

Environment

Efforts to protect the global environment are a key management issue for Fuji Electric, and, following the establishment of our Basic Environmental Protection Policy, we continue to promote environmental management with the goal of contributing to global environmental protection through our business activities.

In fiscal 2016, the Energy Conservation Center, Japan awarded Fuji Electric with the highest honor of its FY2016 Energy Conservation Grand Prize: the Grand Prize of Minister of Economy, Trade and Industry. This award was received out of recognition of the energy conservation and risk management measures implemented by using a factory energy management system at the Yamanashi Factory, measures that were part of our Companywide Smart Factory Initiative. The technologies used at this factory will be deployed both inside and outside of the Company going forward.



Yamanashi Factory at which Smart Factory Initiative is being advanced

Basic Environmental Protection Policy

- 1 Offering products and technologies that contribute to global environmental protection
- 2 Reduction of environmental burden throughout product life cycles
- 3 Reduction of environmental burden in business activities
- 4 Compliance with laws, regulations, and standards
- 5 Establishment of environment management systems and continuous improvements of the systems
- 6 Improvement of employees' environmental awareness and social contribution
- 7 Promotion of communication

Environmental Vision 2020

In 2009, Fuji Electric formulated Environmental Vision 2020 to guide its medium-to-long-term environmental activities.

This vision is centered on three specified material issues of stopping global warming, creating a recycling-oriented society, and meeting our corporate social responsibilities. In addition to reducing the environmental footprint of our own production activities, we seek to help achieve sustainable societies by providing products and technologies that leverage our strengths in electrical and thermal energy technologies.



Rolling Updates to Environmental Targets

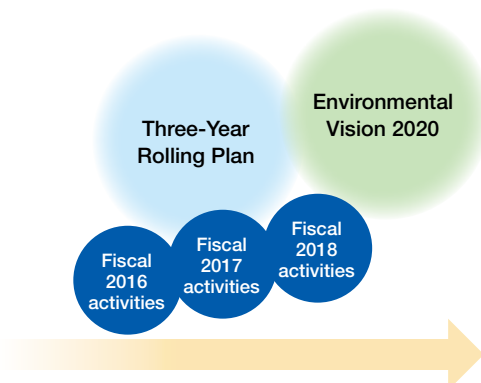
To achieve the goals of Environmental Vision 2020, Fuji Electric has formulated an Environmental Management Three-Year Rolling Plan, designed to promote ongoing efforts.

In this initiative, we verify each year that the environmental management strategy is addressing societal changes and establish detailed targets in various areas, such as the enhancement of environmental management governance, measures to prevent global warming, and measures to address the use of chemical substances.

At the same time, we monitor progress toward targets and circumstances regarding additional items in order to adjust targets and action plans to ensure we have set the right course for the next three years.

In fiscal 2016, the target of reducing society's CO₂ emissions by expanding sales of energy-saving and energy-creating products,

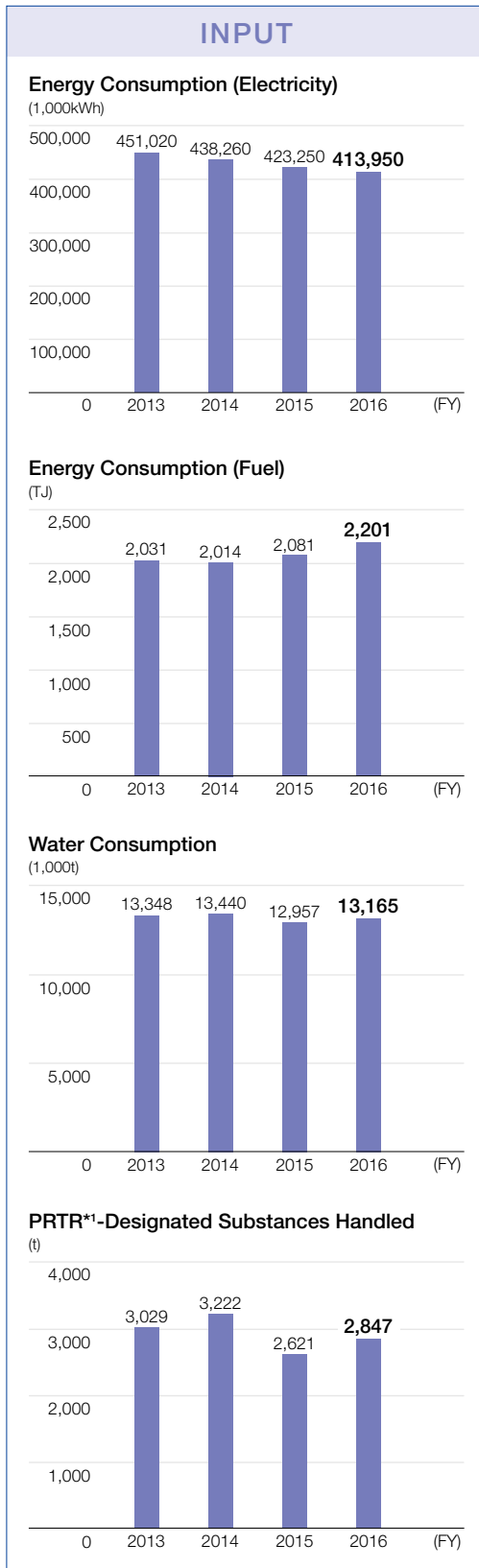
a key indicator for stopping global warming, was raised from the previous 17 million tons to 30 million tons.



Mapping of the Interplay between Business Activities and Environmental Impact

Fuji Electric is constantly working toward more efficient use of resources and energy and the reduction of waste throughout all of its business activities, particularly those related to design, manufacturing, and disposal. We are also proactive in our efforts to be more environmentally conscious across the entire product and service life cycle.

Scope of data collection: Bases worldwide

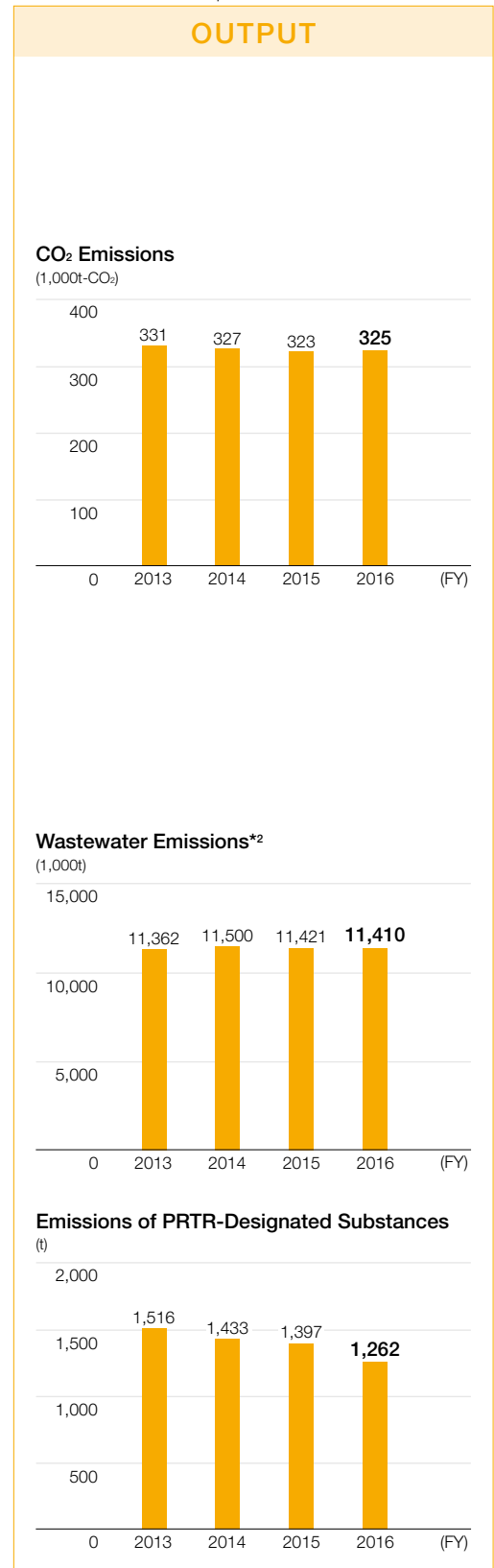


Fuel usage and emissions volumes increased due to higher production volumes at factories and the move toward in-house production. However, we were able to decrease electricity purchase volumes through energy conservation measures.



We have sustained a long-term reduction trend in water usage volumes as a result of water recycling initiatives.

Increased production volumes led to higher usage of PRTR-designated substances, but we prevented emissions of these substances from rising through elimination and treatment.



*1 Pollutant Release and Transfer Register Law

*2 Wastewater emissions refer to volume of water discharged into rivers and other natural environments.

Environment

Efforts to Stop Global Warming

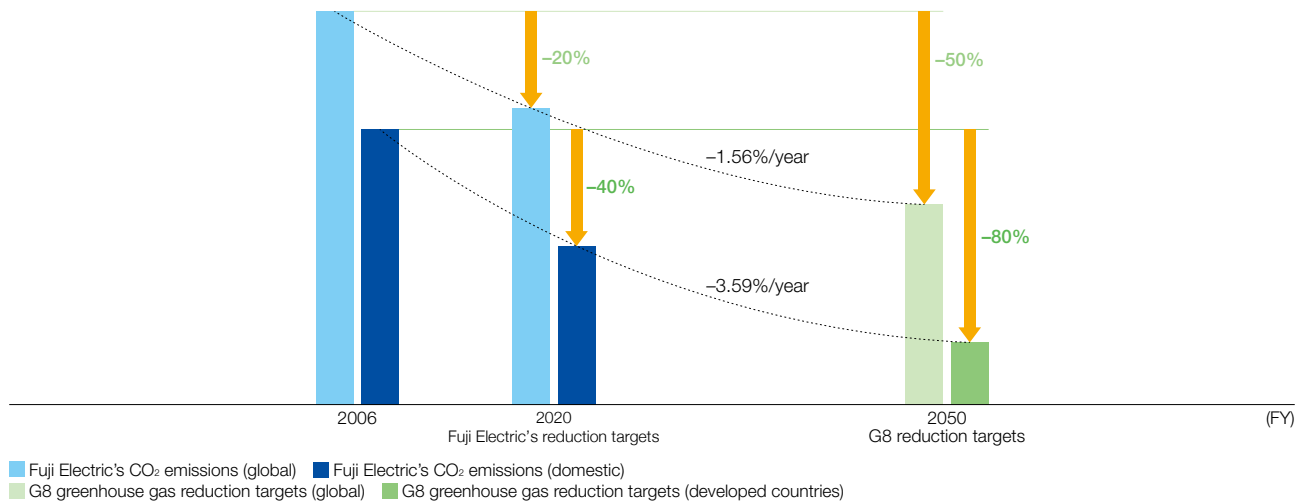
Fuji Electric endeavors to help stop global warming by reducing CO₂ emissions around the world through the supply of energy-saving and energy-creating products and services and through energy conservation activities at factories and offices.

Priority Area	2020 Target	Reasoning Behind Target
Reduction of society's CO ₂ emissions through products	Reduce society's CO ₂ emissions by 30 million tons* ³ through the expansion of sales of energy-saving and energy-creating products	In light of the increase in the number of energy-saving and energy-creating products as well as the new inclusion of biomass, inverter, and other products in the scope of calculation for this goal, the Company's reduction target for 2020 was raised from 17 million tons to 30 million tons. This new reduction target is 100 times greater than the 2020 emissions reduction target of 300,000 tons for Kanagawa Prefecture, which ranked 9th in total emissions from specified business operators under the Act on Promotion of Global Warming Countermeasures* ⁴ by prefecture in 2013, with total applicable emissions of 29.5 million tons.
Reduction of CO ₂ emission during production	Reduce global CO ₂ emissions by 20% and domestic CO ₂ emissions by 40% in comparison to fiscal 2006 levels	At the 2009 G8 Summit in L'Aquila, Italy, an official declaration was made in support of the goals of realizing a 50% reduction in greenhouse gas emissions on a global basis by 2050 and an 80% reduction in developed countries by 2050. Achieving these targets will require annual reductions of 1.56% (for the global target) and 3.59% (for the target for developed countries). The 2020 targets set in the Environmental Vision 2020 in fiscal 2016 call for reductions that are in line with those required by the G8 long-term target for global emissions reductions as shown in the graph below.

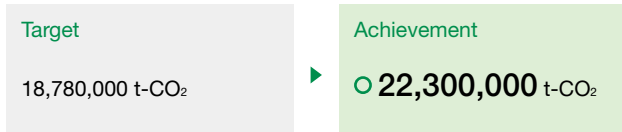
*³ Calculated by converting, into CO₂ emission volumes, the energy-creating and energy-saving benefits that would be realized by products sold after fiscal 2009 (that have not reached the end of their usable life) if they have been operational for one year

*⁴ Law Concerning the Promotion of the Measures to Cope with Global Warming

Relationship between G8 Greenhouse Gases Emission Reduction Targets and Fuji Electric's CO₂ Emission Reduction Targets



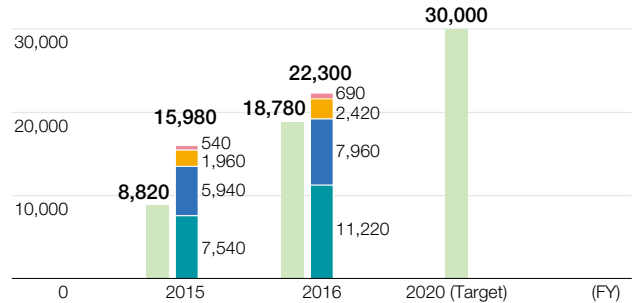
Reduction of Society's CO₂ Emissions through Products



Fuji Electric aims to contribute to reductions in CO₂ emissions across society through increased supply of renewable energy generation equipment as well as through innovations in electrical and thermal energy technologies.

In fiscal 2016, the contribution to CO₂ emission reductions from products was 22,300,000 t-CO₂, up 6,320,000 t-CO₂ year on year and higher than the target of 18,780,000 t-CO₂. This accomplishment was a result of increased sales of inverters and power conditioning systems (PCSs) for stabilizing electricity supplies from wind power systems as well as increased shipments of geothermal and hydro power and other renewable energy generation equipment. This amount of 22,300,000 t-CO₂ is equivalent to 68.6 times the Company's total CO₂ emissions of 325,000 t-CO₂.

Reduced CO₂ Emissions through Products*⁵
(1,000t-CO₂)



■ Power Electronics Systems ■ Power and New Energy
■ Electronic Devices ■ Food and Beverage Distribution ■ Target

*⁵ Amount of CO₂ reduction based on one year of operation of products shipped for each fiscal year after fiscal 2009. Calculated making reference to the quantification method of GHG emission reductions stipulated in the Electrical and Electronics industries' "Action Plan for Commitment to a Low-Carbon Society."

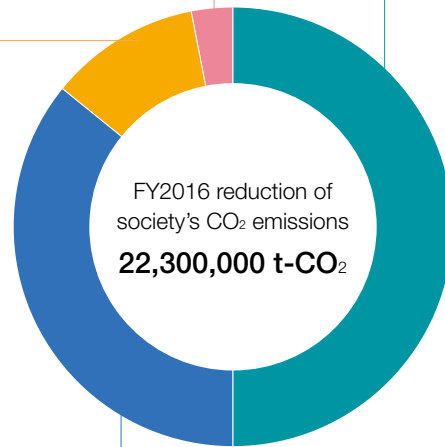
CO₂ Emissions Reduction Contributions by Business and Major Contributing Products

Food and Beverage Distribution 3%

Energy-saving products in this business include vending machines, showcases, and currency handling equipment. Although the contributions to CO₂ emissions reductions are small on the Group scale, our cutting-edge vending machines use 73% less electricity than models from 2006.

Electronic Devices 11%

In this business, contributions to CO₂ emissions reductions are made by supplying low-loss components, such as IGBT modules, intelligent power modules, SiC diodes, and switching integrated circuits and elements. Among these, switching integrated circuits helps reduce idle electricity consumption by electric appliances.



Power Electronics Systems 50%

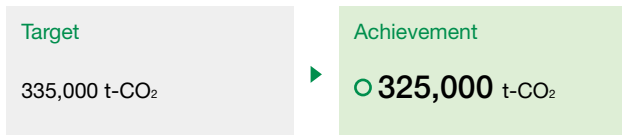
This business contributes to reductions in CO₂ emissions with energy-saving products including inverters, servo systems, uninterruptible power systems (UPSs), PCSs, compact power supplies, ED&C components, high-efficiency motors and transformers, and measurement instruments.

Power and New Energy 36%

Contributions to reducing CO₂ emissions in this business are made through renewable energy generation equipment (geothermal, hydro, photovoltaic, wind, biomass) as well as through high-efficiency thermal power generation systems and fuel cells. In fiscal 2016, there was a particularly large increase in shipments of geothermal and hydro power renewable energy generation equipment.

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Reduction of CO₂ Emissions during Production

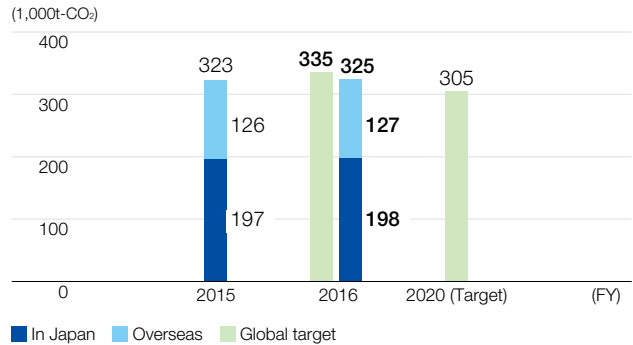


Fuji Electric strives to limit energy costs and reduce CO₂ emissions through energy conservation activities.

CO₂ emissions from production activities in fiscal 2016 increased above the level of 323,000 t-CO₂ from fiscal 2015. This increase was a result of the rise in production at Company factories that stemmed from efforts to bring manufacturing operations back to Japan and promote in-house production. However, at 325,000 t-CO₂, total emissions in fiscal 2016 were still lower than the target of 335,000 t-CO₂, an accomplishment owed to initiatives including implementing top level energy-saving building management practices, upgrading air-conditioning equipment and LED lighting, and consolidating clean rooms. Looking ahead, Fuji Electric will advance further energy conservation activities to move toward the achievement of its 2020 targets.

Furthermore, third-party verification was received for CO₂ emissions data from six major factories in Japan and overseas with the aim of increasing the reliability of this data. Adding to the two domestic factories (Tokyo and Fukiage) already requiring third-party verification under emissions trading systems, we now receive verification for 75% of the Company's total CO₂ emissions (based on fiscal 2015 figures).

Global CO₂ Emissions



Case Example: Energy Savings through the Smart Factory Initiative

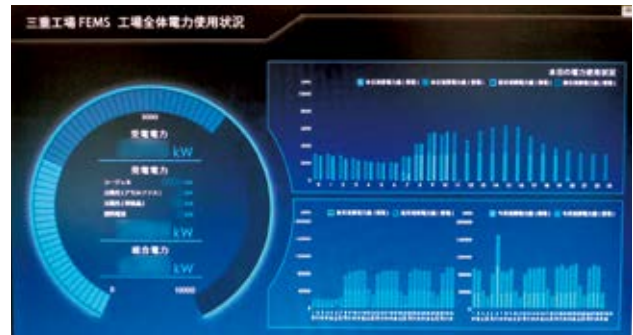
(Mie Factory)

Fuji Electric is advancing the Smart Factory Initiative at the Mie Factory, a principal factory in the Food and Beverage Distribution segment.

This initiative involves pursuing “smarter” operation through the improvement of efficiency of inverter-equipped production and drive facilities, the supply of clean energy via solar power generation and fuel cell systems, and the utilization of a factory energy management system that ensures optimal energy usage throughout the entire factory. In fiscal 2016, these efforts contributed to a 28% reduction in energy consumption from fiscal 2010 levels.

In addition, given the recent increase in energy used in lighting and air-conditioning equipment, we have installed a system for collecting data via internal LAN networks through points established to measure factory lighting and temperature. Utilizing this system, we are monitoring the environment within factory buildings while controlling energy. The collected data is made available for viewing by employees on a specialized website to facilitate educational activities.

In the future, recorded data will be used to realize automated control in order to create systems that improve workplace environments while conserving energy.



Energy data tracking monitor (energy consumption by area)



Energy data tracking monitor (total electricity consumption)

Initiatives to Create a Recycling-Oriented Society

By promoting initiatives focusing on the 3Rs (reuse, reduce, recycle) as part of its business activities, Fuji Electric is working to realize zero waste emissions at its operating sites and thereby contribute to the creation of a recycling-oriented society.

Priority Area	2020 Target	Reasoning Behind Target
Efficient use of water resources	Reduce water usage by 20% in Japan	The domestic water usage reduction target for fiscal 2020 has been increased to 20% from the prior target of 10% in comparison to the fiscal 2010 level. As for overseas water usage, previously the only target was reducing water consumption per unit of production by 25% from fiscal 2011 in fiscal 2020. However, as these yen-basis production volumes can vary greatly due to foreign exchange rate movements, we established the new target of achieving a 25% reduction in water usage volume from fiscal 2011 in fiscal 2020.
	Reduce water usage by 25% overseas	
Waste reduction	Achieve zero waste emissions	The Company will strive to achieve zero waste emissions by recycling industrial waste from production processes and reducing the amount of waste sent to landfills.

Efficient Use of Water Resources

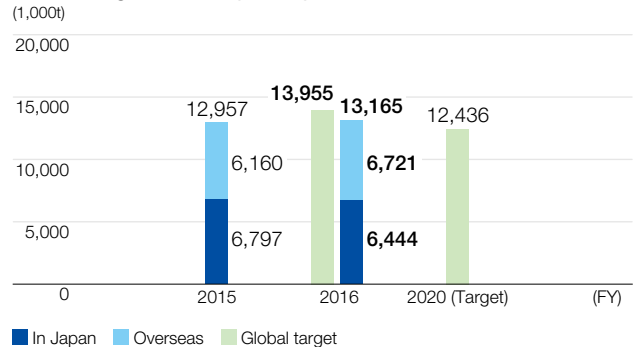
Water Usage Volumes

Target		Achievement	
In Japan	7,645,000 tons	○ In Japan	6,721,000 tons
Overseas	6,309,000 tons	✕ Overseas	6,444,000 tons

In view of the problem of global water resource depletion, Fuji Electric is advancing measures to comply with wastewater quality requirements, reduce wastewater, and achieve more efficient use of water resources.

In fiscal 2016, domestic and overseas water recycling initiatives led to a reduction of 1,117,000 tons in water usage. Total water usage was 13,165,000 tons, even less than the target of 13,955,000 tons.

Water Usage Volumes (Global)



Waste Reduction

Ratio of Waste Sent to Landfills

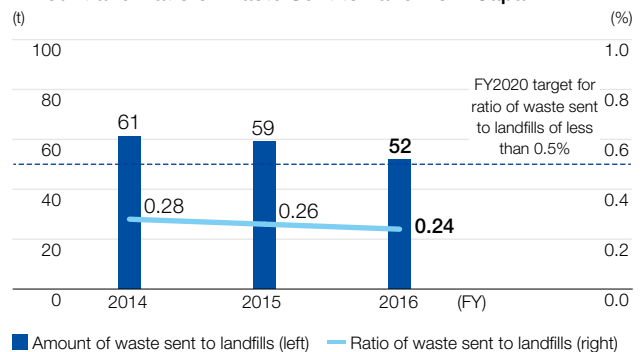
Target		Achievement	
In Japan : Less than 0.5%		○ In Japan	0.24 %
Overseas: Less than 15%		✕ Overseas	14.3 %

In an effort to curb waste and promote resource recycling, Fuji Electric has established a goal of zero waste emissions—a ratio of waste sent to landfills to total waste of no more than 1%. This goal is being pursued by making products more compact and lighter weight, employing designs that do not use regulated substances, and implementing quality control measures at the manufacturing stage to lower the number of defective products created.

In Japan, Fuji Electric has achieved its goal of zero waste emissions every year since fiscal 2004. In fiscal 2016, we once again achieved our target of reducing the ratio of waste sent to landfills to below 0.5% with a ratio of 0.24%.

Overseas, a change to production processes implemented in fiscal 2015 resulted in us no longer being able to recycle certain sludge, and the ratio of waste sent to landfills consequently increased to 17.29% in this year. Through internal efforts, we were able to reduce this ratio to 14.31% in fiscal 2016. We plan to begin recycling sludge in cement in fiscal 2018.

Amount and Ratio of Waste Sent to Landfills in Japan



Amount and Ratio of Waste Sent to Landfills Overseas

