

Enriching Society by Protecting the Global Environment and the Health and Safety of People

The Central Glass Group will strive to enrich society through measures that ensure the protection of the global environment and the health and safety of people throughout the entire lifecycle of our products—from product development, the purchasing of raw materials, and manufacturing to distribution, use, and disposal.

Mid-term Targets and FY2016 Results

Progress Accomplished: ⊙ Made steady progress: ○ Additional measures required: △

Major Issues	〈P〉Mid-Term Targets	〈D〉FY2016 Results	〈C〉Ratings	〈A〉FY2017 Plans
Prevention of global warming (energy and resource conservation)	<FY2020 Target> •Reduce FY2020 CO ₂ emissions by 15% relative to FY2005.	CO ₂ emissions totaled 460,000 tons, down 51% from FY2005.	⊙	Continue working toward the FY2020 target of a 15% reduction in CO ₂ emissions relative to FY2005.
Reduction of waste	<FY2020 Target> •Reduce final landfill disposal volume by 71% relative to FY2000.	Final disposal volumes at the Ube, Kawasaki, and Matsusaka Plants (including the Sakai Manufacturing Site) were down 82% from FY2000, meaning that we have already achieved our FY2020 target.	⊙	Continue to work toward our FY2020 target of a 71% reduction in the volume of final landfill waste compared to FY2000. Maintain and continue to realize the level reached in FY2015.

Our Efforts to Prevent Global Warming

The Central Glass Group strives to reduce emissions of greenhouse gases into the atmosphere through the manufacturing and shipper's transportation of goods in order to prevent global warming.

Central Glass

Central Glass has set and is working toward a target of reducing the greenhouse gases given off by the use of fuel, purchased power, and raw materials for manufacturing by 15% relative to 2005 levels by 2020, with this serving as a mid-term initiative to prevent global warming.

Our greenhouse gas emissions due to plant operations in FY2016 were reduced by 51% relative to FY2005. In addition, greenhouse gas emissions resulting from product transportation were down against the previous fiscal year.

Partly due to a change in our business configuration, which had previously been centered on the Ube Plant, there has been a significant drop in our emissions of greenhouse gases. However, in the future we will build new manufacturing facilities and expand our product lineup. We will therefore continue to work to reduce our greenhouse gas emissions.

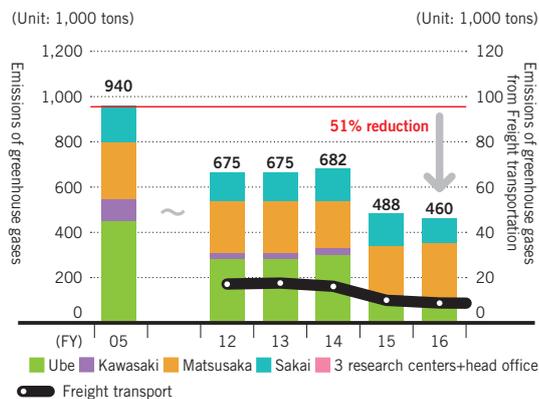
The Central Glass Group

Emissions of greenhouse gases for the Central Glass Group declined from the previous year, despite the fact that the number of production sites managed by overseas affiliates included in the total increased by one.

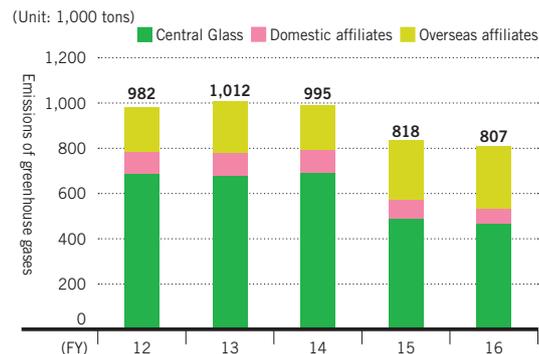
Each production site is pursuing energy-saving initiatives and upgrading to energy-saving equipment, thereby reducing greenhouse gas emissions.

In the future, the Central Glass Group will continue to work to reduce its emissions of greenhouse gases in order to combat global warming.

Emissions of greenhouse gases (Central Glass)



Emissions of greenhouse gases (Central Glass Group)



Reducing Environmental Impact Substances

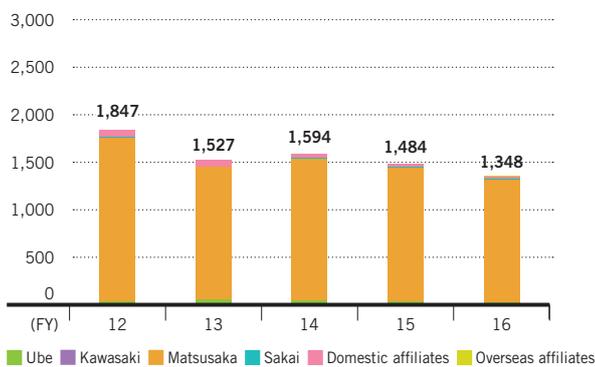
The Central Glass Group's manufacturing sites are operated in compliance with emissions standards for the atmosphere, water quality, and other environmental indicators in the regions where they are located. Reducing environmental impact substances is an important challenge in consideration of the global environment and human health and safety, and so for the future we will continue to undertake appropriate management for this.

Countermeasures Against Substances that Damage the Atmosphere

Of the substances that damage the atmosphere, trends in our emissions of sulfur oxide (SOx), nitrogen oxide (NOx), and ash dust are shown below.

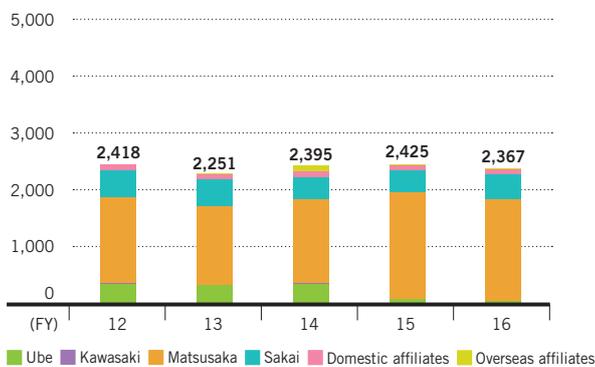
SOx emissions

(Unit: tons)



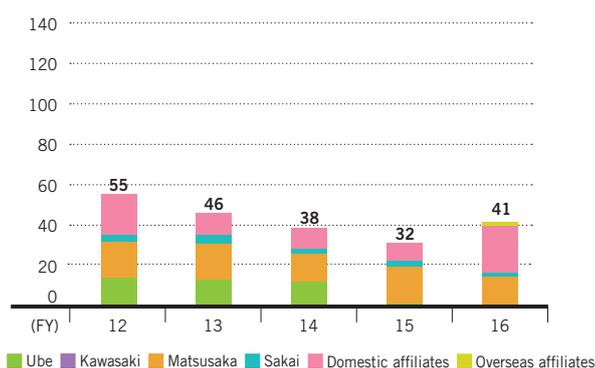
NOx emissions

(Unit: tons)



Ash dust emissions

(Unit: tons)

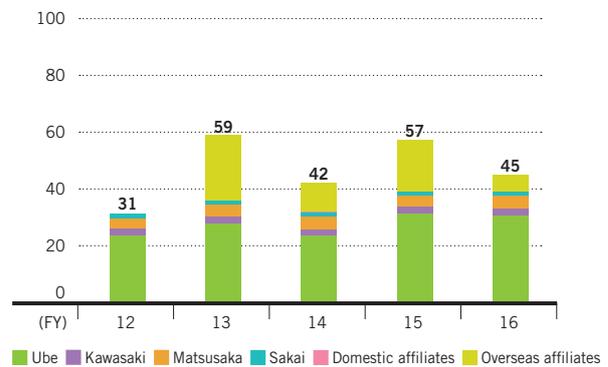


Countermeasures Against Pollutants that Impact Water Quality

Among controlled substances that impact water quality, trends in our chemical oxygen demand (COD) and total emissions of both phosphorous and nitrogen are shown below.

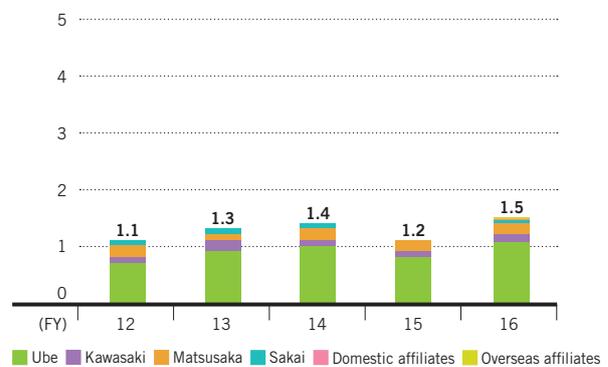
Chemical oxygen demand (COD)

(Unit: tons)



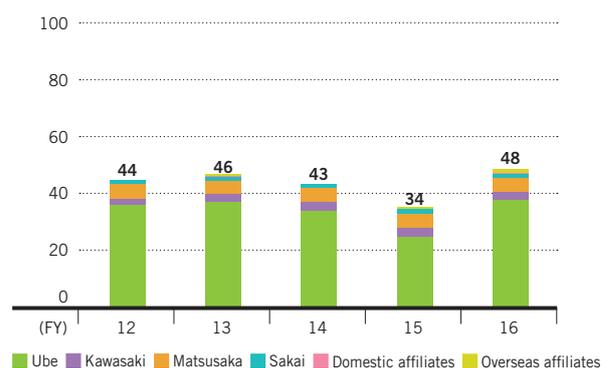
Total phosphorous emissions

(Unit: tons)



Total nitrogen emissions

(Unit: tons)



Reducing Industrial Waste

The Central Glass Group is striving to reduce its industrial waste in accordance with the Basic Act on Establishing a Sound Material-Cycle Society.

Central Glass

Central Glass's plants uphold "promoting reduction and reuse/recycling of industrial waste" as an important task in our responsible care activities, and each workplace carries out initiatives accordingly.

We have been working toward the target of a 65% reduction in industrial waste (final disposal volume) from the FY2000 level by FY2015. We met this initial target, and ultimately achieved a reduction of 74% from the FY2000 level in FY2015. From FY2016 onward, we have set a target of a 71% reduction from FY2000, based on targets set by the Japan Chemical Industry Association and the Flat Glass Manufacturers Association of Japan according to guidelines established by the Japan Business Federation. We aim to achieve this target by 2020.

In FY2016, our industrial waste (final disposal volume) amounted to approximately 12,000 tons, down 82% from FY2000. Thus, we have already achieved our target. We will continue management efforts to achieve our target for 2020.

(Government target: 70% reduction in the final disposed amount of industrial waste in FY2020 compared to FY2000)

The Central Glass Group

As a waste-emitting company, Central Glass, along with its domestic affiliates, unflinchingly complies with Japan's Wastes Disposal and Public Cleansing Act and other relevant laws when it comes to the sorting and storage of waste, as well as consignment, monitoring, and manifest management for proper disposal by industrial waste disposers.

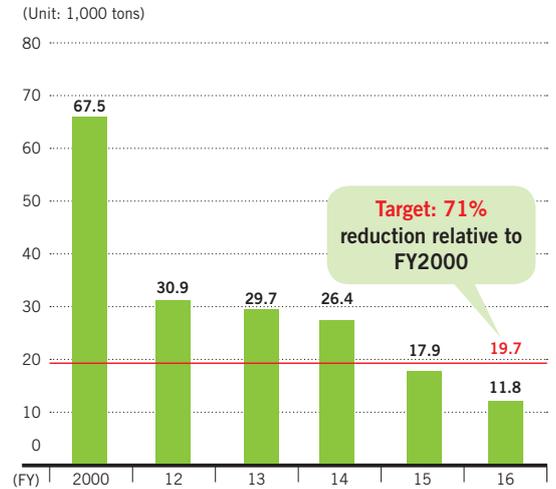
Each of the Central Glass Group's workplaces carries out its own original waste-reduction measures, and as a result, the downward trend in the amount of industrial waste (final disposal volume) continued from FY2015 to FY2016.

We began tabulating the amount of waste at overseas affiliates in FY2006 and continued to follow up with them in FY2016. Each individual company is carrying out efforts to reduce its waste. In particular, our glass plants deployed overseas have been working to reuse nearly 100% of their glass, just like our domestic plants.

Green Procurement

Central Glass and our domestic affiliate companies enacted "Green Procurement Guidelines" in 2006, and are committed to purchasing products that contribute to lower environmental impacts. Due to variations in criteria among workplaces, we revised the "Green Procurement Guidelines" in March 2014 to clarify the criteria and targeted items.

Final disposed amount of industrial waste (Central Glass' plants)



Final disposed amount of industrial waste (Central Glass Group)

