

# Eisai Environmental Report 2019

## 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.

### Promoting Environmental Activities for the Sustainable Development of Society

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 UN'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.

In fiscal 2018, the Eisai Group set SBT (Science Based Targets: Targets for reducing greenhouse gas (GHG) emissions based on scientific grounds) toward fiscal 2030. We submitted these targets to SBTi (Science Based Targets initiative) in March 2019 and SBTi subsequently approved them in May 2019. Going forward, we will strengthen our initiatives for reducing GHG emissions and will contribute to mitigating global warming from a medium- to-long-term perspective.

Recently, global companies are being asked to undertake business activities giving consideration to the sustainable development of society. Above all, climate change is seen as the most important ESG<sup>\*1</sup> issue. In June 2019, the Eisai Group expressed support for TCFD<sup>\*2</sup> recommendations with the aims of considering climate-related financial risks and opportunities in business activities as well as strengthening governance and publicly disclosing company information. In the future, we will respond to ESG issues while undertaking the global development of our healthcare business, which gives first thoughts to patients and their families.

### 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.

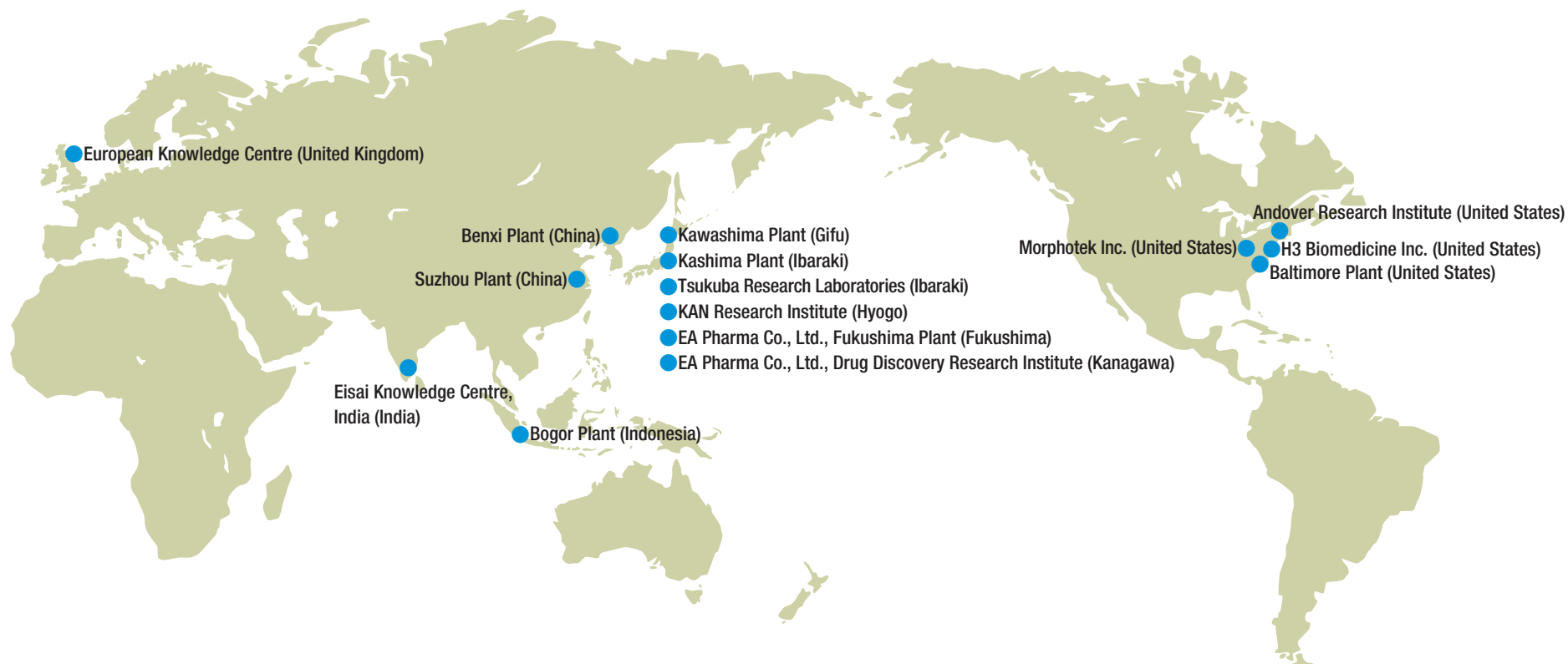
#### Environmental Protection Guidelines

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.

\* 1 This is an acronym for Environmental, Social and Governance. Today, business development considering these three aspects is regarded as important for a company's long-term growth.

\* 2 This is an abbreviation of the Task Force on Climate-related Financial Disclosures. This is a climate-related financial information disclosure task force set up by the Financial Stability Board.

# 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 2018. The report has been developed in reference to the *Environmental Reporting Guidelines* (2018 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, 2018 to March 31, 2019.

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# Glossary and CO<sub>2</sub> 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	Among GHG emissions associated with business activities in a supply chain, these are indirect GHG emissions that exclude the company.
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 <sub>2</sub> Emissions Coefficient Used in Emissions Calculations			
Energy type	Calorific value per unit	CO <sub>2</sub> emissions coefficient	
	FY2018	In and after FY2013	In and before FY2012
Electric power	9.97 (GJ/MWh)	Note	
LPG	50.1 (GJ/tons)	3.01 (tons/tons)	3.00 (tons/tons)
LNG	54.5 (GJ/tons)* <sup>1</sup>	2.76 (tons/tons)* <sup>1</sup>	2.70 (tons/tons)
Natural gas	40.5 (GJ/1,000 Nm <sup>3</sup> )* <sup>1</sup>	2.07 (tons/1,000 Nm <sup>3</sup> )* <sup>1</sup>	2.22 (tons/1,000 Nm <sup>3</sup> )
Processed natural gas	41.2 (GJ/1,000 Nm <sup>3</sup> )* <sup>1</sup>	2.12 (tons/1,000 Nm <sup>3</sup> )* <sup>1</sup>	2.23 (tons/1,000 Nm <sup>3</sup> )
Kerosene	36.5 (GJ/kl)	2.50 (tons/kl)	2.49 (tons/kl)
Light oil	38.1 (GJ/kl)	2.62 (tons/kl)	2.59 (tons/kl)
Fuel oil A	38.9 (GJ/kl)	2.76 (tons/kl)	2.71 (tons/kl)
Gasoline	33.1 (GJ/kl)	2.28 (tons/kl)	2.32 (tons/kl)
Industrial steam	1.02 (GJ/GJ)	0.06 (tons/GJ)* <sup>2</sup>	
Hot water and cold water	1.36 (GJ/GJ)	0.057 (tons/GJ)	

Note: 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 2018, since corresponding figures are not available from the source.  
IEA: CO<sub>2</sub> EMISSIONS FROM FUEL COMBUSTION (2017)

\* 1 Revised based on the "Revised Standard Calorific Value and Carbon Emission Factor" within General Energy Statistics.

\* 2 Changed to coefficients under the Energy Saving Act.

# 1

## Environmental Protection Initiatives and Results

### Fiscal 2018 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	<ul style="list-style-type: none"> <li>Proper application of the PDCA cycle</li> <li>Periodic and renewal inspections of ISO 14001 certification (Kawashima Plant, Kashima Plant, EA Pharma Co., Ltd. Head Office, Drug Discovery Research Institute, Fukushima Plant)</li> <li>Interim and renewal inspections of EA21 certification (Eisai Distribution Co., Ltd.)</li> </ul>	○	P7
	Planning and implementation of environmental education	Internal training sessions: 130; external training sessions: 17	○	P7
	Implementation of environmental communication	<ul style="list-style-type: none"> <li>Publication of the Environmental Report 2018</li> <li>Local community meetings (Kawashima Plant) and administrative committee meetings (Kashima Plant)</li> <li>Information exchange meetings (EA Pharma Co., Ltd., Fukushima Plant)</li> </ul>	○	P8
Energy conservation and combating climate change	Reduction of CO <sub>2</sub> emissions by 23% from fiscal 2005 level by fiscal 2020	CO <sub>2</sub> emissions: 70,831 tons (22.6% decrease from fiscal 2005)	○	P9
	Promotion of the replacement of commercial vehicles with hybrid vehicles (Eisai Co., Ltd.)	Adoption rate for commercial vehicles: 71.5% (6.7% increase from fiscal 2017) Adoption rate for company-owned vehicles: 75.7% (10.1% increase from fiscal 2017) Adoption rate for employee-owned vehicles: 68.0% (3.7% increase from fiscal 2017)	○	P10
	Purchase of wind-generated green power	Purchase of 1,000,000 kWh from Japan Natural Energy Co., Ltd.	○	—
	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. There was no report submitted because the total calculated amount of CO <sub>2</sub> equivalent leakage was 1,000t or less.	○	P15
Waste reduction	<ul style="list-style-type: none"> <li>Reduction of waste generated</li> <li>Reduction of waste sent to landfill</li> <li>Increase in recycled waste</li> </ul>	<ul style="list-style-type: none"> <li>Amount of waste generated: 3,736 tons (increase of 698 tons from fiscal 2017)</li> <li>Amount of waste sent to landfill: 906 tons (decrease of 196 tons from fiscal 2017)</li> <li>Amount of recycled waste: 6 tons (decrease of 4 tons from fiscal 2017)</li> </ul>	△	P13
	Attainment of Zero Emissions (Ratio of waste sent to landfill to total waste < 1%)	<ul style="list-style-type: none"> <li>Eisai Co., Ltd.: 0.16%</li> <li>Eisai Group companies in Japan: 0.22%</li> <li>Eisai Group in Japan: 0.17%</li> </ul>	○	P13
	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 72 sites nationwide; confirmed that waste is being disposed of legally and in a proper manner	○	P13

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

Theme	Targets	Results	Evaluation	Pages
Resource conservation	Promotion of awareness-raising activities and education to encourage green purchasing	Although awareness-raising activities and education were provided on a timely basis, the green purchasing ratio declined to 29.0%. (3.2% decrease from fiscal 2017).	×	P15
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	○	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, 16
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	Branches and leaves from trees on the plant grounds flew onto nearby private homes due to typhoons and other strong winds. Because this caused such troubles as clogging rain gutters and requiring garden clean ups, we offered our apologies and felled the relevant trees. (Kawashima Plant, 1 incident)	△	—

# 2 Resource Input and Environmental Impact

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

Resource Input			
INPUT			
<b>Energy</b>			
	Eisai Co., Ltd.	Group companies in Japan	Total
Electric power (MWh)	73,867	24,099	97,967
LPG (tons)	41	972	1,013
Processed natural gas (1,000 Nm <sup>3</sup> )	6,206	437	6,643
Kerosene (kl)	0	52	52
Light oil (kl)	5	16	20
Gasoline (kl)	1,157	486	1,643
Fuel oil A (kl)	30	0	30
Industrial steam (GJ)	50,380	0	50,380
Hot water (GJ)	0	0	0
Cold water (GJ)	169	0	169
<b>Water</b>			
	Eisai Co., Ltd.	Group companies in Japan	Total
<b>Water consumption</b> (1,000m <sup>3</sup> )	<b>2,598</b>	<b>110</b>	<b>2,709</b>
Clean water (1,000m <sup>3</sup> )	143	108	250
Industrial water (1,000m <sup>3</sup> )	1	0	1
Groundwater (1,000m <sup>3</sup> )	2,361	0	2,361
Desalinated water (1,000m <sup>3</sup> )	7	0	7
Recycled water (1,000m <sup>3</sup> )	87	2	89
<b>Other</b>			
	Eisai Co., Ltd.	Group companies in Japan	Total
Copy paper consumption (10,000 sheets)	2,155	1,126	3,281
<b>PRTR Substances</b>			
	Eisai Co., Ltd.	Group companies in Japan	Total
Total amount handled (including unreported amount) (tons)	233	28	261

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

Environmental Impact			
OUTPUT			
<b>Atmospheric Emissions (from operational sites)</b>			
	Eisai Co., Ltd.	Group companies in Japan	Total
CO <sub>2</sub> (Scope 1, 2) (tons)	53,044	17,787	70,831
SO <sub>x</sub> (tons)	0.2	0.0	0.2
NO <sub>x</sub> (tons)	9.6	0.5	10.1
Soot and dust (tons)	0.4	0.0	0.4
PRTR substances (release into the atmosphere) (tons)	16	0.5	16
<b>Waste</b>			
	Eisai Co., Ltd.	Group companies in Japan	Total
Amount generated (tons)	3,070	665	3,736
Amount recycled (tons)	615	291	906
Amount sent to landfill (tons)	5	1	6
Wastewater discharge (1,000m <sup>3</sup> )	2,299	66	2,366
BOD (tons)	5.8	0.1	5.9
Nitrogen (tons)	2.3	0.0	2.4
Phosphorous (tons)	0.1	0.0	0.1
PRTR substances (off-site transfer as waste) (tons)	130	27.2	157
PRTR substances (release into water bodies) (tons)	0.0	0.0	0.0
<b>Containers and Packaging Recycling</b>			
	Eisai Co., Ltd.	Group companies in Japan	Total
Recycling of containers and packaging materials (obligatory recycling amount) (tons)	1,714	177	1,891
<b>Exhaust Gas from Vehicles</b>			
	Eisai Co., Ltd.	Group companies in Japan	Total
CO <sub>2</sub> emissions from commercial vehicles (tons)	2,631	1,063	3,694
CO <sub>2</sub> emissions from business-use vehicles other than commercial vehicles (tons)	8	51	59
<b>Indirect CO<sub>2</sub> Emissions (Scope 3<sup>*</sup>)</b>			
	Eisai Co., Ltd.	Group companies in Japan	Total
Purchased goods and services (tons)	254,092	94,720	348,812
Capital goods (tons)	36,421	9,064	45,486
Fuel- and energy-related activities not included in Scope 1 or 2 (tons)	4,168	853	5,021
Transportation and delivery (upstream) (tons)	610	323	934
Waste generated in operations (tons)	4,237	811	5,048
Business travel (tons)	412	298	710
Employee commuting (tons)	494	923	1,417
Transportation and delivery (downstream) (tons)	1,682	688	2,371
End of life treatment of sold products (tons)	690	427	1,117

\* 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 2.6 (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 2018 (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	4	• Promotion of environmental protection activities	P7
	2. Energy conservation and measures to address climate change	○ Renewal of air-cooled heat pumps ○ Renewal of chillers ○ Renewal of once-through boilers ○ Introduction of LNG equipment for co-generation △ Introduction of hybrid cars for commercial vehicles △ Purchase of green power	236	6	• 1,000,000 kWh (equivalent to 472 tons of CO <sub>2</sub> emissions)	P9-12
	3. Resource conservation activities	△ Maintenance of wastewater treatment system △ Green purchasing	0	1,372	• Recycled water: 89,000 m <sup>3</sup> • Promotion of purchasing environmentally friendly products	P15
	4. Air pollution prevention measures	○ Installation of scrubber △ Atmospheric analysis △ Boiler parts fees, others	4	5	• Prevention of air pollution	P8
	5. Management of chemical substances	△ Database usage expenses	0	15	• Appropriate management of chemicals	—
	6. Waste reduction activities	△ Entrustment of waste disposal	3	190	• Amount of waste generated increased by 698 tons • Recycled amount decreased by 196 tons • Amount sent to external landfill decreased by 4 tons	P13
	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	59	• Compliance with related laws and regulations	P14
	2. Pollution prevention measures	○ Purchase of TOC sampling pump △ Wastewater treatment facilities management expenses △ Cleaning of various drainage tanks △ Wastewater, noise, vibration and odor measurements	4	115	• Prevention of contaminant discharge	P8
	3. Soil contamination	△ Costs for soil survey	0	41	• Prevention of soil and groundwater contamination	P8
	4. Recycling of containers and packaging	△ Subcontracting of container and packaging recycling	0	20	• 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 2018 △ Verification of CO <sub>2</sub> emissions	2	65	• Promotion of business activities that coexist with nature • Improved communication	—
<b>Total</b>			<b>249</b>	<b>1,892</b>		

\* Includes depreciation costs

## Economic Effect of Environmental Protection Measures

Item	Details	Amount (million yen)
Sales of by-products	Proceeds from selling recyclable items	11
Reduction in synthetic solvent expenses through recycling	Reduction in synthetic solvent expenses through distillation of waste solvent in the production process	9
<b>Total</b>		<b>20</b>

Scope of calculations: Eisai Group in Japan

Period of data collection: April 1, 2018 through March 31, 2019

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<sub>2</sub> 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. We calculated overall eco-efficiency using the formula below. The trend for some primary indicators is also shown in the graph below. CO<sub>2</sub> emissions, amount of waste generated, and PRTR designated substances were given 20% weightings.

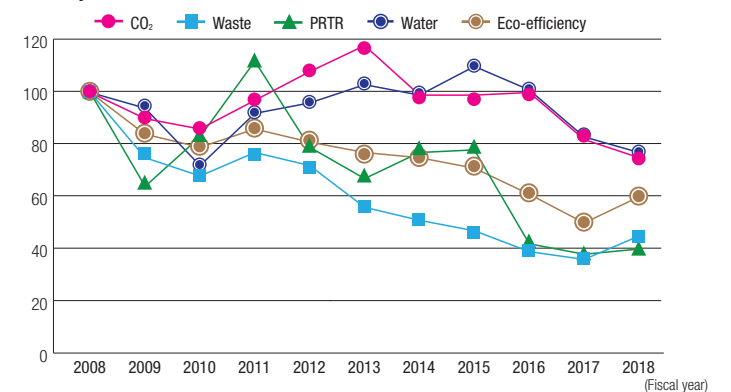
$$\text{Eco-efficiency} = [2(\text{CO}_2 + \text{Wastes} + \text{PRTR}) + \text{Water} + \text{SOx} + \text{NOx} + \text{BOD}] / 10$$

## Eco-Efficiency

Indicator	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018
CO <sub>2</sub> emissions	100	90	86	97	108	118	99	99	100	82	75
Waste generation	100	75	68	77	72	56	51	47	39	36	45
PRTR substances	100	64	83	112	79	67	77	78	42	38	40
Water consumption	100	94	72	92	96	103	99	110	101	83	77
SOx	100	111	82	85	71	55	57	28	22	18	34
NOx	100	88	81	59	62	55	60	45	57	46	88
BOD	100	86	79	50	62	69	80	80	68	40	77
Eco-efficiency	100	84	79	86	81	77	75	71	61	50	60

Notes: 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.

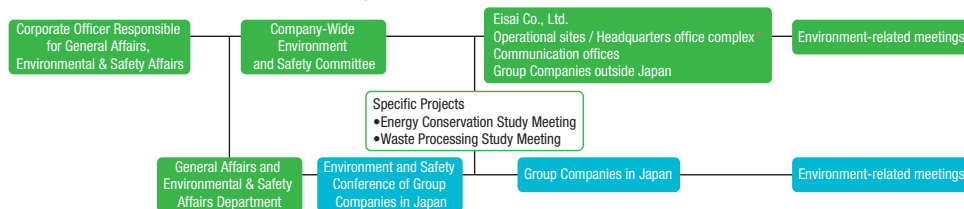
To the present, the committee mainly carried out discussions focused on Japan. However, the committee is now promoting global activities encompassing topics from overseas. We are also strengthening activities for ascertaining environment-related risks and for establishing measures to reduce them.

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 2018 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 2018, 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. We also made steady progress in our response to the Act on Rational Use and Proper Management of Fluorocarbons and submitted each type of environmental notification to the relevant authorities without any delay.

In September 2018 the Honjo Facility ceased business. Along with this, from October 2018

through January 2019, we conducted a soil survey based on the Soil Contamination Countermeasures Act and a voluntary groundwater survey. As a result, specified toxic substances exceeding standard values were detected in some soil on the grounds.

We reported the results to Saitama Prefecture and received designation as an Area for which Notification Is Required upon Change to Form or Nature.

We coated all contaminated points and implemented anti-scattering measures for the surface soil.

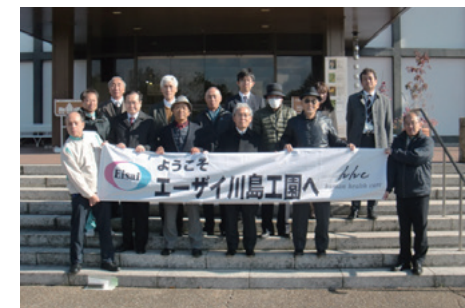
Additionally, upon implementing groundwater testing at the points where contamination was found, we confirmed there were no residual pollutants exceeding standard values. In the future, we will continue to make appropriate responses in accordance with laws, ordinances and regulations under the guidance of Saitama Prefecture.

## 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 2018

Environmental incident	Operational site/company	Details	Response
Leakage	Kawashima Plant	Fluorocarbon refrigerant leaked from refrigeration equipment for air conditioning installed at the No. 3 Drug Formulation Building.	After discovering the leakage, we immediately contacted the Kagamihara fire department headquarters. A crack developed in the flare connection part of the refrigerant piping linking the compressor and expansion valve. We believe the main cause of the leakage was metal fatigue in the refrigerant piping that occurred because the anti-vibration rubber was tightened excessively during an overhaul prior to equipment operation. We restored the anti-vibration rubber to a normal state, replaced the damaged piping and refilled the refrigerant. We then confirmed the facility was operating normally and resumed usage.



# 5 Formation of a Low-Carbon Society



## Establishing SBT (Science Based Targets: Targets for Reducing Greenhouse Gas (GHG) Emissions Based on Scientific Grounds)

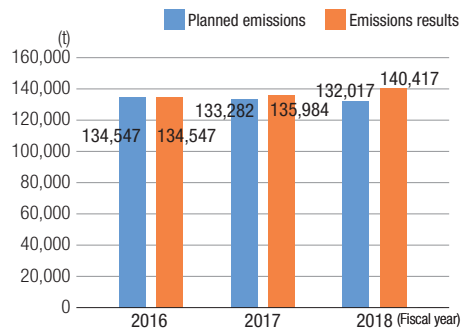
The Eisai Group is working to reduce CO<sub>2</sub> emissions from business activities to contribute to climate change mitigation. In particular, the Eisai Group in Japan has steadily implemented a CO<sub>2</sub> emission reduction plan toward fiscal 2020. Nonetheless, today there is a need for medium- and long-term GHG reduction initiatives based on scientific grounds to curb the advance of climate change. Accordingly, the Eisai Group has established SBT toward fiscal 2030 as detailed below and has started undertaking related initiatives. These targets have been approved

by the international NGO SBTi. (<https://sciencebasedtargets.org/>)

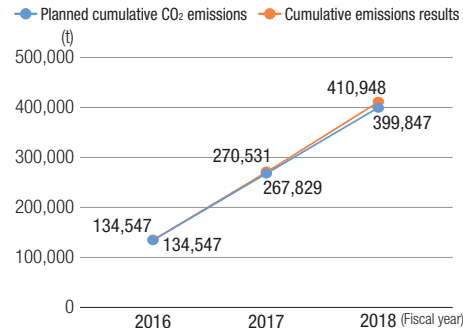
- A 30% reduction in GHG emissions (scope 1+2) by fiscal 2030 compared with fiscal 2016
  - A 30% reduction in GHG emissions (within scope 3, emissions from purchased products and services) by fiscal 2030 compared with fiscal 2016
- Scope 1: GHG emissions released directly into the atmosphere through the use of fuels  
 Scope 2: GHG emissions associated with the use of purchased energy (electricity and heat)  
 Scope 3: Indirect GHG emissions in the supply chain excluding the company

### State of SBT Progress\*

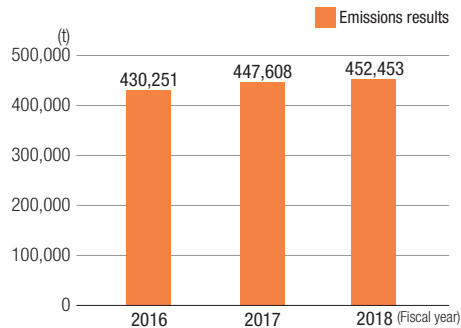
Trends in scope (1+2) CO<sub>2</sub> emissions



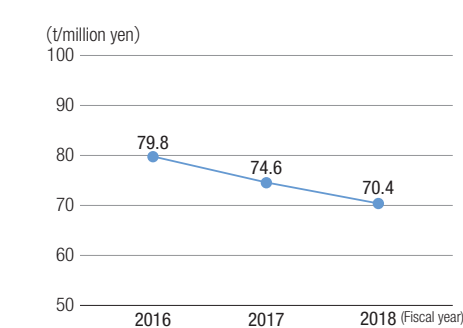
Trends in scope (1+2) cumulative CO<sub>2</sub> emissions



Scope 3 CO<sub>2</sub> emissions (Category 1)



Scope 3 CO<sub>2</sub> emissions (Category 1)/net sales

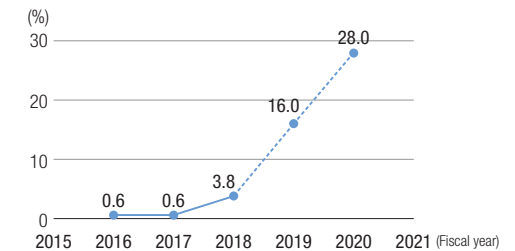


\* Scope 2 emissions are calculated based on a market-based method.

### Plan for Adopting Renewable Energy

The Eisai Group has worked to reduce CO<sub>2</sub> emissions accompanying our business activities from a CSR perspective. Today even more aggressive reductions are being demanded for climate change mitigation. In the future, we will systematically raise our renewable energy adoption rate and work to further reduce CO<sub>2</sub> emissions.

Renewable energy adoption target



## Initiatives toward the Formation of a Low-Carbon Society

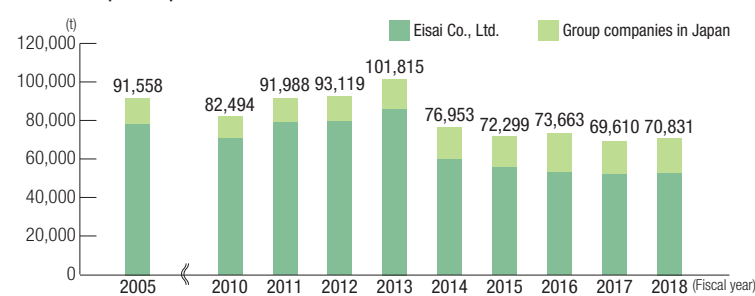
The Eisai Group in Japan is promoting initiatives for the formation of a low-carbon society to help solve the problem of climate change. Eisai Co., Ltd. is participating in the Commitment to a Low Carbon Society initiated by the Federation of Pharmaceutical Manufacturers' Associations of Japan (FPMAJ), and the Eisai Group in Japan is implementing relevant initiatives based on its own medium-term plan for the reduction of CO<sub>2</sub> emissions toward fiscal 2020.

In fiscal 2018, an increase in the volume of production, mainly for anti-cancer agents and anti-epileptic agents, resulted in an increase in energy consumption at plants both in and outside Japan. Nevertheless, the Eisai Group in Japan was able to hold down CO<sub>2</sub> emissions to 70,831 tons, a 1.8% increase from the previous fiscal year, by steadily

carrying out energy-saving activities cultivated to the present.

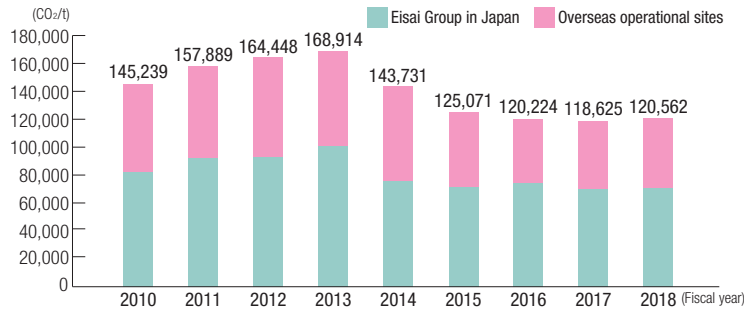
Overseas, energy consumption rose significantly along with an expansion of the Suzhou Plant (China), and this led to an increase in CO<sub>2</sub> emissions of around 3,500 tons. On the other hand, the Vizag Plant (India) began purchasing solar power from outside the company in September 2018. This resulted in an approximately 4,000 ton decrease in CO<sub>2</sub> emissions and contributed significantly to a reduction of CO<sub>2</sub> emissions for the entire Eisai Group. Total emissions for the Eisai Group combining domestic Group and overseas plants and research laboratories were held to a 1.6% increase from the previous fiscal year.

### Eisai Group in Japan CO<sub>2</sub> Emissions\*1



Notes: Historical data was revised along with a change in emission factors (Refer to page 3).  
 \*1 Emissions from commercial vehicles are not included.

## Eisai Group CO<sub>2</sub> Emissions \*1



Notes: Past data was revised along with a change in emission factors (Refer to page 3).  
\*1 Emissions from business activities at offices outside Japan are not included.

## CO<sub>2</sub> Emissions by Region \*2, \*3

Region	Scope 1	Scope 2	Total
Japan	22,965	51,620	74,585
Asia	9,414	21,262	30,676
U.S.	9,668	15,461	25,129
EMEA	6,217	4,845	11,062

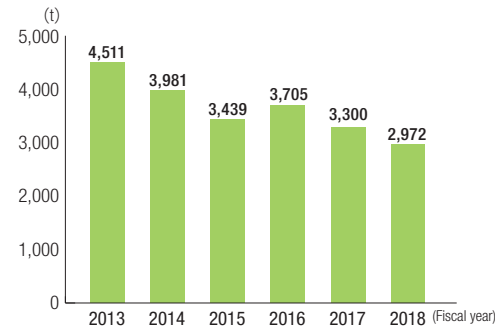
\*2 Including emissions from vehicles for commercial use in and outside Japan  
\*3 Including emissions from business activities at offices in and outside Japan

## Efforts Undertaken at Offices

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 and others when employees leave their seats for a while. At large 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<sub>2</sub> emissions originating from office activities of the Eisai Group in Japan in fiscal 2018 totaled 2,972

tons, a 9.9% decrease from fiscal 2017.

## Office Activities CO<sub>2</sub> Emissions (Eisai Group in Japan)

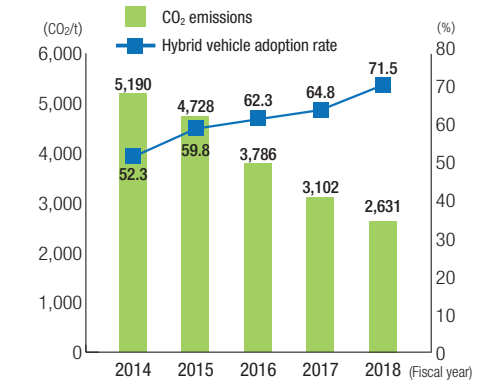


Notes: Past data was revised along with a change in emission factors (Refer to page 3).

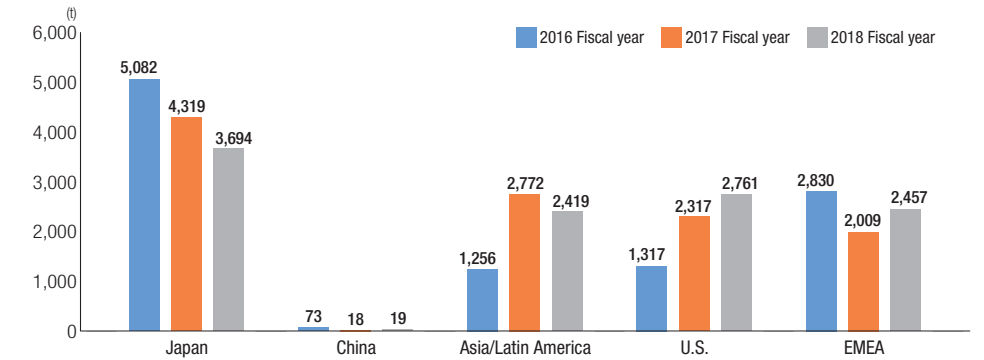
## Efforts concerning Commercial Vehicles

Eisai Co., Ltd. also undertakes efforts to reduce CO<sub>2</sub> emissions from sales operations. The replacement of commercial vehicles with hybrid vehicles (HV) has been proceeding steadily, and in principle, a changeover to HVs is required when purchasing new vehicles since 2010. The adoption rate of HVs rose 6.7% to 71.5% in fiscal 2018, and CO<sub>2</sub> emissions originating from commercial vehicles decreased 15.2% from fiscal 2017 to 2,631 tons. We will continue shifting to more fuel-efficient vehicles as part of our efforts to further reduce emissions.

## Commercial Vehicles CO<sub>2</sub> Emissions



## Commercial Vehicles CO<sub>2</sub> Emissions (Trends in Emissions by Region)



## CO<sub>2</sub> Emissions Breakdown by Scope (Scopes 1 and 2, Eisai Group)

	Scope 1	Scope 2	Total
Production plants	23,055	55,680	78,735
Research facilities	11,164	24,736	35,900
Offices	2,468	10,039	12,508
Warehouse	153	2,732	2,886
Vehicles for commercial and other business use	11,424	—	11,424
<b>Total</b>	<b>48,264</b>	<b>93,187</b>	<b>141,453</b>

## Enhancing Resilience to Climate Change-related Risk and Performing Analyses of Climate Change Impacts Utilizing the TCFD Framework

The Eisai Group recognizes that raising resilience toward climate change-related business impacts in addition to reducing CO<sub>2</sub> emissions accompanying business activities are essential for continuing to fulfill our corporate social responsibilities as a pharmaceutical company. This is why we expressed our support for the recommendations of the Task Force on Climate-related Financial Disclosures

(TCFD)\* in June 2019, and we are also performing analyses of climate-related risks and opportunities utilizing the TCFD framework. By accurately ascertaining the impacts of climate change on business over the medium and long terms, we will effectively work to reduce risk and create opportunities and sequentially expand and upgrade information disclosure.

### Governance

Our structure to promote environmental protection is as shown in “4. Environmental Management.” Regarding climate-related risks and opportunities, Eisai also launched a cross-organizational project, with the Corporate Officers in charge of General Affairs and Environmental and Safety Affairs as the overall persons in charge. This project will identify climate-related risks and opportunities. In the future, we will consider strategies for raising resilience and climate-related risk management.

### Strategy

Eisai recognizes that climate-related risks and opportunities are important elements for consideration in strategy formulation. The World Health Organization (WHO) forecasts an increase in tropical diseases due to climate change and Eisai is pushing ahead with the development of pharmaceuticals for malaria and neglected tropical diseases (NTDs).

The chart below shows the results of analysis as well as countermeasures regarding climate-related risks and opportunities in Eisai’s business and supply chain. In the future, Eisai plans to perform detailed analysis of items considered to be of even higher risk while promoting scenario analysis to evaluate long-term climate-related risks and opportunities.

### Risk Management

Eisai has begun analyzing the impact of climate change on our business over the medium and long terms. In the future, besides existing risk management activities (CSA: Control Self Assessment), we plan to also carry out centralized management of climate-related risks at the Risk Management Committee.

### Metrics and Targets

In raising resilience to climate change risk as well, we believe it is important to make efforts to reduce GHGs not only at the Company but also throughout our entire supply chain. Climate-related metrics and targets are as shown in “5. Formation of a Low-Carbon Society (pages 9-10).”

\* TCFD is a private-sector-led task force for disclosing climate-related financial information and is positioned under the Financial Stability Board (FSB) comprising representatives from the central banks, financial supervisory authorities, ministries of finance and other agencies from 25 main countries and regions. It aims to identify and disclose the financial impact of risks and opportunities arising from climate change and publicly announces its recommendations.

	Major climate-related risks and opportunities	Response measures
Physical risks	Impediments to production activities and procurement activities due to increases in natural disasters	Promote risk analysis and resilience countermeasures for operational sites and suppliers
	Supply shortage of pharmaceuticals in the event of a simultaneous occurrence of rising healthcare needs and impediments to production activities due to natural disasters	Strengthen structure for providing stable supplies in times of emergencies
Transition risks	Rises in manufacturing costs and logistics costs due to increased prices for fuels, electric power and other items	Minimize impacts through expansion of renewable energy use
	Impact of strengthened environmental regulations on the operations of production plants and suppliers	Strengthen environmental management of plants and suppliers in anticipation of future environmental regulations
	Opportunity loss in the case of delayed responses to rising environmental requirements	Steady reduction in GHG emissions for the attainment of SBT (* Please refer to page 9 for details.)
Opportunities	Obtain market opportunities by responding to rising healthcare needs due to climate change	Develop pharmaceuticals for the treatment of malaria and NTDs
	Enhancement of corporate value from outside the company through environmental considerations	Promote environmental considerations, coexistence with local communities We are working to protect biodiversity, including the protection of depleted plants, at the Kawashima Plant and The Naito Museum of Pharmaceutical Science and Industry. (* Please refer here for details on The Naito Museum of Pharmaceutical Science and Industry. <a href="http://www.eisai.co.jp/museum/english/index.html">http://www.eisai.co.jp/museum/english/index.html</a> )



## 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 <sup>3</sup> )	LNG (m <sup>3</sup> )	Processed natural gas (1,000 m <sup>3</sup> )	CWS* (tons)	Industrial steam (GJ)	Cold water (GJ)
In Japan	Amount used	97,966.7	1,642.9	51.8	20.0	30.2	1,013.1	0.0	654.3	6,642.6		50,380.2	169.4
	Calorific value (GJ)	976,728.2	54,380.4	1,890.1	762.6	1,174.8	50,756.8	0.0	35,646.3	273,740.4		51,387.8	230.4
	Ratio (%)	67.5	3.8	0.1	0.1	0.1	3.5	0.0	2.5	18.9		3.6	0.0
Outside Japan	Amount used	78,330.5	2,278.3	0.0	2,575.8	0.0	10.0	4,870.0	0.0	0.0	897.2	959.0	0.3
	Calorific value (GJ)	780,954.6	75,412.7	0.0	98,138.6	0.0	502.5	197,038.0	0.0	0.0	18,751.1	886.7	0.4
	Ratio (%)	66.7	6.4	0.0	8.4	0.0	0.0	16.8	0.0	0.0	1.6	0.1	0.0
Total	Amount used	176,297.2	3,921.2	51.8	2,595.8	30.2	1,023.1	4,869.9	654.3	6,642.6	897.2	51,339.2	149.8
	Calorific value (GJ)	1,757,682.8	129,793.1	1,890.1	98,901.3	1,174.8	51,259.3	197,038.0	35,646.3	273,740.4	18,751.1	52,274.5	203.7
	Ratio (%)	67.1	5.0	0.1	3.8	0.0	2.0	7.5	1.4	10.5	0.7	2	0.0

\* Abbreviation for COAL WATER SLURRY

## Group Companies in Japan CO<sub>2</sub> Emissions\*<sup>1</sup>

Company name	2014	2015	2016	2017	2018
Sunplanet Co., Ltd.	590	551	605	594	620
EA Pharma Co., Ltd.	—	—	14,024	11,293	11,401
Elmed Eisai Co., Ltd.	162	159	158	141	138
Bracco-Eisai Co., Ltd.	108	105	102	110	123
Eisai Distribution Co., Ltd.	2,690	2,749	2,888	2,689	2,886
KAN Research Institute, Inc.	2,726	2,550	2,596	2,554	2,621
Sannova Co., Ltd.* <sup>2</sup>	8,896	8,511	—	—	—
EIDIA Co., Ltd.* <sup>2</sup>	849	618	—	—	—
Eisai Food & Chemical Co., Ltd.* <sup>2</sup>	69	51	—	—	—
<b>Eisai Group in Japan Total</b>	<b>16,090</b>	<b>15,293</b>	<b>20,372</b>	<b>17,381</b>	<b>17,787</b>

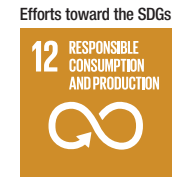
## Eisai Co., Ltd. CO<sub>2</sub> Emissions\*<sup>1</sup>

Office name	2014	2015	2016	2017	2018
Kawashima Plant	27,284	26,036	22,362	21,065	22,238
Honjo Facility	1,121	1,018	879	666	287
Kashima Plant	8,620	8,569	8,644	9,533	10,254
Tsukuba Research Laboratories	20,219	18,321	18,707	18,500	17,969
Headquarters office complex	2,005	1,766	1,628	1,532	1,475
Communication offices (sales offices in Japan)	1,615	1,296	1,070	933	821
<b>Eisai Co., Ltd. Total</b>	<b>60,863</b>	<b>57,006</b>	<b>53,291</b>	<b>52,229</b>	<b>53,044</b>
<b>Eisai Group in Japan Total</b>	<b>76,952</b>	<b>72,299</b>	<b>73,663</b>	<b>69,610</b>	<b>70,831</b>

\*<sup>1</sup> Past data was revised along with a change in emission factors (Refer to page 3).

\*<sup>2</sup> These companies were transferred to other companies and were accordingly excluded from the Group during fiscal 2015.

# 6 Establishment of a Recycling-Oriented Society



## Waste Reduction Results in Fiscal 2018

The Eisai Group in Japan is working to achieve zero emissions, which involves reducing the ratio of waste sent to landfill to the amount of waste generated to 1% or less, 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 2018, we attained zero emissions for the 11th consecutive fiscal year; however, the total amount of waste generated increased by 23%. The main cause was an increase in waste sludge, waste oil and waste acids and alkali attributable to an increase in production at the plants in Japan. Moreover, an increase in the entrustment of waste disposal of

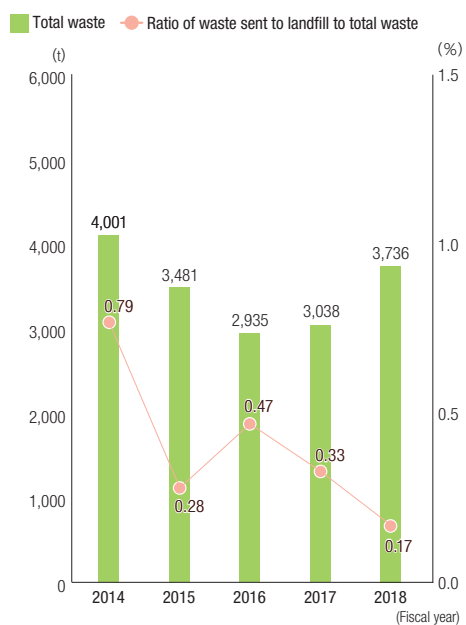
waste plastics that were previously sold also led to the increase in waste generated. The amount of waste disposal in Japan increased due to recent waste plastic import restrictions in China and Southeast Asia, and this caused a decrease in the recycling ratio (including valuables sold).

At the same time, we are continuing 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 significantly from the previous fiscal year, the amount of waste sent to landfill declined 36% from the previous fiscal year and led to the attainment of zero emissions.

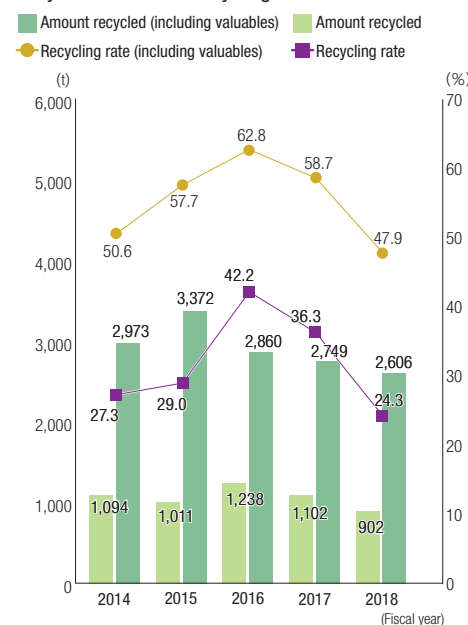
## Total Waste for the Past Five Fiscal Years

	FY2014	FY2015	FY2016	FY2017	FY2018
Sludge	1,636	1,276	885	724	900
Waste oil	663	744	739	910	1,075
Waste acids and alkali	608	756	534	568	790
Waste plastic	412	313	245	266	388
Scrap metal	43	18	42	52	76
Glass and ceramic waste	34	22	32	24	21
Industrial waste and other	105	122	222	205	213
General waste	500	232	236	289	273
Amount of waste generated	4,001	3,481	2,935	3,038	3,736
Amount sold	1,879	2,360	1,622	1,648	1,699
Amount of waste generated and sold	5,880	5,841	4,557	4,686	5,435

## 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. At the Kashima Plant, 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 for waste oil.

## 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 2018, a total of 72 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 with priority given to government-certified excellent industrial waste management contractors.

# 7 Management of Chemical Substances

## Proper Management of PRTR Substances

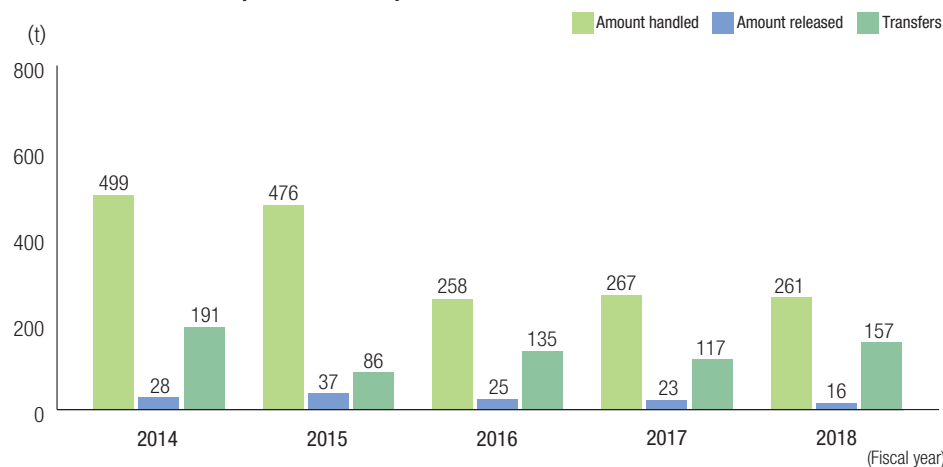
Chemical substances that are used in the research and development and production of pharmaceutical products include some substances subject to the PRTR system that could have an impact on the environment. The amounts of these substances handled, released into the environment and transferred as waste 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 2018 remained almost the same as the previous fiscal year's level, coming to 261 tons. Notifications were made to authorities for seven substances, one less substance than in fiscal 2017.

Actual Use of Substances Subject to the PRTR System



Fiscal 2018 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	19,840	0.178	0.000	19,662	0.000
Ethylbenzene	53	1	9,860	0.000	0.000	1,579	0.000
Dichloromethane (also known as methylene chloride)	186	2	188,432	15.442	0.000	96,165	0.000
N, N-dimethylformamide	232	1	15,264	0.000	0.000	15,264	0.000
Toluene	300	1	5,241	0.031	0.000	5,210	0.000
Hexane	392	1	13,807	0.233	0.000	13,574	0.000
Formaldehyde	411	1	2,791	0.174	0.000	0,769	0.000

\* Actual data on usage of PRTR designated chemical substances

## Volatile Organic Compounds (VOCs) Release Control

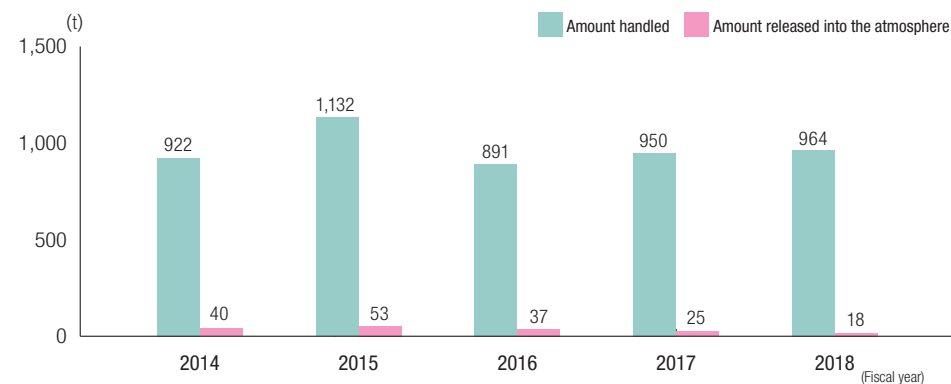
VOCs, such as ethyl acetate, acetone and methanol, are highly volatile and turn into gas in the atmosphere, and as is the case with NOx discharged from production plants, cause the generation of photochemical oxidants. In view of preventing air pollution, these substances need to be controlled to reduce 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 2018 increased from fiscal 2017, due mainly to an increase in the production output of the Kashima Plant. Despite an increase in the amount of VOCs handled by the Eisai Group in Japan, the amount released into the atmosphere was reduced.

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





# 8 Saving Resources



## 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, in fiscal 2018 waste disposal for the portions stored at the Honjo Facility and Tsukuba Research Laboratories were completed.

Along with the enforcement of the amended PCB Special Measures Act on August 1, 2016, we implemented surveys of any additional generation of PCB waste materials at Group companies in Japan. As a result, a new case was found at the Kawashima

Plant and the amounts in storage are as shown in the chart below. In the future, we will systematically progress with waste disposal. We promptly reported on the state of disposal and storage to the relevant prefectural governments in accordance with the PCB Special Measures Act.

PCB waste still held by Eisai	Quantity
Fluorescent ballast	238
Oil containing PCB (reagent)	3 bags (37.5g)
PCB contaminants	3 bags (2,601.4kg)
High-voltage capacitors	1
Transformer	1

## 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.

Fluorocarbons have a strong greenhouse gas effect and therefore we conduct regular inspections to prevent leakage incidents. At the same time, in the event of leakage, we make efforts to immediately

share information and prevent a recurrence. When disposing of equipment, we properly destroy and dispose of fluorocarbons according to the Fluorocarbons Recovery and Destruction Law.

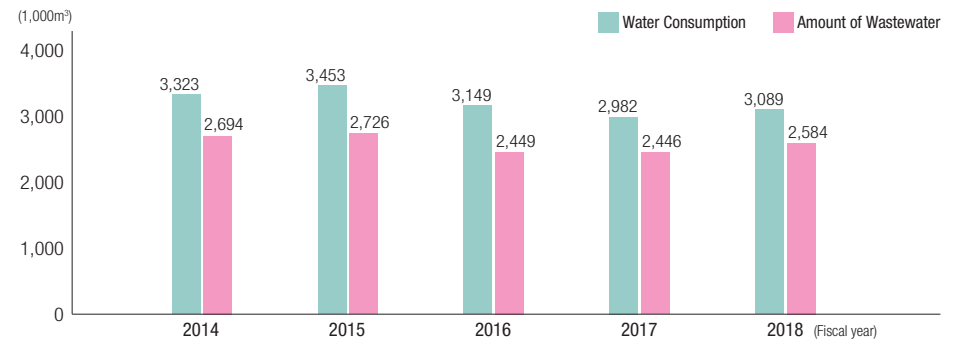
The leakage volume of fluorocarbons of Eisai Co., Ltd. in fiscal 2018 that we calculated under the Act on Controlling Emissions of Fluorocarbons was equivalent to 508 tons of CO<sub>2</sub>, which fell below the threshold for notification to the Ministry of Health, Labour and Welfare.

## 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, reusing wastewater and working to use water resources effectively. 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.

We implemented a questionnaire at overseas plants and research laboratories based on a medium-term outlook. The results of the questionnaire showed that no plants or research laboratories are situated in regions where there is a high risk of operations being suspended due to a water shortage. However, based on analysis results of the database Think Hazard, there is expected to be medium-level risk of water shortages in China, India and Indonesia. While always considering the risk of facing water shortages due to changes in the environment accompanying the advance of climate change, we will work to ensure stable supplies of high-quality products.

Eisai Group Water Consumption and Amount of Wastewater \*



\* The past figures were reviewed upon recalculation.

## 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-

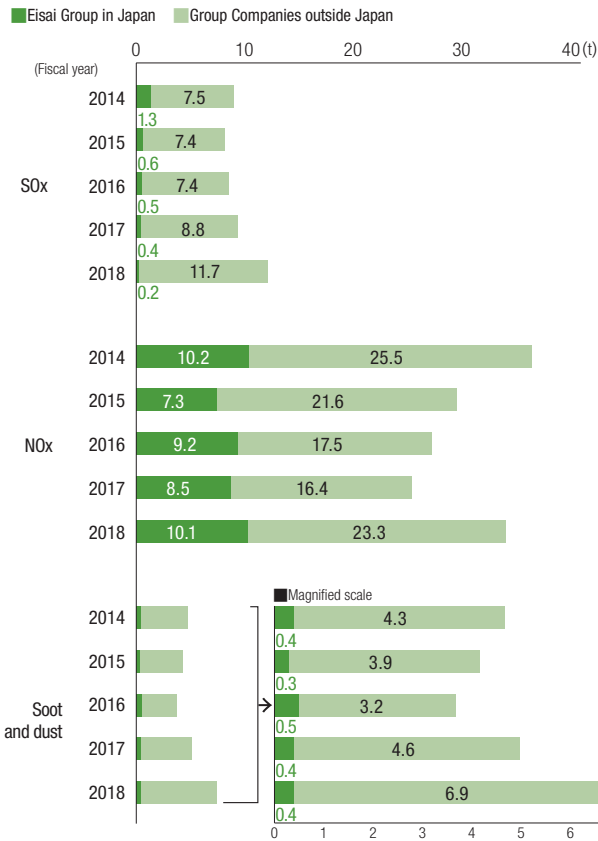
production, mass-consumption and mass-waste. Eisai Co., Ltd., in particular, has been actively committed to this initiative through participation in the Green Purchasing Network\* and in accordance with its own Green Purchasing Guidelines.

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

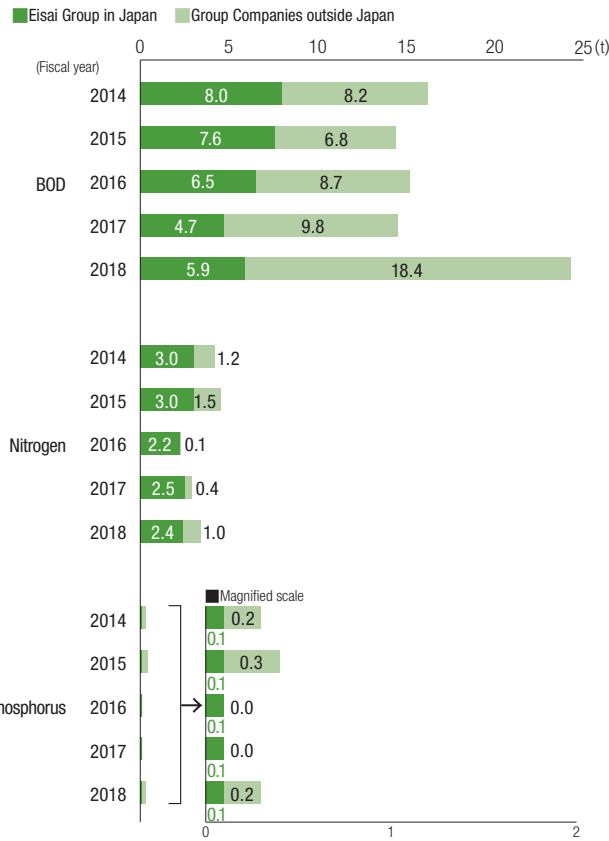
# 9

## Air Pollutant Emissions and Pollutant Load in Wastewater

### Air Pollutant Emissions\*



### Pollutant Load in Wastewater\*



### Air Pollutant Emissions in Fiscal 2018 by Site

Category	Operational site/Company	SOx (kg)	NOx (kg)	Soot and dust (kg)
Eisai Group in Japan	Kawashima Plant	153	6,880	330
	Tsukuba Research Laboratories	—	2,755	95
	EA Pharma Fukushima Plant	0.02	492	9
	Subtotal	153	10,126	435
Group Companies outside Japan	Andover Research Institute	20	3,080	60
	Vizag Plant	11,640	17,630	6,789
	Morphotek Inc.	7	262	15
	Baltimore Plant	3,091	2,367	—
Subtotal	11,667	23,339	6,864	
Total	11,820	33,465	7,299	

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

### Pollutant Load in Wastewater in Fiscal 2018 by Site

Category	Operational site/Company	BOD (kg)	COD (kg)	Nitrogen (kg)	Phosphorus (kg)
Eisai Group in Japan	Kawashima Plant	2,251	—	2,307	52
	Tsukuba Research Laboratories	2,809	—	—	—
	Kashima Plant	775	496	—	—
	Honjo Facility	5	—	18	3
	EA Pharma Fukushima Plant	32	—	36	27
	KAN Research Institute	15	—	—	—
Subtotal	5,887	496	2,361	82	
Group Companies outside Japan	Morphotek Inc.	3,657	—	279	123
	Suzhou Plant	—	—	—	36
	Vizag Plant	14,755	46,248	703	—
Subtotal	18,411	46,248	982	159	
Total	24,298	46,744	3,343	241	

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

\* The past figures were reviewed upon recalculation.

# 10

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

### Kawashima Plant (FY)

	2016	2017	2018
<b>Energy consumption</b>			
Electricity (MWh)	26,597	25,012	27,393
Processed natural gas (tons)	4,072	4,076	4,032
Liquefied petroleum gas (LPG) (tons)	3	5	34
<b>Waste treatment</b>			
Amount generated (tons)	602	503	635
Recycled amount (tons)	67	76	175
Amount sent to landfill (tons)	0.1	0.1	0.1
<b>Air pollutant emissions and pollutant load in wastewater</b>			
SOx (kg)	480	447	153
NOx (kg)	6,172	4,719	6,880
Soot and dust (kg)	318	218	330
Water consumption (1,000 m <sup>3</sup> )	2,317	2,181	2,272
Wastewater discharge (1,000 m <sup>3</sup> )	1,938	1,979	2,088
BOD (kg)	2,151	2,413	2,251
Nitrogen (kg)	1,971	2,278	2,307
Phosphorus (kg)	39	43	52

### Tsukuba Research Laboratories (FY)

	2016	2017	2018
<b>Energy consumption</b>			
Electricity (MWh)	27,357	27,558	27,010
Processed natural gas (tons)	2,116	2,226	2,116
Fuel oil A (kl)	37	40	30
<b>Waste treatment</b>			
Amount generated (tons)	193	159	174
Recycled amount (tons)	73	69	77
Amount sent to landfill (tons)*	1.3	1.5	1.7
<b>Air pollutant emissions and pollutant load in wastewater</b>			
SOx (kg)	-	-	-
NOx (kg)	2,334	3,097	2,755
Soot and dust (kg)	135	180	95
Water consumption (1,000 m <sup>3</sup> )	167	147	163
Recycled water (1,000 m <sup>3</sup> )	96	100	87
Wastewater discharge (1,000 m <sup>3</sup> )	142	125	138
BOD (kg)	3,291	1,434	2,809
Nitrogen (kg)	-	-	-
Phosphorus (kg)	-	-	-

\* "-" indicates that no measurement was taken.

### Kashima Plant (FY)

	2016	2017	2018
<b>Energy consumption</b>			
Electricity (MWh)	11,860	13,103	14,533
Industrial steam (GJ)	41,698	50,246	50,380
Liquefied petroleum gas (LPG) (tons)	1	6	6
<b>Waste treatment</b>			
Amount generated (tons)	1,210	1,380	1,761
Recycled amount (tons)	739	588	256
Amount sent to landfill (tons)	0.0	0.0	0.0
<b>Air pollutant emissions and pollutant load in wastewater</b>			
SOx (kg)	-	-	-
NOx (kg)	-	-	-
Soot and dust (kg)	-	-	-
Water consumption (1,000 m <sup>3</sup> )	53	56	55
Wastewater discharge (1,000 m <sup>3</sup> )	49	49	52
BOD (kg)	779	394	775
Nitrogen (kg)	76	148	0
Phosphorus (kg)	24	27	0

\* "-" indicates that no measurement was taken.

### EA Pharma Co., Ltd., Fukushima Plant (FY)

	2016	2017	2018
<b>Energy consumption</b>			
Electricity (MWh)	12,206	12,313	12,539
Liquefied petroleum gas (LPG) (tons)	1,569	1,541	963
<b>Waste treatment</b>			
Amount generated (tons)	464	370	393
Recycled amount (tons)	119	94	129
Amount sent to landfill (tons)	0.3	0.3	0.0
<b>Air pollutant emissions and pollutant load in wastewater</b>			
SOx (kg)	0.0*	0.0	0.0
NOx (kg)	694	649	492
Soot and dust (kg)	12.6	15.9	9.0
Water consumption (1,000 m <sup>3</sup> )	75	78	73
Wastewater discharge (1,000 m <sup>3</sup> )	51	41	32
BOD (kg)	117	105	32
Nitrogen (kg)	65	54	36
Phosphorus (kg)	24	19	27

\* Corrected value

### KAN Research Institute, Inc. (FY)

	2016	2017	2018
<b>Energy consumption</b>			
Electricity (MWh)	3,289	3,362	3,455
Processed natural gas (tons)	424	418	428
<b>Waste treatment</b>			
Amount generated (tons)	42	44	40
Recycled amount (tons)	11	10	8
Amount sent to landfill (tons)	0.8	0.8	0.8
<b>Air pollutant emissions and pollutant load in wastewater</b>			
SOx (kg)	-	-	-
NOx (kg)	-	-	-
Soot and dust (kg)	-	-	-
Water consumption (1,000 m <sup>3</sup> )	16	16	16
Wastewater discharge (1,000 m <sup>3</sup> )	16	16	15
BOD (kg)	16	348	15
Nitrogen (kg)	-	-	-
Phosphorus (kg)	-	-	-

\* "-" indicates that no measurement was taken.

### Principal PRTR Substances Handled

	2016	2017	2018
<b>Kawashima Plant</b>			
Acetonitrile (tons)	0.9	1.8	1.9
<b>Tsukuba Research Laboratories</b>			
Acetonitrile (tons)	2.8	2.6	3.6
Dichloromethane (tons)	1.4	0.8	0.5
Hexane (tons)	0.2	0.2	0.2
<b>Kashima Plant</b>			
Acetonitrile (tons)	19	17	14
Ethylbenzene (tons)	4	5	10
Ethylenediamine (tons)	0	2	0
Dichloromethane (tons)	157	166	164
N, N-dimethylformamide (tons)	7	11	15
Toluene (tons)	18	23	5
Formaldehyde (tons)	1.4	1.5	2.8
Hexane (tons)	13	1	14
<b>EA Pharma Co., Ltd., Fukushima Plant</b>			
Acetonitrile (tons)	0.7	0.9	1.0
Dichloromethane (tons)	27.7	29.6	24.7
<b>KAN Research Institute, Inc.</b>			
Xylene (kg)	3	0	3
Chloroform (kg)	1.5	1.5	3.3
Formaldehyde (kg)	2.1	2.7	1.8

# 11

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

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

	2016	2017	2018
<b>Energy consumption</b>			
Electricity (MWh)	11,900	11,623	14,752
Liquefied natural gas (LNG) (m <sup>3</sup> )	631	767	
Natural gas (1,000 m <sup>3</sup> )	–	–	1,468
Industrial steam (tons)	12,258	10,909	959
<b>Waste treatment</b>			
Amount generated (tons)	381	399	212
Recycled amount (tons)	335	341	122
Amount incinerated (tons)	46	58	91
<b>Pollutant load in wastewater</b>			
Water consumption (1,000 m <sup>3</sup> )	46	36	40
Wastewater discharge (1,000 m <sup>3</sup> )	37	29	32
Phosphorus (kg)	2	25	36

“–” indicates that no measurement was taken.

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

	2016	2017	2018
<b>Energy consumption</b>			
Electricity (MWh)	2,980	3,669	3,771
CWS (tons)	2,166	2,656	897
Natural gas (1,000 m <sup>3</sup> )	–	–	483
Light oil (kl)	12	10	9
<b>Waste treatment</b>			
Amount generated (tons)	182	132	–
Recycled amount (tons)	12	16	17
Amount sent to landfill (tons)	–	–	–
<b>Pollutant load in wastewater</b>			
Water consumption (1,000 m <sup>3</sup> )	78	74	68
Wastewater discharge (1,000 m <sup>3</sup> )	62	59	40

“–” indicates that no measurement was taken.

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

	2016	2017	2018
<b>Energy consumption</b>			
Electricity (MWh)	1,033	926	986
Light oil (kl)	2	1	1
Liquefied petroleum gas (LPG) (tons)	1	1	0.02
<b>Waste treatment</b>			
Amount generated (tons)	8	5	3
Recycled amount (tons)	8	5	3
Amount sent to landfill (tons)	0	0	0
<b>Pollutant load in wastewater</b>			
Water consumption (1,000 m <sup>3</sup> )	6.4	5.4	5.5
Wastewater discharge (1,000 m <sup>3</sup> )	0.4	2.5	0.4
BOD (kg)	3.4		2.3
Phosphorus (kg)	0.8		4

### Eisai Knowledge Centre, India (Andhra Pradesh, India) (FY)

	2016	2017	2018
<b>Energy consumption</b>			
Electricity (MWh)	11,482	13,068	15,322
Light oil (kl)	614	681	1,003
Liquefied petroleum gas (LPG) (tons)	6	9	9
<b>Waste treatment</b>			
Amount generated (tons)	126	210	286
Recycled amount (m <sup>3</sup> )	109	189	264
Amount incinerated (tons)	16	21	22
<b>Air pollutant emissions</b>			
SOx (kg)	7,388	8,738	11,640
NOx (kg)	10,944	13,126	17,630
Soot and dust (kg)	2,919	4,558	6,789
<b>Pollutant load in wastewater</b>			
Water consumption (1,000 m <sup>3</sup> )	111	138	157
Wastewater discharge (1,000 m <sup>3</sup> )	36	48	83
COD (kg)	15,255	10,531	46,248
BOD (kg)	8,650	9,847	14,755
Nitrogen (kg)	245	402	703

### European Knowledge Centre (Hertfordshire, U.K.) (FY)

	2016	2017	2018
<b>Energy consumption</b>			
Electricity (MWh)	6,223	6,700	6,728
Natural gas (1,000 m <sup>3</sup> )	816	894	854
Light oil (kl)	3	3	0.3
<b>Waste treatment</b>			
Amount generated (tons)	197	217	209
Recycled amount (tons)	197	217	209
Amount sent to landfill (tons)	0	0	0
<b>Pollutant load in wastewater</b>			
Water consumption (1,000 m <sup>3</sup> )	18	19	22
Wastewater discharge (1,000 m <sup>3</sup> )	18	19	22

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

	2016	2017	2018
<b>Energy consumption</b>			
Electricity (MWh)	8,965	8,680	6,675
Natural gas (1,000 m <sup>3</sup> )	1,588	1,575	1,100
Light oil (kl)	5	12	2
<b>Waste treatment</b>			
Amount generated (U.S. tons)* <sup>1</sup>	131	162	162
Recycled amount (U.S. tons)	34	55	28
Amount sent to landfill (U.S. tons)	50	77	89
<b>Air pollutant emissions</b>			
SOx (kg)	20	20	20
NOx (kg)	3,020	2,990	3,080
Soot and dust (kg)	60	50	60
<b>Pollutant load in wastewater</b>			
Water consumption (1,000 m <sup>3</sup> )	29	29	28

### Morphotek Inc. (Pennsylvania, U.S.) (FY)

	2016	2017	2018
<b>Energy consumption</b>			
Electricity (MWh)	8,675	8,777	8,963
Natural gas (decatherms)* <sup>2</sup>	48,883	55,039	53,859
Light oil (kl)	19	10	12
<b>Waste treatment</b>			
Amount generated (tons)	131	120	120
Recycled amount (tons)	33	30	30
Amount sent to landfill (tons)	81	74	64
<b>Air pollutant emissions</b>			
SOx (kg)	30	8	7
NOx (kg)	3,570	284	262
Soot and dust (kg)	260	12	15
<b>Pollutant load in wastewater</b>			
Water consumption (1,000 m <sup>3</sup> )	45	42	45
Wastewater discharge (1,000 m <sup>3</sup> )	27	24	26
BOD (kg)	–	–	3,657
Nitrogen (kg)	84	9	279
Phosphorus (kg)	–	12	123

“–” indicates that no measurement was taken.

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

	2016	2017	2018
<b>Energy consumption</b>			
Electricity (MWh)	4,075	3,917	3,839
Natural gas (decatherms)* <sup>2</sup>	4,190	5,674	8,361
<b>Waste treatment</b>			
Amount generated (tons)	35	35	27
Recycled amount (tons)	14	18	12
Amount sent to landfill (tons)	0.2	0	0.1
<b>Pollutant load in wastewater</b>			
Water consumption (1,000 m <sup>3</sup> )	7.8	11	8
Wastewater discharge (1,000 m <sup>3</sup> )	7.8	11	8

### Eisai Inc., Baltimore Plant (Maryland, U.S.) (FY)

	2016	2017	2018
<b>Energy consumption</b>			
Electricity (MWh)	5,485	5,562	5,604
Natural gas (decatherms)* <sup>2</sup>	17,032	18,676	17,214
<b>Waste treatment</b>			
Amount generated (tons)	21	21	23
Recycled amount (tons)	8	8	8
Amount sent to landfill (tons)	10	12	12
<b>Pollutant load in wastewater</b>			
Water consumption (1,000 m <sup>3</sup> )			7
Wastewater discharge (1,000 m <sup>3</sup> )			7

\*<sup>1</sup> One U.S. ton = 0.907185 metric tons

\*<sup>2</sup> One decatherm = 1,055 MJ

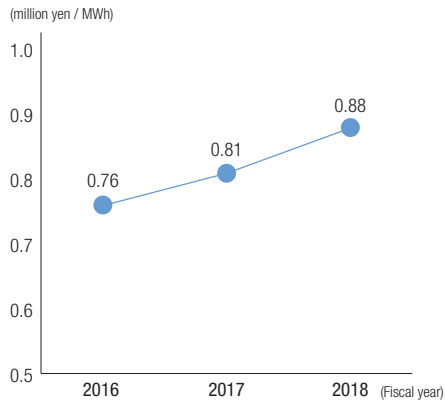
### Principal Chemical Substances Used

	2016	2017	2018
<b>Suzhou Plant</b>			
Ethanol (tons)	40.5	28.8	7.2
Methanol (tons)	0.7	0.6	0.7
Acetonitrile (tons)	0.7	0.9	0.7
<b>Benxi Plant</b>			
Ethanol (tons)	40.5	41.7	24.0
Methanol (tons)	0.5	1.3	1.1
Ether (tons)	0.3	0.8	0.6
<b>Bogor Plant</b>			
Methanol (l)	209.0	204.0	210.0
Acetonitrile (l)	83.3	106.0	90.0
Anhydrous ethanol (l)	25.2	11.4	10.5
<b>Eisai Knowledge Centre, India</b>			
Ethyl acetate (tons)	4.0	15.5	23.3
Acetone (tons)	12.4	14.9	22.1
Isopropyl acetate (tons)	1.4	20	40.5
Methanol (tons)	55.8	132.2	257.1
Ethanol (tons)	12.7	51.3	86.0
Methyl-t-butyl ether (tons)	4.4	13.1	18.9
n-heptane (tons)	2.8	4.9	6.9
Tetrahydrofuran (tons)	10.8	12.8	29.3
2-Methyltetrahydrofuran (tons)		3.6	7.6
Dimethyl sulfoxide (tons)	0.3	0.1	39.8
Concentrated hydrochloric acid (tons)	3.9	11.2	25.4
Dichloromethane (tons)	5.6	0.6	5.5
<b>European Knowledge Centre</b>			
Acetonitrile (tons)	0.2	0.2	0.3
Methanol (tons)	0.1	0.2	0.1
Ethanol (tons)	0.0	0.1	0.2
<b>Andover Research Institute</b>			
Methanol (U.S. tons)	1.3	1.6	0.9
Ethyl acetate (U.S. tons)	3.3	2.9	1.7
Acetonitrile (U.S. tons)	2.7	2.6	1.5
Heptane (U.S. tons)	2.4	2	0.9
Dichloromethane (U.S. tons)	2.1	1.7	1.3
Methyl-t-butyl ether (U.S. tons)	0.3	0.3	0.5
<b>Morphotek Inc.</b>			
Decon Quat 100 (quaternary ammonium solution) (kl)	3.8	78.5	54.0
Decon Spore (kl)	1.6	24.5	14.7
Decon Clean (residual remover) (kl)	1.4	19.6	9.8
<b>H3 Biomedicine Inc.</b>			
Acetonitrile (tons)	0.8	0.7	0.6
Dichloromethane (tons)	0.5	0.2	0.2
Ethyl acetate (tons)	0.3	0.2	0.2
Hexane (tons)	0.3	0.2	0.2
Methanol (tons)	0.4	0.2	0.2
<b>Baltimore Plant</b>			
Dichloromethane (kg)	459	435	226
Petroleum ether (kg)	86	105	42
Anhydrous acetate (kg)	49	30	23
Anhydrous ether (kg)	26	33	9

# 12 Sustainability-related Indicators

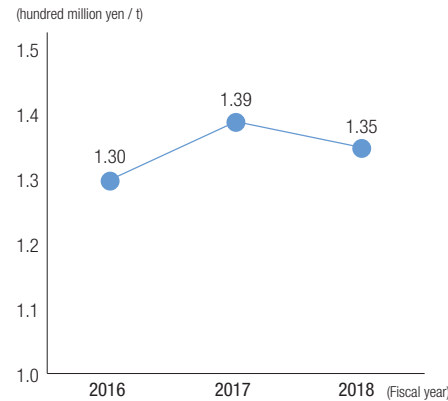
As an indicator of sustainability, we calculated the relationship between the environmental impact accompanying business activities and management indicators in working toward the formation of a sustainable society. Along with the increase in numerical values, we believe we are carrying out business activities with even higher sustainability in terms of environmental aspects.

## Energy productivity \*1



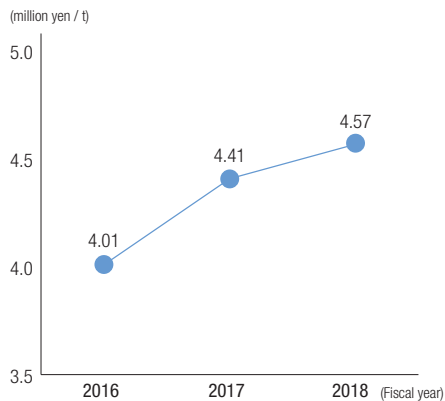
\*1 Net sales (million yen)/amount of energy used (MWh)

## Waste productivity \*2



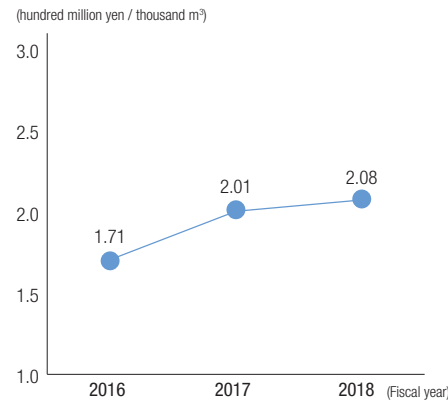
\*2 Net sales (hundred million yen)/amount of waste generated (t)

## GHG productivity \*3



\*3 Net sales (million yen)/amount of CO<sub>2</sub> emissions (t)

## Water productivity \*4



\*4 Net sales (hundred million yen)/amount of water resources input (thousand m<sup>3</sup>)

# 13 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 2019, seven business operational sites in Japan and nine 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 1, 2018 - March 31, 2019)

