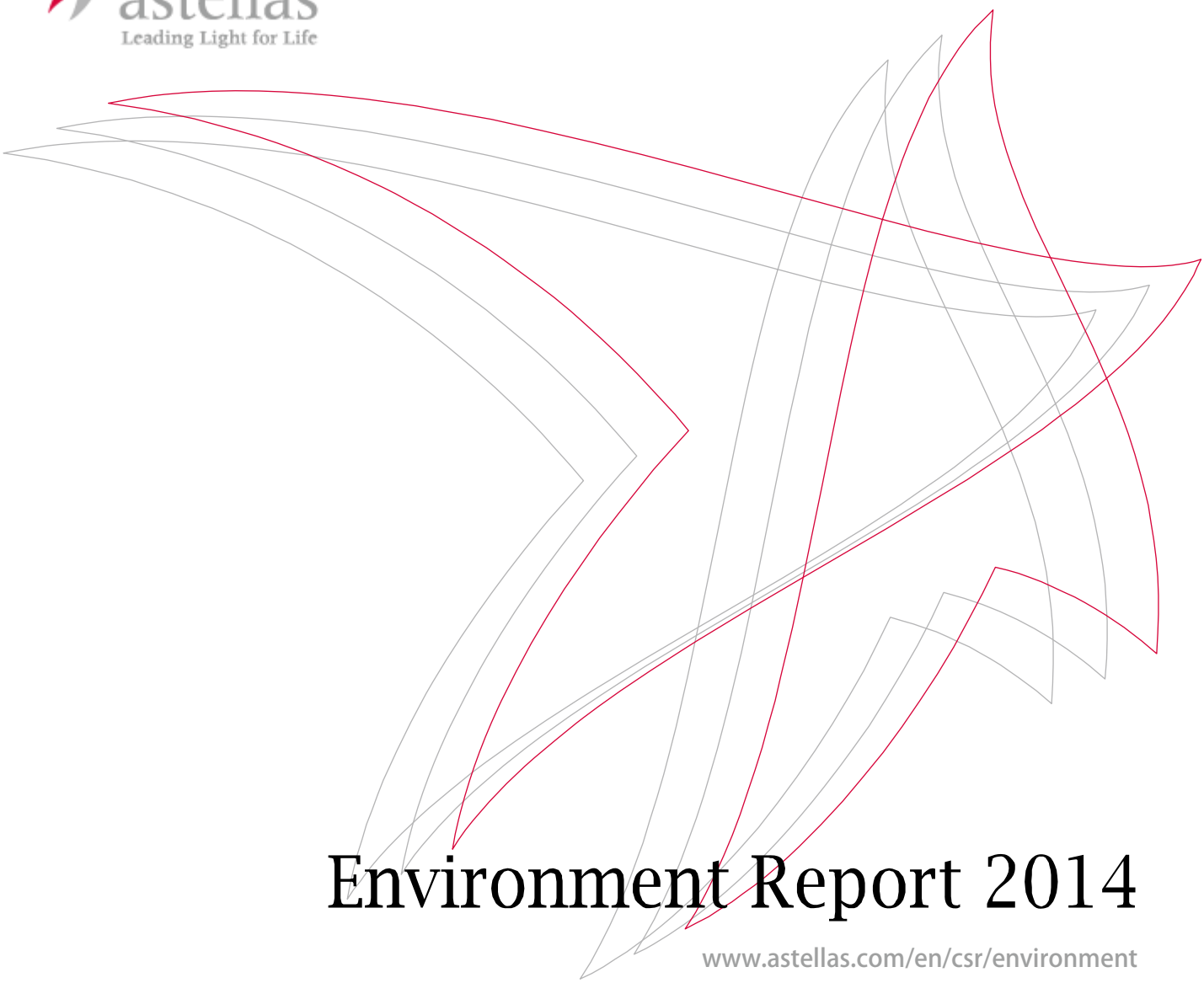
astellas
Leading Light for Life



Environment Report 2014

www.astellas.com/en/csr/environment

Astellas Pharma Inc.

Wind turbine system at Kerry Plant, Ireland
Photo: Gina Halliday (Snr. Health & Safety Officer)

1. Editorial Policy

In publishing this "Astellas Environmental Report 2014," Astellas Pharma Inc. has worked to provide a more detailed account of its activities in an easy-to-understand manner to all those who are affected by its environmental initiatives and the various stakeholders who have an invested interest. The environment is one of the CSR fields in which Astellas actively tackles issues, sets targets, and undertakes initiatives. When preparing this Report, every effort was made to include easy-to-understand explanations using specific examples, numerical data, and graphs and charts. Readers are asked to take note of the fact that due to the rounding up of figures used in numerical environmental performance data, there may be cases where the total figure given does not tally precisely with the aggregated value.

An overall picture of CSR-based management at Astellas and activities in the five fields of compliance, employees, the economy, society, and the environment is contained in the Astellas Annual Report 2014, a printed publication that is scheduled for release in August 2014. Accordingly, excerpts from the Astellas Environmental Report 2014 can be found in the Environment Section of the Annual Report 2014.

1.1. Scope of this Report

This Report covers the operations of all the production facilities of Astellas group worldwide and non-production sites in Japan included in the Company's consolidated financial statements. However, the scope covered may differ depending on the item. Accordingly, details of the scope covered are identified on an individual basis in instances where a discrepancy arises.

In addition, certain environmental data includes the results of activities of subcontractors because the environment and society is affected not only by the Company's own activities but also via the supply chain.

1.2. Reporting Period

As a general rule, this Report covers the activities of facilities in Japan from April 1, 2013 to March 31, 2014, and the activities of overseas facilities from January 1, 2013 to December 31, 2013. (Certain sections of this Report contain details of activities and initiatives both prior to and after these identified reporting periods.)

1.3. Important Organizational Changes during the Term of the Report

There were no organizational changes that had an impact on environmental performance during the term of the Report.

1.4. Guidelines

The Astellas Environmental Report 2013 has been prepared with reference to the Environmental Reporting Guidelines (2012 edition) issued by Japan's Ministry of the Environment.

1.5. Notational System of Numerical Results

Total and tallies of shares may not always match due to the effect of rounding.

Information regarding publication:

Date of issue	: June 2014 (available on the Company's website)
Next scheduled issue	: June 2015 Copy to be posted on the Company's website

Please note there is no printed version of the Astellas Environmental Report 2014.

2. Abbreviation List

Abbreviation	Explanation
GHG	Greenhouse gases. There are six categories of greenhouse gases: carbon dioxide, methane, nitrous oxide, hydro fluorocarbons, per fluorocarbons and sulfur hexafluoride. Carbon dioxide itself can be divided into energy source and non-energy source types. Greenhouse gases other than energy-source carbon dioxide are known in Japan as the 5.5 gases. At Astellas, non-energy source CO_2 was discharged from waste fluids from our incinerators before, but only energy-source CO_2 is emitted now. In this report, GHG is used for all types of gas.
CO_2	Abbreviation for carbon dioxide. In the Environmental Plan of Action, it is referred to as carbon dioxide.
Scope1	Volume of GHGs emitted directly from Company premises as a result of the burning of fuels (city gas, fuel oil, kerosene, diesel oil, gasoline, LPG, LNG)
Scope2	Volume of GHGs emitted indirectly in the use of electric power or heat supplied to the Company from outside
Scope3	GHGs emitted indirectly at some point on the Company's value chain (production, transportation, business trips, commuting, etc.)
SOx	Sulfur oxides – emitted by the burning of fossil fuels containing sulfur
NOx	Nitrogen oxides – formed through the combination of nitrogen and oxygen in the atmosphere during the combustion of substances
BOD	Biochemical oxygen demand. Used as a benchmark for indicating extent of water pollution by organic matter in rivers.
COD	Chemical oxygen demand – indicates the amount of water pollution due to the presence of organic compounds in seas or lakes
VOC	Volatile organic compounds – organic chemical compounds that are volatile in the atmosphere at standard ambient temperatures and pressures

3. Environmental Initiatives

Astellas recognizes that maintaining a healthy global environment is important both for building a sustainable society and engaging in business activities on an ongoing basis.

At the same time, the Company is cognizant of the growing gravity of threats to the ecosystem and such environmental issues as greenhouse gas (GHG) emissions attributable to the mass consumption of fossil fuels and deterioration of the natural environment due to the excessive extraction of resources. Other issues that impact the regional environment include air and water pollution, soil contamination, the emission of chemical substances, and industrial waste.

In order to ensure sustainable growth, Astellas is conscious of the need to adhere strictly to all statutory and regulatory requirements as they relate to wide-ranging environmental issues. At the same time, the Company recognizes the critical importance of fulfilling its corporate responsibilities toward society with the understanding that any failure to do so will lead to a deterioration of its standing in society and ultimately corporate value. Because of the inherent risk that expenditure will directly impact the Company's operations, consideration must also be given to increases in energy and raw material costs reflecting the sharp rise in resource prices, as well as expenses incurred in responding to new environment-related regulations including taxes.

Accounting for each of the aforementioned, positive steps toward the effective use of energy and resources will not only reduce environmental load, but also bolster business operations.

Moving forward, Astellas will accordingly engage in activities that are in harmony with the global environment. We will put in place an ideal image of the Company from a long-term and global perspective while continuously implementing initiatives that address issues in the regional community with an eye toward tomorrow's generation.

Main Environmental Targets Achieved in Fiscal 2013 (Summary)

Environmental Action Plan Numerical Targets	Fiscal 2013 Performance
[Fiscal 2005 as the base year] 1. Measures to Address Global Warming 1) Reduce GHG emissions by 35% or more compared with fiscal 2005 levels by fiscal 2020 (Global) ・ Japan : Reduce by 30% or more ・ Overseas production facilities : Reduce by 45% or more 2) Reduce CO_2 emissions generated through sales activities by 30% or more from fiscal 2005 levels by the end of fiscal 2015 (Japan) 3) Reduce electricity usage at offices to the levels of 80% or less than fiscal 2005 by fiscal 2015 (Japan)	1. 1) Ratio to FY2005 level : -26.5% Japan : -23.0% Overseas : -38.2% 2) Ratio to FY2005 level : -25.1% 3) Ratio to FY2005 level : 92.0%
[Fiscal 2005 as the base year] 2. Reduce water withdrawal to the levels of 80% or less than fiscal 2005 by fiscal 2015 (Global)	2. Ratio to FY2005 level : 64.7%
3. Final volume of waste for disposal in landfill (Japan) Reduce the final volume of waste for disposal to less than 2% of volume discharged	3. Ratio to total volume of waste discharged : 0.9%
[Fiscal 2006 as the base year] 4. Reduce the amount of volatile organic compounds (VOCs) discharged by 25% or more compared with fiscal 2006 levels by fiscal 2015 (Japan)	4. Ratio to FY2006 level : -37.3%
[Fiscal 2005 as the base year] 5. Double the biodiversity index from the fiscal 2005 level by fiscal 2020 (Global)	5. Ratio to FY2005 level : 2.27 times

* VOC : Volatile Organic Compounds

4. Environmental Management

In accordance with its Charter of Corporate Conduct, Astellas' basic stance toward the environment as well as the health and safety of its employees is outlined under its Environmental and Safety Policy. The goals to which the Company aspires at fiscal 2015 are also presented in its Environmental and Safety Guidelines. Both on a continuous and organizational basis, Astellas is engaging in activities that are designed to fulfill its obligations in each area. In addition, the Company has put forward specific medium-term targets under its Environmental and Safety Action Plan, for which prioritized issues are to be tackled.

4.1. Environmental and Safety Guidelines

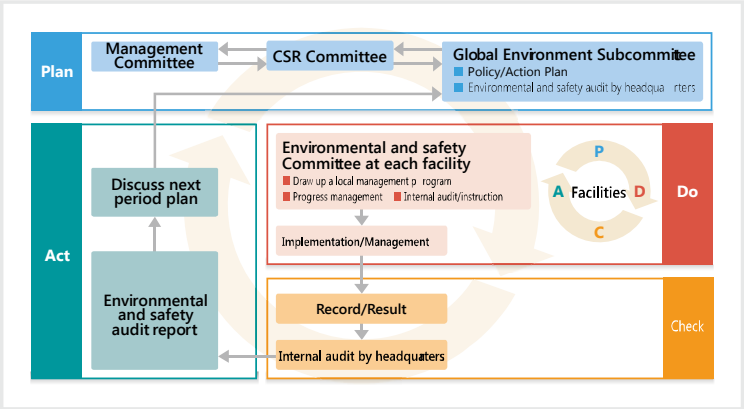
Our Environmental and Safety Guidelines provide unified standards to be upheld in our implementation of environmental and safety measures. These guidelines indicate the stance Astellas should aim for in the future.

These guidelines describe that Astellas' envisioned status at fiscal 2015 in qualitative terms. The period for realizing numerical targets and the actual numerical targets are set out separately in our short- and medium-term action plans, updated annually.

4.2. Environmental and Safety Management System

Fundamental policies and action plans relating to environmental and safety matters are positioned as an important issue in CSR management, and are discussed and determined by the CSR Committee. Measures for the implementation of these decisions in specific form are then examined by the Global Environment Subcommittee, which is a subordinate organization under the CSR Committee. Each facilities then draws up its own action plan with input relating to the conditions at that specific location, and activities are carried out in line with the PDCA cycle concept, including internal auditing, assessment of results, and reviewing of the plan and its targets. These measures are then evaluated by a Company-wide environmental and safety audit, and the results of this audit are incorporated into the next plan as well as broader policies. In this way, the PDCA cycle works for Astellas.

Astellas has acquired ISO 14001 certification covering all its production sites in Japan and overseas. With effect from fiscal 2014, the five production plants in Japan are subject to an integrated audit.



4.3. Environmental and Safety Audits

To ascertain the status of overall environment and safety activities at Astellas as well as the issues confronted by facilities, a Companywide audit of environmental and safety activities is conducted in accordance with Environmental and Safety Guidelines. A written follow-up evaluation on the status of implementation is then conducted focusing on those issues uncovered, with audit confirmation undertaken the next fiscal year. Individual facilities and the headquarter departments responsible for environmental and safety issues share views on social needs and frontline issues. In this context, audits fulfill the critical role of ensuring that Astellas' direction and goals remain consistent.

4.4. Environmental and Safety Assessment System

The total environmental load resulting from the production, sale, distribution and disposal of products can usually be approximated at the research and development stages. With regard to the production and sales of pharmaceutical products, it is necessary to obtain government approval for each product. Since government approval also covers production methods and packaging specifications, when there are changes in either approved production methods or packaging, new approval must be obtained even if the changes are related to work safety or reducing the environmental impact. This entails substantial time and

costs.

Therefore, Astellas has introduced an environmental and safety assessment system as a tool that requires efforts to minimize the environmental load at all stages, including research and development, production, distribution, and disposal. Under this assessment system, we examine issues such as the reduction of air pollutant emissions and the excessive use of packaging and various safety measures prior to the commencement of commercial-scale production.

4.5. Operation of the environmental and safety assessment system

An assessment team conducts environmental and safety assessments in stages for the development of products. The results determine whether development of the product can move on to the next stage, a facility should be built, or land purchased.

Specifically, the assessment must identify raw materials or processes that might have a negative impact on the environment or employee health. The progress on remedial measures must be assessed, and action plans evaluated. Countermeasures being considered are evaluated in the subsequent stages of the assessment.

The assessment system also covers the installation of facilities of certain size and the purchase of land, and evaluates items such as measures to prevent global warming, ensuring safety during construction and measures taken to curb the emission of chemical substances into the atmosphere.

4.6. Education and Training

In addition to complying with statutory and regulatory requirements, Astellas recognizes the importance of autonomous initiatives that address the needs of society. In order to promote further improvements in its environmental and safety activities, the Company acknowledges the critical need to ensure that all employees have a correct understanding of their own roles and responsibilities. To this end, we are working to improve our skill base through a wide variety of training programs, including specialized education for employees engaged in roles requiring specialist knowledge and skills in areas such as environmental conservation or hazardous operations, and the development of employees professionally qualified in environmental, health and safety matters.

We also explain our policies and site rules to construction workers at our plants, raw materials suppliers and waste disposal contractors, and seek collaboration on our environmental and safety programs.

4.7. Response to Accidents and Emergencies

Being prepared for emergency situations caused by an accident or natural disaster can help to prevent an environmental catastrophe and minimize damage. Accordingly, we develop specific measures and procedures, conduct regular education sessions and training drills, and reconfirm and test the validity of our procedures, communication networks and the division of roles focusing particularly on risks that are recognized as a high priority. In this manner, we continue to work diligently to reduce environmental risk.

The discharge of harmful substances could lead to the pollution of rivers and seas as well as cause problems at sewage treatment plants. This in turn could have a grave impact on regional communities. In preparation for accidents and emergency situations, we are therefore systematically implementing measures for the prevention of environmental pollution, including the installation of backup equipment, while working to reduce the risk of pollution. In addition, we are bolstering efforts to monitor operations and to measure the quality of water draining out of our plants to confirm compliance with relevant effluent standards.

4.8. Compliance with Environmental Laws and Regulations

In fiscal 2013, the coliform bacteria count in the water discharged from Nishine Plant and Toyama Technology Center was found to be in excess of the standard value. In both cases we reported the matter to the authorities. The cause remained undiscovered, but the phenomenon was deemed transient, and we were instructed to continue management. There were no breaches of environment-related legislation at other places of business in Japan.

Over the past five years, Astellas' facilities exceeded effluent standards on three occasions in fiscal 2009 and fiscal 2010, and two occasions in fiscal 2011. In each instance, however, our response proved effective. Moreover, there have been no lawsuits or fines related to environmental issues over the past five years.

4.9. Environment-Related Accidents and Complaints

No environment-related accidents at places of business in Japan occurred in fiscal 2013. Astellas has not recorded an environment-related accident over the past five years.

Although we received no complaints regarding environmental impacts from the operations of our plants or offices, there were a number of complaints regarding noise and vibrations caused by the demolition of our facilities at Kiyosu Research Office. In all cases, we cooperated with the contractor handling the demolition work, and resolved the problems through changes to demolition methods. Moving forward, we will work to prevent the occurrence of incidents arising from noise, foul odors, and vibrations. We also intend to maintain appropriate levels of communication with local communities even when there is no violation of regulations.

4.10. Soil Contamination Assessments

Under the Soil Contamination Countermeasures Act of Japan and prefectural ordinances, soil contamination assessments are mandatory where projects for building or demolishing facilities exceeding a certain scale are undertaken and collectively there is a change in the characteristics of the land. To date, Astellas has undertaken soil contamination assessments based on relevant laws and ordinances as well as related voluntary evaluation to determine the existence or otherwise of contamination. In the event contamination is identified, the Company has taken purification and other remedial measures.

In fiscal 2013, there was no contamination detected. Drawing on the results of soil contamination assessments completed over the past five years, the following instances of contamination were detected.

① Soil contamination survey upon the closure and demolition of the former Tokyo Research Center (Fiscal 2009 and 2010)

Due to contamination caused by total mercury (leachate, content), lead (content), and fluorine, the site was designated a contaminated site. The contaminated soil was excavated and removed, and by May 2011 all designations at the site had been rescinded.

② Soil contamination survey at the Kashima R&D Center (Fiscal 2010)

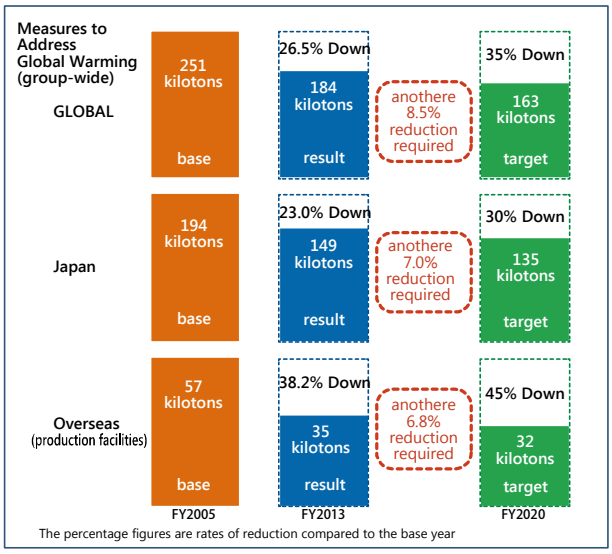
As a result of contamination caused by arsenic, fluorine, and boron and their chemical compounds, the site of the R&D building was designated a contaminated site. However, because a new staff building covered the contaminated site and there were no contaminants on the soil surface, no remedial action such as excavation or removal was undertaken.

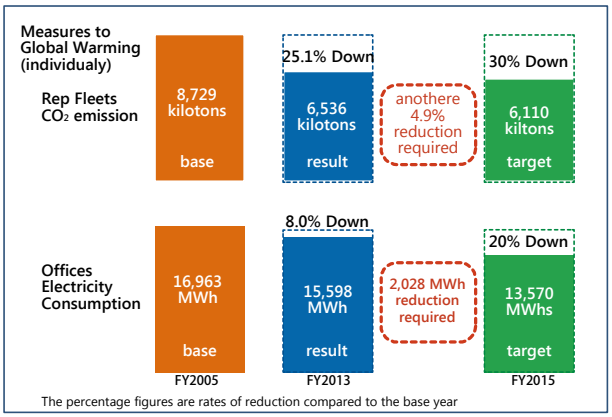
5. Environmental Action Plan

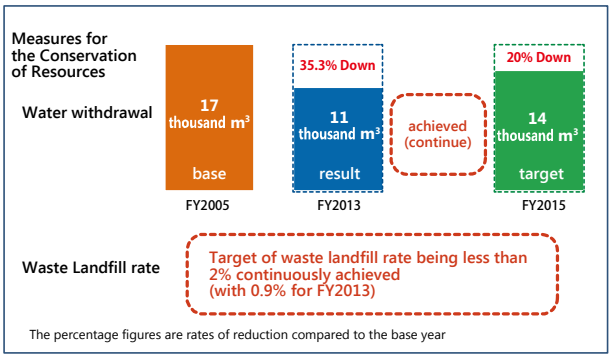
Our Environmental Action Plan sets out short-term and medium-term targets for our activities. We renew our action plans on a rolling basis, by reviewing progress and conditions during the previous year and incorporating our findings into our action plan for the following year. We are always working to achieve the targets set out in our Environmental Action Plan, which are also reflected in individual action plans drawn up by Japanese and overseas group companies.

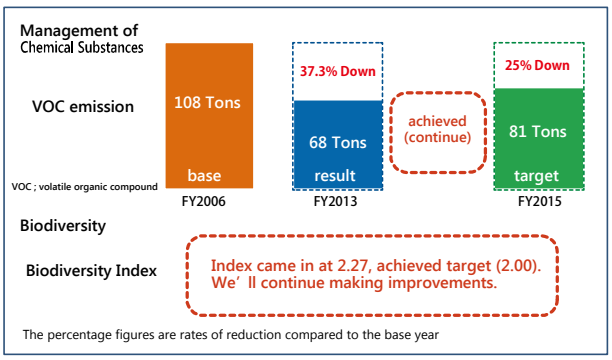
Currently, the activities of all the production facilities of the Astellas group worldwide and non-production sites in Japan fall within the scope of the Environmental Action Plan. At the same time, the activities of overseas R&D centers, offices, and other bases of operation continue to increase in line with the Group's efforts to further expand and develop its business globally. As a result, steps are being taken to ascertain the performance of overseas facilities and bases that fall outside the scope of the Environmental Action Plan, focusing particularly on energy consumption. Looking ahead, we will review and revise the Environmental Action Plan as considered necessary.

The results of the Environmental Action Plan for fiscal 2013 are below. To evaluate the Environmental Plan of Action, we have used a coefficient of 0.330kg-CO_2/kWh to calculate CO_2 from electricity use in Japan in fiscal 2013. Please note that these figures differ from those used in calculation of actual emissions.









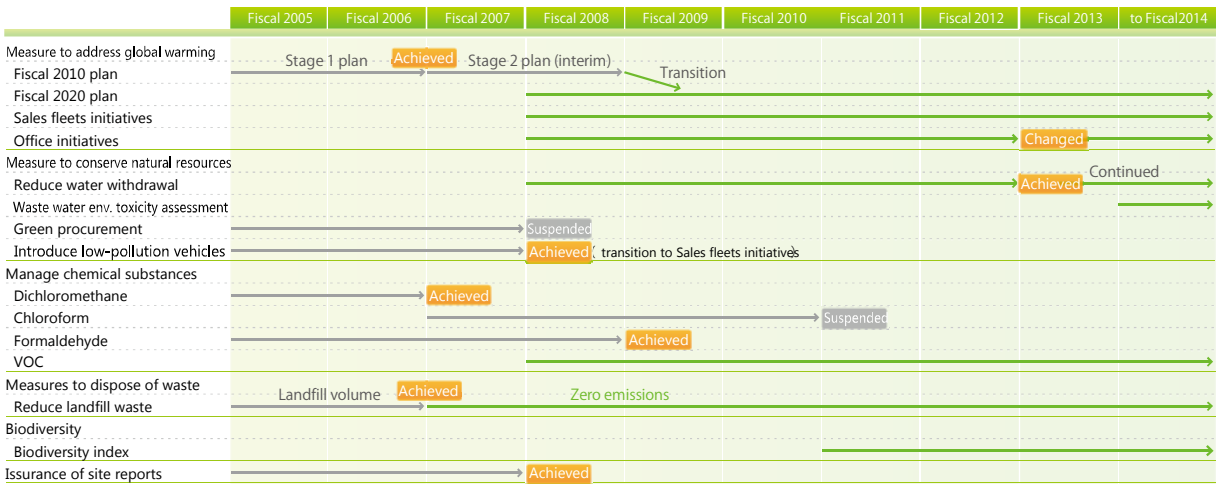
5.1. Revise of the Environmental Action Plan

As a result of a review of the Environmental Action Plan in light of figures for fiscal 2013, additional items were adopted for measures relating to water resources and incorporated in the action plan for fiscal 2014.

Environmental Action Plan	
1. Measures to Address Global Warming	**[Fiscal 2005 as the base year]**
1) Reduce GHG emissions by 35% or more by fiscal 2020	(Global)
・ Japan : Reduce by 30% or more	
・ Overseas production facilities : Reduce by 45% or more	
2) Reduce CO_2 emissions generated through sales activities by 30% or more by fiscal 2015	(Japan)
3) Reduce electricity usage at offices to the levels of 80% or less by fiscal 2015	(Japan)
2. Measures for the Conservation of Natural Resources	**[Fiscal 2005 as the base year]**
1) Reduce water withdrawal to the levels of 80% or less by fiscal 2015.	(Global)
2) To conduct waste water environmental toxicity assessment up to end of fiscal 2015	(Japan)
3. Management of Chemical Substances	**[Fiscal 2006 as the base year]**
Reduce the amount of volatile organic compounds (VOCs) discharged by 25% or more by fiscal 2015	(Japan)
4. Waste Management	
Reduce the final volume of waste for disposal to less than 2% of the total discharged	(Japan)
5. Biodiversity	**[Fiscal 2005 as the base year]**
Raise the biodiversity index to double the fiscal 2005 level by fiscal 2020	(Global)

In drawing up our action plan, we determined what kind of corporate group we wished to be from a long-term perspective, and laid down targets for individual business years as well as medium-term targets on our way to that ultimate goal. Based on progress made in previous years and changes in social conditions, among other factors, we review the plan each year and set additional items for achievement or higher targets as appropriate.

The background and history of each review of the Environmental Action Plan is presented briefly as follows



6. Interaction Between Astellas and the Environment

Japan (all business premises, Sales fleets)

INPUT				OUTPUT			
Energy	Electricity	216,254	MWh	GHGs (Scope1, 2)	Facilities	176,354	tons
	City gas	25,388	thousand m^3		Sales fleets	6,536	tons
	LPG	2,229	tons	Pollutants (atmosphere)	SOx	0	tons
	LNG	2,669	tons		NOx	31	tons
	Fuel oil	27	kiloliters		VOC	68	tons
	Kerosene	13	kiloliters	Pollutants (water body)	BOD	11	tons
	Diesel oil	21	kiloliters	Chemical substance		15	tons
	Gasoline	2,824	kiloliters	Water discharge	(into rivers)	9,168	thousand m^3
	Purchased heat energy	2,283	GJ		(into sewerage)	406	thousand m^3
Resources	Water	10,681	thousand m^3	Waste material	Waste generated	15,217	tons
	Raw materials (determine weight)	5,666	kiloliters		Waste discharged	15,175	tons
	(Determine volume)	561	kiloliters		Landfill volume	133	tons
	Copier paper	230	tons				

Overseas (all production facilities)

INPUT				OUTPUT			
Energy	Electricity	48,777	MWh	GHGs (Scope1, 2)	Facilities	35,420	tons
	City gas	4,855	thousand m^3				
	LPG	3	tons	Pollutants (atmosphere)	SOx	0.1	tons
	Diesel oil	98	kiloliters		NOx	11	tons
	Gasoline	13	kiloliters		VOC	4	tons
	Purchased heat energy (steam)	18,258	GJ	Pollutants (water body)	BOD	16	tons
Resource	Water	303	thousand m^3	Water discharge	(into rivers)	303	thousand m^3
				Waste material	Waste generated	1,662	tons
					Recycled	626	tons

Overseas (principal office buildings, R&D centers and Sales fleets of Astellas affiliates outside Japan)

INPUT				INPUT			
Energy	Electricity	28,718	MWh	GHGs (Scope1, 2)	Facilities	16,964	tons
	City gas	1,390	thousand m^3		Sales fleets	23,399	tons
	Diesel oil	2,935	kiloliters				
	Gasoline	6,822	kiloliters				

Indirect GHGs (Scope 3)

Upstream				Downstream			
Commuting		3,799	tons	Product shipments	Plant to Warehouse	330	tons
Business trip	Japan	8,620	tons		Distribution warehouse	977	tons
(aircraft use)	Overseas	26,482	tons		Warehouse to Wholesaler	2,320	tons
Raw material shipments (tanker trucks)		236	tons	Waste shipments		189	tons
				Product use		6,140	tons

7. Measures to Address Global Warming

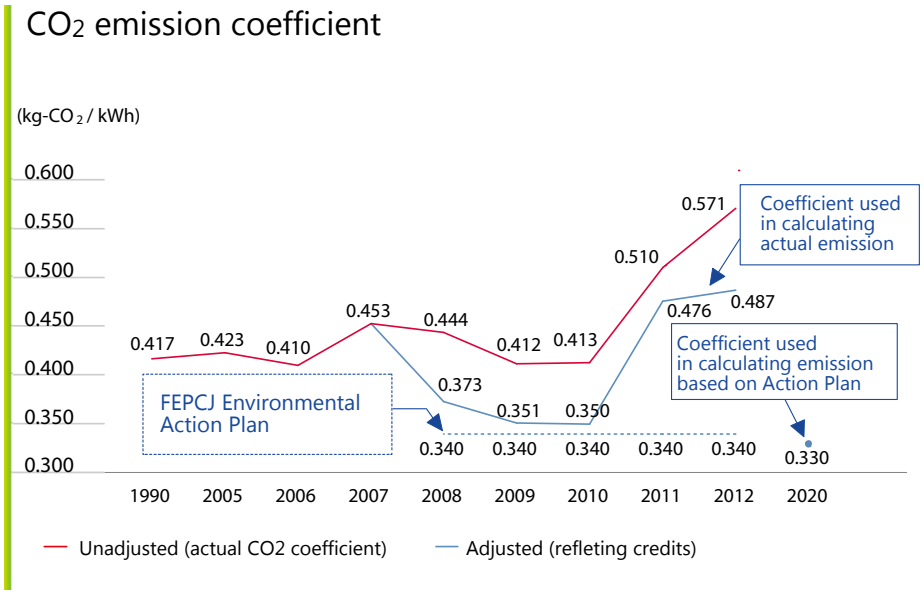
Global warming is regarded as one of the environmental problems that could threaten the very survival of the human race. Mitigating and adapting to the threat posed by global warming requires active involvement on all levels including national governments, local governments, corporations and citizens. Astellas understands that global warming could become a major constraint on the continuation of corporate activity, and considers it one of management's most important problems to address.

Tackling the problem of global warming will require a prolonged and sustained effort. The international community has agreed that industrialized countries should target a reduction in GHGs of at least 80% compared with current levels by the year 2050. As stepping stones toward achieving these targets, the Astellas group has set medium-term targets for the reduction of GHGs in its Environmental Action Plan. Under the plan, existing facilities are to reduce CO_2 emissions generated through energy consumption by 1% or more compared with the previous fiscal year and to achieve a reduction of 5 kilotons of GHGs on a fiscal year basis through strategic investments.

Regarding the CO_2 emission coefficient accompanying the end-use electricity

Regarding the CO_2 emission coefficient accompanying the end-use electricity, with effect from the present report we have employed the two types of coefficient shown below in calculating GHG emissions by the group in Japan. We have also revised the method of calculation of GHG emissions by our overseas business facilities, and have accordingly amended the figures for past-year results, including the base year.

1. We adopt the fixed coefficient of 0.330kg-CO_2/kWh in calculating the trend of GHG emissions to evaluate the progress under the Environmental Action Plan, and to make investment decisions to effectively achieve the target.
2. In calculating the GHG emissions of each fiscal year, we employ the latest CO_2 emission coefficient (CO_2 emissions per unit of end-use electricity for the previous fiscal year) provided by the Federation of Electric Power Companies of Japan (FEPCJ).



Source: Environmental Action Plan by the Japanese Electric Utility Industry (2008-2012 Edition) issued by the Federation of Electric Power Companies of Japan.

★ Details of the CO_2 emission coefficient accompanying the end-use electricity on the next page

Regarding the CO_2 emission coefficient accompanying the end-use electricity

The Federation of Electric Power Companies of Japan (FEPCJ) plans to reduce CO_2 emission coefficient, which is CO_2 emissions per unit of end-use electricity, (electricity CO_2 emissions coefficient**[1]) between fiscal 2008 and fiscal 2012 to an average of 0.340 kg-CO_2/kWh, and to further reduce it to 0.330 kg-CO_2/kWh by fiscal 2020.

However, as a result of the long-term shutdown of nuclear power plants in Japan following the 2011 Great East Japan Earthquake, there has been an increase in the operation of fossil-fuel thermal power plants, as a consequence of which the electricity CO_2 emissions coefficient for fiscal 2011 rose by 0.126 kg-CO_2/kWh over the previous year's level, and increased by a further 0.011 kg-CO_2/kWh in fiscal 2012. This represents an increase of roughly 40 percent over the fiscal 2010 figure, and this factor alone has pushed up the CO_2 emissions figure for Astellas' business operations in Japan by approximately 30,000 tons-CO_2.

Astellas sets its numerical targets by taking into account the power plants' plans of the nation's electric power companies, but the current situation shows a major divergence from the situation that prevailed at the time the numerical targets were adopted. Future prospects for the electricity CO_2 emissions coefficient remain unclear, but in taking decisions on investments and countermeasures to combat global warming, it will be necessary for Astellas to clearly announce the amount by which it aims to reduce CO_2 emissions through its own efforts. For this reason, we have set the electricity CO_2 emissions coefficient for our business operations within Japan as follows.

1. In calculating the amount of CO_2 emissions for each reporting business year, we use the electricity CO_2 emissions coefficient of 0.330 kg-CO_2/kWh, which is believed to have been the FEPCJ's target for fiscal 2020. Base-year figures and targets are fixed values.
2. Separately from the above-described coefficient, we continue to utilize the FEPCJ's adjusted CO_2 emissions coefficient **[1] in calculating the amount of emissions.

Regarding the CO_2 emissions coefficient accompanying the end-use electricity in Astellas' overseas operations, we formerly used the country-by-country electricity CO_2 emissions coefficient **[2] for the action plan's base year of fiscal 2005 as a fixed value for each year. However, in view of the major changes in the electricity CO_2 emissions coefficients for each country for past years (including fiscal 2005) announced in 2013 by the International Energy Agency (IEA), with effect from the present report we are employing the most recent emissions coefficients that can be confirmed for each country and each year, and have revised the GHG emissions figures for each year subsequent to and including fiscal 2005.

*1 Coefficient released by the FEPCJ. Since the coefficient updated each year by FEPCJ represents the performance of the previous year, we calculate our GHG emission of each fiscal year by using the latest available coefficient as of June, which is the figure of one-year behind.

*2 Coefficients released by the IEA. Since the coefficient updated by IEA represents the performance of the two years ago, we calculate our GHG emission of the last two fiscal years by using the latest coefficient available as of June, and recalculate the emission of the second preceding fiscal year in the next year.

7.1. Reducing GHGs emissions

Environmental Action Plan

Reduce GHG emissions by 35% or more compared with fiscal 2005 levels by the end of fiscal 2020 (Global)

- Reduce GHG emissions in Japan by 30% or more compared with fiscal 2005 levels by the end of fiscal 2020.
- Reduce GHG emissions at overseas production facilities by 45% or more compared with fiscal 2005 levels by the end of fiscal 2020.

Progress in Implementation of Environmental Action Plan

The GHG emissions volume for fiscal 2013, used in evaluating the action plan, came to 184 kilotons globally, for a decrease of 66 kilotons (26.5%) from the base year. A further reduction of 21 kilotons is required to reach the target.

◆ GHG emissions in Japan : 149 kilotons — Down 45 kilotons (23.0%) from base year; Further reduction of 13 kilotons needed to reach target

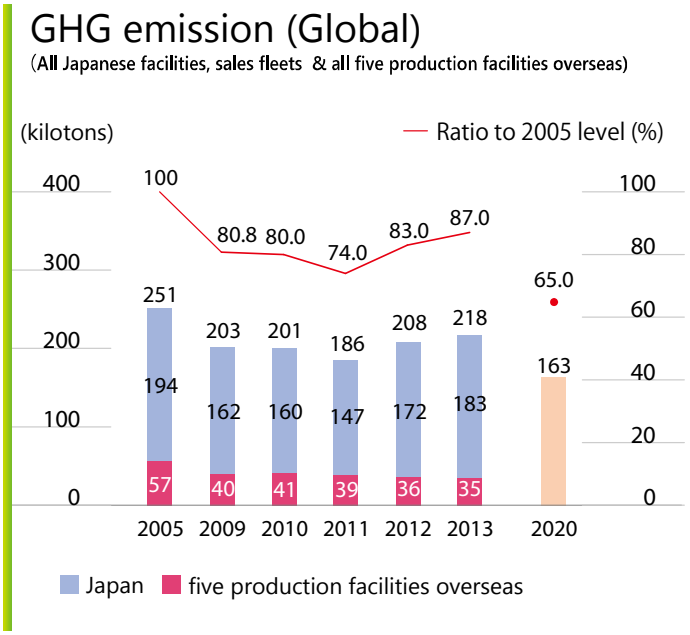
◆ GHG emissions overseas : 35 kilotons — Down 22 kilotons (38.2%) from base year; Further reduction of four kilotons needed to reach target

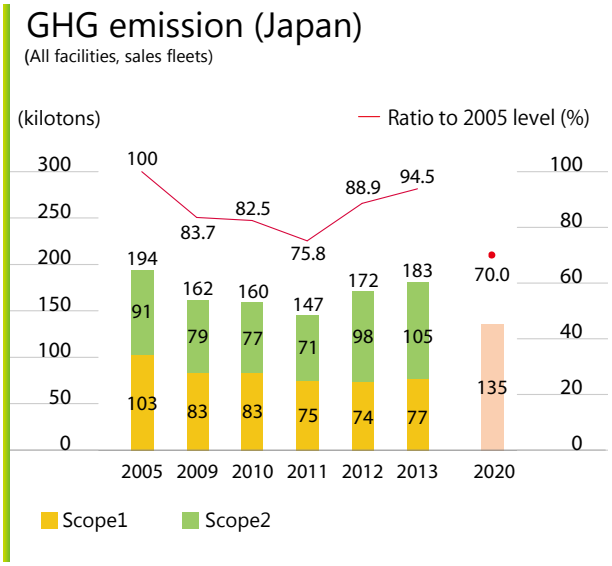
Trend of actual emissions (below figures indicate actual emissions trends)

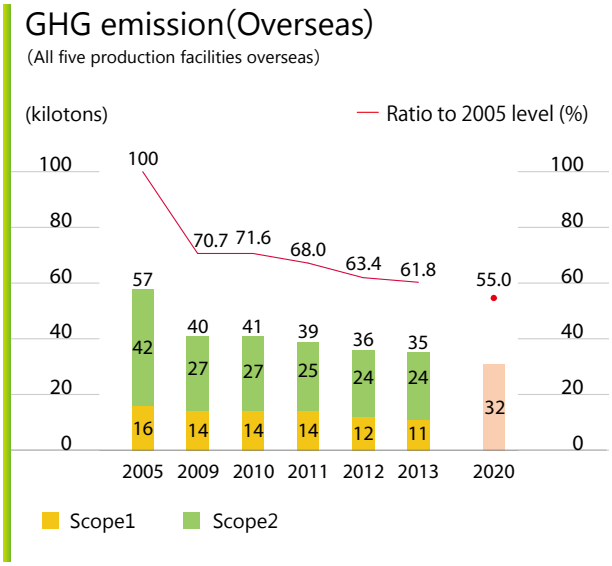
The actual emissions of GHGs globally in fiscal 2013 came to 218 kilotons, down 33 kilotons (13.0%) from fiscal 2005, but up 11 kilotons over fiscal 2012.

◆ GHG emissions in Japan : 182 kilotons — Down 11 kilotons (5.5%) from base year; But up 11 kilotons over previous fiscal year

◆ GHG emissions overseas : 35 kilotons — Down 22 kilotons (38.2%) from base year; Also down by one kiloton over previous fiscal year







Scope1: Volume of GHGs emitted directly from Company premises as a result of the burning of fuels

Scope2: Volume of GHGs emitted indirectly in the use of electric power or heat supplied to the Company from outside

Actual GHG emissions in Japan increased by 8 kilotons owing to the start-up of new facilities at our Kiyosu Research Office and Yaizu Facilities during the year, and by an additional 2 kilotons due to a deterioration in the electric power coefficient from the previous year.

Current plans for the startup of new facilities at the Tsukuba Research Center and at production plants will constitute factors behind increased emissions in the near future, while minus factors will include the planned closure of the Kashima R&D Center in 2016. We intend to continue taking effective steps to combat global warming while keeping a close watch on the balance between positive and negative factors.

In our overseas operations, the group's plant in Norman, Oklahoma in the United States, which accounts for the largest energy consumption among our overseas facilities acquired ISO 14001 certification in April 2014. In the coming years we hope to achieve reductions in energy consumption through even more accurate environmental management.

7.2. Breakdown of Scope 1 and Scope 2 for GHG Emissions

Details regarding Scope 1 - volume of greenhouse gases (GHG) directly emitted from Company premises as a result of the burning of fuels (city gas, fuel oil, kerosene, diesel oil, gasoline, LPG, LNG) - and Scope 2 - volume of GHGs emitted in the use of electricity or heat energy supplied to the Company from outside - are shown below.

GHG emission volumes from the use of electricity were calculated using the adjusted emission coefficients of FEPCJ.

GHG emission volumes (global / Japan: all business locations and sales fleets; overseas: all production facilities) (Unit: kilotons)

Fiscal	Totaled emission volume	Scope1(direct emission)			Scope2(indirect emission)	
		Emission volume	Breakdown		Emission volume	Emission from use of renewable energy source
			Energy source	Non-energy related source		
2005	251	118	111	7	133	0
2009	203	96	92	4	106	0
2010	201	97	94	3	103	0
2011	186	89	89	0	96	11
2012	208	86	86	0	122	10
2013	218	89	89	0	130	10

GHG emission volumes (Japan: all business locations and sales fleets) (Unit: kilotons)

Fiscal	Totaled emission volume	Scope1(direct emission)			Scope2(indirect emission)	
		Emission volume	Breakdown		Emission volume	Emission from use of renewable energy source
			Energy source	Non-energy related source		
2005	194	103	95	7	91	0
2009	162	83	79	4	79	0
2010	160	83	80	3	77	0
2011	147	75	75	0	71	0
2012	172	74	74	0	98	0
2013	183	77	77	0	105	0

This corresponds to CO2 from non-energy-related source emitted by waste liquid incinerators at our Takaoka Plant and Takahagi Facilities.

GHG emission volumes (overseas: all production facilities) (Unit: kilotons)

Fiscal	Totaled emission volume	Scope1(direct emission)			Scope2(indirect emission)	
		Emission volume	Breakdown		Emission volume	Emission from use of renewable energy source
			Energy source	Non-energy related source		
2005	57	16	16	0	42	0
2009	40	14	14	0	27	0
2010	41	14	14	0	27	0
2011	39	14	14	0	25	11
2012	36	12	12	0	24	10
2013	35	11	11	0	24	10

This corresponds to GHG emissions from the use of renewable energy sources, i.e., the purchase by Norman plant, Oklahoma in the U.S., of electricity generator by wind turbines.

7.3. GHG emissions from facilities not covered by the Environmental Action Plan

Although the current Environmental Action Plan covers only all facilities and sales fleets in Japan and all production facilities overseas, we are also working to ascertain energy usage at the group's principal office buildings and research facilities overseas, which are not currently within the scope of the plan.

If GHGs emitted by these facilities and associated Sales fleets are included, total emissions globally by the Astellas Group in fiscal 2013 amounted to 259 kilotons, of which the current Environmental Action Plan accounts for 84.4% (218 kilotons out of a total of 259 kilotons.)

From here onward, we intend to examine options for setting new targets, depending on the amount of environmental impact of these facilities.

Energy usage and GHG emissions by principal office buildings and R&D Centers of outside Japan

Facilities	Energy consumed		GHG emissions	
	Electricity (GJ)	City gas (GJ)	Scope 1 (tons)	Scope 2 (tons)
Astellas US LLC	118,398	2,063	103	5,973
Astellas Pharma Europe Ltd.	25,755	11,461	571	1,139
Astellas Pharma Europe B.V.	32,727	6,331	315	1,326
Agensys Inc.	99,345	42,677	2,124	5,012
Astellas Research Institute of America LLC	6,853	0	0	346
Astellas Pharma Canada Inc.	3,244	0	0	54
Total	286,322	62,532	3,113	13,851

Breakdown by region of number of Sales fleets, amount of fuel consumed, and GHG emissions

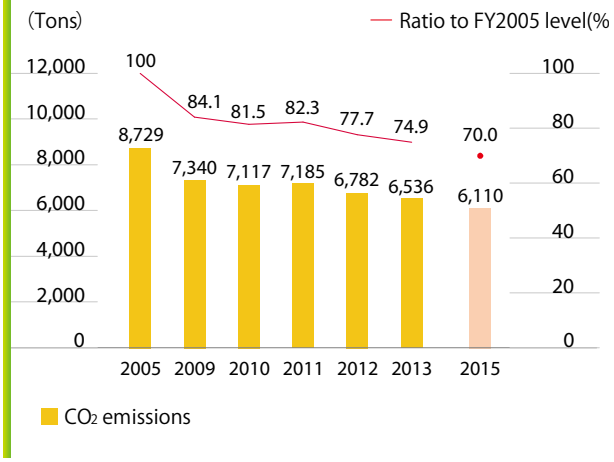
Region	Petrol cars	Diesel cars	Petrol consumed (kiloliters)	Diesel oil consumed (kiloliters)	GHG emissions (tons)
Europe, Middle East, Africa	803	1,440	1,261	2,935	10,497
United States	1,222	0	5,368	0	12,454
Canada	77	0	193	0	448
Total	2,102	1,440	6,822	2,935	23,399

7.4. Reduction of CO_2 Emission from Sales Activities and Offices

Environmental Action Plan

- Reduce CO_2 emissions generated through sales activities by 30% or more compared with fiscal 2005 levels by the end of fiscal 2015 (Japan)
- Reduce electricity usage to the levels of 80% or less than fiscal 2005 by fiscal 2015 (Japan)

CO_2 Emissions from Sales Fleets (JPN)

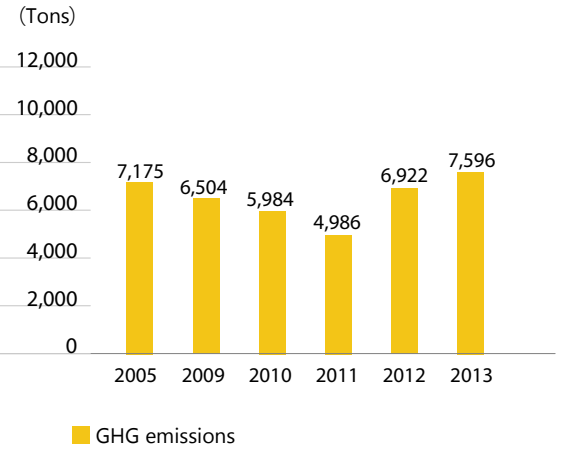


At Astellas, we have been progressively changing our leased fleets to hybrid since fiscal 2008. As of the end of fiscal 2013, some 2,019 vehicles, or 77.0%, of our 2,622 fleets were hybrid, up 50 compared with the previous fiscal year.

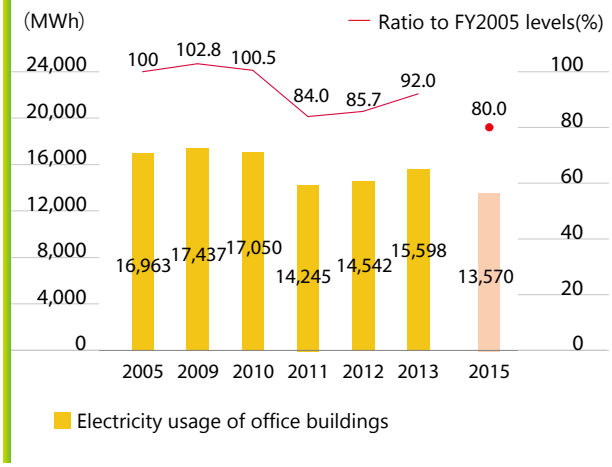
In the fiscal year under review, CO_2 emission from gasoline used in our fleets amounted to 6,536 tons. This was a 25.1 percentage points decrease compared with 2005. To reach our target, we need to reduce CO_2 emissions by a further 4.9 percentage points. We believe this will be achievable by continuing the conversion to hybrids in line with our plan.

The electricity consumption of the group's office buildings in Japan, including Astellas head office and all branch offices and sales offices, amounted to 15,598 MWh for the reporting period, for an increase of 1,056 MWh over the previous fiscal year and 92.0% of the base year's level (3,393 MWh). This was due to the fact that the Company moved its head office location in fiscal 2013 to new premises with twice the floorspace. Energy usage is expected to decline somewhat in fiscal 2014 due to the closure of Hasune Office and the integration of offices in the Nihonbashi Office area (other than the head office).

GHG emissions from Office Electricity Consumption (JPN)



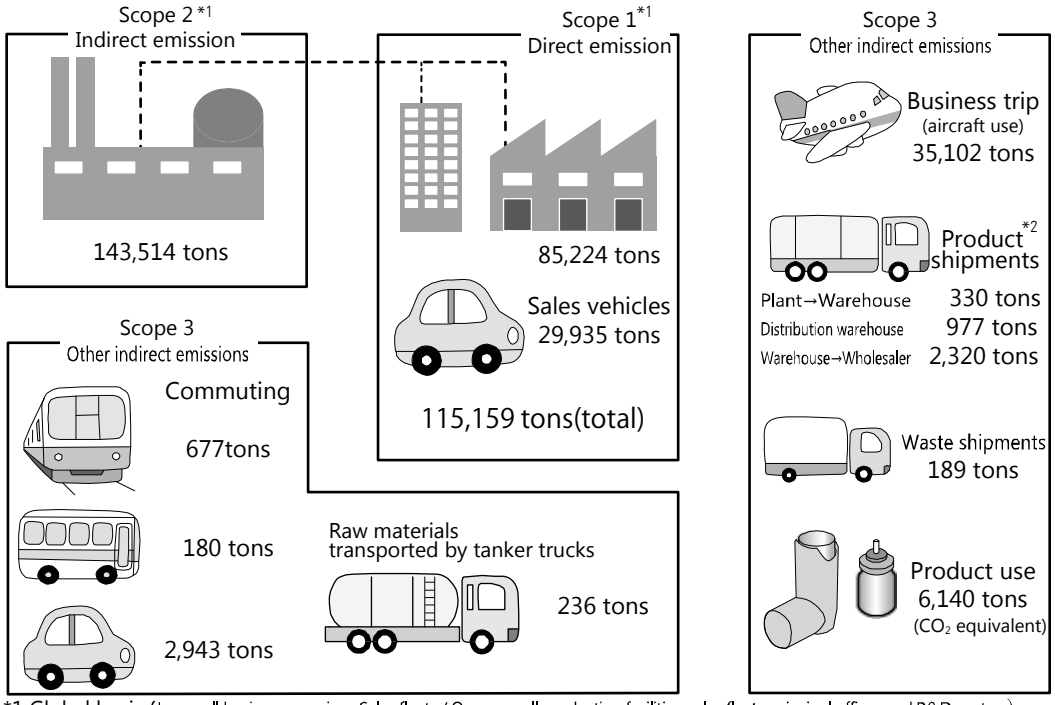
Electricity Usage of Office buildings (JPN)



7.5. GHG Emissions Resulting from Supply Chain Activities

The Environmental Action Plan contains targets that have been set to address the issue of global warming. It focuses on GHG emissions generated by the group's facilities and CO_2 emissions from energy sources through the use of electricity and heat supplied from outside sources.

In addition to knowing and publicizing their own GHG emissions, in recent years there has been more and more emphasis on emissions produced along the entire supply chain - including raw materials procurement, product distribution, employee commuting and business trips, and waste treatment. Following this trend, standards are being reviewed and developed to reflect this broader Scope, including the Greenhouse Gas Protocols, ISO standards, and guidance issued by Japan's Ministry of the Environment.



*1 Global basis (Japan: all business premises, Sales fleets / Overseas: all production facilities, sales fleets, principal offices and R&D centers)
*2 Product shipments are handled by outside contractors

Recognizing these social implications, we included some supply chain GHG emissions for the first time when ascertaining our environmental performance in fiscal 2011. Regarding emissions of GHG relating to raw materials used at our production sites, in fiscal 2012, we took steps to ascertain the volume of GHG emissions accompanying the transport of solvents by tanker trucks as well as GHG emissions accompanying the usage of products. In fiscal 2013, in a new measure, we began monitoring GHG emission volumes arising when overseas employees use airplanes on their business travels.

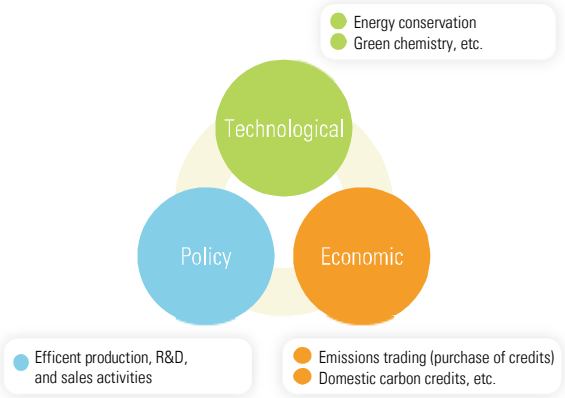
Category		Assumption used to estimate GHG emissions		Fiscal 2013
Commuting	Railway	Travel distance	(thousand passenger-km)	28,687
	Bus			2,148
	Private vehicle			11,529
Business trip (aircraft use)	Japan	Travel distance	(thousand passenger-km)	38,202
	Europe			92,444
	the Americas			60,117
	China (Shenyang plant)			371
Raw materials transported by tanker trucks		Fuel consumption	(kiloliter)	91
Product shipment	Plant → Warehouse	Fuel consumption	(kiloliter)	127
	Distribution warehouse	Energy consumption	(MWh)	2,005
	Warehouse → Wholesaler	Fuel consumption	(kiloliter)	899
Waste shipments		Shipment weight x distance	(tons-km)	866,102
GHG emissions attributable to product use		Volumes shipped (Shipments x HFC content/unit)	(tons-HFC)	2

7.6. Global Warming Prevention Framework and Initiatives

Astellas believes that it will not be possible to achieve the level of GHG emission reductions demanded of private enterprises by simply continuing with existing energy conservation measures implemented independently by each facility. Consequently, in fiscal 2009, Astellas established the Global Warming Prevention Committee as a special task force under the CSR Committee, which is chaired by a member of top management.

Astellas is pursuing measures to achieve medium to long-term numerical targets set in accordance with a group-wide strategy formulated by the Global Warming Prevention Committee. In addition to considering technological means to lower energy consumption, the Committee is also tasked with examining policy measures, such as efficient production and research systems, and utilizing economic measures, including emissions trading and a carbon credit system.

To develop our environmental protection measures on a more global scale, including countermeasures against global warming, from fiscal 2014 onward, we have set up the Global Environment Subcommittee as a specialist subordinate unit under the CSR Committee.



Investment Plan for Preventing Global Warming

Measures for preventing global warming are a key management priority under the new Mid-Term Management Plan that covers the period through the end of fiscal 2014. Accordingly, it was decided that the Global Warming Prevention Committee would be responsible for formulating medium to long-term action plans and investment plans for the entire Astellas group, and advancing strategic measures driven by Astellas' Tokyo headquarters.

In fiscal 2013, separately from our energy conservation measures at each facility, the Global Warming Prevention Committee took the decision to invest roughly ¥600 million in introducing more efficient truck-driving management methods as well as advanced technologies. However, owing to the succession of a production plant to another company and the integration of other business bases, certain measures had to be cancelled, and thus the actual investment came to only ¥89 million, and the reduction of GHG emissions worked out to be potentially only 661 tons.

In fiscal 2014, we are planning to invest approximately ¥400 million, which is expected to yield a reduction in GHG emissions of about 1,500 tons.

Item	Fiscal 2013		Fiscal 2014	
	Investment Amount (¥ million)	Reduction (projection) (tons of CO_2)	Amount of fixed investment (¥ million)	Reduction (projection) (tons of CO_2)
Introduction of advanced technologies, including heat pumps and LEDs	-	-	176	229
Introduction of Renewable energy sources	33	131	-	-
Introduction of energy monitoring systems	7	-	18	0
Investment in improved operational efficiency	49	530	197	1,303
Applying economic measures such as a carbon credit system	-	-	10	-
Total	89	661	401	1,532

7.8. Our Efforts to Reduce GHG Emissions

Astellas' manufacturing plants, research centers, and offices are implementing a variety of initiatives with the aim of reducing GHG emissions. Currently, Astellas' GHG emissions are related to energy consumptions.

Efforts to improve facilities, which include the introduction of high-efficiency equipment and the conversion to alternative fuels, are expected to make a significant contribution to reducing the level of GHG emissions generated by energy sources. Measures as part of everyday activities and energy-saving activities by all employees are also important. To this end, each facility adopts a two-pronged approach, comprising measures related to equipment and energy-saving activities.

Fuel Conversion

The amount of GHG generated in order to obtain the same level of heating value reached by steam boilers and other equipment varies depending on whether fuel oil, city gas, or LPG is used as the energy source. Therefore, switching to a fuel that generates less GHG helps prevent global warming.

Because fuel oil and kerosene generally produce more GHG than city gas, Astellas has been actively converting its steam boilers so that they run on city gas, LPG, and LNG instead of fuel oil and kerosene. This conversion of steam boilers at research and production bases was completed by fiscal 2011. These fuel conversions contribute the GHG emission reduction but also reducing SOx emissions that is one of the air pollutant substances.

Installation of Heat Pump Devices

Astellas has actively introduced heat pump technology that makes effective use of heat in the air when upgrading existing air conditioning in equipment or installing new equipment. Going forward, we will pursue the introduction of heat pump technology after securing a stable supply of electricity.

Introduction of Energy Monitoring Systems

Knowing exactly how much energy we use does not directly lead to lower energy consumption. However, the ability to confirm the status of energy usage can assist the elimination of wasteful practices and the formulation of new strategies.

For these reasons, we have instituted a program to introduce energy monitoring systems at our facilities.

Using Renewable Energy

The direct use of renewable energy sources, such as the solar energy and wind, is the most effective method of addressing the issue of global warming. Accordingly, Astellas hopes to actively introduce renewable energy technology where feasible.

The Group's Kerry Plant in Ireland brought online a wind turbine power generation station with a maximum output of 800 kW and a wood chip biomass boiler system with a maximum output of 1.8 MW from March 2012. In fiscal 2013, the full amount of 1,802 MWh produced by the wind turbine power generation station was used to power the facility. In addition, the wood chip biomass boiler also used 34,980 GJ of heat. Through these means, the total amount of GHG emission reduction came to 3,163 tons.

In Japan, the Tsukuba Research Center and Kashima R&D Center have installed photovoltaic generation systems. In fiscal 2013, the full amount if 88 MWh generated was use to power each facility. Thanks to these initiatives, the amount of GHG emission reduction came to 42 tons.

The Norman Plant in the United States purchases electricity generated by wind turbine power generation farms in Oklahoma. In fiscal 2013, electricity generated by wind turbines accounted for 19,634 MWh of the plant's overall electricity purchased, which totaled 19,726 MWh.

7.9. Breakdown of Energy Consumption

Global energy usage in fiscal 2013 by the Astellas group amounted to 4,441 terajoules (TJ), for an increase of 167 TJ (3.9%) over the previous year. This breaks down to energy usage in Japan amounting to 3,661 TJ, for a year-on-year increase of 176 TJ (5.1%), and 780 TJ for overseas operations, down 9 TJ (1.2%) year on year.

In Japan, the start of operations of new facilities at Kiyosu Research Office and Yaizu Facilities was partly responsible for the increase in energy consumption. The proportion of total energy usage occupied by electricity is gradually increasing, having risen from 57.1% in fiscal 2005 to 58.9% in fiscal 2013. Use of renewable energy sources includes electricity generation from photovoltaic panels at the Tsukuba Research Center and the Kashima R&D Center, amounting to 877 GJ (88 MWh), all of which was used in business operations at each facility. A co-generation system generated 8,169 MWh of electricity, which was not counted toward electricity usage volume, but the pipelined city gas consumed as fuel in the system was counted as energy consumption.

Overseas, our plant at Kilorglin in County Kerry in the Republic of Ireland used 35 TJ of heat produced by a woodchip boiler, and 18 TJ (1,802 MWh) was generated by wind turbine system. The combined power generated by these two forms of renewable energy rose by 7 TJ over the previous year. At our plant in Norman, Oklahoma in the United States, power generated by wind turbines is purchased from outside, and in fiscal 2013 accounted for 19,634 MWh (195 TJ) out of the total amount of electricity purchased of 19,726 MWh. The percentage of total energy accounted for by electricity is rising at a steeper pace than in Japan, having grown from 64.9% in fiscal 2005 to 71.4% in fiscal 2013.

Breakdown of Energy consumption

(global / Japan: all business locations and sales fleets; overseas: all production facilities) (Unit: terajoule)

Fiscal	Total	Liquid fuel		Gaseous fuel		Heat purchase	Electricity		Renewable energy			
		Fuel oil	Petrol etc.	City gas	LPG LNG		Total	Wind power source	Total	Wind power source	Wood chip source	Photovoltaic panes
2005	4,770	437	233	1,015	226	55	2,804	0	0	0	0	0
2009	4,359	175	180	1,223	117	16	2,647	0	0	0	0	0
2010	4,463	161	158	1,324	108	19	2,694	0	0	0	0	0
2011	4,257	33	155	1,325	193	20	2,304	228	0	0	0	0
2012	4,274	2	112	1,315	240	22	2,333	203	47	14	32	1
2013	4,441	1	103	1,361	259	21	2,446	196	55	19	35	1

Note) Wind power source of Electricity purchase in Norman Plant was generated by wind turbines

Breakdown of Energy consumption (Japan: all business locations and sales fleets)

(Unit: terajoule)

Fiscal	Total	Liquid fuel		Gaseous fuel		Heat purchase	Electricity		Renewable energy			
		Fuel oil	Petrol etc.	City gas	LPG LNG		Total	Wind power source	Total	Wind power source	Wood chip source	Photovoltaic panes
2005	3,748	437	230	712	226	2	2,141	0	0	0	0	0
2009	3,554	175	152	989	117	2	2,118	0	0	0	0	0
2010	3,651	161	131	1,072	108	2	2,177	0	0	0	0	0
2011	3,466	33	124	1,086	193	2	2,029	0	0	0	0	0
2012	3,484	2	104	1,088	240	2	2,047	0	1	0	0	1
2013	3,660	1	99	1,142	259	2	2,156	0	1	0	0	1

Breakdown of Energy consumption (overseas: all production facilities)

(Unit: terajoule)

Fiscal	Total	Liquid fuel		Gaseous fuel		Heat purchase	Electricity		Renewable energy			
		Fuel oil	Petrol etc.	City gas	LPG LNG		Total	Wind power source	Total	Wind power source	Wood chip source	Photovoltaic panes
2005	1,022	0	3	303	0.0	52	663	0	0	0	0	0
2009	805	0	28	234	0.1	14	529	0	0	0	0	0
2010	813	0	27	252	0.2	17	517	0	0	0	0	0
2011	790	0	31	239	0.1	17	502	228	0	0	0	0
2012	790	0	7	227	0.1	20	489	203	46	14	32	0
2013	780	0	4	218	0.2	18	486	196	53	18	35	0

8. Sustainable Biodiversity Initiatives

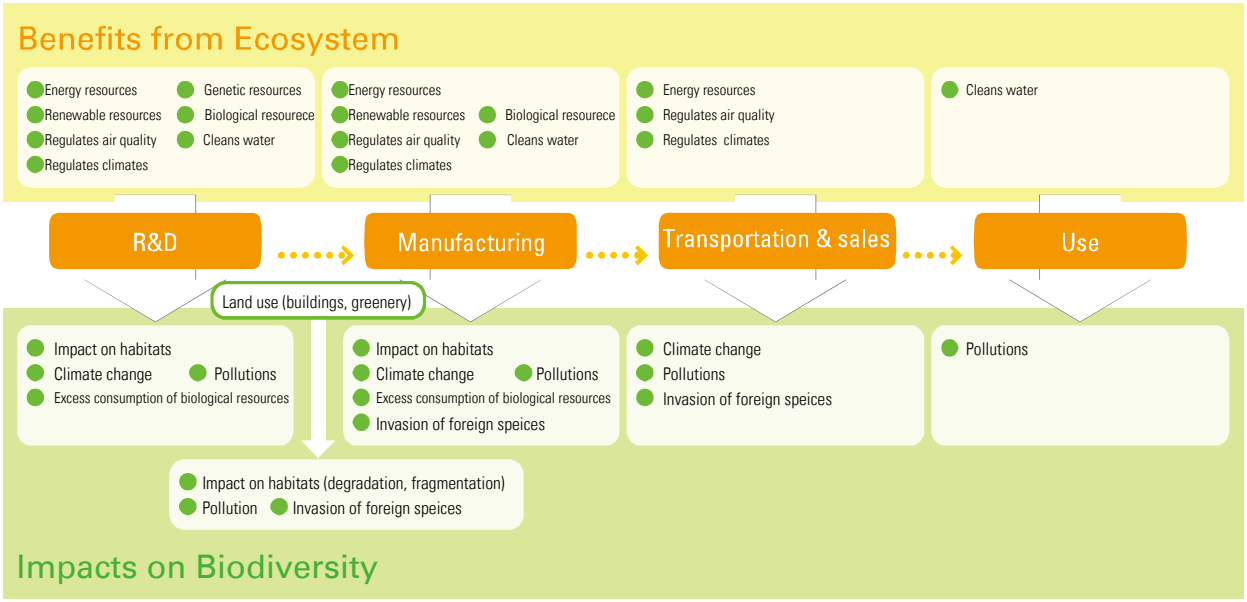
Global warming and biodiversity loss are two crucial environmental problems that must be addressed to ensure our survival. Countries around the world agreed to address these two problems in 1992 at the Earth Summit held in Rio de Janeiro in Brazil, and adopted the Framework Convention on Climate Change and the Convention on Biological Diversity, and the active international discussions are now underway.

In line with this movement, many countries have drawn up national strategies with regard to biodiversity. Moreover, society has increasingly demanded that companies make a more concerted effort to preserve biodiversity.

8.1. Basic Policy on Biodiversity

Astellas is thankful for the benefits brought about by biological diversity, and understands its business activities in all fields have an impact on ecosystems. We will make a positive contribution to the preservation of biodiversity by working to lessen that impact. Furthermore, we will actively contribute to the creation of a society that coexists with the natural world, enabling the preservation of biodiversity and the sustainable use of the benefits of healthy ecosystems.

- We will endeavor to lessen our overall environmental impact on biodiversity by working to prevent global warming, minimize pollution, and promote resource recycling.
- We will endeavor to develop technologies that lessen the impact on ecosystems by lowering the burden we place on the environment and using as few natural resources as possible.
- We will endeavor to handle genetic resources in accordance with international standards and the regulations of producing nations.
- We will endeavor to broaden our efforts to preserve biodiversity with the aim of creating a sustainable society that coexists in harmony with nature. To this end, we will promote discussion within society and among affected parties, while reaching across national and geographical borders.
- We will endeavor to foster a corporate culture that will always act with respect for biodiversity and in a manner that is harmonious with our business activities, grateful for the benefits obtained from healthy ecosystems.



8.2. Biodiversity Index

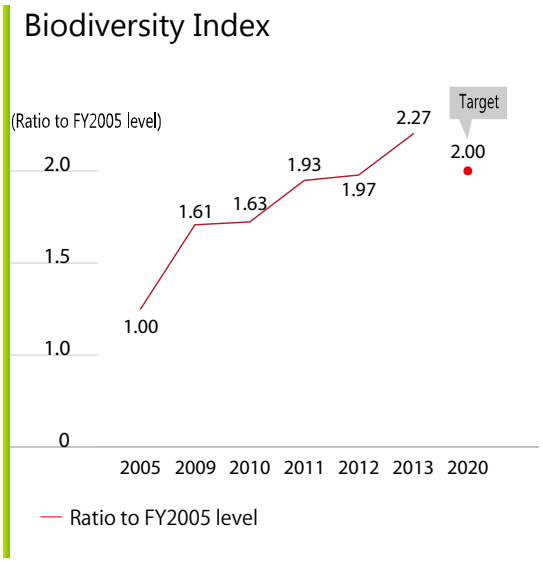
The government's National Biodiversity Strategy of Japan 2010 identified the challenges the country faces due to four crises affecting biodiversity. They are (1) species and habitat degeneration due to excessive human activities and development; (2) degradation of satochi-satoyama natural rural areas due to insufficient management; (3) ecosystem disturbances caused by the introduction of alien species by human activity and chemical contamination; and (4) global warming.

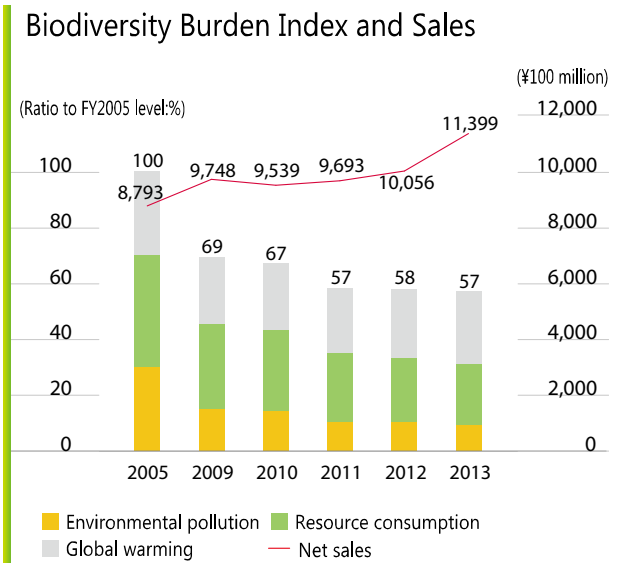
We believe that it is difficult for Astellas to participate directly in the prevention of satochi-satoyama degradation in the course of its business activities. Accordingly, we have excluded this crisis from the scope of our biodiversity strategy. We have created an index by reclassifying the main factors responsible for the other three crises into the categories of environmental pollution, resource consumption, and global warming.

Environmental Action Plan

Raise the biodiversity index to double the fiscal 2005 level by fiscal 2020. (Global)

In fiscal 2013 we achieved the goal of our Environmental Action Plan with respect to biodiversity, with the biodiversity index came in at 2.27 times the figure recorded in fiscal 2005. While GHG emissions increased, the biodiversity burden index (including pollution and resource consumption) declined, and thus the overall biodiversity index fell slightly from the previous year, in addition to which increased sales pushed up the index by 0.3 points year on year. We aim to achieve targets once again in fiscal 2014 with the current Environmental Action Plan in force, and will examine options for the setting of new numerical targets and additional items for tracking by index.





Note: Consolidated sales figures were used for computing the biodiversity index, but from fiscal 2013, consolidated sales computations are based on International Financial Reporting Standards (IFRS). For reference purposes, had the IFRS standards been applied to consolidated sales calculations in fiscal 2012, sales would have totaled ¥981.9 billion (consolidated basis) and the biodiversity index for fiscal 2012 would have been 1.93.

(Biodiversity Index Calculation Method)

The environmental load for each sub-category in the assessment fiscal year is divided by the corresponding burden in the base year and then multiplied by the weight to derive the "biodiversity burden index." The "biodiversity index" is calculated by dividing Astellas' consolidated sales in the assessment fiscal year by the total of all the biodiversity burden index figures. Improvement can be determined by comparing this index to the base year.

$$\text{Biodiversity Index} = \frac{\text{Consolidated sales in assessment fiscal year}}{\sum\left(\frac{\text{Burden in assessment fiscal year}}{\text{Burden in the base year}} \times \text{Weight}\right)}$$

Categories	Sub-Categories	Weight (%)
Environmental pollution	NOx, SOx emissions	10
	Chemical substances emissions	10
	BOD load	10
	(subtotal)	(30)
Resource consumption	Water withdrawal (global)	20
	Biological raw material usage	10
	Landfill waste volume	10
	(subtotal)	(40)
Global warming	GHG emissions (global)	30
	(subtotal)	(30)
Total		100

8.3. Sustainable Biodiversity Initiatives through Social Contribution Activities

Turning to the principal factors responsible for the deterioration of biodiversity, Astellas recognizes the difficulty in participating directly in the prevention of satochi-satoyama natural rural area degradation due to insufficient management in the course of its ongoing business activities. Despite this difficulty, we are keen to pursue initiatives through our social contribution activities in cooperation with external and other organizations.

In fiscal 2013, as in the previous year, we once again conducted tree planting on the slopes of Mount Tsukuba. More than 100 participants, including Astellas employees together with their family members on a volunteer basis, planted around 500 seedlings on Mount Tsukuba. Of these, roughly 100 had been grown from acorns collected by members of staff of the Tsukuba Research Center within the center's grounds.

9. Initiatives for Resources Recycling

Resolving the serious global issues of climate change and biodiversity requires changing the existing style of economic development. Namely, the whole of society must pursue a sustainable society and economy while reducing the volume of resources it consumes. Astellas too recognizes that since the use of sustainable resources is essential for continuing its business activities, it must play an active role toward the creation of a recycling-oriented society.

Astellas is moving forward with steps to effectively use water resources and recycle waste materials (reuse, recycling, and use of all thermal energy) as initiatives contributing to a recycling-oriented society.

9.1. Effective Use of Water Resources

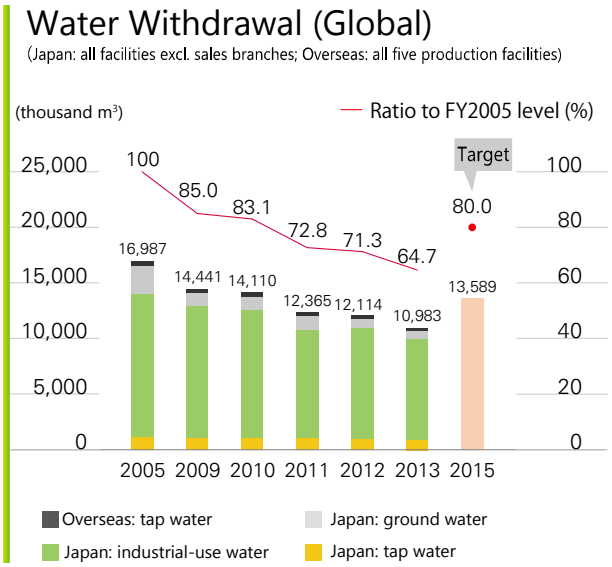
Environmental Action Plan

Reduce water withdrawal to the levels of 80% or less than fiscal 2005 by fiscal 2015 (Global)

Since the effective use of water resources serves as a useful indicator for gauging society's impact on biodiversity, Astellas has set numerical targets for reducing water withdrawal.

Water resources used by the group on a global basis in fiscal 2013 amounted to 10,983 thousand m³, equivalent to 64.7% of usage in the base year and a year-on-year improvement of 6.6 percentage points. This represents the third straight year in which we reached our target, following fiscal 2011.

Of total water withdrawal, water for industrial uses in Japan accounts for 81.8%, all of which is obtained from river systems. The group does not currently draw water from river systems in areas of Japan where depletion of water resources is a concern, but as water shortages may become a problem in the future in other parts of Japan, owing to climate change, we are taking steps to minimize our rate of dependence on such resources, and we also regard this as an effective means of ensuring business continuity. For these reasons, we are seeking to reduce water withdrawal through renegotiation of the volumes of industrial-use water that we are contracted to receive.



9.2. Waste Management

Environmental Action Plan

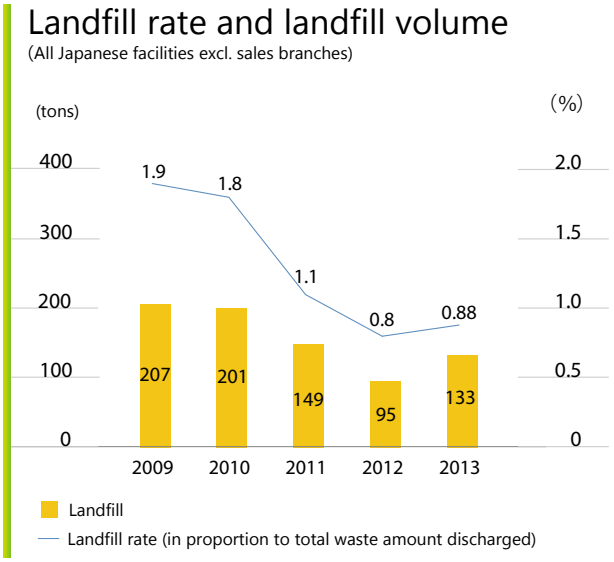
Reduce the final volume of waste for disposal to less than 2% of the total discharged. (Japan)

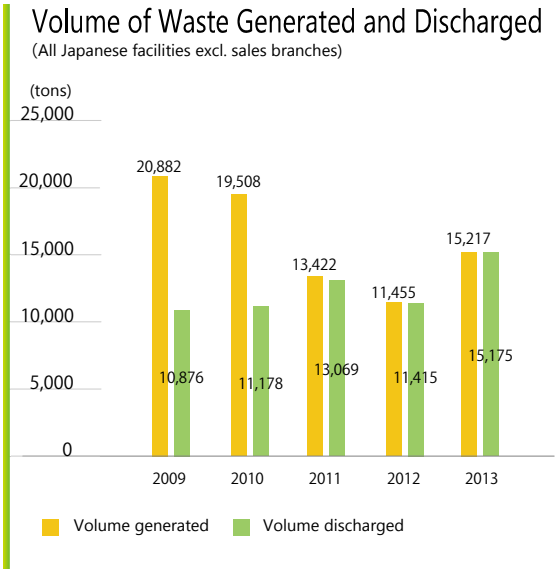
Astellas believes that efforts to reduce waste landfill volume to as close to zero as possible will encourage the recycling and reuse of waste materials. To realize this goal, we set targets for the zero emission of waste at our business facilities in Japan.

In waste management, it is also important to prevent the illegal disposal of waste and environmental pollution caused by hazardous waste generated by research centers and plants. To prevent this from happening, we first examine appropriate methods of waste disposal, and check regularly that the waste disposers selected use appropriate waste disposal methods.

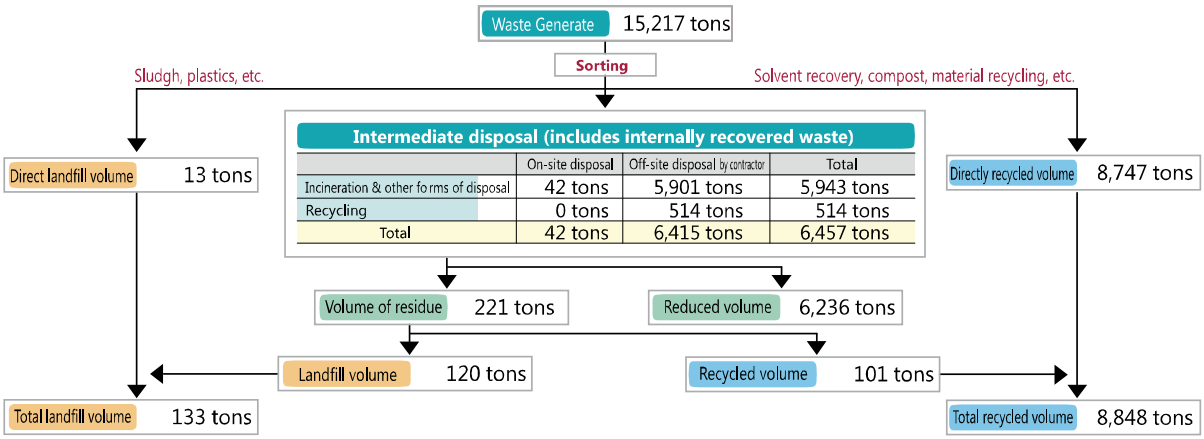
Up to fiscal 2012, our recycling program did not cover animal carcasses from R&D centers and waste pharmaceutical products from our logistics centers, which were difficult to recycle, but thanks to our continued success in reaching the numerical targets we have set, with effect from fiscal 2013 these difficult-to-recycle items are now covered by the program, and we are committed to realizing zero emissions.

The volume of waste for final disposal at landfill sites in fiscal 2013 increased over the previous year, but as the volume of waste transported also increased, the volume of landfill waste came to only 0.9% of total waste generated, and the group has thus continued since fiscal 2008 to fulfill its zero emission targets.





Waste Processing Flow Chart



9.3. State of PCB-contaminated Waste Storage

In fiscal 2013, we completed the processing of equipment containing trace amounts of PCB that were stored at the Hasune Office and Fuji Plant (17 units). At the same time, 23 fluorescent lamp ballasts were discovered at Fuji Plant and stored.

In all, 42 condensers containing low-concentration PCBs, 23 electrical ballasts for fluorescent lamps, and 62 kilograms of materials encrusted with PCBs were newly generated and stored in fiscal 2013, due to facility dismantlement and other reasons. As methods of PCB disposal improve from here onward, we plan to use such methods in the disposal of fluorescent lamp ballasts and other waste matter containing low-concentration PCBs.

Status	Category	Number/Volume
Stored	High-voltage transformers	13 units
	Capacitors	186 units
	Electric current breakers	1 unit
	Fluorescent lamp ballasts	7,431 units
	PCB-containing oil	16 liters
	PCB incrustation	85 kg

10. Initiatives for Preventing Pollution

Among environmental initiatives, the prevention of environmental pollution in local communities is just as important as global environmental issues. The system for managing typical pollution problems in Japan has begun to fail, as illustrated by an increase in accidents involving water contamination in the past few years. Consequently, relevant laws and regulations have become increasingly severe, including the strengthening of measures to prevent the escalation of harm in the event of an accident. Meanwhile, the international community has reached an agreement on minimizing the adverse effects that the production and use of chemical substances have on human health and the environment by the year 2020. Each country is, therefore, implementing its own initiatives on the control of chemical substances.

Astellas sets its own levels which are stricter than legal standards and pollution control agreements for the major environmental management indicators used to measure air quality and water quality. In addition to reducing the discharge of contaminants, we also set voluntary targets for lowering the discharge of chemical substances into the atmosphere.

10.1. Air Pollution

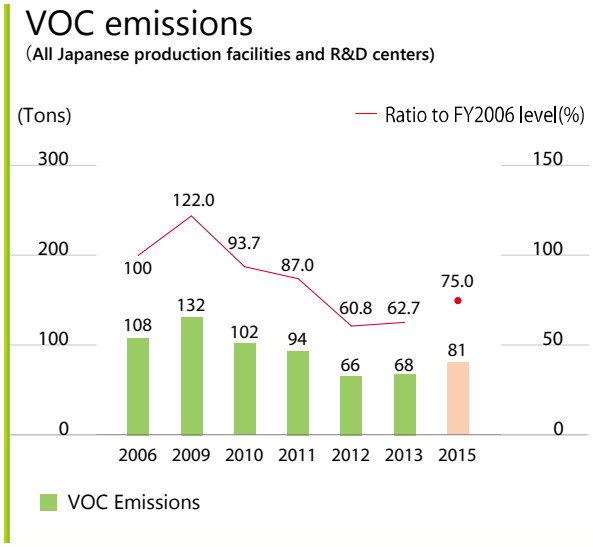
Environmental Action Plan

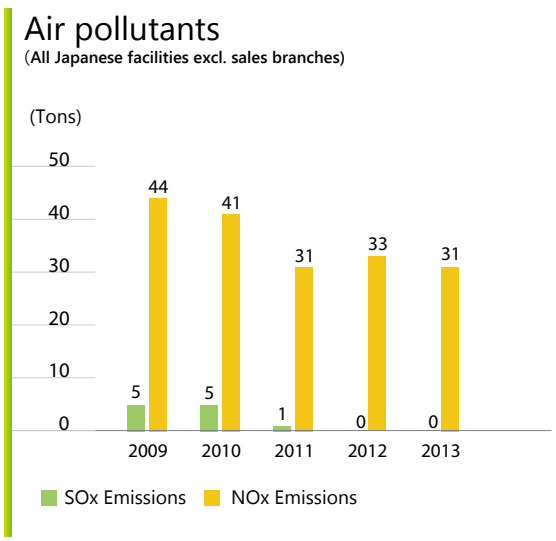
Reduce the amount of VOCs discharged by 25% or more compared with fiscal 2006 levels by fiscal 2015. (Japan)

Astellas sets voluntary numerical targets for reducing the amount of volatile organic compounds (VOCs) it discharges accompanying the use of solvents in production and research activities, and is implementing measures to achieve these reduction targets.

In emissions of VOCs into the atmosphere, we once again reached our target in fiscal 2013 in a continuation of the previous year's success. Emissions totaled 68 tons, down by 37.3% (40 tons) from the base year. In fiscal 2014, the rate of reduction is expected to worsen due to the succession of Fuji Plant to another company, which means that the reduction by that plant, including in the base year, will be deleted from the record of achievements. For this reason, we will continue our efforts to reduce emissions without any revisions to the numerical targets. In addition to reducing atmospheric pollution, we will take other steps to minimize the impact of our business operations on our employees, the regional communities in which we work, and the global environment. Such steps will include measures to prevent environmental pollution by chemical substances as well as workplace accidents and health hazards, and will take the form of adopting new production methods that do not employ high-risk chemicals.

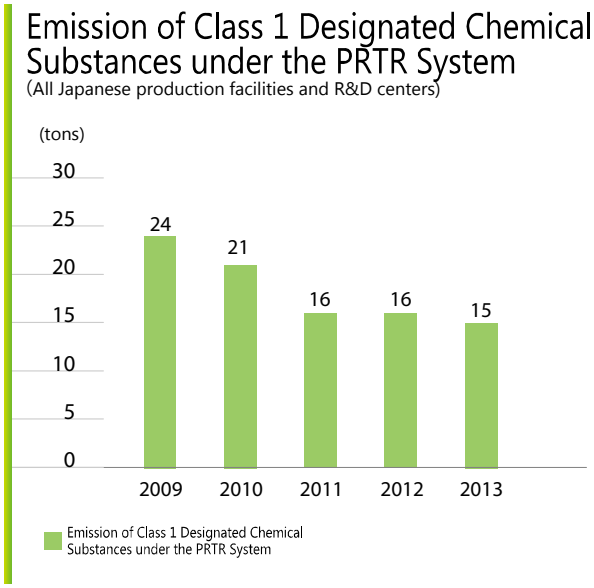
While we have not set any numerical targets for atmospheric emissions of SOx and NOx from the operation of steam boilers and incinerators, we are striving to reduce such emissions though the adoption of low-NOx-type boilers and by ceasing operations of waste liquid incinerators. As a result of the shut-down of all waste liquid incinerators in Japan, the group's emissions of SOx fell sharply from fiscal 2012, amounting to merely 0.030 tons in fiscal 2013. In fiscal 2014, the group will no longer be using the office building in Tokyo's Nihonbashi district, which had been employing fuel oil for heating, and thus SOx emissions will reach zero. NOx emissions are also decrease by 2 tons from the previous fiscal year, to 31 tons.





10.2. Emission of PRTR* Chemical Substances

Japan's PRTR Act designates substances widely found in the environment that have been identified as being harmful to human health. The primary objective of the Act is to assess and improve activities by business operators for the voluntary control of chemical substances through the monitoring of volumes released and volumes transferred in waste. The table below contains data on the release and transfer of chemicals requiring notification under the PRTR Act in fiscal 2013. In fiscal 2013, Astellas discharged a total of 15 tons of these notifiable chemicals.



*) PRTR Refers to chemical substances designated under Japan's "Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof" (Pollutant Release and Transfer Register Law)

Releases and transfers of PRTR chemical substances in fiscal 2013 (unit: tons)

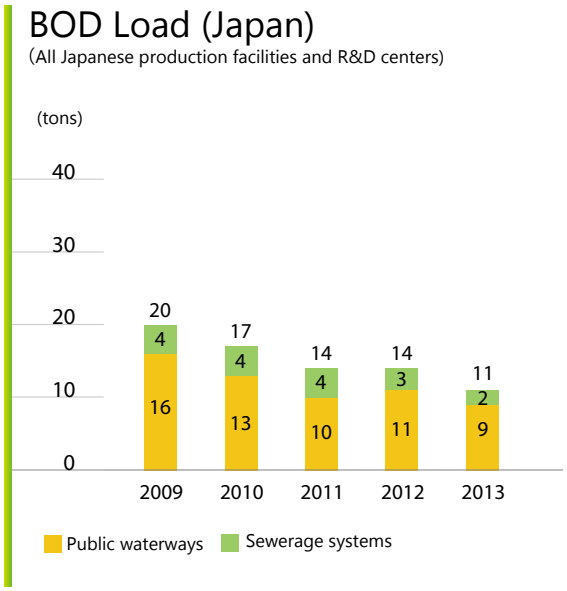
Substance name	Volume handled	Volume Released			Volume Transferred	
		Air	Water	Soil	Waste	Sewerage
Acetonitrile	33.688	0.256	0.005	0.000	17.583	0.000
Toluene	11.579	0.113	0.000	0.000	11.465	0.000
N.N-dimethylformamide	11.152	0.027	0.001	0.000	6.220	0.000
Chloroform	34.846	8.774	0.000	0.000	26.071	0.000
n-Hexane	12.658	1.046	0.000	0.000	11.612	0.000
Dichloromethane (also known as methylene chloride)	46.673	4.785	0.000	0.000	1.035	0.000

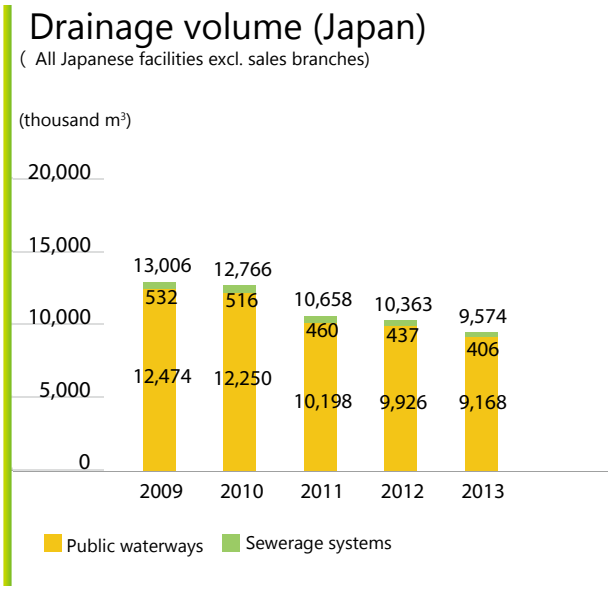
10.3. Water Pollution

Astellas measures the extent of its impact on aquatic environments by adopting the biochemical oxygen demand (BOD) load as an index, and makes the data available to the public.

In Japan, the BOD load in fiscal 2013 was 11 tons, down from the previous fiscal year. Outside Japan, the BOD in fiscal 2013 was 16 tons (excluding Meppel Plant), also down from the previous year.

Since the discharge into water of chemical substances used in manufacturing processes can have a negative impact on ecosystems, we are examining ways of reducing such discharges as much as possible at all stages from R&D onward. With respect to future drug candidate substances, we are examining the impact pharmaceuticals would have on ecosystems through the evaluation of their biodegradability in the natural environment, and will take action as appropriate.





11. Environmental Impact of Products and Countermeasures

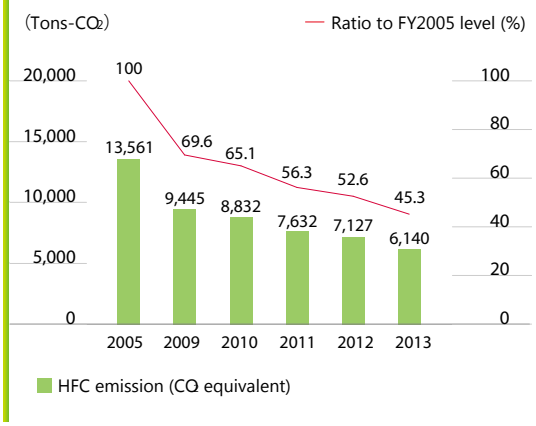
11.1. Greenhouse Gases

Astellas manufactures and sells only one pharmaceutical product that uses hydrofluorocarbons (HFCs) as a filler agent, for which it has acquired official manufacturing approval. While the use of HFCs enhances the product's quantitative performance and makes it easier to inhale the drug, the HFCs emitted contribute to global warming, and this is an issue that remains to be addressed.

For this reason, the Company introduced new technology that allowed the development and marketing of a new product in which a fixed quantity of medication can be administered in fine powder form using a special inhaler. This new product ameliorates environmental impact by reducing the amount of GHG emissions.

Atmospheric emissions of HFCs as a result of product use had fallen to 2 tons in fiscal 2013 compared with 5 tons in fiscal 2005. Converted to CO_2-equivalents, this is a decline from 13,561 tons to 6,140 tons.

GHG emission from product use

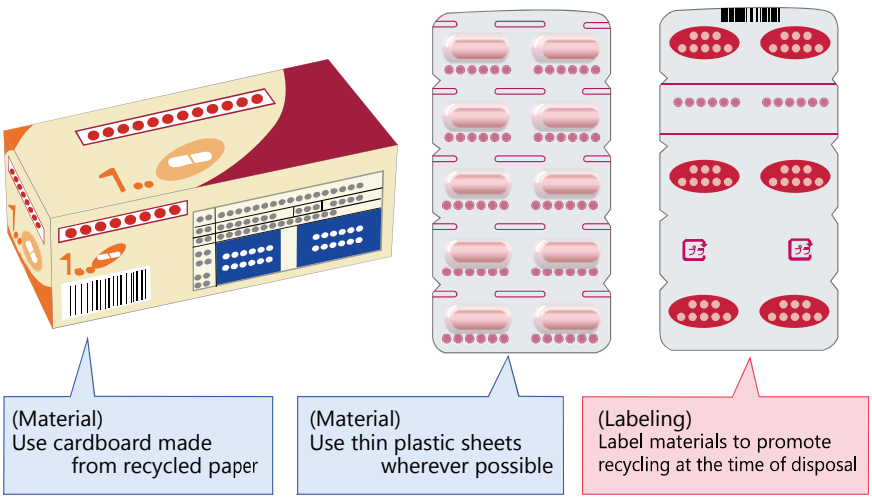


11.2. Containers and Packaging Recycling

The products manufactured and marketed by the Company are administered to patients through medical institutions. After their use, packaging materials are disposed of by hospitals, pharmacies, and general households. The waste discarded by general households is mainly comprised of PTP (plastic) packaging used for tablets and capsules. Hospitals and pharmacies discard PTP packaging as well as various types of plastics including bottles and tubes, metals, glass materials used in injectable solutions products, and such paper items as individual packaging and cardboard boxes.

In the case of pharmaceutical packaging, certain functions remain essential to ensure the safe storage of products as well as compliance with the provisions stipulated under the Pharmaceutical Affairs Act of Japan. In addition to these functions and requirements, Astellas selects environmentally friendly materials for use in its packaging while engaging in a variety of initiatives including the labeling of materials to promote recycling at the time of disposal.

To encourage the recycling of containers and packaging for household use in Japan, in accordance with the Containers and Packaging Recycling Law (which mandates the sorted collection of containers and packaging, and promotes their reuse in commercial products) sellers of products are responsible for defraying the costs of recycling of such waste products. The estimated total amount of plastic and paper containers and packaging used in Astellas products in fiscal 2013 is 590 tons, and the Company was requested to pay ¥20.47 million in recycling costs.



12. Environmental Accounting

Astellas calculates the costs of investment and expenses related to environmental conservation for its facilities in Japan and their outcomes based on the Ministry of the Environment's "Environmental Accounting Guidelines."

Environmental conservation costs in fiscal 2013 comprised ¥416 million in investments and ¥1,695 million in expenses (including depreciation costs), both figures representing year-on-year declines. The main investments for the purpose of preventing pollution were in the construction and maintenance of waste water treatment plants and the surveying and repair of underground water-supply pipelines. Among investments in global environmental protection that were decided at the Global Warming Prevention Committee, we implemented those involving improved operating and management efficiency of existing equipment, but as a result of the succession of Fuji Plant to another company and the unveiling of plans for the reorganization of the group's research centers, there were certain cases in which it was impossible to carry out planned investments. Regarding the economic effects of environmental conservation, reductions in costs through energy conservation measures, proceeds from the sale of waste organic solvents and waste metals, and reduction in the costs of waste materials disposal amounted to a combined ¥29 million. It should be noted that fiscal 2013 environmental remediation costs came to ¥363 million on account of an increase in the reserves for the treatment of PCBs.

Total environmental conservation costs in fiscal 2013

(¥ million)

Category			Environmental Conservation Costs			
			Investment	Costs		
				Total	Expense	Depreciation
Business Area Cost			410	1,325	842	483
Breakdown	Pollution Prevention	Prevention of atmospheric pollution	3	129	102	28
		Prevention of water pollution	86	273	182	92
		Prevention of soil contamination	2	14	1	13
		Prevention of noise, bad odors and vibrations	1	5	3	2
		Other	0	17	5	12
		Subtotal	91	438	293	146
	Global Environmental Conservation	Prevention of atmospheric pollution	285	306	58	248
		Prevention of Ozone layer depletion	3	2	1	1
		Management of chemical substances	0	40	34	7
		Other	0	70	4	68.5
		Subtotal	289	422	98	324
	Resource Circulation	Efficient use of wastes	0	102	102	0
		Conservation of water	0	0	0	0
		Treatment of wastes	31	327	317	11
		Other	0	36	33	2.8
		Subtotal	31	465	452	13
Upstream/Downstream costs			0	53	53	0
Administration costs			0	277	276	0
R&D costs			5	37	27	10
Social activity costs			0	4	4	0
Environmental remediation costs			0	363	363	0
Total			416	2,058	1,565	493
Total environmental conservation costs, excluding environmental remediation costs			416	1,695	1,202	493

Environmental Conservation Effect

(¥ million)

Measures taken	Environmental Conservation Effect *
Cost reductions through energy conservation	23
Sludge drying, reduction in amount of waste liquid disposal contracted out (through increased disposal in-house)	0
Conservation of resources through reuse of solvents, and reduction in fuel purchases through conversion of solvents to fuel	1
Sale of waste solvents	5
Total	29

*) Quantifiable items only included in calculations

Environmental-related Investments and Expenses

(¥ million)

Category	FY2009		FY2010		FY2011		FY2012		FY2013	
	Investment	Expenses	Investment	Expenses	Investment	Expenses	Investment	Expenses	Investment	Expenses
Upstream/Downstream costs	161	461	177	687	225	489	239	479	91	438
Administration costs	80	231	403	287	730	413	465	413	289	422
R&D costs	1	340	6	344	0	432	21	441	31	465
Social activity costs	0	73	0	67	0	65	0	66	0	53
Environmental remediation costs	0	331	18	364	0	331	0	304	0	277
Upstream/Downstream costs	8	28	13	37	7	36	29	13	5	37
Administration costs	0	6	0	3	0	2	0	2	0	4
R&D costs	0	141	0	76	0	255	0	224	0	363
Total	250	1,611	616	1,865	963	2,023	753	1,943	416	2,059

13. Methods for Calculating Performance Data

13.1. Methods for Calculating Energy Consumption and GHGs

Astellas' overseas facilities use the CO_2 emission coefficients in the Conversion Coefficients table below except for electricity and and steam use of the overseas plants shown in the second table.

Type	Conversion Coefficients	
	Calorific value	CO_2 emissions
Electricity	9.97 GJ/MWh	0.487 tons/MWh *1
Fuel oil	39.1 GJ/kiloliter	2.71 tons/kiloliter
Kerosene	36.7 GJ/kiloliter	2.49 tons/kiloliter
LPG	50.8 GJ/tons	3.00 tons/ton
LNG	54.6 GJ/tons	2.70 tons/ton
City gas	45.0 GJ/thousand m^3N	2.24 tons/thousand m^3N
Diesel oil	37.7 GJ/kiloliter	2.58 tons/kiloliter
Gasoline	34.6 GJ/kiloliter	2.32 tons/kiloliter
Purchased thermal energy	1.36 GJ/GJ	0.057 tons/GJ

	Electricity *2	Steam
Norman Plant	0.503 tons/MWh	-
Dublin Plant Kerry Plant	0.427 tons/MWh	-
Meppel Plant	0.404 tons/MWh	-
Shenyang Plant	0.764 tons/MWh	0.091 tons/GJ

*1 For CO_2 emissions calculations in fiscal 2013, we have used the coefficient for fiscal 2012, because at the time of the release (June 2013) of our Japanese Environmental Report, FEPC's latest CO_2 emission coefficient was unavailable.

*2 See the CO_2 emission coefficient accompanying the end-use electricity under Measures to Address Global Warming.

13.2. Scope3 Calculation Method

A) Coefficients for GHG emissions generated from the commuting of employees in Japan are shown below.

- We assumed employees in Japan commuted to work on 230 days during fiscal 2013.
- Train and Bus : For calculating GHG emissions generated from train and bus commuting, we used the emissions factor for passenger rail travel of 0.0236 kg-CO_2/passenger-km and the emissions factor for passenger bus travel of 0.0836 kg-CO_2/passenger-km contained in the guidelines on supply chain GHG emissions accounting formulated by Japan's Ministry of Economy, Trade and Industry (METI) and the Ministry of the Environment (MOE) (March 2013)
- Private vehicle : We used the private vehicle gasoline economy rate of 9.09 km per liter contained in MOE's guidelines for calculating GHG emissions of activities to be offset (April 2011).

B) GHG emissions resulting from employees' business trips by airplane are the total for business trips involving journeys by airplane from Japan to other countries or from one overseas country/region to another. This figure excludes trips by Japanese employees within Japan. Distances traveled between one airport and another were calculated as straight-line point-to-point flights over the surface of the Earth, and emissions were calculated using calculation sheets issued by the United Kingdom's Department for Environment, Food and Rural Affairs (DEFRA).

C) The amount of GHG emissions at the time of product use is calculated based on the inhaled asthma medication (HFC specification product) marketed in Japan.

D) The amount of GHG emissions attributable to shipments of products, waste, and raw materials is calculated based on shipments within Japan.

14. Corporate Data

Company Name	Astellas Pharma Inc.
Headquarters	2-5-1, Nihonbashi-Honcho, Chuo-Ku, Tokyo 103-8411, Japan
Capital	¥103,001 million (as of March 31, 2014)
Representative Director	Yoshihiko Hatanaka (President and Chief Executive Officer)
Foundation	1923

Net Sales	1,139.9 billion (Consolidated basis, as of March 31, 2014)
Employees	17,649 (Consolidated basis, as of March 31, 2014)
Professional institution affiliation	・Japan Business Federation ・The Federation of Pharmaceutical Manufacturers' Associations of Japan ・Japan Pharmaceutical Manufacturers Association

■ Major consolidated subsidiaries

1. Coverage of the Environmental Action Plan

Company name	Facility	Location	Function
Astellas Pharma Inc.	Nihonbashi Office	Chuo-ku, Tokyo	Headquarters
	Hasune Office	Itabashi-ku, Tokyo	Development
	Takahagi Chemistry & Technology Development Center	Takahagi, Ibaraki	Research
	Tsukuba Research Center	Tsukuba, Ibaraki	
	Tsukuba Biotechnology Research Center	Tsukuba, Ibaraki	
	Yaizu Pharmaceutical Research Center	Yaizu, Shizuoka	
	Kiyosu Research Office	Kiyosu, Aichi	
	Kashima R&D Center	Yodogawa-ku, Osaka	
	Branches/Sales Offices	14 branches, 159 sales offices	Sales & Marketing
Astellas Pharma Tech Co., Ltd.	Nishine Plant	Hachimantai, Iwate	Manufacturing
	Takahagi Technology Center	Takahagi, Ibaraki	
	Yaizu Technology Center	Yaizu, Shizuoka	
	Fuji Plant	Fuji, Shizuoka	
	Toyama Technology Center	Toyama, Toyama	
	Takaoka Plant	Takaoka, Toyama	
Astellas Pharma Technologies Inc.	Norman Plant	U.S.A	
Astellas Ireland Co., Ltd.	Dublin Plant	Ireland	
	Kerry Plant		
Astellas Pharma Europe B.V.	Meppel Plant	Netherlands	
Astellas Pharma China, Inc.	Shenyang Plant	China	

Note 1) Operating sites throughout this report are in principle identified according to the name of each facility. In instances where there are multiple facilities on the same site, the following names may be applied.
- Takahagi Facilities (Takahagi Chemistry & Technology Development Center and Takahagi Technology Center)
- Yaizu Facilities (Yaizu Pharmaceutical Research Center and Yaizu Technology Center)

Note 2) The Hasune Office closed in May 2014. At the end of March 2014, operations of the Fuji Plant were transferred to another company.

2. Facilities Outside the Coverage of Environmental Action Plan

Principal office buildings and research R&D Centers operated by the consolidated subsidiaries listed below:

- Astellas US LLC (U.S.A.)
- Astellas Pharma Europe Ltd. (U.K.)
- Astellas Pharma Europe B.V. (Netherlands)
- Agensys, Inc. (U.S.A.)
- Astellas Research Institute of America LLC (U.S.A.)
- Astellas Pharma Canada, Inc. (Canada)

15. Site Data

Nishine Plant

	Item	Unit	FY2013
Energy	Electricity	MWh	10,386
	Fuel oil	kiloliter	-
	Kerosene	kiloliter	1
	LPG	tons	2
	LNG	tons	1,476
	City gas	thousand m^3	-
	Diesel oil	kiloliter	1
	Gasoline	kiloliter	0
	Total	TJ	184
CO_2 emission from energy use		kilotons	9
Air pollutants	NOx	tons	1
	SOx	tons	-
Chemical substance	VOC	tons	20
Water withdrawal	Tap water	thousand m^3	-
	Industrial-use water	thousand m^3	-
	Ground water	thousand m^3	318
	Total	thousand m^3	318
Drainage volume	into rivers	thousand m^3	318
	Sewerage system	thousand m^3	-
Water pollution	BOD load	tons	0
	COD load	tons	1
Waste	Generated	tons	616
	Landfill	tons	7

Takahagi Facilities

	Item	Unit	FY2013
Energy	Electricity	MWh	17,537
	Fuel oil	kiloliter	-
	Kerosene	kiloliter	-
	LPG	tons	8.306
	LNG	tons	1,193
	City gas	thousand m^3	-
	Diesel oil	kiloliter	0.206
	Gasoline	kiloliter	-
	Total	TJ	240
CO_2 emission from energy use		kilotons	12
Air pollutants	NOx	tons	5
	SOx	tons	-
Chemical substance	VOC	tons	0
Water withdrawal	Tap water	thousand m^3	30
	Industrial-use water	thousand m^3	2,409
	Ground water	thousand m^3	-
	Total	thousand m^3	2,439
Drainage volume	into rivers	thousand m^3	2,439
	Sewerage system	thousand m^3	-
Water pollution	BOD load	tons	3
	COD load	tons	9
Waste	Generated	tons	806
	Landfill	tons	1

Fuji Plant

	Item	Unit	FY2013
Energy	Electricity	MWh	17,108
	Fuel oil	kiloliter	-
	Kerosene	kiloliter	0
	LPG	tons	8
	LNG	tons	-
	City gas	thousand m^3	2,918
	Diesel oil	kiloliter	0
	Gasoline	kiloliter	1
	Total	TJ	302
CO_2 emission from energy use		kilotons	15
Air pollutants	NOx	tons	1
	SOx	tons	-
Chemical substance	VOC	tons	16
Water withdrawal	Tap water	thousand m^3	108
	Industrial-use water	thousand m^3	758
	Ground water	thousand m^3	-
	Total	thousand m^3	866
Drainage volume	into rivers	thousand m^3	1,009
	Sewerage system	thousand m^3	-
Water pollution	BOD load	tons	2
	COD load	tons	2
Waste	Generated	tons	364
	Landfill	tons	4

Yaizu Facilities

	Item	Unit	FY2013
Energy	Electricity	MWh	43,134
	Fuel oil	kiloliter	-
	Kerosene	kiloliter	-
	LPG	tons	-
	LNG	tons	-
	City gas	thousand m^3	6,013
	Diesel oil	kiloliter	1.21
	Gasoline	kiloliter	1.235
	Total	TJ	701
CO_2 emission from energy use		kilotons	34
Air pollutants	NOx	tons	6
	SOx	tons	-
Chemical substance	VOC	tons	2
Water withdrawal	Tap water	thousand m^3	337
	Industrial-use water	thousand m^3	-
	Ground water	thousand m^3	400
	Total	thousand m^3	737
Drainage volume	into rivers	thousand m^3	690
	Sewerage system	thousand m^3	-
Water pollution	BOD load	tons	0
	COD load	tons	2
Waste	Generated	tons	738
	Landfill	tons	5

Toyama Technology Center

	Item	Unit	FY2013
Energy	Electricity	MWh	34,699
	Fuel oil	kiloliter	-
	Kerosene	kiloliter	-
	LPG	tons	0
	LNG	tons	-
	City gas	thousand m^3	4,069
	Diesel oil	kiloliter	4
	Gasoline	kiloliter	2
	Total	TJ	529
CO_2 emission from energy use		kilotons	26
Air pollutants	NOx	tons	2
	SOx	tons	-
Chemical substance	VOC	tons	11
Water withdrawal	Tap water	thousand m^3	190
	Industrial-use water	thousand m^3	2,153
	Ground water	thousand m^3	15
	Total	thousand m^3	2,358
Drainage volume	into rivers	thousand m^3	1,708
	Sewerage system	thousand m^3	-
Water pollution	BOD load	tons	2
	COD load	tons	7
Waste	Generated	tons	7,699
	Landfill	tons	51

Takaoka Plant

	Item	Unit	FY2013
Energy	Electricity	MWh	13,592
	Fuel oil	kiloliter	-
	Kerosene	kiloliter	-
	LPG	tons	2,204
	LNG	tons	-
	City gas	thousand m^3	-
	Diesel oil	kiloliter	0
	Gasoline	kiloliter	1
	Total	TJ	248
CO_2 emission from energy use		kilotons	13
Air pollutants	NOx	tons	3
	SOx	tons	-
Chemical substance	VOC	tons	0
Water withdrawal	Tap water	thousand m^3	57
	Industrial-use water	thousand m^3	3,285
	Ground water	thousand m^3	31
	Total	thousand m^3	3,374
Drainage volume	into rivers	thousand m^3	2,991
	Sewerage system	thousand m^3	-
Water pollution	BOD load	tons	1
	COD load	tons	6
Waste	Generated	tons	230
	Landfill	tons	0

Tsukuba Research Center

	Item	Unit	FY2013
Energy	Electricity	MWh	*1) 35,949
	Fuel oil	kiloliter	-
	Kerosene	kiloliter	12
	LPG	tons	-
	LNG	tons	-
	City gas	thousand m^3	8,645
	Diesel oil	kiloliter	0
	Gasoline	kiloliter	2
	Total	TJ	748
CO_2 emission from energy use		kilotons	37
Air pollutants	NOx	tons	10
	SOx	tons	-
Chemical substance	VOC	tons	16
Water withdrawal	Tap water	thousand m^3	75
	Industrial-use water	thousand m^3	266
	Ground water	thousand m^3	-
	Total	thousand m^3	341
Drainage volume	into rivers	thousand m^3	-
	Sewerage system	thousand m^3	183
Water pollution	BOD load	tons	1
	COD load	tons	3
Waste	Generated	tons	950
	Landfill	tons	34

Tsukuba Bio Research Center

	Item	Unit	FY2013
Energy	Electricity	MWh	7,442
	Fuel oil	kiloliter	-
	Kerosene	kiloliter	-
	LPG	tons	-
	LNG	tons	-
	City gas	thousand m^3	459
	Diesel oil	kiloliter	-
	Gasoline	kiloliter	0
	Total	TJ	95
CO_2 emission from energy use		kilotons	5
Air pollutants	NOx	tons	0
	SOx	tons	-
Chemical substance	VOC	tons	2
Water withdrawal	Tap water	thousand m^3	37
	Industrial-use water	thousand m^3	-
	Ground water	thousand m^3	-
	Total	thousand m^3	37
Drainage volume	into rivers	thousand m^3	-
	Sewerage system	thousand m^3	38
Water pollution	BOD load	tons	0
	COD load	tons	—
Waste	Generated	tons	1,392
	Landfill	tons	4

*1) 52MWh generated by photovoltaic panels contained

Kiyosu Research Office

	Item	Unit	FY2013
Energy	Electricity	MWh	1,728
	Fuel oil	kiloliter	-
	Kerosene	kiloliter	-
	LPG	tons	-
	LNG	tons	-
	City gas	thousand m^3	216
	Diesel oil	kiloliter	-
	Gasoline	kiloliter	0
	Total	TJ	27
CO_2 emission from energy use		kilotons	1
Air pollutants	NOx	tons	0
	SOx	tons	-
Chemical substance	VOC	tons	0
Water withdrawal	Tap water	thousand m^3	7
	Industrial-use water	thousand m^3	-
	Ground water	thousand m^3	16
	Total	thousand m^3	24
Drainage volume	into rivers	thousand m^3	14
	Sewerage system	thousand m^3	-
Water pollution	BOD load	tons	0
	COD load	tons	0
Waste	Generated	tons	1,863
	Landfill	tons	1

Kashima R&D Center

	Item	Unit	FY2013
Energy	Electricity	MWh	*2) 19,169
	Fuel oil	kiloliter	-
	Kerosene	kiloliter	-
	LPG	tons	-
	LNG	tons	-
	City gas	thousand m^3	2,757
	Diesel oil	kiloliter	14.65
	Gasoline	kiloliter	-
	Total	TJ	316
CO_2 emission from energy use		kilotons	16
Air pollutants	NOx	tons	2
	SOx	tons	-
Chemical substance	VOC	tons	1
Water withdrawal	Tap water	thousand m^3	42
	Industrial-use water	thousand m^3	99
	Ground water	thousand m^3	-
	Total	thousand m^3	141
Drainage volume	into rivers	thousand m^3	-
	Sewerage system	thousand m^3	139
Water pollution	BOD load	tons	1
	COD load	tons	1
Waste	Generated	tons	193
	Landfill	tons	6

*2) 36MWh generated by photovoltaic panels contained

(English version edited: August 8th. Japanese original version issued on June 16th, 2014)