the issue of water security in the medium to long term. Moreover, we consider it necessary to keep watch on how the recent restrictions on importing recyclable waste, mainly in China and Southeast Asia, and the intensified actions to reduce the consumption of plastic in Europe and America will affect our business activities. The Eisai Group will focus on the global expansion of its business activities, and at the same time take appropriate actions to address environmental issues and thereby make a steady contribution to ensuring a sustainable society.

Eisai Network Companies (ENW) Environmental Protection Policy

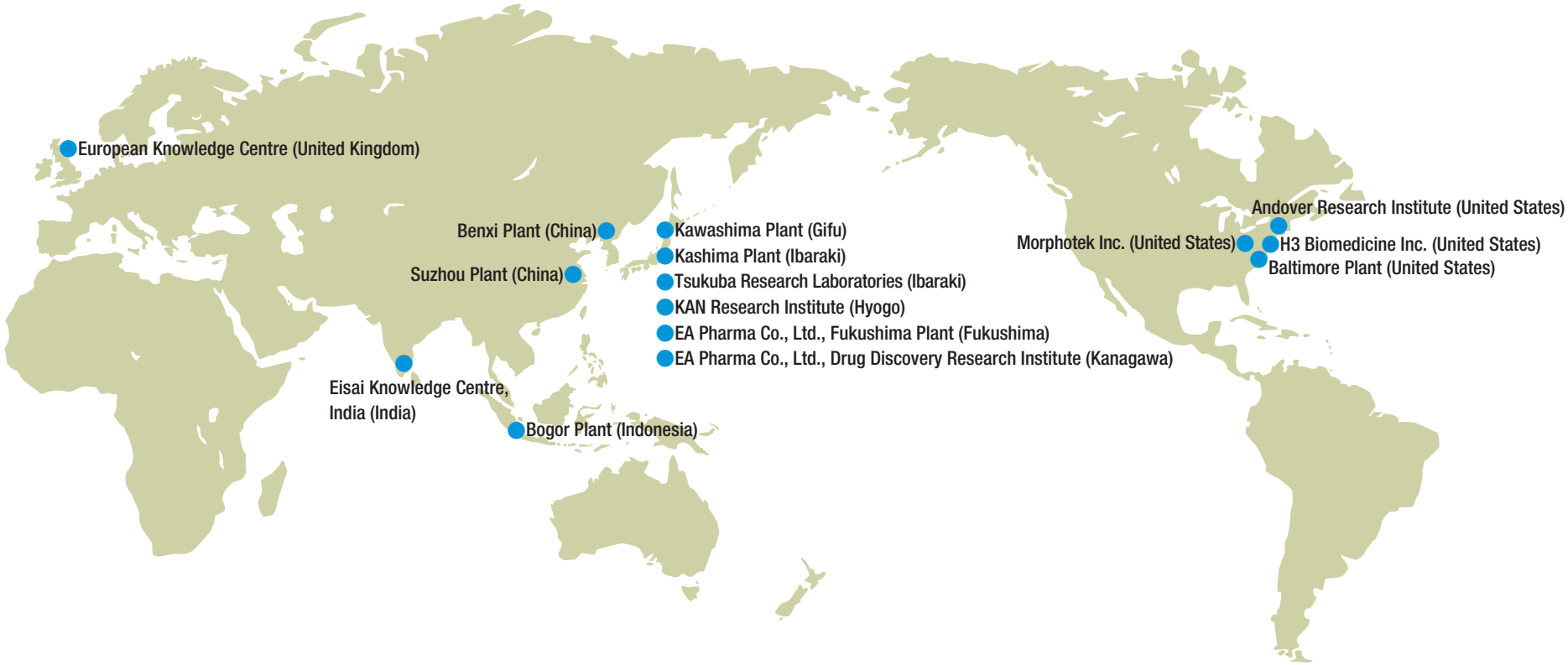
Fundamental Environmental Protection Policy

Eisai and its Group companies (hereafter ENW) place global environmental protection as an important component of business operations and strive to maintain the environment.

Environmental Protection Guidelines

1. ENW is aware of the "dignity and importance of nature" and adopts measures to maintain the global environment in all business operations.
2. ENW places environmental protection as a top priority at all stages of corporate activities from research and development, production, distribution and sales to product usage and disposal.
3. ENW constructs and operates an environmental management system and promotes environmentally protective operations.
4. ENW complies with all applicable laws, regulations and agreements concerning environmental protection, and each company implements voluntary standards that exceed the minimum standards set forth in the applicable laws, regulations and agreements.
5. ENW actively introduces advanced environmental technology to be at the forefront of reducing environmental impacts.
6. ENW reduces usage of resources and energy as well as reduces or recycles waste products in all business operations.
7. ENW reduces usage and promotes the removal of chemical substances that cause environmental pollutant emission and prevents environmental pollution.
8. ENW shares the fundamental policy on environmental protection and implements educational training to strengthen specialties at each workplace progressively and continuously.
9. ENW actively discloses information on policies, objectives, programs and results concerning environmental protection.

Manufacturing and Drug Discovery Research Sites Worldwide



Editorial Policy

This report describes the Eisai Group's approach toward environmental protection and provides details of environmental activities undertaken during fiscal 2016. The report has been developed in reference to the *Environmental Reporting Guidelines* (2012 Version) issued by Japan's Ministry of the Environment and includes Eisai's efforts both in and outside Japan.

Scope of Reporting

The scope of data aggregation in this report primarily covers Eisai Co., Ltd. and its Group companies in Japan as well as its production sites and research centers outside Japan. The scope of individual data is specified as needed.

Period Covered

The data has been aggregated based on the results achieved from April 1, 2017 to March 31, 2018.

Inquiries

For inquiries regarding this report, please contact:
Eisai Co., Ltd.
General Affairs and Environmental & Safety Affairs Department
Tel: +81-3-3817-5358
Fax: +81-3-3811-9982

Glossary and CO_2 Emissions Coefficient

Glossary

Term	Description
ISO 14001	An international standard for environmental management issued by the International Organization for Standardization
EA21	EcoAction 21: an environmental management system certification for small- and medium-sized enterprises issued by Japan's Ministry of the Environment
PRTR	Pollutant Release and Transfer Register: A system for understanding, collecting and publicly disclosing information on the extent to which chemical substances involving environmental risk are either released into the environment or are contained in waste matter and transferred from operational sites
Act on Controlling Emissions of Fluorocarbons	The abbreviated title of the Act on Rational Use and Proper Management of Fluorocarbons. The purpose of the act is to prevent the leakage of fluorocarbons that cause depletion of the ozone layer or global warming at each stage from production to disposal.
SOx	Sulfur oxides
NOx	Nitrogen oxides
BOD	Biochemical oxygen demand: A measure used to evaluate the quality of river water and factory wastewater
Scope 1	Energy-derived direct greenhouse gas (GHG) emissions. GHG emissions released directly into the atmosphere through the use of fuels
Scope 2	Energy-derived indirect GHG emissions. GHG emissions associated with the use of purchased energy (electricity and heat)
Scope 3	Other indirect GHG emissions. GHG emissions associated with business activities in a supply chain, other than Scope 1 and Scope 2 emissions
VOCs	Volatile organic compounds: Organic compounds that are volatile at ordinary temperatures and cause air pollution through the generation of photochemical oxidants
Zero emissions	The Eisai Group uses this term as a target of emission management. It indicates a ratio of waste sent to landfill to total waste of less than 1.0%

Energy Consumption and CO_2 Emissions Coefficient Used in Emissions Calculations

Energy type	Calorific value per unit	CO_2 emissions coefficient	
	FY2017	In and before FY2012	In and after FY2013
Electric power	9.97 (GJ/MWh)	＊1	
LPG	50.1 (GJ/tons)	3.00 (tons/tons)	3.01 (tons/tons)
LNG	55.0 (GJ/tons)	2.70 (tons/tons)	2.76 (tons/tons)
Natural gas	40.2 (GJ/1,000 Nm^3)	2.22 (tons/1,000 Nm^3)	2.06 (tons/1,000 Nm^3)
Processed natural gas	40.1 (GJ/1,000 Nm^3)	2.23 (tons/1,000 Nm^3)	2.03 (tons/1,000 Nm^3)
Kerosene	36.5 (GJ/kl)	2.49 (tons/kl)	2.50 (tons/kl)
Light oil	38.1 (GJ/kl)	2.59 (tons/kl)	2.62 (tons/kl)
Fuel oil A	38.9 (GJ/kl)	2.71 (tons/kl)	2.76 (tons/kl)
Gasoline	33.1 (GJ/kl)	2.32 (tons/kl)	2.28 (tons/kl)
Industrial steam	1.02 (GJ/GJ)	＊2	
Hot water and cold water	1.36 (GJ/GJ)	0.057 (tons/GJ)	

＊1 Emissions in Japan up until fiscal 2014 are calculated using the emissions coefficient announced by the Federation of Electric Power Companies of Japan (FEPC). Calculations from fiscal 2015 use the emissions coefficient reported by the Electric Power Council for a Low Carbon Society. In calculating emissions outside Japan, the emissions coefficient is taken from the following source. However, the coefficient for fiscal 2015 is used to calculate emissions for fiscal 2016 and 2017, since corresponding figures are not available from the source.
IEA: CO_2 EMISSIONS FROM FUEL COMBUSTION (2017)

＊2 Calculations use the emissions coefficient provided by respective suppliers every fiscal year.

1 Environmental Protection Initiatives and Results

Fiscal 2017 Environmental Protection Initiatives and Results of the Eisai Group in Japan

Theme	Targets	Results	Evaluation	Pages
Enhancement of environmental management	Enhancement and smooth operation of management systems	• Proper application of the PDCA cycle • Periodic and renewal inspections of ISO 14001 certification (Kawashima Plant, Kashima Plant, EA Pharma Co., Ltd. Head Office, Drug Discovery Research Institute, Fukushima Plant) • Interim and renewal inspections of EA21 certification (Eisai Distribution Co., Ltd.)	○	P7
	Planning and implementation of environmental education	Internal training sessions: 70; external training sessions: 30	○	P7
	Implementation of environmental communication	• Publication of the Environmental Report 2017 • Local community meetings (Kawashima Plant) and administrative committee meetings (Kashima Plant) • Information exchange meetings (EA Pharma Co., Ltd., Fukushima Plant)	○	P8
Energy conservation and combating climate change	Reduction of CO_2 emissions by 23% from fiscal 2005 level by fiscal 2020	CO_2 emissions: 70,055 tons*1 (4.1% increase from fiscal 2016) 57,591 tons*2 (37.1% decrease from fiscal 2005)	○	P9
	Promotion of the replacement of commercial vehicles with hybrid vehicles (Eisai Co., Ltd.)	Adoption rate for commercial vehicles: 64.8% (2.5% increase from fiscal 2016) Adoption rate for company-owned vehicles: 65.6% (9.4% decrease from fiscal 2016) Adoption rate for employee-owned vehicles: 64.3% (5.8% increase from fiscal 2016)	△	P10
	Purchase of wind-generated green power	Purchase of 1,000,000 kWh from Japan Natural Energy Co., Ltd.	○	—
Waste reduction	• Reduction of waste generated • Reduction of waste sent to landfill • Increase in recycled waste	• Amount of waste generated: 3,038 tons (increase of 103 tons from fiscal 2016) • Amount of waste sent to landfill: 1,102 tons (decrease of 136 tons from fiscal 2016) • Amount of recycled waste: 10 tons (decrease of 3 tons from fiscal 2016)	△	P12
	Ratio of waste sent to landfill to total waste < 1%	• Eisai Co., Ltd.: 0.34% • Eisai Group companies in Japan: 0.37% • Eisai Group in Japan: 0.34%	○	P12
	Implementation of onsite inspections based on the Waste Management and Public Cleansing Law	Implemented onsite inspections based on the Waste Management and Public Cleansing Law at 32 sites nationwide; confirmed that waste is being disposed of legally and in a proper manner	○	P12
Resource conservation	Promotion of awareness-raising activities and education to encourage green purchasing	Awareness-raising activities and education were provided on a timely basis. The green purchasing rate: 32.1% (0.5 % decrease from fiscal 2016).	△	P14
Management of chemical substances	Response to PRTR system and proper management of designated substances	Proper management based on an understanding of amounts of substances subject to the PRTR system that were handled, emitted and transferred	○	P13
	Proper management of fluorocarbons	Implement legally required inspections based on the Act on Rational Use and Proper Management of Fluorocarbons and systematically change to hydrofluorocarbons and non-fluorocarbons	○	P14
Air pollution and water pollution prevention measures	Compliance with Air Pollution Control Act, Water Pollution Control Act and pollution control agreements	Regular measurements showed that the amounts of pollutant emissions into the atmosphere and water systems were below standard values	○	P8, 15
Conservation of the local environment	Compliance with environment-related laws (noise, vibrations, offensive odors, soil contamination)	Regularly measured levels of noise, vibrations and offensive odors to confirm compliance	○	P8
	Involvement with local community	Held regular cleanup activities of areas around each operation site and affiliated company as well as within industrial parks	○	—
	Zero complaints made by neighboring residents	None	○	—

Legend used in "Evaluation" section: ○ Achieved; △ Partially achieved; × Not achieved

*1 The carbon emissions coefficient based on power usage utilized was 0.516 t-CO_2/MWh, the same coefficient used in fiscal 2016.
*2 The carbon emissions coefficient based on power usage utilized was 0.385 t-CO_2/MWh, which is used in evaluating targets of the Eisai Group in Japan. For details, please refer to page 44 of the *Environmental and Social Report 2014*.

2 Resource Input and Environmental Impact

Resource Input and Environmental Impact

Resource Input and Environmental Impact Data of the Eisai Group in Japan

Resource Input

INPUT

Energy

	Eisai Co., Ltd.	Group companies in Japan	Total
Electric power (MWh)	71,714	23,428	95,142
LPG (tons)	12	1,552	1,564
Processed natural gas (1,000 Nm³)	6,362	439	6,800
Kerosene (kl)	0	66	66
Light oil (kl)	2	3	4
Gasoline (kl)	1,365	538	1,903
Fuel oil A (kl)	41	0	41
Industrial steam (GJ)	50,246	0	50,246
Hot water (GJ)	37	0	37
Cold water (GJ)	113	0	113

Water

	Eisai Co., Ltd.	Group companies in Japan	Total
Water consumption (1,000m³)	**2,508**	**119**	**2,627**
Clean water (1,000m³)	119	116	235
Industrial water (1,000m³)	2	0	2
Groundwater (1,000m³)	2,281	1	2,281
Desalinated water (1,000m³)	6	0	6
Recycled water (1,000m³)	100	3	103

Other

	Eisai Co., Ltd.	Group companies in Japan	Total
Copy paper consumption (10,000 sheets)	2,034	1,047	3,081

PRTR substances

	Eisai Co., Ltd.	Group companies in Japan	Total
Total amount handled (including unreported amount) (tons)	228	40	267

Environmental Impact

OUTPUT

Atmospheric Emissions (from operational sites)

	Eisai Co., Ltd.	Group companies in Japan	Total
CO_2 (Scope 1, 2) (tons)	52,239	17,816	70,055
SOx (tons)	0.4	0.0	0.4
NOx (tons)	7.8	0.6	8.5
Soot and dust (tons)	0.4	0.0	0.4
PRTR substances (release into the atmosphere) (tons)	23	1	23

Exhaust Gas from Vehicles

	Eisai Co., Ltd.	Group companies in Japan	Total
CO_2 emissions from commercial vehicles (tons)	3,102	1,217	4,319
CO_2 emissions from business-use vehicles other than commercial vehicles (tons)	10	50	60

Waste

	Eisai Co., Ltd.	Group companies in Japan	Total
Amount generated (tons)	2,431	755	3,038
Amount recycled (tons)	872	276	1,102
Amount sent to landfill (tons)	8	8	10
Wastewater discharge (1,000m³)	2,177	102	2,254
BOD (tons)	4.3	0.1	4.7
Nitrogen (tons)	2.5	0.1	2.5
Phosphorous (tons)	0.1	0.0	0.1
PRTR substances (off-site transfer as waste) (tons)	85	61	118
PRTR substances (release into water bodies) (tons)	0.0	0.0	0.0

Indirect CO_2 Emissions (Scope 3*)

	Eisai Co., Ltd.	Group companies in Japan	Total
Purchased goods and services (tons)	204,548	111,844	316,392
Capital goods (tons)	16,279	4,610	20,889
Fuel- and energy related activities not included in Scope 1 or 2 (tons)	3,237	829	4,066
Transportation and delivery (upstream) (tons)	659	331	990
Waste generated in operations (tons)	3,440	782	4,222
Business travel (tons)	412	331	743
Employee commuting (tons)	466	1,028	1,494
Transportation and delivery (downstream) (tons)	1,759	847	2,607
End of life treatment of sold products (tons)	681	466	1,147

Containers and Packaging Recycling

	Eisai Co., Ltd.	Group companies in Japan	Total
Recycling of containers and packaging materials (oblitory recycling amount) (tons)	1,648	156	1,805

Note: Due to rounding, the sum of “Eisai Co., Ltd.” and “Group companies in Japan” may not correspond to “Total” for some items.

* Calculations based on the Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain, Version 2.3 and the database to account for Greenhouse gas Emissions of Organizations Throughout the Supply Chain, Version 2.5 (released by the Ministry of the Environment and the Ministry of Economy, Trade and Industry).

3 Environmental Accounting

The Eisai Group in Japan calculated the total environmental costs to check the environmental costs incurred for the activities to protect the environment and the effects (achievements) of such activities by referring to the "Environmental Accounting Guidelines (2005)" published by the Ministry of the Environment. We will seek to identify the economic effects of environmental protection measures and make improvements to increase the form's usefulness as a management index.

Environmental Protection Costs in Fiscal 2017 (In "major implementation items," ○ indicates investment and △ indicates expense.)

(million yen)

Main category	Subcategory	Major implementation items	○ Investment	△ Expense	Major results / outcomes	Pages
A. Costs to achieve objectives	1. Environmental management systems	△ ISO 14001 regular and recertification inspections	0	5	• Promotion of environmental protection activities	P7
	2. Energy conservation and measures to address climate change	○ Renewal of air conditioners ○ Introduction of LED lighting ○ Introduction of energy-saving test equipment △ Prevention of leakage and destruction of fluorocarbons △ Introduction of hybrid cars for commercial vehicles △ Purchase of green power	64	10	• Reduced CO_2 emissions by 684 tons (down 82% year on year) • 1,000,000 kWh (equivalent to 474 tons of CO_2 emissions)	P9-10
	3. Resource conservation activities	△ Maintenance of wastewater treatment system △ Green purchasing	0	1,385	• Recycled water: 64,000 m^3 • Promotion of purchasing environmentally friendly products	P14
	4. Air pollution prevention measures	△ Atmospheric analysis △ Boiler repair and inspection	11	10	• Prevention of air pollution	P8
	5. Management of chemical substances	△ Database usage expenses	0	5	• Appropriate management of chemicals	—
	6. Waste reduction activities	△ Entrustment of waste disposal	0	157	• Amount of waste generated increased by 103 tons • Recycled amount decreased by 136 tons • Amount sent to landfill decreased by 3 tons	P12
	7. Product design		0	0		—
B. Costs to comply with environmental regulations	1. Waste disposal	△ Management of waste treatment facilities* △ Disposal of polychlorinated biphenyl (PCB) waste	0	91	• Compliance with related laws and regulations	P13
	2. Pollution prevention measures	○ Purchase of TOC sampling pump ○ Installation of cushion tank level sensor △ Wastewater treatment facilities management expenses △ Cleaning of various drainage tanks △ Wastewater, noise, vibration and odor measurements	1	114	• Prevention of contaminant discharge	P8
	3. Soil contamination	△ Costs for soil survey	0	3	• Prevention of soil and groundwater contamination	P8
	4. Recycling of containers and packaging	△ Subcontracting of container and packaging recycling	0	18	• Compliance with the Containers and Packaging Recycling Act	P5
C. Environmental administration costs	1. Environment-related costs excluding A and B	△ Greenery maintenance and management costs △ Publication of the Environmental Report 2017 △ Verification of CO_2 emissions	0	57	• Promotion of business activities that coexist with nature • Improved communication	—
Total			76	1,856		

* Includes depreciation costs

Economic Effect of Environmental Protection Measures

(million yen)

Item	Details	Amount
Sales of by-products	Proceeds from selling recyclable items	14
Reduction in synthetic solvent expenses through recycling	Reduction in synthetic solvent expenses through distillation of waste solvent in the production process	14
Total		28

Scope of calculations: Eisai Group in Japan
Period of data collection: April 1, 2017 through March 31, 2018
Notes: 1) Figures are rounded to the nearest hundred thousand yen.
2) Since fiscal 2004, personnel costs have included only the subcontractors' commissions.

Eco-Efficiency

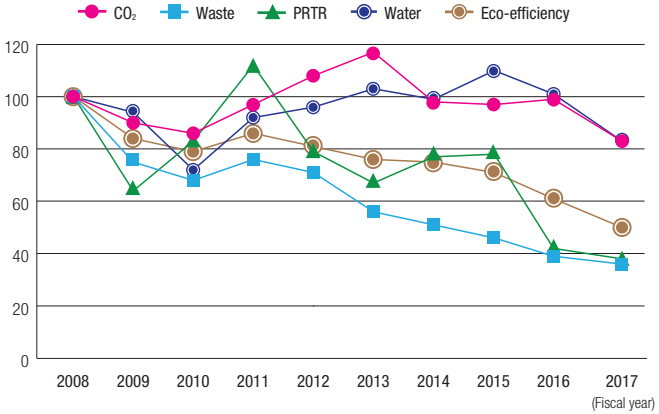
For the Eisai Group in Japan, we calculated eco-efficiency indicators using various environmental impact categories, such as CO_2 emissions, amount of waste generated, amount of PRTR designated substances handled, water consumption, biological oxygen demand (BOD) and sulfur oxides (SOx) and nitrogen oxides (NOx) emissions. For each fiscal year under evaluation, eco-efficiency was calculated by dividing environmental impact by net domestic sales volume. The table below shows a comparison of the resulting figures, using fiscal 2008 as the base year. Declines mean improved environmental performance. The trend for some primary indicators is also shown in the graph below.

Eco-Efficiency

Indicator	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017
CO_2 emissions	100	91	91	97	111	115	102	99	107	83
Waste generation	100	76	72	76	74	55	52	47	42	36
PRTR substances	100	64	88	112	81	66	80	79	45	38
Water consumption	100	95	77	92	99	102	102	112	107	83
SOx	100	112	87	85	73	54	59	28	23	18
NOx	100	88	85	59	64	54	62	46	60	46
BOD	100	87	84	50	64	68	82	81	72	40
Eco-efficiency	100	84	83	86	83	75	77	72	65	50

* The past figures were reviewed upon recalculation.

Primary Indicators



4 Environmental Management

Promotion Structure

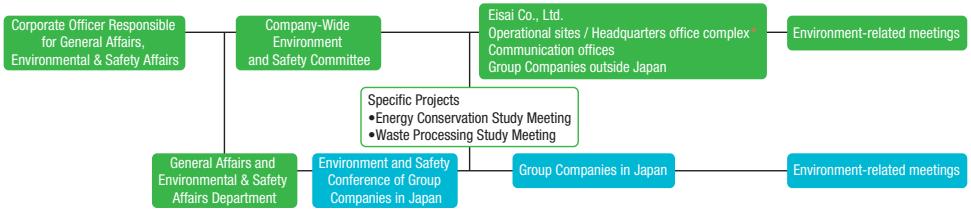
The Eisai Group established the Company-Wide Environment and Safety Committee as a decision-making body for deliberation of important environmental issues.

To the present, the committee mainly carried out discussions focused on Japan. However, the committee is now promoting global activities encompassing topics from overseas. We are also strengthening activities for ascertaining environment-related risks and for establishing measures to reduce them.

Moreover, as a consultative body promoting the environmental activities of Group companies in Japan, the Eisai Group also established the Environment and Safety Conference of Group Companies in Japan to share information and discuss relevant activities.

Each operational site of the Eisai Group has established its own unique management system to promote environmental activities. Eisai's main production sites in Japan as well as the Suzhou Plant in China and Vizag Plant in India have all acquired ISO 14001 certification and are conducting activities based on the ISO standard while striving to raise awareness through environmental education and environmental risk management training. Besides complying with environmental laws, ordinances and agreements, we periodically conduct internal environmental audits by a department specializing in internal auditing to identify and solve issues.

Structure to Promote Environmental Management



* The Eisai Co., Ltd. office complex that serves as the corporate headquarters for the Eisai Group

Operational Sites Certified under ISO 14001

- Eisai Co., Ltd., Kawashima Plant and Kashima Plant
- EA Pharma Co., Ltd., Fukushima Plant, Drug Discovery Research Institute and Head Office
- Eisai China Inc., Suzhou Plant
- Eisai Pharmaceuticals India Pvt. Ltd., Vizag Plant

Environmental Education

In order to promote environmental protection activities ensuring coexistence with the global environment, it is important that all employees have a proper understanding of the relationship between their daily work and environmental problems, and that they make efforts to enhance their own individual awareness for problem-solving. At the Eisai Group, operational sites and Group companies voluntarily formulate education programs in accordance with their respective business characteristics and local issues. In addition to education targeted at all workers, education is also provided for various levels of employees, along with further efforts to improve the learning content. Furthermore, for the purpose of developing environmental educators and officially qualified employees and improving the level of environmental awareness of individual employees, we also actively promote participation in both internal and external professional training courses.

Internal Audits

The Eisai Group has environmental internal audits conducted by a department specializing in internal auditing. This department makes efforts to undertake objective audits from an independent standpoint, and the audits cover all Group companies in and outside Japan. The audits for fiscal 2017 indicated that there were no urgent or serious issues.

External inspections are also carried out once a year at those operational sites and Group companies that have acquired ISO 14001 certification to confirm the validity of their environmental management systems. During fiscal 2017, no serious material issues were identified by external auditing organizations. Furthermore, these certified operational sites and companies also educate their own internal auditors and seek to raise the level of their audits through training. The results of each annual independent internal audit are reflected in the ongoing improvement of the Group's environmental management and translate into the enhanced quality of our environmental protection activities.

Environmental Risk Management

The Eisai Group in Japan has compiled its procedures for responding to environmental incidents in its Disaster and Accident Response Manual and the Industrial Accident Reporting and Compilation Standards. We aim to minimize damage by collecting accurate information and taking swift and appropriate action and at the same time make every possible effort to prevent recurrence. At production plants and research facilities, in particular, we have been preparing for an emergency by regularly conducting emergency drills assuming, for instance, the leak of hazardous chemical substances from wastewater, exhaust gas or effluents as situations that significantly affect the environment.

Along with these efforts, we issued our own independent guidelines, working to identify sources of risks, and enhancing our risk management structure with a view to further ensuring appropriate environmental risk management Group-wide, including Group companies outside Japan.

Compliance with Laws and Regulations

The Eisai Group in Japan is committed to observing environmental laws and regulations, ordinances and agreements with local governments. In particular, at production plants and research facilities, we regularly measure the environmental burden of causative agents in air pollution and water pollution to check that there are no problems. Also, from the perspective of protecting the neighboring environment, we conducted regular measurements of noise, vibrations and offensive odors at production plants and research facilities and confirmed that these all were below the regulatory values. During fiscal 2016, we made steady progress in our response to the Act on Rational Use and Proper Management of Fluorocarbons and also submitted each type of environmental notification to the relevant authorities without any delay.

We reported last year that when we conducted a soil survey in preparation for constructing a parking lot within the Kawashima Plant, we found arsenic and arsenic compounds exceeding the standard values in some of the soil taken from the former site of the No. 1 Drug Formulation Building. After reporting the results of the survey to the Gifu prefectural government, we removed all contaminated soil in the relevant area and refilled the area with soil of good quality according to the instructions of the prefectural government. We also confirmed that the contaminated soil that was removed had been treated appropriately. As a result, upon the completion of the works for dealing with the soil contamination, the designation of an area that requires action was cancelled by the Gifu prefectural government.
(https://www.eisai.co.jp/index.html)

Other than the above, during fiscal 2017, there were no administrative dispositions or lawsuits related to the environment.

Environmental Communication

In promoting our business activities, mutual understanding and cooperation with the local community is extremely important. As such, the Kawashima Plant has been holding local community meetings every year since 2008 as a platform for sharing information and enhancing communication with the local community. The plant invites neighborhood representatives and government officials to these meetings to introduce its production activities and environmental protection initiatives and also listen directly to participants' comments and requests to the plant.

Similar initiatives are also undertaken by the Fukushima Plant of EA Pharma Co., Ltd. to share information on the plant's environmental and local community contribution activities and cultivate a deeper mutual understanding.

Environmental Incident Report

Environmental Incidents and Countermeasures in Fiscal 2017

Environmental incident	Operational site/company	Details	Response
Leakage	EA Pharma Co., Ltd., Drug Discovery Research Institute	The equipment used was washed with a mixture of dichloromethane and methanol, and then with water. At that time, the waste water was mistakenly disposed of via the sink. As a result, dichloromethane with a concentration of more than six times the waste water standards was released into the sewer.	After the analysis of waste water where we discovered a deviation in the concentration of dichloromethane, the waste water channel in question was immediately closed and the incident was reported to the government of Kawasaki City. The persons involved were provided with comprehensive reeducation, and the sources of similar risks were identified and the countermeasures against them were summed up to prevent the same and similar incidents.
Leakage	Sunplanet Co., Ltd. Head Office	The flare nut to the air conditioner in the server room became loose, and refrigerant leaked.	After recovering the remaining refrigerant, new one was refilled, and the use was then resumed.
Leakage	Honjo Facility	Refrigerant leaked from the outdoor unit of the air conditioner for the laboratory.	A crack in the refrigerant piping due to deterioration over time caused the leakage of refrigerant. The piping was replaced, new refrigerant was refilled, and the use was resumed.
Leakage	Sunplanet Co., Ltd. Misato Facility	Refrigerant for the thermo-hygrostat that was used in the stability test leaked.	A defect in the part of the piping that was treated with flared processing caused leakage from the connected part. The defective parts were replaced, new refrigerant was refilled, and the use was resumed.

5 Formation of a Low-Carbon Society

Efforts toward the SDGs

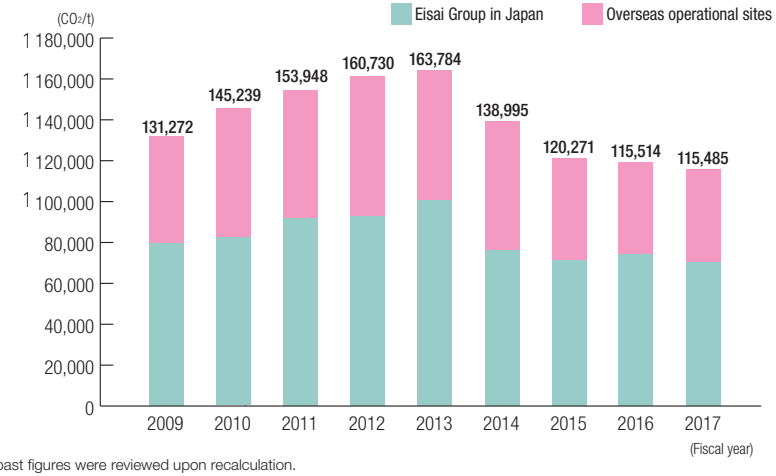
Toward the Formation of a Low-Carbon Society

The Eisai Group in Japan is promoting initiatives for the formation of a low-carbon society to help solve the problem of climate change. Eisai Co., Ltd. is participating in the Commitment to a Low Carbon Society initiated by the Federation of Pharmaceutical Manufacturers' Associations of Japan (FPMAJ), and the Eisai Group in Japan is implementing relevant initiatives based on its own medium-term plan for the reduction of CO_2 emissions.

During fiscal 2017, the business activities at plants and research institutes both in and outside Japan were active, which caused an increase in the emissions of the entire Group. Meanwhile, energy consumption of EA Pharma Co., Ltd.'s Drug Discovery Research Institute was changed to inclusion in the consumption of the plant owner, Ajinomoto Co., Inc., which contributed to a reduction in the total emissions. In addition, we proceeded with the installation of inverter-equipped air conditioning systems for production processes at the Kawashima Plant, which resulted in a reduction of more than 500 tons of CO_2 emissions. Consequently, the CO_2 emissions of the entire Group remained at almost the same level as the previous fiscal year.

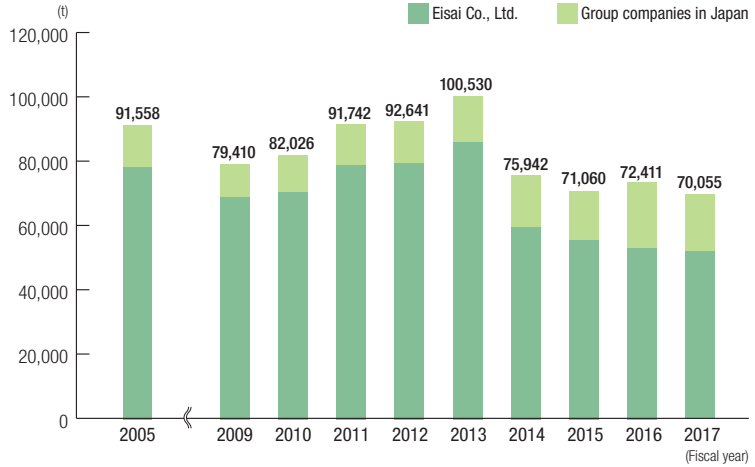
Concerned about the issue of climate change, which has recently worsened, the Eisai Group declared that it would set Science Based Targets (the plan for reducing CO_2 emissions based on scientific grounds), which are the targets for reducing emissions of greenhouse gas in the medium to long term (https://sciencebasedtargets.org/). In the coming two years, we will create a plan for reduction toward fiscal 2030 and commence the actions to steadily achieve the targets.

Eisai Group CO_2 Emissions*2



Notes: The past figures were reviewed upon recalculation.
*2 Emissions from business activities at offices outside Japan are not included.

Eisai Group in Japan CO_2 Emissions*1



Notes: Revisions were made to the fiscal 2016 data provided in the previous year's report by using the finalized coefficient shown below.
FY2016 carbon emissions coefficient based on power usage = 0.531 t- CO_2/MWh
*1 Emissions from commercial vehicles are not included.

CO_2 Emissions by Region*3, *4

(tons)

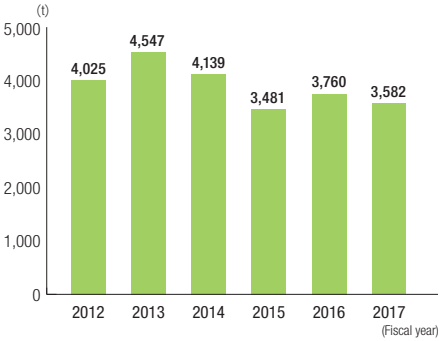
Region	Scope 1	Scope 2	Total
Japan	23,287	52,102	75,389
Asia	6,320	21,948	28,268
U.S.	9,183	13,496	22,679
EMEA	3,958	4,733	8,691

*3 Including emissions from vehicles for commercial use in and outside Japan
*4 Including emissions from business activities at offices in and outside Japan

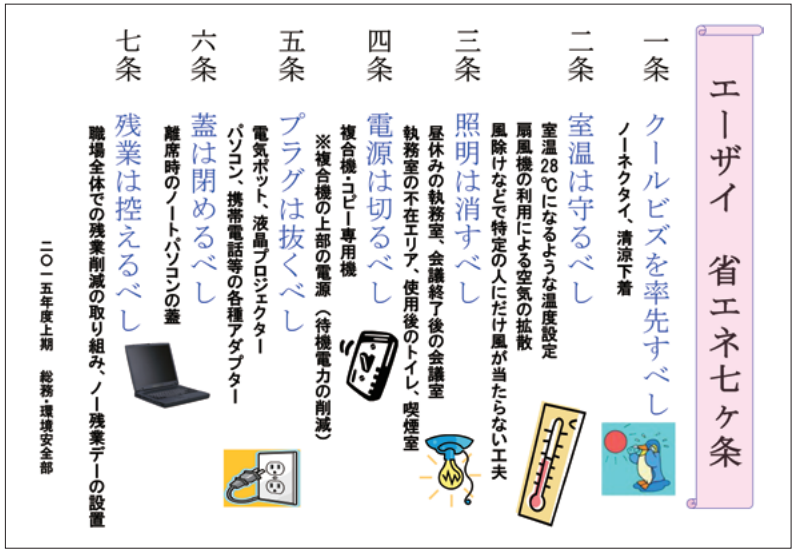
Efforts Undertaken at Offices

Based on the “Seven Power-Saving Rules,” (see Figure A) the Eisai Group in Japan strives to save electricity throughout the year, not only during the power-saving campaigns held in summer and winter. Offices, including administration and sales offices, are trying to save power through such means as controlling the temperature of air-conditioning systems, turning off lights when not in use and shutting down computers when employees leave their seats for a while. At the head office buildings, we have installed demand controllers to control peak power. We are also focusing on raising employee awareness of reducing power by implementing regular energy-saving patrols and visualizing actual power savings achieved. CO_2 emissions originating from office activities of the Eisai Group in Japan in fiscal 2017 totaled 3,582 tons, a 4.7% decrease from fiscal 2016. The increase is attributable to the addition of the head and sales offices of EA Pharma Co., Ltd..

Office Activitiess CO_2 Emissions (Eisai Group in Japan)



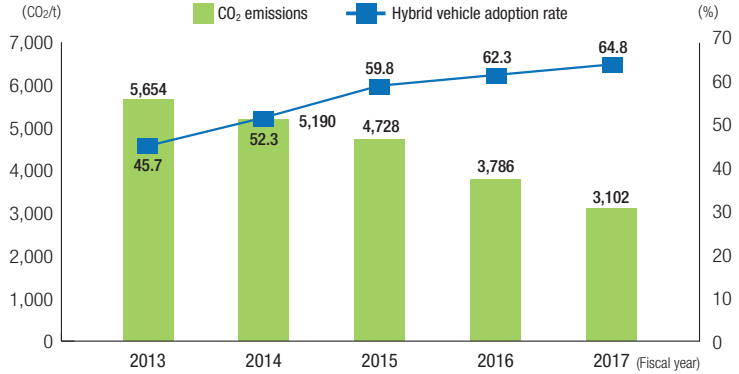
* The past figures were reviewed upon recalculation.



Efforts concerning Commercial Vehicles

Eisai Co., Ltd. also undertakes efforts to reduce CO_2 emissions from sales operations. In Japan, the replacement of commercial vehicles with hybrid vehicles (HV) has been proceeding, and we have been required especially to choose HVs when purchasing new vehicles since 2010. The adoption rate of HVs rose 2.5% to 64.8% in fiscal 2017, and CO_2 emissions originating from commercial vehicles decreased 18% from fiscal 2016 to 3,102 tons. We will continue shifting to more fuel-efficient vehicles as part of our efforts to further reduce emissions.

Commercial Vehicles CO_2 Emissions



CO_2 Emissions Breakdown by Scope (Scopes 1 and 2, Eisai Group)

(tons)

	Scope 1	Scope 2	Total
Production plants and research facilities	30,413	79,653	110,066
Offices	682	9,983	10,665
Ware house	148	2,643	2,791
Vehicles for commercial and other business use	11,504	—	11,504
Total	42,747	92,279	135,026

Breakdown of Energy Consumption

		Electric power (MWh)	Gasoline (kl)	Kerosene (kl)	Light oil (kl)	Fuel oil A (kl)	LPG (tons)	Natural gas (1,000 m^3)	LNG (m^3)	Processed natural gas (1,000 m^3)	CWS* (tons)	Industrial steam (GJ)	Cold water (GJ)
In Japan	Amount used	95,142.2	1,916.8	66.2	3.2	40.6	1,563.9	0.0	0.0	6,800.1		50,245.5	149.5
	Calorific value (GJ)	948,455.6	63,446.8	2,416.3	121.1	1,577.9	78,352.7	0.0	0.0	272,683.6		51,250.4	203.4
	Ratio (%)	66.9	4.5	0.2	0.0	0.1	5.5	0.0	0.0	19.2		3.6	0.0
Outside Japan	Amount used	73,413.9	2,136.5	0.0	1,577.10	0.0	9.7	4,248.6	352.8	0.0	2,656.0	10,909.0	0.26
	Calorific value (GJ)	731,936.9	70,719.4	0.0	60,088.2	0.0	484.8	170,792.9	19,405.1	0.0	55,510.4	11,127.2	0.35
	Ratio (%)	65.3	6.3	0.0	5.4	0.0	0.0	15.2	1.7	0.0	5.0	1.0	0.0
Total	Amount used	168,556.1	4,053.4	66.2	1,580.3	40.6	1,573.6	4,248.6	352.8	6,800.0	2,656.0	61,154.5	149.8
	Calorific value (GJ)	1,680,504.3	134,166.2	2,416.3	60,209.3	1,577.9	78,837.5	170,792.9	19,405.1	272,683.6	45,268.4	62,377.6	203.7
	Ratio (%)	66.2	5.3	0.1	2.4	0.1	3.1	6.7	0.8	10.7	1.8	2.5	0.0

* Abbreviation for COAL WATER SLURRY

Group Companies in Japan CO_2 Emissions

(tons)

Company name	2013	2014	2015	2016	2017
Sunplanet Co., Ltd.	614	590	570	604	613
Sannova Co., Ltd. *	8,964	8,811	8,670	—	—
Elmed Eisai Co., Ltd.	173	163	166	158	152
Bracco-Eisai Co., Ltd.	123	109	110	102	114
Eisai Distribution Co., Ltd.	2,633	2,699	2,861	2,888	2,791
KAN Research Institute, Inc.	626	2,687	2,591	2,558	2,584
EIDIA Co., Ltd. *	946	852	645	—	—
Eisai Food & Chemical Co., Ltd. *	74	69	53	—	—
EA Pharma Co., Ltd.	—	—	—	13,999	11,561
Others	123	—	—	—	—
Eisai Group in Japan Total	14,276	15,979	15,665	20,309	17,816

* These companies were transferred to other companies and were accordingly excluded from the Group during fiscal 2015.
Note: Data for fiscal 2016 were revised from what was reported last fiscal year due to changes in emission coefficients.

Eisai Co., Ltd. CO_2 Emissions

(tons)

Office name	2013	2014	2015	2016	2017
Kawashima Plant	29,141	26,999	25,655	22,397	21,198
Misato Plant *	20,597	—	—	—	—
Honjo Facility	1,223	1,124	1,017	904	693
Kashima Plant	8,701	8,142	8,030	8,196	8,941
Tsukuba Research Laboratories	22,466	20,071	18,146	18,927	18,851
Headquarters office complex	2,150	2,008	1,763	1,670	1,589
Communication offices (sales offices in Japan)	1,977	1,618.439	1,294	1,097	967
Eisai Co., Ltd. Total	86,254	59,963	55,906	53,192	52,239
Eisai Group in Japan Total	10,530	75,942	71,060	73,946	70,055

* The Misato Plant was transferred to another company and was accordingly excluded from the Group as of March 31, 2014.
Note: Data for fiscal 2016 were revised from what was reported last fiscal year due to changes in emission coefficients.

6 Establishment of a Recycling-Oriented Society

Efforts toward the SDGs

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Waste Reduction Results in Fiscal 2016

The Eisai Group in Japan is working to achieve zero emissions and conducting waste disposal with three goals in mind; specifically, reduce the amount of waste generated, increase the amount of recycled waste and decrease the amount of waste sent to landfill. In fiscal 2017, we attained zero emissions for the tenth consecutive fiscal year; however, the total amount of waste generated increased by 3.5%. The main cause was an increase in waste oil and waste alkalis attributable to an increase in production at the plants in Japan.

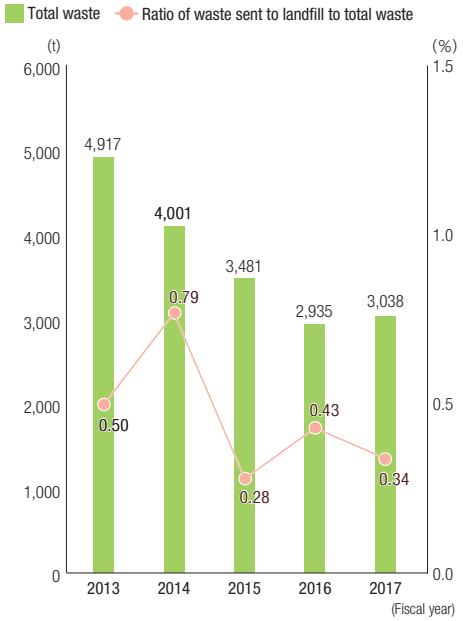
At the same time, we proceeded with recycling by undertaking the thorough sorting of waste. We placed priority on recycling by selling wastepaper, valuable metals and plastics in the disposal of waste. Although the amount of waste generated increased slightly from the previous fiscal year, the amount of waste sent to landfill and the ratio of waste sent to landfill decreased by 3 tons and 0.11% year on year, respectively. The recycling rate (including valuables sold) remained high at 58.7%, a decrease of 4.1% as compared with fiscal 2016.

Total Waste for the Past Five Fiscal Years

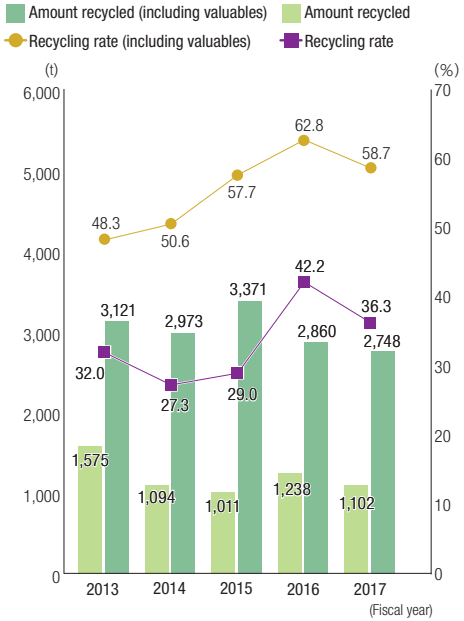
(tons)

	FY2013	FY2014	FY2015	FY2016	FY2017
Sludge	2,523	1,636	1,276	885	724
Waste oil	764	663	744	739	910
Waste acids and alkali	327	608	756	534	568
Waste plastic	491	412	313	245	266
Scrap metal	37	43	18	42	52
Glass and ceramic waste	40	34	22	32	24
Industrial waste and other	109	105	122	222	205
General waste	626	500	232	236	289
Amount of waste generated	4,917	4,001	3,481	2,935	3,038
Amount sold	1,546	1,879	2,360	1,622	1,646
Amount of waste generated and sold	6,463	5,880	5,841	4,557	4,684

Total Waste and the Ratio of Waste Sent to Landfill to Total Waste



Recycled Waste and recycling rate



Initiative for Recycling Resources

In order to promote the establishment of a recycling-oriented society, it is essential to reduce the amount of waste generated in addition to reusing and recycling resources such as metal, glass, waste oil and paper products from waste. Based on this perspective, we actively promote the sale of equipment and devices for reuse as well as the recycling of scrap metal, glass bottles and waste oil. Also, to reduce the total amount of wastepaper, we are promoting the sale of wastepaper while avoiding generation of unnecessary waste by devising better ways to proceed with meetings and to copy documents. We have expanded the scope of our efforts to promote the sale of wastepaper in Japan from operational sites and the head office to include sales offices. We also continue to reuse organic solvents, such as those used in the manufacture of active pharmaceutical ingredients, and sell these as auxiliary fuel.

Onsite Inspections of Waste-Processing Companies

The Eisai Group in Japan has been conducting regular onsite inspections of its waste disposal contractors. For the purpose of checking that waste is being disposed of properly, periodic inspections are carried out for contractors engaged in the collection, transport, intermediate processing and final disposal of waste. During fiscal 2017, a total of 32 onsite inspections were conducted by the Eisai Group in Japan at sites around the country, and it was confirmed that waste is being disposed of in an appropriate manner.

For potential new contractors, we conduct careful screening that includes onsite inspections. At Eisai Co., Ltd., in particular, new contracts are only signed after deliberation and approval by the Company-Wide Environment and Safety Committee, with priority given to government-certified excellent industrial waste management contractors.

7 Management of Chemical Substances

Proper Management of PRTR Substances

Chemical substances that are used in the research and development and production of pharmaceutical products include some substances subject to the PRTR system that could have an impact on the environment. The amounts of these substances handled, released into the environment and transferred as waste need to be understood and properly managed. Therefore, in addition to using our unique reagent management system to monitor the usage of reagents by the Eisai Group in Japan, we are also striving to reduce our usage of PRTR substances and to control their release into the environment. With regard to the usage of these substances exceeding the amount of the designated limit, we surely report this matter to the relevant prefectural governments without delay.

The amount of chemical substances used in the manufacturing processes depends largely on the volume of pharmaceutical products produced. To maintain the quality of active pharmaceutical ingredients, it is not easy to change manufacturing conditions after entering the commercial production phase. Therefore, we try to reduce the amount of chemical substances used by utilizing alternative solvents from the research and development stage and by developing synthesis processes that reduce the usage. At the same time, we actively promote the reuse of organic solvents and incorporate various means into the manufacturing processes to minimize their release into the atmosphere.

The total amount of PRTR substances handled by the Eisai Group in Japan during fiscal 2017 remained almost the same as the previous fiscal year's level, coming to 267 tons. Notifications were made to authorities for eight substances, one more substance than in fiscal 2016. Although the amount of chemical substances used in the research and development stage for each theme fluctuated to a certain extent, the total amount used remained at the same level as the previous year.

Fiscal 2017 PRTR Data Reported to Authorities (Eisai Group in Japan) (tons)

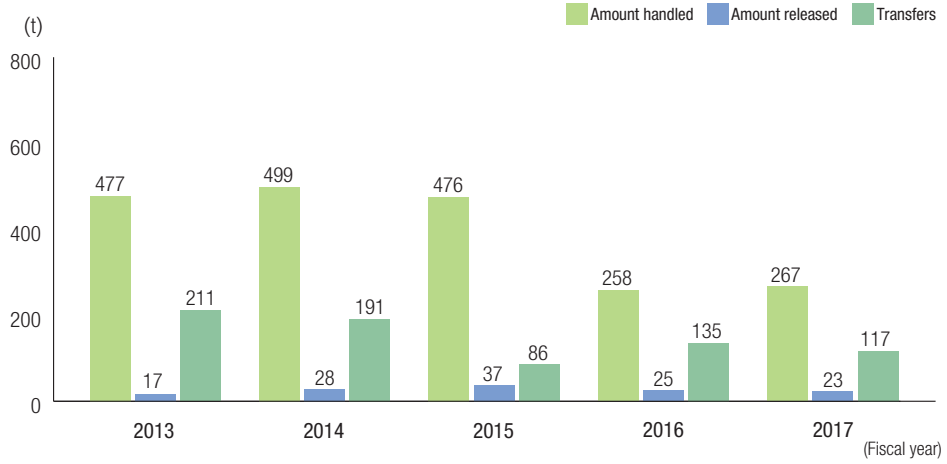
Chemical name	Substance no.	Number of operational sites	Amount handled	Release		Transfer	
				Into the atmosphere	Into water bodies	As waste	To sewage
Acetonitrile	13	3	23.800	0.060	0.000	23.740	0.000
Ethylbenzene	53	1	5.440	0.000	0.000	0.899	0.000
Ethylenediamine	59	1	1.596	0.002	0.000	1.594	0.000
Dichloromethane (also known as methylene chloride)	186	2	197.576	23.124	0.000	53.605	0.000
N, N-dimethylformamide	232	1	11.416	0.000	0.000	11.416	0.000
Toluene	300	1	23.093	0.076	0.000	23.017	0.000
Hexane	392	1	1.881	0.029	0.000	1.852	0.000
Formaldehyde	411	1	1.674	0.095	0.000	0.565	0.000

Volatile Organic Compounds (VOCs) Release Control

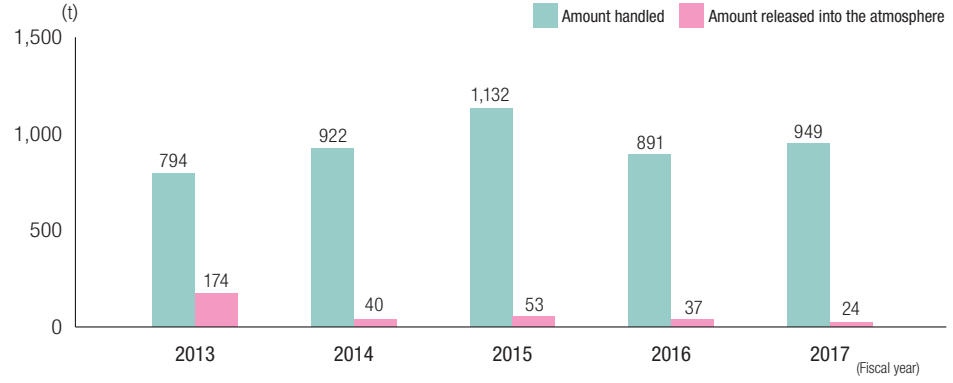
VOCs, such as ethyl acetate, acetone and methanol, are highly volatile and turn into gas in the atmosphere, and as is the case with NOx discharged from production plants, cause the generation of photochemical oxidants. In view of preventing air pollution, these substances need to be controlled to reduce their release into the atmosphere.

In response, main production plants and research facilities of the Eisai Group in Japan implement the same level of efforts as for PRTR substances to reduce the usage of VOCs and stipulate equipment operating procedures to minimize their release from production or research processes. The graph below shows the amount handled and released into the atmosphere of 55 substances (taken from the Ministry of the Environment's list of major 100 VOCs, excluding PRTR substances) for the past five fiscal years. The total amount of VOCs handled during fiscal 2017 increased by 6.6% from fiscal 2016, due mainly to an increase in the production output of the Kashima Plant. However, the amount released into the atmosphere was limited to just 2.5% of the total amount handled.

Actual Use of Substances Subject to the PRTR System



Amount of VOCs Released from Production Plants and Research Facilities in Japan



8 Saving Resources

Efforts toward the SDGs

6 CLEAN WATER AND SANITATION

Proper Management of Polychlorinated Biphenyl (PCB) Waste

We store PCB waste properly in enclosures with locks and warning signs and with measures to prevent vaporization, dispersion and leakage.

With respect to PCB waste stored at the Honjo Facility, Kawashima Plant and Tsukuba Research Laboratories, nine capacitors and 661 ballasts stored at the Honjo Facility have been disposed of during fiscal 2017. As a result, the situation of PCB waste that is yet to be disposed of is shown in the following table. We are reporting the disposal and storage status without delay to the relevant prefecture as required under the Law Concerning Special Measures Against PCB Waste.

PCB waste still held by Eisai	Quantity
Low-concentration PCB waste (oil-extraction processing completed, casing only)	15
Fluorescent ballast	4
Oil containing PCB	3 bags (37.5g)
Non-metallic contaminants (chemical resistant gloves, plastic containers)	3
Reagent	2

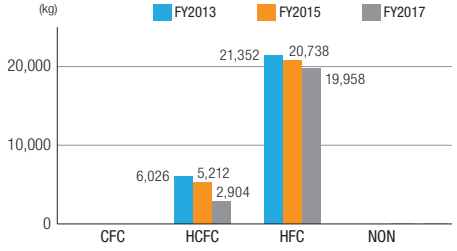
Management of Fluorocarbons

The Eisai Group in Japan is systematically getting rid of and renewing equipment that contains fluorocarbons and changing to equipment that uses hydrofluorocarbons (HFC) and non-fluorocarbons (NON), which do not have an ozone layer depletion effect. According to the survey on the amount of fluorocarbons used that was conducted in fiscal 2017, of the fluorocarbons used at the major production plants and research facilities in Japan, hydrofluorocarbon (HFC) accounted for 87.0% and hydro chlorofluorocarbons (HCFC) accounted for 12.7%. The survey found that mostly these two types of fluorocarbons were used. Chlorofluorocarbons (CFC) used, which have a strong ozone layer depletion effect, accounted for only 0.1% of the whole. The amount of fluorocarbons used at the major production plants and research facilities of the Eisai Group in Japan was equivalent to 37,118 tons of CO_2.

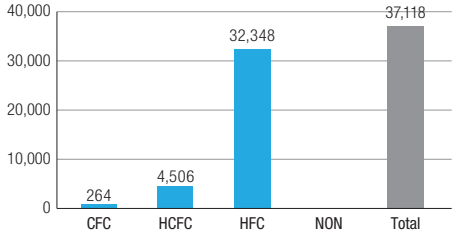
Hydrofluorocarbons (HFC) have a strong greenhouse gas effect, however without any ozone layer depletion effect. We therefore conduct regular inspections to prevent leakage incidents, and at the same time, if a leakage incident should occur, we make efforts to immediately share information on and prevent the recurrence of incidents. When disposing of equipment, we properly destroy and dispose of fluorocarbons according to the Fluorocarbons Recovery and Destruction Law.

The leakage volume of fluorocarbons of Eisai Co., Ltd. in fiscal 2017 that we calculated under Act on Controlling Emissions of Fluorocarbons was equivalent to 321 tons of CO_2, which fell below the threshold for notification to the Ministry of Health, Labour and Welfare.

Fluorocarbons Usage



CO_2 Equivalent Amount (FY2017)

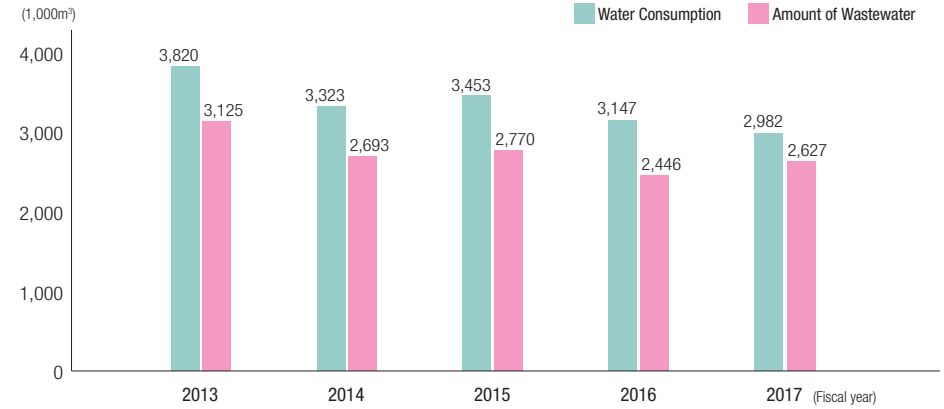


Effective Use of Water Resources

As the sufficient acquisition of water resources is absolutely essential for the production of high-quality pharmaceuticals, the Eisai Group is working to ensure the quality of water discharged from its production plants and research facilities and is also implementing initiatives to reduce water consumption. We have an acute awareness of the need to conserve water and are taking such steps as minimizing consumption of water for production plants and reusing wastewater. In addition, we have established a framework for preventing the contamination of groundwater at Eisai production plants and research facilities in Japan in response to the Water Pollution Control Law.

In a survey carried out at the Eisai Group outside Japan, we confirmed that none of our production plants or research facilities are situated in areas with a high risk of having to stop operations due to water shortages in the near future. Over the medium to long term, however, there is an undeniable risk of water shortages due to the quickening pace of climate change and the resulting changes in the natural environment. We will endeavor to ensure a stable supply of high-quality products while effectively utilizing water resources and monitoring the information on water supply.

Eisai Group Water Consumption and Amount of Wastewater



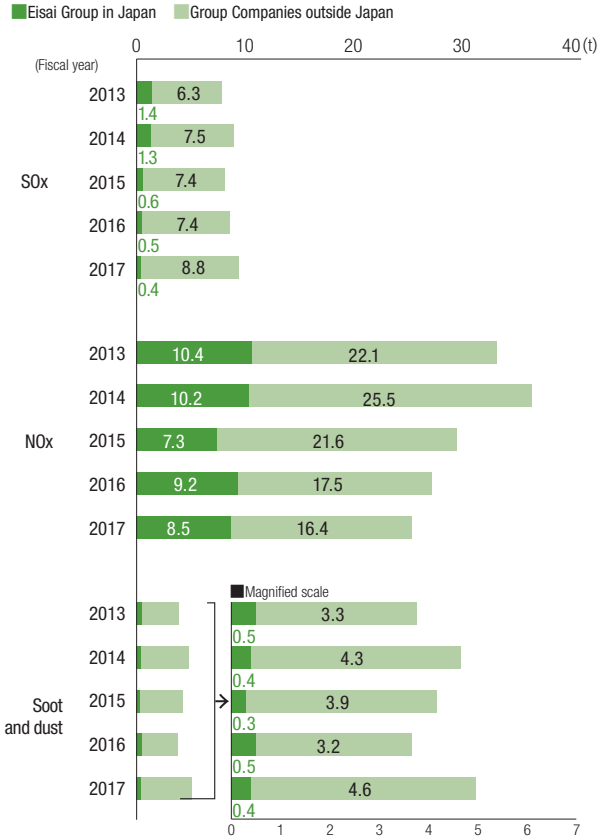
Green Purchasing

As one environmental effort undertaken by employees on a daily basis, the Eisai Group in Japan is promoting green purchasing, an initiative to purchase what is needed in the quantity needed, and if there are two products equivalent in both quality and price, to give preference to the one that is more environment-friendly. By this initiative, we are gearing our efforts toward shifting away from a society of mass-production, mass-consumption and mass-waste. Eisai Co., Ltd., in particular, has been actively committed to this initiative through participation in the Green Purchasing Network* and in accordance with its own Green Purchasing Guidelines.

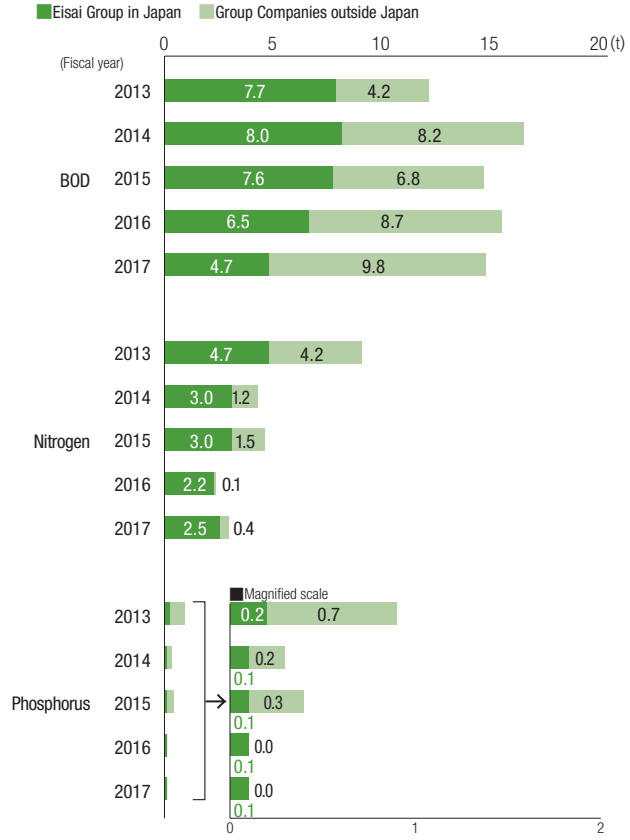
* A network of companies, local governments and consumer groups (private organizations) supporting the concept of green purchasing

9 Air Pollutant Emissions and Pollutant Load in Wastewater

Air Pollutant Emissions



Pollutant Load in Wastewater



* The past figures were reviewed upon recalculation.

Air Pollutant Emissions in Fiscal 2017 by Site

Category	Operational site/Company	SOx (kg)	NOx (kg)	Soot and dust (kg)
Eisai Group in Japan	Kawashima Plant	447	4,719	218
	Tsukuba Research Laboratories	—	3,097	180
	EA Pharma Fukushima Plant	0.03	649	16
	Subtotal	447	8,465	414
Group Companies outside Japan	Andover Research Institute	20	2,990	50
	Vizag Plant	8,738	13,126	4,558
	Morphotek Inc.	8	284	12
	Subtotal	8,766	16,400	4,620
	Total	9,213	24,865	5,034

Note: "–" indicates that no measurement was taken.

Pollutant Load in Wastewater in Fiscal 2017 by Site

Category	Operational site/Company	BOD (kg)	COD (kg)	Nitrogen (kg)	Phosphorus (kg)
Eisai Group in Japan	Kawashima Plant	2,413	—	2,278	43
	Tsukuba Research Laboratories	1,434	—	—	—
	Kashima Plant	394	576	148	27
	Honjo Facility	21	—	33	7
	EA Pharma Fukushima Plant	105	—	54	19
	KAN Research Institute	348	—	—	—
	Subtotal	4,716	576	2,513	96
Group Companies outside Japan	Morphotek Inc.	—	—	9	12
	Suzhou Plant	—	—	—	25
	Vizag Plant	9,847	10,531	402	—
	Subtotal	9,847	10,531	412	37
	Total	14,562	11,107	2,924	132

Note: "–" indicates that no measurement was taken.

10 Resource Input and Environmental Impact (Eisai Group in Japan)

Kawashima Plant

	2015	2016	2017
Energy consumption			
Electricity (MWh)	31,996	26,597	25,012
Processed natural gas (tons)	4,228	4,072	4,076
Liquefied petroleum gas (LPG) (tons)	28	3	5
Waste treatment			
Amount generated (tons)	596	602	503
Recycled amount (tons)	63	67	76
Amount sent to landfill (tons)	0.1	0.1	0.1
Air pollutant emissions and pollutant load in wastewater			
SOx (kg)	597	480	447
NOx (kg)	3,661	6,172	4,719
Soot and dust (kg)	200	318	218
Water consumption (1,000 m³)	2,635	2,317	2,181
Wastewater discharge (1,000 m³)	2,211	1,938	1,979
BOD (kg)	3,406	2,151	2,413
Nitrogen (kg)	2,770	1,971	2,278
Phosphorus (kg)	45	39	43

Kashima Plant

	2015	2016	2017
Energy consumption			
Electricity (MWh)	11,591	11,860	13,103
Industrial steam (GJ)	40,181	41,698	50,246
Liquefied petroleum gas (LPG) (tons)	1	1	6
Waste treatment			
Amount generated (tons)	1,405	1,210	1,380
Recycled amount (tons)	461	739	588
Amount sent to landfill (tons)	0.0	0.0	0.0
Air pollutant emissions and pollutant load in wastewater			
SOx (kg)	–	–	–
NOx (kg)	–	–	–
Soot and dust (kg)	–	–	–
Water consumption (1,000 m³)	49	53	56
Wastewater discharge (1,000 m³)	56	49	49
BOD (kg)	112	779	394
Nitrogen (kg)	—	76	148
Phosphorus (kg)	—	24	27

"–" indicates that no measurement was taken.

KAN Research Institute, Inc.

	2015	2016	2017
Energy consumption			
Electricity (MWh)	3,274	3,289	3,362
Processed natural gas (tons)	383	424	418
Waste treatment			
Amount generated (tons)	36	42	44
Recycled amount (tons)	7	11	10
Amount sent to landfill (tons)	0.7	0.8	0.8
Air pollutant emissions and pollutant load in wastewater			
SOx (kg)	–	–	–
NOx (kg)	–	–	–
Soot and dust (kg)	–	–	–
Water consumption (1,000 m³)	15	16	16
Wastewater discharge (1,000 m³)	15	16	16
BOD (kg)	15	16	348
Nitrogen (kg)	–	–	–
Phosphorus (kg)	–	–	–

"–" indicates that no measurement was taken.

Tsukuba Research Laboratories

	2015	2016	2017
Energy consumption			
Electricity (MWh)	26,465	27,357	27,558
Processed natural gas (tons)	1,940	2,116	2,226
Fuel oil A (kl)	56	37	40
Waste treatment			
Amount generated (tons)	239	193	159
Recycled amount (tons)	124	72	68
Amount sent to landfill (tons)	0.5	0.5	0.5
Air pollutant emissions and pollutant load in wastewater			
SOx (kg)	–	–	–
NOx (kg)	2,104	2,334	3,097
Soot and dust (kg)	55	135	180
Water consumption (1,000 m³)	202	167	147
Recycled water (1,000 m³)	64	96	100
Wastewater discharge (1,000 m³)	178	142	125
BOD (kg)	3,757	3,291	1,434
Nitrogen (kg)	–	–	–
Phosphorus (kg)	–	–	–

"–" indicates that no measurement was taken.

EA Pharma Co., Ltd., Fukushima Plant

	2015	2016	2017
Energy consumption			
Electricity (MWh)		12,206	12,313
Liquefied petroleum gas (LPG) (tons)		1,569	1,541
Waste treatment			
Amount generated (tons)		464	370
Recycled amount (tons)		119	94
Amount sent to landfill (tons)		0.3	0.3
Air pollutant emissions and pollutant load in wastewater			
SOx (kg)		–	0.0
NOx (kg)		694	649
Soot and dust (kg)		12.6	15.9
Water consumption (1,000 m³)		75	78
Wastewater discharge (1,000 m³)		51	41
BOD (kg)		117	105
Nitrogen (kg)		65	54
Phosphorus (kg)		24	19

"–" indicates that no measurement was taken.

Principal PRTR Substances Handled

	2015	2016	2017
Kawashima Plant			
Water-soluble zinc compounds (tons)	15	0	0
Toluene (tons)	15	0	0
Isophytol (tons)	162	0	0
Acetonitrile (tons)	1.2	0.9	1.8
Tsukuba Research Laboratories			
Acetonitrile (tons)	2.4	2.8*	2.6
Dichloromethane (tons)	1.0	1.4	0.8
Hexane (tons)	0.5	0.2	0.2
Kashima Plant			
Acetonitrile (tons)	9	19	17
Ethylbenzene (tons)	13	4	5
Ethylenediamine (tons)	0	0	2
Dichloromethane (tons)	222	157	166
N, N-dimethylformamide (tons)	2	7	11
Toluene (tons)	8	18	23
Formaldehyde (tons)	3.7	1.4	1.5
Hexane (tons)	16	13	1
EA Pharma Co., Ltd., Fukushima Plant			
Acetonitrile (tons)		0.7	0.9
Dichloromethane (tons)		27.7	29.6
KAN Research Institute, Inc.			
Xylene (kg)	9.5	3	0
Chloroform (kg)	1.2	1.5	1.5
Formaldehyde (kg)	2.4	2.1	2.7

* Corrected value

11 Resource Input and Environmental Impact (Group Companies outside Japan)

Eisai China Inc., Suzhou Plant (Jiangsu, China)

	2015	2016	2017
Energy consumption			
Electricity (MWh)	10,520	11,900	11,623
Liquefied natural gas (LNG) (m³)	1,080	631	767
Industrial steam (tons)	11,293	12,258	10,909
Waste treatment			
Amount generated (tons)	257	381	399
Recycled amount (tons)	225	335	341
Amount incinerated (tons)	32	46	58
Pollutant load in Wastewater			
Water consumption (1,000 m³)	60	46	36
Wastewater discharge (1,000 m³)	48	37	29
Phosphorus (kg)	29	2	25

Eisai (Liaoning) Pharmaceutical Co., Ltd., Benxi Plant (Liaoning, China)

	2015	2016	2017
Energy consumption			
Electricity (MWh)	2,173	2,980	3,669
CWS (tons)	1,432	2,166	2,656
Light oil (kl)	9	12	10
Waste treatment			
Amount generated (tons)	130	182	132
Recycled amount (tons)	6	12	16
Amount sent to landfill (tons)	–	–	–
Pollutant load in Wastewater			
Water consumption (1,000 m³)	56	78	74
Wastewater discharge (1,000 m³)	45	62	59
Phosphorus (kg)			

"–" indicates that no measurement was taken.

PT Eisai Indonesia, Bogor Plant (West Java, Indonesia)

	2015	2016	2017
Energy consumption			
Electricity (MWh)	1,045	1,033	926
Light oil (kl)	2	2	1
Liquefied petroleum gas (LPG) (tons)	1	1	1
Waste treatment			
Amount generated (tons)	12	8	5
Recycled amount (tons)	12	8	5
Amount sent to landfill (tons)	0	0	0
Pollutant load in Wastewater			
Water consumption (1,000 m³)	5.0	6.4	5.4
Wastewater discharge (1,000 m³)	0.6	0.4	2.5
BOD (kg)	5.5	3.4	
Phosphorus (kg)	1.1	0.8	

Eisai Knowledge Centre, India (Andhra Pradesh, India)

	2015	2016	2017
Energy consumption			
Electricity (MWh)	10,305	11,482	13.068
Light oil (kl)	486	614	681
Liquefied petroleum gas (LPG) (tons)	5	6	9
Waste treatment			
Amount generated (tons)	140	126	210
Recycled amount (m³)	118	109	189
Amount incinerated (tons)	22	16	21
Air pollutant emissions			
SOx (kg)	7,279	7,388	8,738
NOx (kg)	11,233	10,944	13,126
Soot and dust (kg)	3,103	2,919	4,558
Pollutant load in Wastewater			
Water consumption (1,000 m³)	93	111	138
Wastewater discharge (1,000 m³)	36	36	48
COD (kg)	22,511	15,255	10,531
BOD (kg)	4,437	8,650	9.847
Nitrogen (kg)	234	245	402

Eisai Inc., Andover Research Institute (Massachusetts, U.S.)

	2015	2016	2017
Energy consumption			
Electricity (MWh)	9,254	8,965	8,680
Natural gas (1,000m³)	1,124	1,588	1,575
Light oil (kl)	2	5	12
Waste treatment			
Amount generated (U.S. tons)＊1	106	131	162
Recycled amount (U.S. tons)	25	34	55
Amount sent to landfill (U.S. tons)	39	50	77
Air pollutant emissions			
SOx (kg)	20	20	20
NOx (kg)	2,980	3,020	2,990
Soot and dust (kg)	230	60	50
Pollutant load in Wastewater			
Water consumption (1,000 m³)	28	29	29

European Knowledge Centre (Hertfordshire, U.K)

	2015	2016	2017
Energy consumption			
Electricity (MWh)	5,856	6,223	6,700
Natural gas (1,000m³)	800	816	894
Light oil (kl)	4	3	3
Waste treatment			
Amount generated (tons)	155	197	217
Recycled amount (tons)	155	197	217
Amount sent to landfill (tons)	0	0	0
Pollutant load in Wastewater			
Water consumption (1,000 m³)	21	18	19
Wastewater discharge (1,000 m³)	21	18	19

Morphotek Inc., (Pennsylvania U.S.) Note

	2015	2016	2017
Energy consumption			
Electricity (MWh)	9,151	8,675	8,777
Natural gas (decatherms)＊2	42,930	48,883	55,039
Light oil (kl)	13	19	10
Waste treatment			
Amount generated (U.S. tons)	172	131	120
Recycled amount (U.S. tons)	50	33	30
Amount sent to landfill (U.S. tons)	106	81	74
Air pollutant emissions			
SOx (kg)	30	30	8
NOx (kg)	3,390	3,570	284
Soot and dust (kg)	260	260	12
Pollutant load in Wastewater			
Water consumption (1,000 m³)	37	45	42
Wastewater discharge (1,000 m³)	22	27	24
BOD (kg)	237	–	
Nitrogen (kg)	166	84	9
Phosphorus (kg)	7	–	12

"–" indicates that no measurement was taken.

H3 Biomedicine Inc. (Massachusetts, U.S.)

	2015	2016	2017
Energy consumption			
Electricity (MWh)	4,082	4,075	3,917
Natural gas (decatherms)	4,902	4,190	5,674
Waste treatment			
Amount generated (tons)	105	35	35
Recycled amount (tons)	5	14	18
Amount sent to landfill (tons)	–	0.2	0
Pollutant load in Wastewater			
Water consumption (1,000 m³)	9.1	7.8	11
Wastewater discharge (1,000 m³)	9.1	7.8	11

"–" indicates that no measurement was taken.

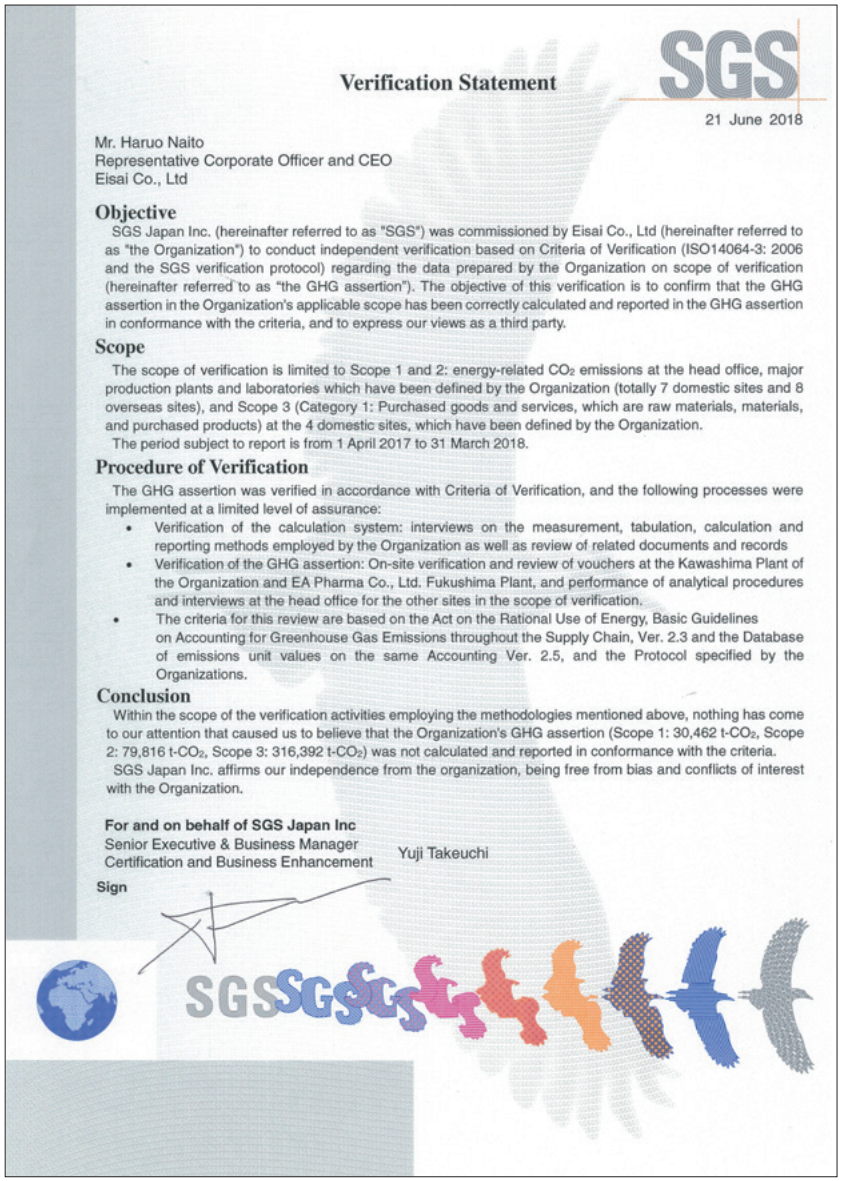
＊1 One U.S. ton = 0.907185 metric tons
＊2 One decatherm = 1,055 MJ

Principal Chemical Substances Used

	2014	2015	2016
Suzhou Plant			
Ethanol (tons)	27.8	40.5	28.8
Methanol (tons)	0.5	0.7	0.6
Acetonitrile (tons)	0.4	0.7	0.9
Ethyl acetate (tons)	0.1	0.1	0.1
Benxi Plant			
Ethanol (tons)	230.0	40.5	41.7
Methanol (tons)	0.6	0.5	1.3
Ether (tons)	0.4	0.3	0.8
Xylene (tons)	4.2	0.2	0.1
Toluene (tons)	0.3	0.2	0.3
Bogor Plant			
Methanol (l)	247.5	209.0	204
Acetonitrile (l)	78.5	83.3	106
Anhydrous ethanol (l)	24.9	25.2	11.4
Andover Research Institute			
Methanol (U.S. tons)	1.3	1.3	1.6
Ethyl acetate (U.S. tons)	3.7	3.3	2.9
Acetonitrile (U.S. tons)	1.7	2.7	2.6
Heptane (U.S. tons)	3.1	2.4	2
Dichloromethane (U.S. tons)	1.4	2.1	1.7
Methyl-t-butyl ether (U.S. tons)	0.6	0.3	0.3
European Knowledge Centre			
Acetonitrile (tons)	0.2	0.2	0.2
Methanol (tons)	0.2	0.1	0.2
Ethanol (tons)	0.1	0.0	0.1
Eisai Knowledge Centre, India			
Ethyl acetate (tons)	26.5	4.0	15.5
Acetone (tons)	37.0	12.4	14.9
Isopropyl acetate (tons)		1.4	20
Methanol (tons)	14.7	55.8	132.2
Ethanol (tons)	5.9	12.7	51.3
Methyl-t-butyl ether (tons)		4.4	13.1
n-heptane (tons)	0.7	2.8	4.9
Tetrahydrofuran (tons)	3.2	10.8	12.8
2-Methyltetrahydrofuran(tons)			3.6
N, N-dimethylformamide (tons)	4.4	4.4	2.5
Concentrated hydrochloric acid(tons)		3.9	11.2
Potassium phosphate(tons)		1.0	2.6
Disodium hydrogen phosphate(tons)		1.0	2.6
Dipotassium hydrogenphosphate(tons)		1.2	3.2
Morphotek Inc.			
Decon Quat 100 (quaternary ammonium solution) (kl)	3.7	3.8	78.5
Decon Spore (kl)	1.4	1.6	24.5
Decon Clean (residual remover) (kl)	1.2	1.4	19.6
H3 Biomedicine Inc.			
Acetonitrile (tons)	1.2	0.8	0.7
Dichloromethane (tons)	0.6	0.5	0.2
Ethyl acetate (tons)	0.5	0.3	0.2
Hexane (tons)	0.5	0.3	0.2
Methanol (tons)	0.2	0.4	0.2

12 Third-Party Verification of Greenhouse Gas Emissions Volume

Eisai Co., Ltd. undergoes third-party verifications to improve the accuracy of measurement, aggregation, calculation and reporting methods for the amounts of greenhouse gasses emitted by the Group. In fiscal 2017, seven business operational sites in Japan and eight business operational sites outside Japan, centering on production plants and research facilities, underwent verifications for Scope 1 emissions, Scope 2 emissions and Scope 3 emissions (Category 1). (Period to be verified:April 2017 - March 31, 2018)



Verification Statement

SGS

21 June 2018

Mr. Haruo Naito
Representative Corporate Officer and CEO
Eisai Co., Ltd

Objective

SGS Japan Inc. (hereinafter referred to as "SGS") was commissioned by Eisai Co., Ltd (hereinafter referred to as "the Organization") to conduct independent verification based on Criteria of Verification (ISO14064-3: 2006 and the SGS verification protocol) regarding the data prepared by the Organization on scope of verification (hereinafter referred to as "the GHG assertion"). The objective of this verification is to confirm that the GHG assertion in the Organization's applicable scope has been correctly calculated and reported in the GHG assertion in conformance with the criteria, and to express our views as a third party.

Scope

The scope of verification is limited to Scope 1 and 2: energy-related CO_2 emissions at the head office, major production plants and laboratories which have been defined by the Organization (totally 7 domestic sites and 8 overseas sites), and Scope 3 (Category 1: Purchased goods and services, which are raw materials, materials, and purchased products) at the 4 domestic sites, which have been defined by the Organization.
The period subject to report is from 1 April 2017 to 31 March 2018.

Procedure of Verification

The GHG assertion was verified in accordance with Criteria of Verification, and the following processes were implemented at a limited level of assurance:

- Verification of the calculation system: interviews on the measurement, tabulation, calculation and reporting methods employed by the Organization as well as review of related documents and records
- Verification of the GHG assertion: On-site verification and review of vouchers at the Kawashima Plant of the Organization and EA Pharma Co., Ltd. Fukushima Plant, and performance of analytical procedures and interviews at the head office for the other sites in the scope of verification.
- The criteria for this review are based on the Act on the Rational Use of Energy, Basic Guidelines on Accounting for Greenhouse Gas Emissions throughout the Supply Chain, Ver. 2.3 and the Database of emissions unit values on the same Accounting Ver. 2.5, and the Protocol specified by the Organizations.

Conclusion

Within the scope of the verification activities employing the methodologies mentioned above, nothing has come to our attention that caused us to believe that the Organization's GHG assertion (Scope 1: 30,462 t-CO_2, Scope 2: 79,816 t-CO_2, Scope 3: 316,392 t-CO_2) was not calculated and reported in conformance with the criteria.
SGS Japan Inc. affirms our independence from the organization, being free from bias and conflicts of interest with the Organization.

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

Sign