

Environment

To Enrich Society by Ensuring the Protection of the Global Environment and the Health and Safety of People

The Central Glass Group will strive to realize a rich society through measures that ensure the protection of the global environment and the health and safety of people in all of our activities ranging from the R&D stages to the purchasing of raw materials, manufacturing, distribution, use, disposal, and all other stages in the life cycle of our products.

Mid-term Targets and FY2015 Results

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

Major Issues	〈P〉 Mid-Term Targets	〈D〉 FY2015 Results	〈C〉 Ratings	〈A〉 FY2016 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 488,000 tons, down 48% from FY2005.	⊙	Continue working toward the FY2020 target of a 15% reduction in CO ₂ emissions relative to FY2005.
Reduction of waste	<FY2015 Target> ● Reduce final landfill disposal volume by 65% relative to FY2000.	Final disposal volumes at our main plants were down 74% from FY2000, achieving our FY2015 target.	⊙	Set a FY2020 target for reduction in final disposal volumes.

➤ 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.

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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.

For FY2015 we reduced this by 48% relative to FY2005. Emissions of greenhouse gases fell from the fiscal 2014 level as energy usage declined due to a reduction in equipment resulting from a halt in production of soda ash at the Ube Plant.

Greenhouse gas emissions resulting from transportation of products and other cargo by truck, ship, rail, etc. decreased from the previous fiscal year. Nevertheless, we will continue to streamline our energy use in transportation.

Central Glass Group

Emissions of greenhouse gases for the Central Glass Group fell substantially from the previous year as the result of a change in operations at the Ube Plant. The number of overseas production sites included was increased, resulting in an increase in emissions outside Japan.

Number of reports of GHG emissions from overseas manufacturing sites

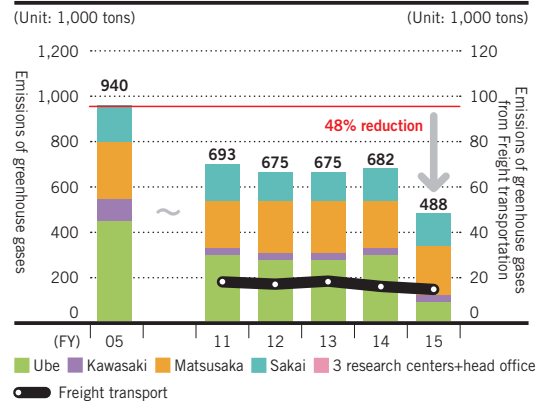
2011: 7 companies 2012–2013: 8 companies 2014: 10 companies

2015: 11 companies

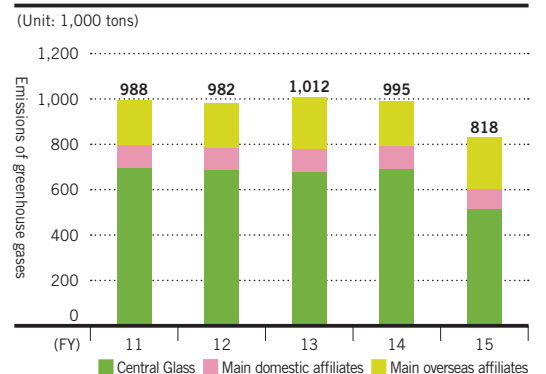
Each workplace is reducing emissions of greenhouse gases through energy saving initiatives, updating of equipment, and other measures to prevent global warming.

The Central Glass Group will continue working to reduce greenhouse gas emissions in order to help prevent global warming.

Central Glass's emissions of greenhouse gases



Central Glass Group's emissions of greenhouse gases

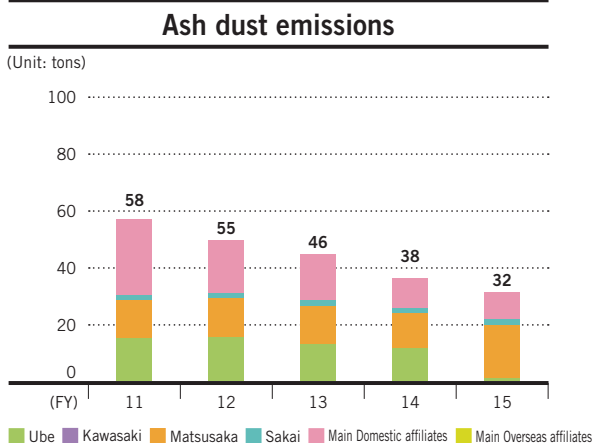
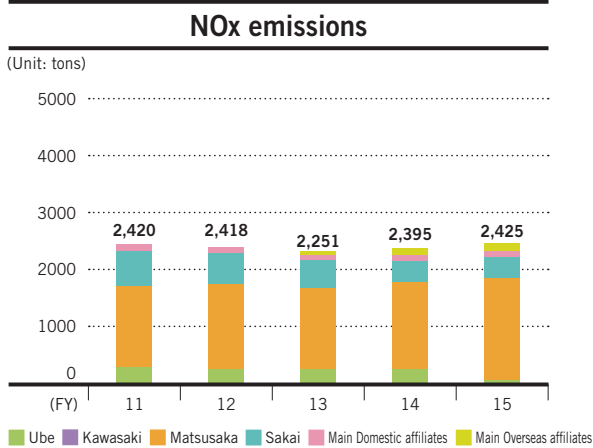
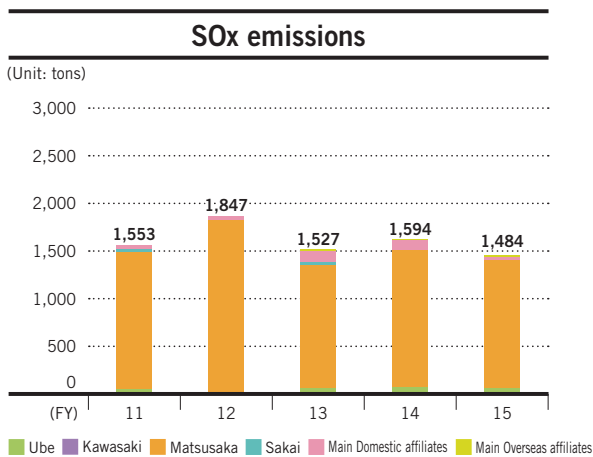


➤ Reducing Environmental Impact Substances

When it comes to Central Glass Group's manufacturing sites, our plants are operated in compliance with emissions standards for the atmosphere and water quality in the area. 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.

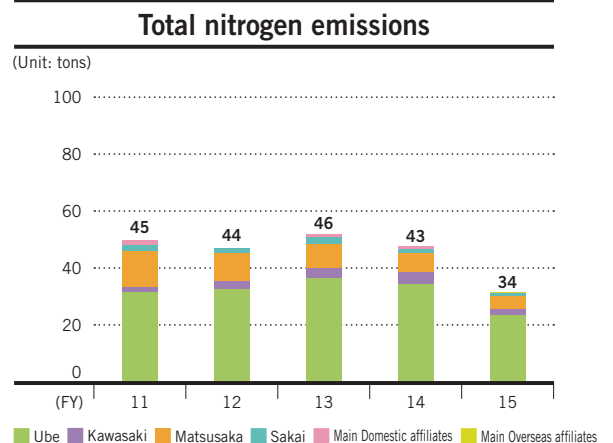
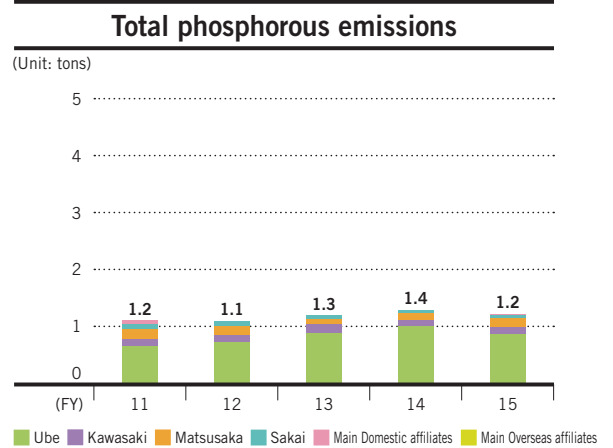
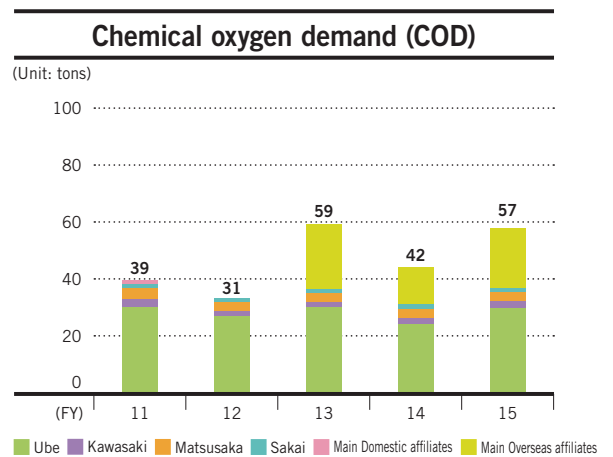
Countermeasures Against Substances that Damage the Atmosphere

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



Countermeasures Against Substances that Affect Water Quality

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



* Tabulation of emissions of environmental impact substances at overseas affiliates began in FY2013.

➤ Initiatives to Reduce Industrial Waste

In line with the spirit of the 3Rs (reduce, reuse, and recycle), the Central Glass Group is striving to reduce industrial waste.

Central Glass

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

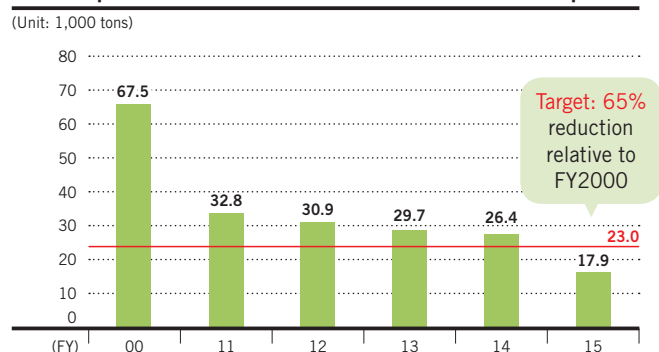
Thus far, we have worked toward the target of a 65% reduction from the fiscal 2000 level by fiscal 2015. The amount of industrial waste (final disposal volume) in fiscal 2015 came to approximately 17,900 tons, a 74% reduction from fiscal 2000. We therefore achieved our initial goal.

We have been striving toward achievement of our goal by making steady efforts to practice reuse and recycling at each plant.

As an initiative to reuse resources, the chemicals division achieved efficient use of resources by developing a technology to recover fluorine in its fluorine form from the fluorine-containing wastewater emitted during our manufacturing processes. Fluorite is the main ingredient in fluorine compounds. In recycling initiatives, our glass division is working to switch to disposal companies that recycle the sludge waste generated by our plants into roadbed material instead of disposing of it at landfills.

(Government target: 70% reduction in the final disposed amount of industrial waste in fiscal 2020 compared to fiscal 2000)

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



➤ Green Procurement

Central Glass and our domestic affiliate companies enacted "Green Procurement Guidelines" in 2006, and have begun giving priority to purchasing products and services from suppliers that strive to reduce their environmental impact.

In March 2014, we revised the "Green Procurement Guidelines" for Central Glass and our affiliate companies in Japan in consideration of cases in which judgments could not easily be made as well as variance in the judgment criteria. As of

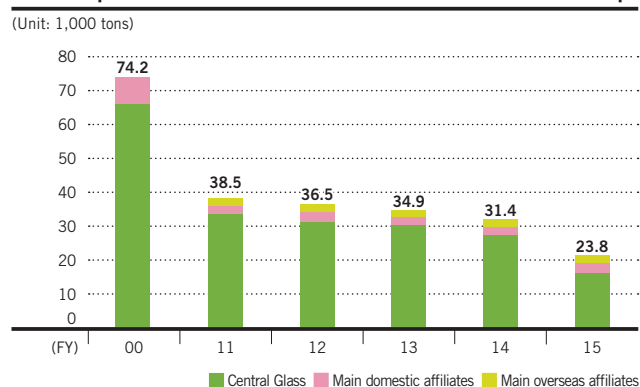
Central Glass Group

As a waste-emitting company, Central Glass, along with its domestic affiliates, unfailingly 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 major domestic affiliate companies carries out its own original reduction measures, and as a result, on the whole, our major domestic affiliate companies have roughly halved their amount of waste (final amount disposed) in recent years relative to FY2000 levels.

We began tabulating the amount of waste at overseas affiliates in FY2006 and continued to follow up with them in FY2015. 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.

Final disposed amount of industrial waste (Central Glass Group)



fiscal 2014, we clarified the judgment criteria and narrowed down the targeted items in order to allow for new green procurement efforts. We are forging ahead with these efforts throughout the Central Glass Group.

Our fiscal 2015 results at Central Glass were 83% on a monetary basis. We will gradually deploy green procurement at affiliates where initiatives have not yet been implemented.