

Promoting Management that Meets Societal Demands

The Central Glass Group undertakes voluntary management activities aimed at making improvements by taking care to ensure the environment, safety, and health and environmental protection over the total life cycle of our products, from the R&D stages through to the procurement of raw materials, production, distribution, use, and disposal. We pay meticulous attention in order to maintain, manage, and guarantee the quality of the products that we deliver to our customers, and have set in place structures for their production, transportation, and supply. We promote management that is responsive to the societal demands of every one of our stakeholders as we aspire to be a company that is truly beneficial and contributes to society.

Mid-term Targets and FY2015 Results

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

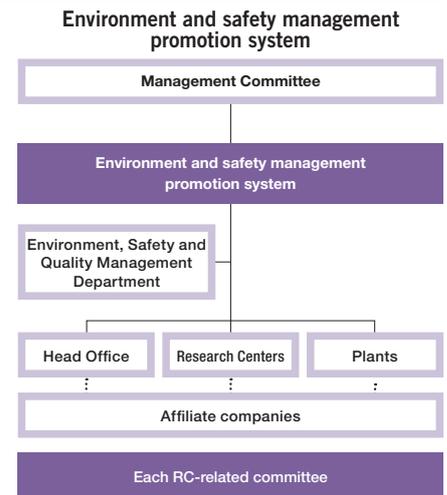
Major Issues	(P) Mid-Term Targets	(D) FY2015 Results	(C) Ratings	(A) FY2016 Plans
Establishment & maintenance of environmental management system	● Renew and maintain certification at main workplaces.	The Ube Plant, Kawasaki Plant, and Matsusaka Plant (including the Sakai Manufacturing Site) maintained their ISO 14001 certification and underwent a periodic review for certification renewal.	⊙	Renew and maintain certification at main workplaces.
	● Renew and maintain certification and promote acquisition of new certification at affiliates. ● Improve self-management level at affiliates that have not acquired certification.	Domestic affiliates that have already acquired certification maintained and continued their certification. During onsite audits, provided guidance on self-management to affiliates that have not yet acquired certification.	○	Renew and maintain certification and promote acquisition of new certification at affiliates. Improve self-management level at affiliates that have not acquired certification.

Environment, Safety, and Quality Management Promotion Systems

The various supervisory departments for each area form the core when it comes to promoting the environment, safety, and quality management systems at Central Glass. They coordinate with other related departments in order to follow up on the various activities at our head office, plants, research centers, and affiliate companies.

As indicated in the figure on the right, our Environment Safety Promotion Committee forms the core of our responsible care activities, while our Environment, Safety and Quality Management Department serves as the secretariat for this. They support and promote activities related to environmental and safety matters carried out by each of our departments.

- Environmental safety aspects** Environment, Safety, and Quality Management Department
- Product safety aspects** Glass Quality Assurance Department, Chemicals Quality Assurance Department
- Education/human resource building aspects** Personnel Department
- Occupational safety and health aspects** Personnel Department
Environment, Safety, and Quality Management Department
- Social demands** Corporate Administration Department



Acquisition Status for Environmental, Safety, and Quality Management System

Our plants and affiliate companies	Environment		Quality		Safety
	System ISO 14001, etc.	ISO 9001	ISO/TS 16949	ISO/TS 16949	OHSAS 18001
Ube Plant	○	○			○
Kawasaki Plant	○	○			
Matsusaka Plant (including Sakai Manufacturing Site)	○	○	○(Matsusaka Plant)		
Central Glass Sales Co., Ltd. - Urayasu Plant		○			
Central Glass Sales Co., Ltd. - Sakai Plant / Sakaide Manufacturing Site	○(Sakai Plant)	○			
Central Glass Engineering Co., Ltd.		○			
Central Chemical Co., Ltd. - Ube Plant	○				○
Central Glass Module Co., Ltd. - Head office / Kyushu Plant			○		
Japan Tempered & Laminated Glass Co., Ltd.	○*1	○			
Central Glass Fiber Co., Ltd. - Matsusaka Plant / Kasugai Plant	○(Matsusaka Plant)	○			
Mie Glass Industry Co., Ltd. - Matsusaka Plant	○	○			
Central Glass Plant Services Co., Ltd.	○				
Carlex Glass Company, LLC (US)	○		○		
Carlex Glass America, LLC (US)	○		○		
Carlex Glass of Indiana, Inc. (US)	○		○		
Carlex Glass Luxembourg, S.A.(Luxembourg)	○		○		
Apollo Scientific Limited (UK)	○	○			
JCEL Co., Ltd. (South Korea)	○	○			
Taiwan Central Glass Co., Ltd. (Taiwan)	*2	○			
Giga Gas & Electronic Materials Company (Taiwan)		○			
Central Glass Chemspec Company Ltd. (China)	*2	○			

*Affiliates shown are those over which Central Glass has the right of control. *Acquisition statuses for our plants and affiliates in Japan are as of March 31, 2015. *Acquisition statuses for overseas affiliates are as of December 31, 2015.

*1Eco-Action 21 *2Acquisition planned for 2016

➤ Environment and Safety Audits

Central Glass carries out environment and safety audits every year focusing on our plants, research centers, and domestic affiliate companies. Central Glass's audits are conducted in two stages: a self-audit in which all targeted workplaces use a checklist to check the status of their RC activities, and an onsite audit in which the Environment Safety Department checks workplaces, selected based on the self-audit results, through direct visits.

In FY2015, onsite audits were carried out at 16 of our workplaces, and we also instituted site visits, documentation checks, and hearings on matters of concern and important issues. During onsite audits, we verify whether RC activities are being implemented appropriately and perform detailed checks including confirming environmental compliance and conducting safety risk assessments. This helps improve initiatives at each of our workplaces.

Furthermore, in fiscal 2015, we began environment and safety audits at overseas affiliates. In fiscal 2015, we conducted audits of four of the 13 targeted companies. We plan to audit all the companies in order on a three-year cycle.



Environment and safety onsite audit
(Central Glass Fiber Co., Ltd. Kasugai Plant)



AED training (Glass Research Center)

Education and Training for Environmental and Safety Aspects

Under the recognition that “all of our employees are talented individuals and treasures to the company”, each of the workplaces in the Central Glass Group focuses its efforts on education and training. Education and training are indispensable to deepening the understanding of every one of our employees regarding CSR and the environment as members of society, as well as to acting in a responsible manner or minimizing damage when disasters occur. We offer education and training at each workplace in a timely manner by choosing themes that are suited to the timing of implementation and targeted employees, with the goal of raising their awareness of such environmental, safety, and other issues.

In FY2015 we carried out disaster drills and provided education related to the environment and safety at many of our workplaces on several occasions.

At the Matsusaka Plant, we provided education on our environmental management system to all employees in the office and within the ISO 14001 site (about 1,000 people). In order to solve environmental issues, each and every employee must take an interest in and understand environmental issues and take conscious action.

A partial list of the education/trainings related to the environment, safety, and other issues offered at our head office, research centers, plants, and affiliate companies in fiscal 2015 is shown in the table below.

Examples of environmental education and training held in FY2015

Workplace	Overview of education and training	Targeted persons	Dates held	Number of attendees
Head Office	Simulated AED training & cardiac massage using a manikin	Employees of all head office departments and affiliates	June November 2015	44people
Chemical Research Center (Tokyo)	Company training on risk assessment of chemical substances (lecture by an outside speaker and practice)	Center staff	January 2016	34people
Chemical Research Center (Ube)	SDS, Yellow Card, and MSDSplus guidance	Center staff	June 2015	57people
Glass Research Center	Simulated AED training & cardiac massage using a manikin	Employees	February 2016	50people
Ube Plant	Law study session: “Disposal of industrial waste (mercury and low-concentration PCBs)”	Employees of the Ube Plant and affiliates	November 2015	65people
Matsusaka Plant	ISO 14001 environmental education	All employees within the ISO 14001 site	Different for each department	Approx. 1,000 people
Matsusaka Plant - Sakai Manufacturing Site	Comprehensive disaster-preparedness drill	Employees on the premises of the Sakai Mfg. Site	September 2015	63people
Kawasaki Plant	Education on heatstroke countermeasures	Representatives of each section and cooperating workplaces	June 2015	58people
Central Glass Plant Services Co., Ltd.	Hands-on training using various danger-sensing devices	All employees of Central Glass Plant Services Co., Ltd.	Year-round	209people
Central Glass Sale Co., Ltd. Rifu Plant	Lessons on past accident case studies	All onsite workers	September 2015	29people

► Environmental Accounting

We calculate the environmental costs related to our environmental preservation initiatives for air, water, soil, and disposal of waste at Central Glass and our main affiliates in Japan. Our capital investments with environmental impacts include steam, electricity, and waste disposal. The investment amount decreased from the previous year, as there were fewer large capital investments.

The amount of expenses also decreased as a result of a decline in expenses such as air and water measures and waste disposal accompanying the shutdown of soda ash production at the Ube Plant.

In the future we, along with our affiliate companies, will continue to use our capital investments and environmental preservation spending to promote environmental preservation measures.

Environmental Preservation Costs

(Unit: million yen)

Category	Major initiatives	FY2014		FY2015	
		Investments	Expenses	Investments	Expenses
(1) Business area costs					
Pollution prevention costs	Preventing the pollution of the air, water, soil, etc.	119	1,949	186	1,685
Global environmental preservation costs	Preventing global warming, measures to conserve energy, etc.	656	96	520	177
Resource recycling costs	Waste disposal, recycling treatment, etc.	84	1,508	5	1,465
(2) Upstream/downstream costs	Collection, recycling, and appropriate disposal of products, etc.	0	0	0	0
(3) Cost of management activities	Maintaining the EMS, environmental monitoring, environmental education costs, etc.	0	244	3	230
(4) Cost of R&D activities	R&D of products involved in environmental preservation	20	539	6	449
(5) Cost of social activities	Improving the environment, contributing to local communities, etc.	0	2	0	3
(6) Cost of dealing with environmental damage	Restoring the environment, environmental preservation compensation, etc.	0	0	0	0
	Total	879	4,338	720	4,008

► The Flow of Substances at the Central Glass Group

The Central Glass Group quantitatively tracks the environmental impact of manufacturing processes in order to identify environmental issues and implement measures for making improvements as we constantly strive to reduce the burden on the environment.

A huge amount of heat energy is needed to melt raw materials

in the glass business, so its central issue is measures to prevent global warming. The development of environmentally friendly products and reducing waste are the central issues of the chemicals business, and sustained efforts are being made toward energy saving activities and to establish recycling systems.

INPUT

Total amount of materials input 935,000tons		Amount of water resources input 21.474 million m ³		Amount of net energy input 12,111TJ [*]	
Central Glass	Affiliate companies	Central Glass	Affiliate companies	Central Glass	Affiliate companies
488,000tons	447,000tons	12.279 million m ³	9.195 million m ³	6,855TJ	5,256TJ

*TJ (terajoules) is a unit for energy (joules). One terajoule is equal to one trillion joules.



OUTPUT

Atmosphere		Water		Waste	
Emissions of greenhouse gases 717,000 t-CO ₂		Net amount of discharged water 17.045million m ³		Net emissions of waste 116,000 tons	
Central Glass	Affiliate companies	Central Glass	Affiliate companies	Central Glass	Affiliate companies
488,000t-CO ₂	226,000t-CO ₂	9.885 million m ³	7.160 million m ³	49,000 tons	67,000 tons
Emissions of substances that damage the atmosphere 3,942 tons		Emissions of substances that affect water quality 93 tons		Final amount of waste disposed 24,000 tons	
Central Glass	Affiliate companies	Central Glass	Affiliate companies	Central Glass	Affiliate companies
3,787tons	155 tons	74tons	19tons	18,000tons	6,000tons

Recycling rate for waste 79%

Central Glass	Affiliate companies
63%	91%

Reporting range

- Central Glass: Three plants, one manufacturing site, three research centers, and the head office
- Affiliate companies: 7 major domestic manufacturing companies and 11 major overseas companies