



# AGC Group CSR Report







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	Scope of Reporting		
Editorial Policy	The report covers the activities of the AGC Group in fiscal 2007 (from January to December 2007).		

\* The report also mentions some activities conducted in fiscal 2008.

- In the text of this report, the "AGC Group" refers to the Asahi Glass Company Group.
- \* The AGC Group comprises Asahi Glass Co., Ltd. (AGC) and its consolidated subsidiaries in Japan and overseas (a total of 203 companies).
- \* "Asahi Glass" refers to Asahi Glass Co., Ltd., the parent company of the Group, including its head office, the Research Center, and the Kansai, Kitakyushu, Keihin, Takasago, Chiba, Aichi, Kashima, and Sagami Plants.

This report is designed to communicate, in a clear manner, how the Asahi Glass Company (AGC) Group is striving to fulfill its corporate social responsibility (CSR), aiming to further develop the trust of society and ensuring its sustainable development.

Featured articles outline how the AGC Group is contributing to the global environment through its innovative technologies and products, under the headline of "Fulfilling the AGC Group's Social Responsibility through Business Operations."

In the pages following the featured articles, the report introduces a variety of activities that the AGC Group is conducting from the viewpoint of CSR, and describes their concepts, targets and results, future challenges, mechanisms, and specific details and examples.

## AGC Group Charter of Corporate Behavior

(Established on June 1, 2007)

The AGC Group strives to be a company trusted by all its stakeholders, a company that meets the expectations of the world business community to grow and develop responsibly, and a company that significantly contributes to a healthier global society. We in the AGC Group will achieve these goals by practicing the following principles that are based on our shared values of **"Look Beyond"**.

### Integrity: Sincere Behavior

- 1) The AGC Group will develop and provide useful goods and services of superior quality, while giving due consideration to safety and the environment, and will strive for customer satisfaction and loyalty.
- 2) The AGC Group will understand and comply with applicable laws and regulations in the countries in which it does business.
- 3) The AGC Group will promote fair trade and conduct its operations in accordance with the principle of fair competition and all applicable laws and regulations. The Group will support the development of appropriate competition laws.
- 4) The AGC Group will maintain sound relationships with government agencies and other responsible organizations.
- The Group will not support organizations that threaten the order and security of society.
- 5) The AGC Group will properly manage and safeguard its own proprietary information, intellectual property, and other assets and will respect the property rights and interests of it customers and other business partners.

### Environment and Safety: With Due Consideration

- 6) The AGC Group regards environmental conservation as an essential responsibility of global citizens and will proactively contribute to the development of a sustainable society.
- 7) The AGC Group will seek to implement technological innovations and new product developments that reflect due consideration for the environment and will participate in ongoing activities to preserve the environment and safety and security at work.
- 8) The AGC Group will maintain its workplaces with a proper regard to occupational health and safety for the people related to the business activities of the Group.

### Diversity: Respect for People

9) The AGC Group will respect cultural diversity in race, ethnicity, religion, language, gender, and background.

- 10) The AGC Group will respect people's diverse capabilities and personal dignity in the Group's business activities and will create fair and open environ ments at its workplaces without discrimination.
- 11) The AGC Group will not engage in forced labor or child labor and will not tolerate infringements of human rights.

### Harmony with Society: from "Responsibility" to "Reliability"

- 12) The AGC Group will strive to be a trusted corporate citizen, fulfilling its responsibilities to the communities in which it does business.
- 13) The AGC Group will build productive and proper relationships with business partners and encourage them to adhere to business principles consistent with its own.
- 14) The AGC Group will communicate responsibly with customers, local citizens, shareholders, and other members of society by disclosing information in a fair and appropriate manner.

The management of all AGC Group companies, recognizing that it is their responsibility to realize the spirit of this Charter, will take the initiative to achieve an understanding of the Charter within all Group companies and the companies with which they do business. We will pay attention to the voices of our stakeholders, both internal and external, and promote the development and implementation of systems that will enhance ethical corporate behavior under the vision **"Look Beyond"**.

In the case of any behavior contrary to the principles of this Charter, we will work to identify the cause and prevent a recurrence, making it clear to those inside and outside Group companies that the situation is being addressed diligently. We will take appropriate corrective and disciplinary actions when necessary.

### Reference Guidelines

- Sustainability Reporting Guidelines 2006, Global Reporting Initiative
- Environmental Reporting Guidelines (2007), Japanese Ministry of the Environment

Publication

June 2008

### URL of the CSR-related web page

### http://www.agc.co.jp/english/csr/

(To be updated in July and August 2008 for the Japanese version and English version, respectively)

- \* Future perspectives described in this report are based on the latest information available to Asahi Glass at the time of editing this report. Nevertheless, please note that results and consequences may vary with fluctuations in the business environment.
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\* Second photo on upper part of front cover: ©Vector-Folitec

# Message from the Chairman & CEO



### Celebrating Its 100th Anniversary

Asahi Glass celebrated its 100th anniversary in 2007. Since becoming the first company in Japan to succeed in manufacturing flat glass, we have been continually providing essential products for society, to constantly meet the needs of people. Of this I am proud, and would like to express my heartfelt gratitude to all our stakeholders, including customers and shareholders, for the generous support and advice they have extended to us. Without such support and advice, we would not have been able to maintain our growth.

### **Rapidly Changing Society**

In 2008, we aim to make a fresh start toward growth over the next 100 years. The social environment surrounding the AGC Group will change at an ever increasing pace, and many problems, including those relating to the global environment, resources, and energy will become more serious, a factor which will in turn increase social demand for companies to fulfill their social responsibilities.

In particular, problems relating to climate change, such as global warming, need to be urgently tackled on a global scale. At the same time, I recognize that companies must also place increasing emphasis on compliance-related issues if they really wish to survive as qualified corporate citizens.

### The New Medium-Term Management Plan and the Group's CSR Policies

In our new medium-term management plan "JIKKO-2010", we have decided to implement our Group strategies for the future. Specifically, we will develop new businesses and improve quality in every aspect of our business operations, with special focus on the establishment of an appropriate business structure and on the reinforcement of our business base and competitiveness, so that we can respond to substantial changes in our business environment and to the intensification of global competition. On the other hand, to ensure the sustainable growth of our Group for the next 100 years, it is essential to further enhance the trust of all our stakeholders both by being fair and transparent, and by contributing fairly and transparently to the creation of a sustainable society.

# Aiming at Being a Company Trusted by Society for the Next 100 Years

Last year, in order to clearly show our commitment to achieving this end, we formulated the AGC Group Charter of Corporate Behavior based on our shared values of **"Look Beyond"**. The Charter states that the AGC Group will fulfill its social responsibility with high Integrity, giving consideration to the Environment and Diversity of people to win trust from society. Through this Charter, the Group has declared that it will promote the fulfillment of its CSR as its primary responsibility. I believe we have made considerable achievements by implementing our former mediumterm management plan **"JIKKO-2007"**; however, we will not be satisfied merely with these results. Instead, we will further expand our activities under our new medium-term management plan, all the while increasing our awareness of the importance of fulfilling our responsibility.

#### Threat to Sustainability-In the Face of Social Concerns

I believe that the AGC Group must fulfill its considerable responsibility, particularly regarding climate change. We provide values for society by supplying various materials such as glass and chemicals, but in the process of manufacturing these products, we inevitably exert an impact on the environment through the emission of CO2 and other actions. Therefore, I consider it our mission to provide values to society while at the same time committing ourselves to not only minimizing the environmental impact caused by our business activities, but also creating products that can contribute to the global environment. We will systematize and accelerate our environmental measures, such as energy conservation measures implemented by each of our business divisions, and make concerted efforts to further expand our environmental business, including the business of solar cell materials and fuel cells. Environmental problems must be solved on a global scale, and the AGC Group regards it as one of its top priority issues as a global corporation to take the initiative in solving such global problems.

Recently, we have witnessed a series of corporate scandals, such as false labeling and other misconducts by companies. Within the AGC Group itself, a European subsidiary of Asahi Glass was accused of cartel activities and thereby fined by the authorities concerned. We acutely feel our social responsibility to supervise the actions of our subsidiaries from a Group management point of view. The AGC Group has long regarded compliance as the basis for its integrity and is conducting activities to permeate this idea throughout the Group. In response to the above incident, we will ensure that all our employees assume the responsibility of complying with all laws and regulations, and will expend all possible means to prevent the occurrence of similar problems in the future.

### To Readers of this Report

Based on the ideas described above, we will introduce our views behind the new medium-term management plan and how the AGC Group is fulfilling its CSR in implementing the plan in the "Special Feature" section of this report entitled: "Fulfilling the AGC Group's Social Responsibility through Business Operations." Regarding compliance, we held a dialogue meeting between external stakeholders of the Group versed in corporate compliance issues and our staff responsible for compliance promotion under the theme of Integrity. Please refer to the "Integrity: Sincere Behavior" section for the dialogue meeting, which has helped us to deepen our awareness of compliance issues.

We hope that this report will provide appropriate information to assist your understanding of the AGC Group's CSR-related activities.

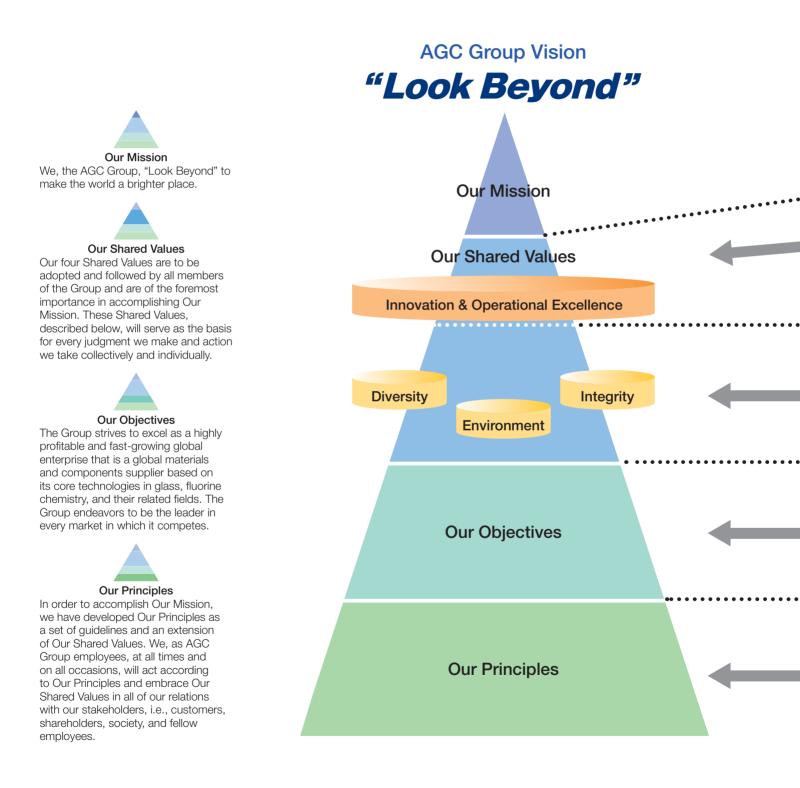
The AGC Group will continue to contribute to society through quality manufacturing as a never-changing role. Capitalizing on the glass and chemical technologies we have accumulated so far, we will make further efforts to continue our growth and development while meeting the needs of the times by maintaining our status as a corporation that is constantly trusted by society.

Masahiro Kadomatsu, Chairman & CEO

Mr Vadomation

# The AGC Group's CSR

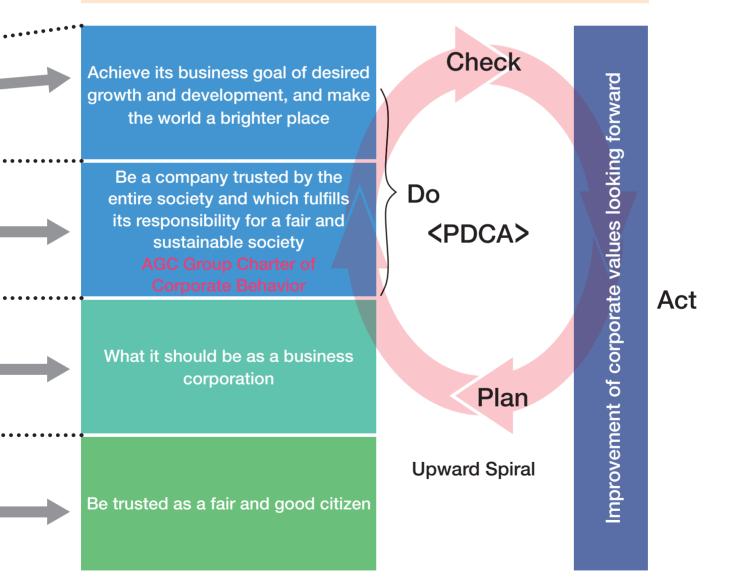
For the AGC Group, the pursuit of its group vision, **"Look Beyond"**, represents the fulfillment of its CSR. We regard it our mission to **"Look Beyond"** to make the world a brighter place. As a premise for this mission, we must contribute to the development of a transparent, fair, and sustainable society and remain trusted by all our stakeholders. To demonstrate our commitment in this regard, we established the AGC Group Charter of Corporate Behavior in 2007. The AGC Group aims to fulfill its social responsibility based on the Charter and at the same time achieve its business targets unfailingly. We will thereby develop our Group into an excellent global corporation, while diligently fulfilling our mission.



The pursuit of *"Look Beyond"* leads not only to corporate social "responsibility" but also to corporate social "reliability."

<Management with Commitment for CSR>

AGC Group which contributes to the development of a sustainable society and is respected for its growth.



# The AGC Group's Global Business Operations

The AGC Group is operating its business globally, in Japan, other Asian countries, Europe, and North America. As a materials and components supplier with core technologies in glass and fluorine chemistry, the Group is making concerted efforts to create new value.

> Europe Number of employees: approx. 15,200 Net sales: 430.3 billion yen Operating income: 58.6 billion yen Major business areas: Flat glass Automotive glass Electronic materials Chemicals

Asia Number of employees: approx. 14,500 Net sales: 469.2 billion yen Operating income: 59.5 billion yen Major business areas: Flat glass Automotive glass Display glass Electronic materials Chemicals

Ceramics

### Japan

Number of employees: approx. 13,800 Net sales: 901.0 billion yen Operating income: 95.7 billion yen Main business areas: Flat glass Automotive glass Display glass Electronic materials Chemicals Ceramics

### Company Profile(as of the end of December 2007)

Name: Asahi Glass Co., Ltd.

Head Office: 1-12-1, Yurakucho, Chiyoda-ku, Tokyo 100-8405, Japan

Date of Establishment: September 8, 1907

Date of Incorporation: June 1, 1950

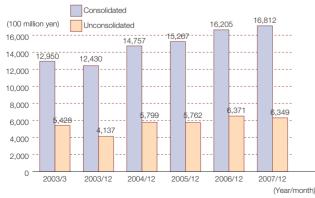
Paid-in Capital: 90,859 million yen

Stock Issued: 1,186,682,105 shares

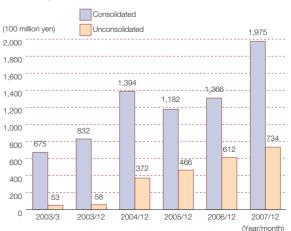
Number of Employees: (Unconsolidated) 5,840 (Consolidated) 49,700

Number of Consolidated Subsidiaries: 203 (of which 157 are located overseas)





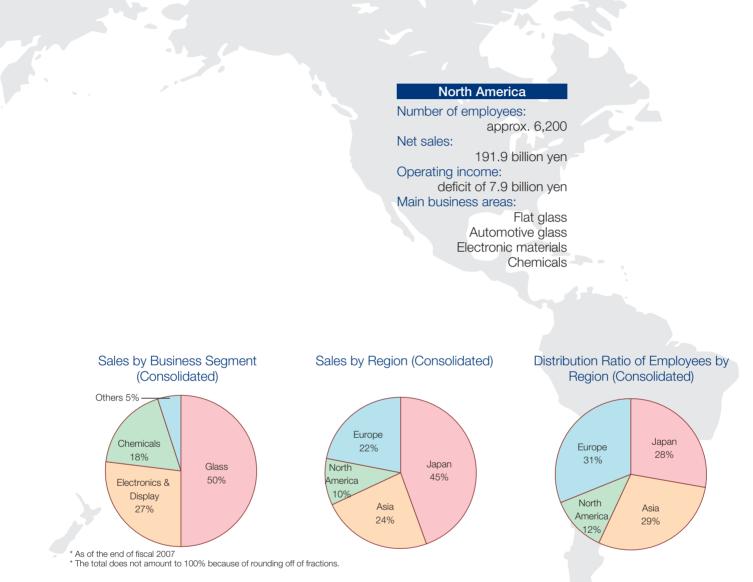
### Operating Income



\* In 2003, we changed our fiscal year period, which resulted in there being only nine months (from April to December) in our fiscal 2003.

\* As of the end of fiscal 2007

\* The total sum of the net sales and operating income of each region does not amount to the sales and operating income of the entire Group because of consolidation elimination.



### Major Business Areas

Business	Segment	Major Products	
Glass		Float glass, figured glass, polished wired glass, heat-absorbing glass, heat-reflective glass, architectural glass, fabricated glass for industrial use, photovoltaic cover glass, etc.	
		Tempered glass for automobiles, laminated glass for automobiles	
		Lighting lamp glass products, industrial glass products, etc.	
Electronics & Display Display Electronic materials		Liquid crystal display (LCD) glass substrates, plasma display panel (PDP) glass substrates, glass bulbs for cathode-ray tubes (CRT), etc.	
		Glass frit and paste, materials for semiconductor manufacturing equipment, synthetic quartz glass, optoelectronics materials, optical filters for PDPs, LCD backlight glass tubes, optical membranes, etc.	
Chemicals		Vinyl chloride monomer, caustic soda, urethane materials, fluorinated resins, gases and solvents, water and oil repellents, battery materials, iodine products, etc.	
Others		Ceramics products, etc.	

# Variety of the AGC Group's Products

The AGC Group's products, which include kitchen detergents, digital products, and glass used for vehicles and buildings, are enhancing people's daily lives. By providing leading-edge technologies and excellent products centered around glass and chemical products, we will continue to make the world a brighter place.

### Various glass products

- Energy-saving heat blocking/insulating glass (Ecoglass) (page 19)
- 2 Heat-insulating security glass
- 3 Laminated security glass
- 4 Designed glass
- 6 Mirrors
- 6 Glass for refrigeration showcases
- 7 Materials for solar cells (cover glass, etc.) (page 15)
- 8 Polycarbonate resin sheets (e.g., for coating rail tracks and automatic vending machines)
- 9 Sputtering mirror for rear-projection TVs
- **1** Laminated glass for automobiles (page 20)
- 1 Tempered glass for automobiles
- 12 Glass for vehicles (e.g., trains)
- 13 Glass for lightening automobile
- 19 Glass for fluorescent lamps
- 15 Heat resistant glassware
- 6 Glass and plastic products for physical, chemical, and medical usage

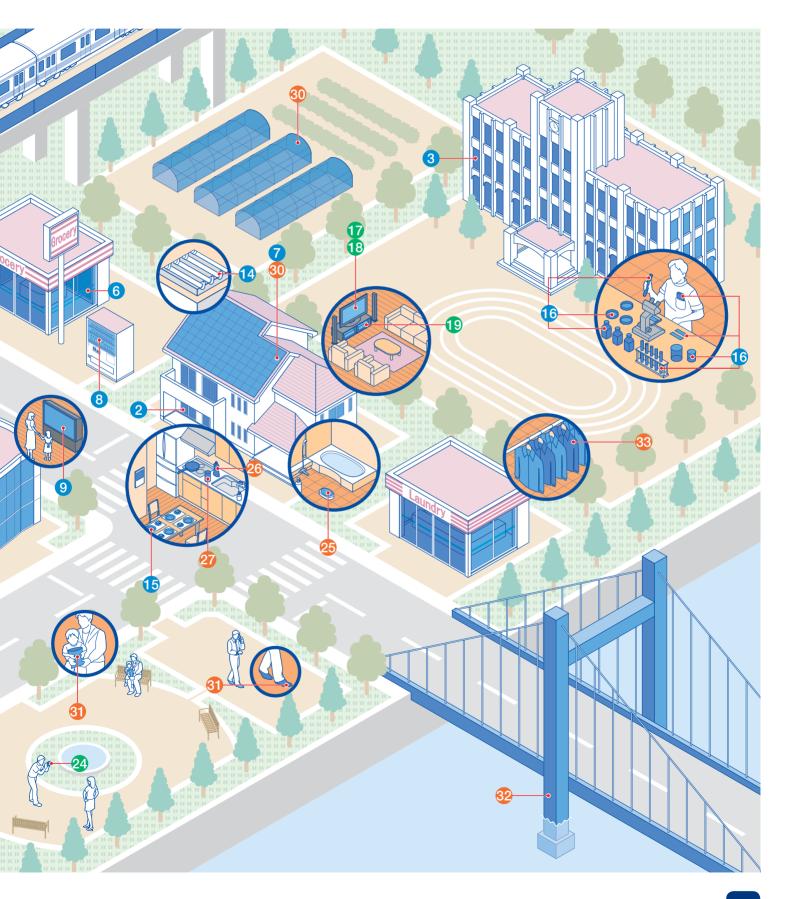
### Various electronics- and display-related products

- Flat panel display (FPD) glass (page 21)
   (e.g., LCD TVs, plasma TVs, computer monitors)
- 18 Backlight tubes for LCDs (page 22)
- (19) Optical planar devices (e.g., CD/DVD optical pickups)
- 20 Projector materials
- 2) Optical filters for plasma display panels (PDP)
- 2 Glass frit paste (page 42)
- Glass substrates for hard disks (page 22) (e.g., portable audio players)
- 24 Micro glass (e.g., digital cameras)

### Various chemical products and others

- 25 Caustic soda (page 23) (e.g., soaps)
- 25 Sodium bicarbonate (e.g., household detergents)
- Sodium hypochlorite (e.g., fungicides, disinfectants, and bleaches for household use)
- 28 Urethane (e.g., seats for automobiles)
- Pluorinated resins (e.g., fuel hoses for automobiles)
- Fluorinated resin films (pages 16 and 24) (e.g., greenhouses and solar cell coating)
- Fluorinated water/oil repellents (pages 24 and 42) (e.g., shoes, packages for fast-food)
- Pluorinated resin for highly weather-resistant coating (e.g., bridges and airplanes)
- 88 Fluorinated solvents (e.g., dry cleaning solvents)
- 39 Fiber reinforced plastic (FRP) antenna pillar





### Fulfilling the AGC Group's Special Social Responsibility through Feature **Business Operations**

### Message from the President & COO-Contributing to the Global Environment as a Core Requirement for Symbiosis with Society

The AGC Group formulated the AGC Group Charter of Corporate Behavior in 2007 and defined the AGC Group's CSR as activities to be conducted by all the Group members to make significant contributions based on the Charter to a healthier global society. The Charter of Corporate Behavior provides for the Group's action principles for (1) Integrity, (2) Environment and Safety, (3) Diversity, and (4) Harmony with Society. I recognize all these four principles as very important CSR issues, but, on top of these principles, I believe that the AGC Group must contribute to the protection of the global environment through developing its own business operations.

According to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), by the end of this century, the average temperature of the earth will rise by 1.1 to 6.4°C from its level at the end of the 20th century. The global environment is now truly under threat, making the implementation of measures by companies to improve the present situation an extremely important mission and a priority CSR issue.

Against this backdrop, it gives me great pride to note that the AGC Group is able to utilize its versatile technologies for the effective use of resources, a reduction in energy consumption, and the improvement of the environment. Specifically, the Group is able to make environmental contributions through the following measures.

First, we can contribute to the environment by manufacturing and selling environmentally friendly products. For example, we were the world's first company to develop the technologies for manufacturing glass for liquid crystal displays (LCD) and thin glass tubes used as light sources for liquid crystal panels without the use of arsenic or antimony. Moreover, several years from now, a huge number of LCD TVs will reach the end of their lives and the technologies we have developed for arsenic- and antimonyfree production will prove useful for recycling these end-of-life products. Our highly heat insulating, low-emissive doubleglazing glass, known as Ecoglass, helps substantially reduce the environmental impact caused by cooling and heating, while Coolverre, our automotive glass that blocks ultraviolet and infrared rays, is effective in remarkably reducing the environmental impact of in-vehicle air conditioning. Furthermore, ASAHIKLIN AE-3000, developed as the world's first fluorinated solvent, has zero ozone depletion potential. We also boast the largest share of global market for antireflection cover glass used for solar cell panels and are well prepared for the mass production of glass coated with transparent conductive oxide (TCO) films. The membraneelectrode assembly (MEA) for use as a core part of a fuel cell, now under development, is showing excellent performance in terms of stability at high temperatures. I believe that the assembly will be used as a vital component of fuel cells when these cells are put to practical use in the future. I am convinced that we can contribute to solving global warming issues through the use of such technologies.

Second, we can contribute to the global environment through

### Major initiatives

- (1) Global permeation and sharing of the Group vision "Look Beyond"
- (2) Further growth and higher profitability of the existing business operations
- (3) Establishment of next-generation growth businesses

Review of "JIKKO-2007" In January 2005, the AGC Group formulated its medium-term management plan ".IIKKO-2007." targeting the three years from fiscal 2005 to 2007. plan "JIKKO-2007," targeting the three years from fiscal 2005 to 2007, and implemented measures to achieve the plan's objectives based on the Group vision "Look Beyond." By the end of fiscal 2007, the final year of the plan, we achieved the following results.

### **Results**

- (1) Global permeation and sharing of the vision
- (2) Achievement of the financial targets, including the operating profit margin
- (3) Full-scale launch and steady growth of the electronics & energy business

the development of unique manufacturing systems. In the glass manufacturing process, raw materials need to be melted down at high temperatures, generally requiring large amounts of energy. The AGC Group, however, is committed to developing a breakthrough manufacturing process that allows substantial reductions in energy consumption, and is currently promoting technological development geared toward conducting demonstration tests of this process. We have already independently developed a caustic soda manufacturing process using fluoropolymer ion-exchange membranes, which has achieved a reduction in energy use of at least 30% compared to manufacturing processes employing conventional technologies.

As demonstrated by these few examples, we are committed to improving and contributing to the environment through the use of our unique technologies, in addition to conducting conventional activities aimed at preventing pollution and promoting energy conservation.

As part of its new medium-term management plan **"JIKKO-2010"**, the AGC Group emphasizes reinforcing its business base and boosting its competitiveness; and establishing an appropriate business structure. With such a view point, the development of technologies and products that are effective in protecting the global environment is key to achieving our goal, and the AGC Group endeavors to succeed in that development, which I believe to be the most important CSR activity for the Group to conduct in the operation of its business.

As a chief operating officer (COO) of the AGC Group, I intend to lead the Group in its well-balanced business and CSR activities, and solicit your generous support and frank opinions to this end.



Kazuhiko Ishimura, President & COO

K. Ishimura

### From "JIKKO-2007" to "JIKKO-2010"

Aiming to realize *"Look Beyond"* growth strategies will be executed under the new management policy **Grow Beyond**  Electronics & Display **"Look Beyond"** Glazing

"JIKKO-2010"

Pursuit of quality •Reinforcement of business base and competitiveness •Establishment of an appropriate business structure

"JIKKO-2007"

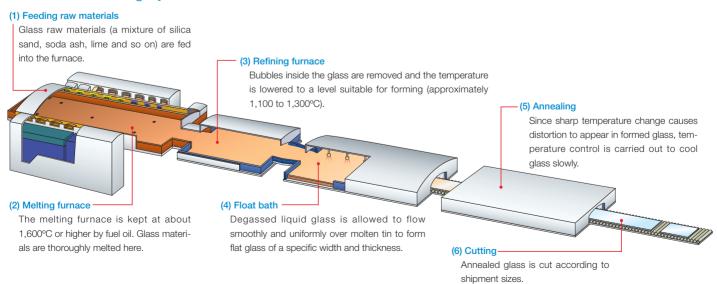
"Shrink to Grow" Establish the groundwork for future growth



# Taking on the Challenge of Reducing Environmental Impact Developing Technology for a Bright Future

In the glass-manufacturing process, materials are melted at high temperatures, requiring large amounts of energy. We are thus engaged in a business exerting considerable environmental impact, and we recognize all the more strongly the need to promote energy saving in our manufacturing process as well as to provide our customers with products that help create a sustainable society. The AGC Group regards it as its mission to create new value and contribute to society through its business by utilizing its glass and chemical technologies. For example, we are committed to reducing the environmental impact of our business by developing and supplying Ecoglass and products for solar cells and fuel cells, thereby contributing to the creation of a more prosperous and brighter society.

### Glass Manufacturing by the Float Method

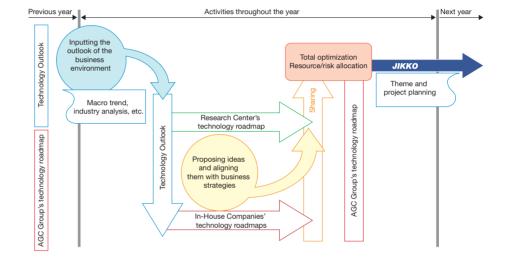


# Technology Outlook Foreseeing the Future to Develop Socially Useful Technologies

Window glass used to be simply transparent, flat glass designed to keep out rain and wind, but in recent times it has come to serve a new role: as a building material that can contribute significantly to energy saving (see page 19). The AGC Group, aware of the importance of creating technology strategies in view of social and environmental changes, has begun to formulate a technology roadmap based on the Group's Technology Outlook. In this Technology Outlook, we predict changes in the global environment, demographic trends, Gross Domestic Product (GDP) of countries, political situations, and product prices for the next 10 to 20 years, and we subsequently formulate our technology roadmap based on these predictions. In reference to the roadmap, the entire AGC Group, which encompasses a broad spectrum of technologies in the glass and chemical fields, endeavors to make concerted efforts to develop products and technologies that help society achieve positive changes, thereby contributing to creating a sustainable society through its business activities.

# The AGC Group's Technology Outlook

The AGC Group endeavors to conduct technology and business development based on predictions of long-term social trends, with the aim of contributing to positive changes in society.



### Incorporating an Environmental Viewpoint in the Basics of Development

In starting its themes for technological development, the AGC Group identifies both the potential positive and negative effects of technological developments on the environment. If a number of positive effects are identified, we choose to proceed with R&D on the theme, despite probable economic drawbacks. On the other hand, if the technological development is deemed to have serious negative effects on the environment, we choose not to embark on the development.

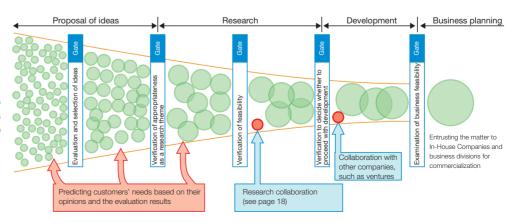
In addition, we have adopted a so-called stage-gate R&D

management system. Specifically, we conduct appropriate checks including checks on environmental aspects at the "gate" of each development stage to decide whether it is acceptable to continue the development. This ensures that researchers will always be aware of the environmental issues at stake and encourages them to develop more environmentally friendly technologies.

For example, we started the development of materials for solar cells 20 or more years ago (see page 15), and are now finally reaping some economic gains from this development. Spurred by such achievements, AGC Group has successfully nurtured a corporate culture in which employees place utmost emphasis on the environment when undertaking development.

### Technological development process by the stage-gate R&D management system

"Gates" are set at each of the stages (proposal of ideas, R&D, and business planning) and at the gates, checks are conducted on environmental and economical aspects.





# Tackling the Challenge Against Global Warming (1) Technology to Improve the Power Generation Efficiency of Solar Cells

As early as 1839\*1, humankind discovered that electricity could be generated from solar energy without the use of fossil fuels. In recent years, as part of their efforts to prevent global warming, countries across the globe are beginning to make greater use of solar cells. Accordingly, the solar cell market has been growing rapidly, with Japan accounting for 47% of world solar cell production volume in 2005. Under these circumstances, the AGC Group has been supplying solar cell materials, including cover glass, cover films for flexible solar cells, and transparent conductive oxide (TCO) films as well as promoting their technological development. We are responding to the market needs through our global production system, all the while contributing to the improvement of the power generation efficiency of solar cells as well as the popularization of these cells.

\*1. A French physicist Alexandre-Edmond Becquerel discovered the underlying principal behind solar cells in 1839.

### The AGC Group's Solar Cell Materials

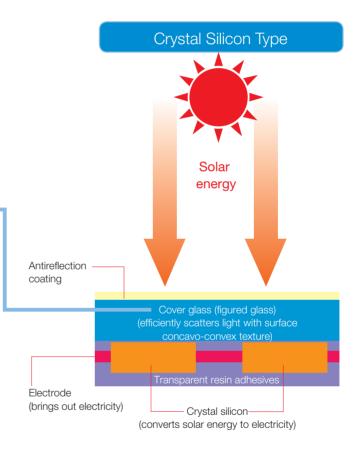
General solar cells use a semiconductor (silicon) that generates electricity when it is irradiated by sunlight. The AGC Group supplies products and develops technologies for use in both crystal silicon solar cells, which are now mainstream products, and thin film silicon solar cells, which are expected to become as popular as next-generation solar cells.

### Photovoltaic Cover Glass AGC Group Boasts the No. 1 Share of the World Market

Cover glass is used to protect the surface of crystal silicon solar cells. It efficiently transmits light, which in turn improves the power generation efficiency of solar cells. The AGC Group boasts the largest share of the global photovoltaic cover glass market with high optical transmittance glass, developed by AGC Flat Glass North America. By the adoption of unique technologies developed for surface shape design and antireflection (AR), the glass helps increase the light transmission to solar cells, in particular for light of specific wavelengths that can be easily converted to energy.



Solite, photovoltaic cover glass



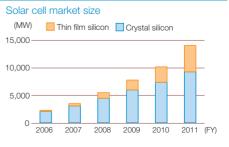
### Facts about solar cells

### Energy available from the sun

Energy from the sun is equivalent to 1 kW per square meter, and the energy conversion efficiency of solar cells in practical use is around 15%. It is said that the world's entire energy demand could be met by covering the Gobi Desert (1.3 million km<sup>2</sup>) with solar cells.

### Growth and future trend of the world solar cell market

The solar cell market has been rapidly expanding in recent years. In 2006, solar cells generating a total of 2,300 MW of energy were produced worldwide. This market is expected to increase to approximately 10,000 MW by 2010. At present, crystal silicon solar cells are mainstream products in the market, and the demand for thin film silicon solar cells is also expected to rise in the future.



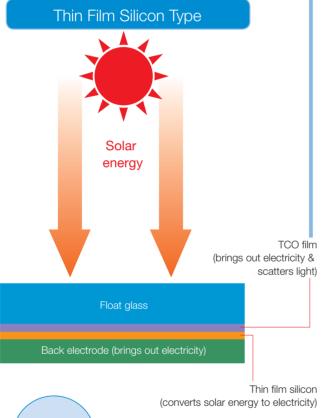
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### ETFE Films Flexibly Installable, Bendable Films for Solar Cells

ETFE films are fluorinated films used to protect the special silicon that functions as a photovoltaic layer on flexible solar cells. These films excel in light transmittance and weather resistance and are expected to be widely used as material for next-generation solar cells. Flexible solar cells, as their name implies, can be flexibly installed, and some can be even carried in a bag. In the future, these cells are expected to be used as power generation devices for notebook PCs and cell phones.

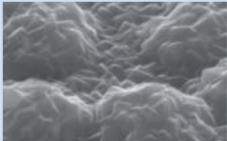


#### Used on the curved surface of a solar car (Osaka Sangyo University's solar car OSU model S')



### Transparent Conductive Oxide (TCO) Films Improving Power Generation Efficiency of Thin Film Silicon Solar Cells

TCO films function as conductors to bring out electric energy. They are very important component which influence solar power generation efficiency. The films must meet the following conditions: first, they must be able to conduct electricity; second, they must be transparent; and third, they must be able to efficiently scatter light by means of their surface concavoconvex texture, to conduct more light into the photovoltaic layer for higher power generation efficiency. The AGC Group embarked on the development of TCO films in 1985 and succeeded in developing the Type U TCO film, now regarded as the world's standard for TCO films, in the latter half of the 1980s. Furthermore, in December 2007, the Group unveiled the Type HU TCO film, a next-generation TCO film that can scatter 90% of incoming sunlight and conduct the light more efficiently into the photovoltaic layer.



Magnified photo of the Type HU TCO film



### Making Persistent Efforts to Develop TCO Films



### Naoki Taneda Principal Researcher, Research Center

Despite the long-held belief that the solar cell market would grow in the future, we were virtually forced to abandon the development of TCO films on several occasions. Nevertheless, researchers at the Research Center, including myself, persisted engaging in developmental ef-

forts, greatly supported by those in the relevant business divisions who believed in the growth of the solar cell market. Now that the market has finally taken off, all those engaged in the solar cell business, including those at the Research Center and in the relevant business divisions are all very excited. At the same time, however, competition in the market is intensifying and the market situation is ever changing. In the face of these circumstances, we would like to achieve success without missing any chances along the way.



### Mika Kambe

**Research Center** 

I have been continuing my research into solar cells since I was a university student. Following the downsizing of the department in charge of solar cell research and development, I had to suspend my research into solar cells for some time, but subsequently I was able to resume the

research, for which I feel very fortunate. I am engaged in verifying the performance of TCO films used in solar cells. The AGC Group verifies the potential of TCO films, as a component of solar cells, in future technological development, a practice which I believe greatly strengthens the Group. Because of this, we are able to quickly provide customers with well-proven technologies.

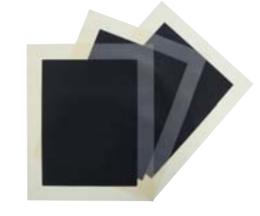


# Tackling the Challenge Against Global Warming (2) Contributing to the Practical Use of Fuel Cells through Thin Polymer Film Technology

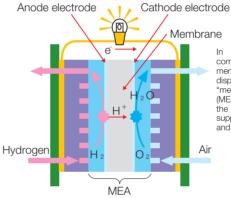
Fuel cells generate electrical energy through the chemical reaction of hydrogen and oxygen, without releasing any byproducts other than water. The practical use of these cells as highly efficient and clear power generation devices for automobiles is therefore urgently required. Between the hydrogen and the oxygen supplies, a membrane known as a membrane-electrode assembly (MEA) is installed to enable ion exchange and electrical energy generation. When used in automobiles, these cells are operated under severe conditions (temperatures of 100°C or higher and low humidity) and thus, the performance of fuel cells largely depends on the durability of MEAs.

The AGC Group has been promoting the development and practical use of MEAs as a core component of polymer electrolyte fuel cells. These cells can be made smaller and lighter and are expected to be applied to automobiles and portable devices as well. Using the technology it accumulated in the development of fluoropolymer ion-exchange membranes (see page 23), the AGC Group has developed a highly durable MEA, which is the first fluorine-based MEA that can be continuously operated for 4,000 hours or longer at temperatures of 100°C or higher, and the MEA is expected to be put into practical use ahead of other MEA products.

Membrane-electrode assembly (MEA) for fuel cells







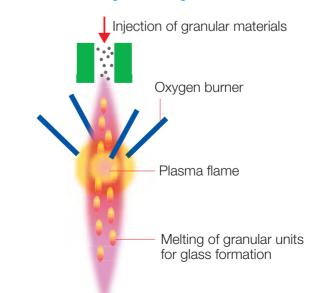
In a fuel cell, a membrane combining an ion exchange membrane and an electrode with dispersed catalyst, known as a "membrane-electrode assembly," (MEA) is installed between the hydrogen and the oxygen supplies to enable ion exchange and power generation.

# Tackling the Challenge Against Global Warming (3) Reducing Energy Used in Glass Manufacturing by Half through In-Flight Melting

Glass production has an adverse impact on the environment mainly due to the process of melting materials, such as silica sand, at high temperatures, as well as the process of keeping the melted materials in the melting tank for long hours to manufacture homogenous glass containing no air bubbles. The AGC Group has been conducting research into in-flight melting<sup>\*1</sup> to reduce the amount of energy consumed in glass manufacturing. By directly injecting granular materials with preadjusted composition into flames of temperatures as high as 2,000 to 10,000°C, bubble-free, homogeneous glass can be manufactured with lower energy consumption. When this inflight melting technology is accomplished, CO<sub>2</sub> emissions from glass production could be reduced by half.

\*1. Research is being conducted to develop innovatively energy-saving glass melting technology (in-flight melting technology), commissioned by the New Energy and Industrial Technology Development Organization (NEDO).

Mechanism of in-flight melting



17

# Developing New Technologies with Society Technology-Related Topics for Fiscal 2007

### AGC Group Technology Expo 2007 Holding an Exhibition in Commemoration of the 100th Anniversary

In December 2007, the AGC Group held the AGC Group Technology Expo 2007.

At the venue, in addition to the Group's 100-year history, its core technologies, namely glass material design and production processing technology, coating and patterning technology, and Fluorine and chemical technology, were introduced through displays and through demonstrations and presentations given by the Group's employees.

Panels showing the Group's environmental and manufacturing activities were also displayed to introduce a selection of its CSR activities to visitors.



A huge glass cube positioned in the center of the venue Various images were projected onto the cube surfaces.



Summary of the Keynote Address made at the AGC Group Technology Expo 2007 By returning to our original principles as a manufacturer of materials and components, we strive to provide customers with value-added materials.

Akira Toyama Director, Senior Executive Officer, CTO (Presently serves as Senior Executive Officer and General Manager of the Research Center)

### Responding to the Changing Market and Meeting the True Needs of Customers

For the 100 years since the foundation of Asahi Glass Co., Ltd. in 1907, we have been continually promoting the globalization of the company while responding to the needs of the market through our material technology. For the AGC Group to remain as a company whose continued existence is valued by society, it is necessary for the Group to maximize synergies within the Group and proceed with strategic technological development. To this end, we have started the formulation of the AGC Group's technology roadmap. We will review and optimize this roadmap on an annual basis to show the direction of our technological development, focusing on both technology and business operations. This will be based on our activity conducted under the name of Technology Outlook, which is designed to predict changes in societal circumstances and the global environment 10 to 20 years from now. In addition, we are promoting cooperation with external organizations, including joint research with universities under our Research Collaboration Programme and collaboration with overseas organizations.

### Returning to Original Principles to Open up a New Age

Through these activities, the AGC Group is returning to its original principles as a materials and components manufacturer. Specifically, we aim to improve the "value quality" we offer to our customers by differentiating materials at the upstream stage of manufacturing and upgrading our production technology, which constitutes the basis of manufacturing. To this end, we will combine our technologies in our three major business fields and optimize our technology roadmap on a global scale to display our strength. We will also commit ourselves to environmentally friendly manufacturing and to the employment and development of excellent human resources.

### Research Collaboration Programme, a Public-Invitation Industry Academia Joint Study Programme

In 2004, Asahi Glass introduced the AGC Research Collaboration Programme, in which products and technologies are developed jointly with universities, public research institutions, and other bodies that the company selects based on its needs and seeds from among those invited publicly. The groups of selected joint research themes will receive funds of 20 million yen a year for up to three years. Applicants with excellent themes that are not selected can also receive research support. We are actively utilizing the joint research results for the creation of new businesses and products.

Research theme selected in fiscal 2007

Development of technology to evaluate high-temperature glass melting by a new non-contact method developed by Shigeru Fujino, Associate Professor, Graduate School of Engineering, Kyushu University

# For a Comfortable and Environmentally Friendly Lifestyle Global Energy Saving through Ecoglass

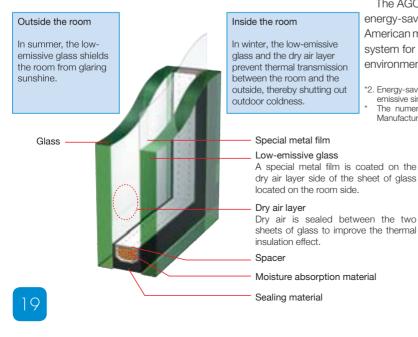
Leading a comfortable life while minimizing the use of energy for cooling and heating-more and more people across the world are choosing this type of lifestyle, and Ecoglass, with its excellent thermal insulation performance, is supporting them in leading such an environmentally friendly lifestyle. Asahi Glass started the production of double-glazing glass, effective in energy saving, in 1954, and the new product it released in 1993 was adopted by a major house manufacturer, leading to the expansion of the use of Ecoglass across the country. To promote the use of Ecoglass, the Flat Glass Manufacturers Association of Japan<sup>\*1</sup> has been conducting an Ecoglass Campaign since 2006. As a member of the Association, the AGC Group is contributing to global energy saving by promoting the use of Ecoglass in Japan and publicizing its effectiveness in China and Southeast Asia.

\*1. Asahi Glass and two other Japanese flat glass manufacturers together comprise the Flat Glass Manufacturers Association of Japan. Ecoglass is the trade name for low-emissive double-glazing glass products approved by the Association. Website for Ecoglass (Japanese Only): http://www.ecoglass.jp/

### Contributing to the Environment with Excellent Thermal Insulation Performance

Ecoglass, which is low-emissive glass with a dry air layer sealed between two sheets of glass, has higher thermal insulation performance than ordinary double-glazing glass. The glass can satisfy the Next-Generation Energy Conservation Standard established by the Ministry of Economy, Trade and Industry and the Ministry of Land, Infrastructure, Transport and Tourism, with only a lace curtain drawn across the window.

### Structure of Ecoglass Sunbalance



### World Trend of Window Glass

In Germany, where advanced environmental regulations have been implemented, it is prohibited to use single sheet glass for new house windows. In Sweden, Denmark, Finland, and Austria, double-glazing glass is used for 100% of both new and existing houses. In the United States, the usage rate of energy-saving glass<sup>\*2</sup> was 48% for both new and existing houses, as of 2001. In Japan, energy-saving glass was used for as many as 90% of new houses in 2006, but the usage rate of energy-saving glass for existing houses and office buildings is far lower than in Europe.

The AGC Group has already established a system for supplying energy-saving glass to the Japanese, European, and North American markets. In addition, we are establishing a manufacturing system for energy-saving glass in China, a country where societal environmental awareness is rapidly increasing.

- \*2. Energy-saving glass here includes Ecoglass, general double-glazing glass, and lowemissive single glass.
- The numerical figures are based on the surveys conducted by the Flat Glass Manufacturers Association of Japan.

### Environmental and Economical Effects of Ecoglass

You can save energy by replacing window glass with Ecoglass, which remarkably helps improve cooling and heating efficiency. For example, if you replace the window glass of a house in Tokyo with Ecoglass, in 10 years you can reduce  $CO_2$  emissions by an amount equivalent to that achieved by planting 250 beech trees as well as saving approximately 500,000 yen in cooling and heating costs.

### CO<sub>2</sub> emission reduction

### Mass: 265.5 kg/year

Number of Beech trees: 25 trees/year

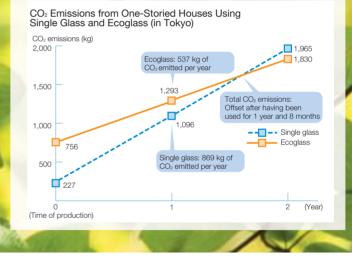


\* For the basis of calculations for CO<sub>2</sub> emission reduction and cooling and heating cost savings, please visit the Ecoglass Campaign website of the Flat Glass Manufacturers Association of Japan and refer to the "Simulator" web page (Japanese only): http://www.ecoglass.jp/simulation/

 $^{\ast}$  For the basis of calculations for CO<sub>2</sub> emissions from houses using single glass and Ecoglass, please refer to the "Doctor G" web page on the Glass Power Campaign website (Japanese only): https://www.glasspower.jp/

# Cooling and heating cost savings

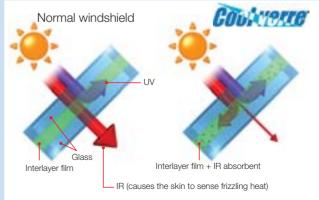
Although the production of Ecoglass causes more environmental impact than the production of single sheets of glass for windows, the impact will be offset by the energy-saving effect achieved by the use of the glass: the total environmental impact caused by Ecoglass will fall below the impact of single sheets of glass after Ecoglass has been used for one year and eight months.



### Promoting the Development and Use of Energy-Saving Automotive Glass

Coolverre is an automotive glass that blocks ultraviolet rays (UV) and infrared rays (IR). As its biggest feature, it can substantially block middle infrared rays, which mostly cause the skin to sense frizzling heat. As a result, drivers feel cooler inside the vehicle, and this in turn leads to a reduction in energy consumption by air conditioning. Through the use of Coolverre, the in-vehicle temperature can be reduced by 2 to 3°C. We have been actively conducting sales promotion activities for the glass. For example, we provided motor journalists with the opportunity to actually experience the effect of the glass when we released it in 2004 and have advertised the product targeting general consumers.

Comparison between normal windshield and Coolverre



Feature Article **3** 

Supplying High-Performance and Environmentally Safe Glass to the World Arsenic- and Antimony-Free Glass for Liquid Crystal Displays and Hard Disk Drive

To help manufacture larger and thinner TV displays of higher quality, the AGC Group started the full-scale production of glass substrates for thin film transistor-liquid crystal displays (TFT-LCDs), which are mainstream products for LCD TVs, in 1995. Subsequently, we started to manufacture backlight tubes used to enable LCDs to emit light in 2000, and entered the market of glass substrates for hard disk drive used in PCs and car navigation systems in 2005. Although we were not the first to enter these respective markets, we were able to successfully release products by establishing arsenic- and antimony-free production technology based on the idea of minimizing the use of chemical substances that might exert a serious impact on the environment.

TFT-LCD glass substrates manufactured by the float process

### Developing a Technology to Remove Small Bubbles from Glass without the Use of Arsenic or Antimony

Arsenic and antimony have long been used as additives essential in the removal of small bubbles from glass, and it was taken for granted to use these substances to manufacture glass products for use in LCDs, backlight tubes, and hard disk drive. These are said to be the most difficult glass products to manufacture. Although arsenic and antimony are contained and fixed in glass, these chemical substances nevertheless exert potentially serious impacts on the environment and on human health. The use of LCD TVs and hard disk drive is rapidly expanding, and in order to recycle them in the future, it is important that they be manufactured with due consideration given to their environmental safety. In response, the AGC Group started to implement measures not to use arsenic and antimony ahead of other manufacturers in the world.

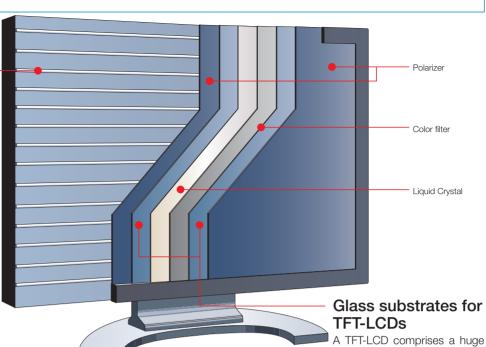
Specifically, based on the arsenic-free technology developed for flat glass, we have promoted technological optimization for glass composition, furnace combustion, methods of pouring molten glass, and various other processes, and have become the first manufacturer to mass produce arsenic- and antimony-free glass with high precision. The AGC Group will continue its efforts in technological innovation to manufacture glass products with higher performance and less environmental impact.

### Glass for LCDs

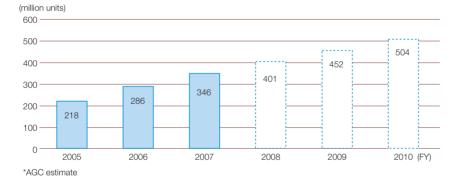
### Structure of LCD

### **Backlight tubes**

TFT-LCDs do not emit light themselves and so need to be equipped with a light source. Backlight tubes are two to three millimeters in diameter, or as narrow as the cartridge of a ballpoint pen. These very thin and fine glass tubes should be manufactured to a precision of 0.01 millimeters. For a 32-inch LCD TV, 14 backlight tubes are installed.

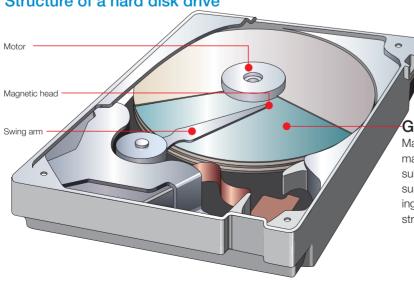


### **Demand for flat displays**



number of transistors that function as LCD switches on a glass substrate as little as 0.4 to 0.7 millimeters thick. To make large, high-quality displays, it is necessary to upsize glass substrates used in them, and the surface of these substrates must be very flat. At present, the AGC Group supplies glass substrates in G8 size (at least two by two meters). They should be manufactured with extremely high precision, and should not even contain a single small bubble of 0.1 millimeters in diameter.

### Glass Substrates for Hard Disk Drive



### Structure of a hard disk drive



### Glass substrates for hard disk drive

Magnetic disks used to store information on a PC are made by coating a magnetic substance onto a glass substrate. Even minute degrees of unevenness on the surface of a glass substrate could badly affect the coating of the magnetic substance and therefore glass substrates need to be manufactured with utmost precision.

Feature Article 4

# "Chemistry for a Blue Planet" Creating a Safe, Secure, Comfortable and Environmentally Friendly World with Chemical Technology

Chemistry has been supporting us in leading a comfortable and convenient life, but at the same time it has had an adverse impact on the environment. In the 1960s, when the chemical industry first faced the problem of pollution, we announced our basic principle that polluting companies would not be able to survive and that thus we would endeavor to avoid emitting pollutants from the outset. Since then, we have been continuing to make technological innovations toward helping the environment, developing films for flexible solar cells, MEAs for fuel cells, and other products in our response to global environmental issues. The AGC Group aims to create a safe, secure, comfortable and environmentally friendly world with chemical technology.

Aquatics center in Beijing, where Fluon ETFE FILM is used ©Vector-Foiltec

## Chemicals Business as a Core Business of the AGC Group

As its unique feature, the AGC Group is engaged in the chemicals business as a glass manufacturer. The Group's first technological innovation for the environment began with the development of a new manufacturing method for caustic soda in 1975. Caustic soda is an industrial product used as a material for soaps and chemical fibers and as a bleach for paper and pulp. It is manufactured by the electrolysis of brine, with mercury being used and asbestos being discharged as waste in the traditional manufacturing process. In response, we developed a fluoropolymer ion-exchange membrane named Flemion and succeeded in converting the caustic soda manufacturing process to a very clean and environmentally responsible one. In addition, by developing high-performance electrodes to be used in the ion-exchange membrane electrolysis process, we achieved a substantial reduction (approximately 33%) in energy use compared with the traditional mercury process. In recognition of our promotion of the ion-exchange membrane process to the world, we were granted an award by the Minister of the Environment of Japan in 2006.

The AGC Group is engaged in the whole manufacturing process of chemicals, from the procurement of salt used as a material for caustic soda to the production of high value-added products, including fluorine chemicals. Through our extensive involvement in the chemicals business, we can contribute widely to the reduction of environmental impact in our own manufacturing process and also through the processing and use of our products by our corporate customers and the use of end products by general consumers.

### Reduction of environmental impact within the AGC Group

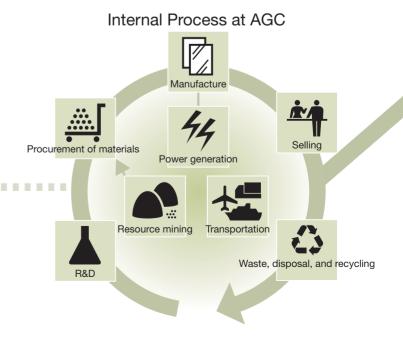
We reduce environmental impact caused by our chemicals manufacturing process by the use of our own developed technologies and products.

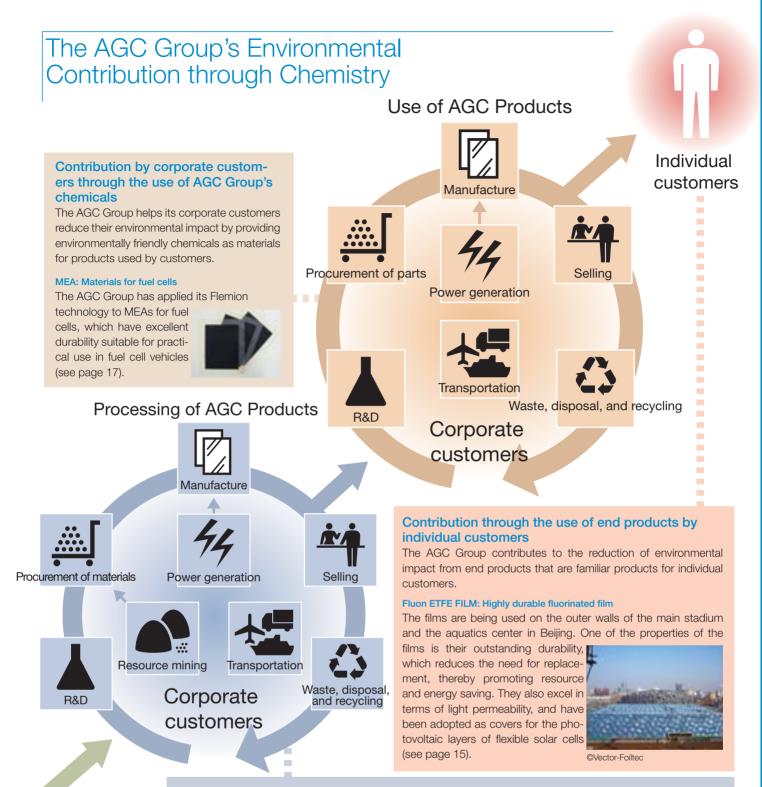
Caustic soda (sodium hydroxide): Industrial chemical

Manufactured in an energy-saving manner without the use of mercury and asbestos, using a very clean and environmentally responsible electrolysis process.



Caustic soda manufacturing facility





### Contribution through processing by corporate customers

The AGC Group helps its corporate customers reduce their environmental impact from processing chemical products by supplying them with environmentally friendly chemicals.

### Flemion: Fluoropolymer ion-exchange membrane

By using this membrane, customers can manufacture caustic soda without the use of mercury and asbestos and also

reduce their energy use. The usage rate of the ionexchange membrane process has already reached 100% in Japan, and 50% in the world.



### ASAHIKLIN Series: Fluorinated solvents

ASHIKILN AK225 was the first electronics substrate cleaner commercialized as a CFC-113 replacement and

won the 1997 Best-of-the-Best Stratospheric Ozone Protection Award of the U.S. Environmental Protection Agency (EPA). Furthermore, ASAHIKLIN AE-3000 has achieved an ozone depletion potential (ODP) of zero.



### AsahiGuard E-SERIES: Next generation fluorinated water/oil repellents

AsahiGuard E-SERIES do not contain perfluorooctanoic acid (PFOA)\*, longer length PFCAs or their pre-

cursors (at or above the detection limit) (see page 42).

\*The EPA has expressed concern about the persistence and widespread presence of PFOA in the environment.

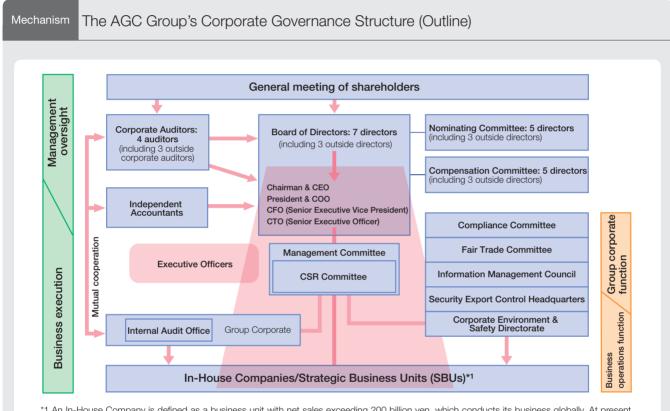


### Corporate Governance

As its basic policy on corporate governance, Asahi Glass clearly separates the functions of "oversight" and "execution" of management, aiming to reinforce the management oversight function while ensuring quick decision-making in management execution. Under this basic policy, we have implemented various measures to improve our corporate governance system, including the appointment of outside directors, the adoption of an executive officer system, and the establishment of a non-statutory Nominating Committee and a Compensation Committee.

In March 2007, as part of our efforts in corporate governance,

we revised the directors' compensation system by taking into consideration the discussion at the Compensation Committee and the Board of Directors. We abolished the retirement benefit programme for directors and introduced stock compensation-type stock options, to share with shareholders the benefits and risks related to stock price fluctuations. In addition, we have recently established the positions of "Chairman & CEO" and "President & COO" to further strengthen the function of business strategies for the AGC Group, as well as to increase the efficiency and speed of the business execution in an assertive manner. In this way, we will continue to strengthen our corporate governance.



\*1 An In-House Company is defined as a business unit with net sales exceeding 200 billion yen, which conducts its business globally. At present, there are four In-House Companies: the Flat Glass Company, the Automotive Glass Company, the Display Company, and the Chemicals Company. Business units of smaller sizes than this are defined as Strategic Business Units (SBUs).

### CSR Promotion System

The AGC Group discusses the Group's CSR-related policies through CSR Committee meetings, which comprise the Management Committee. The CSR Committee is chaired by the President & COO and composed of the CFO, CTO, and the heads of the In-House Companies and SBUs. The Corporate Planning Division and the CSR Office serve as the secretariat for the CSR Committee.

In and after 2008, we will hold meetings to promote and monitor the Group activities that can be regarded as CSR issues in a broad sense, such as compliance- and environmental safetyrelated activities, all within the framework of the CSR Committee. Previously, these meetings had been held separately. We will also hold these meetings more frequently than before, in order to facilitate our CSR-related activities regarding the fulfillment of responsibility as the basic and fundamental issue to be tackled by the entire Group.



Meeting of the CSR Committee

### Internal Control

Asahi Glass decided on its corporate policy over internal control at the Board of Directors meeting held in May 2006. Subsequently in October 2007, we partially revised the policy in view of the changes made to our internal control environment, including the establishment of the AGC Group Charter of Corporate Behavior and the progress made on the Group's compliance programme, the systems for management of the Group companies, and matters relating to auditors.

#### Basic items for internal control

- ① Compliance programme
- 2 Information retention and management system
- ③ Risk management system
- ④ System to ensure efficient and effective business execution
- (5) System for management of group companies
- Matters regarding auditors

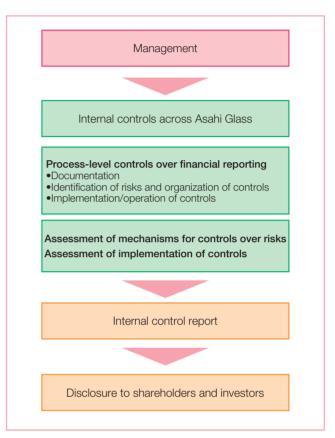
Topic

As for the risk management system, we make it a rule to identify important risk factors and examine and monitor the state of risk management periodically at the meetings of the Management Committee and the Board of Directors.

We continue to assess the state of important risk management in the AGC Group, implement necessary measures, and monitor the measures.

### Internal Control Measures for Financial Reporting

As for internal control over financial reporting, we will establish, operate, and assess internal controls pursuant to the Financial Instruments and Exchange Law, promulgated in June 2006. We plan to fully implement our internal control over financial reporting in and after fiscal 2009.



### Cooperation for Improving the Internal Control of the Group

The Internal Audit Divisions of the AGC Group in Japan/Asia, Europe, and North America hold a global meeting twice a year to continuously improve the Group's internal control through strengthened inter-regional cooperation.

In June 2007, a total of 11 staff who are responsible for internal audit from each region gathered at AGC Flat Glass Czech for a two-day meeting. At the meeting, they eagerly exchanged opinions on the recognition of risks, the evaluation of internal control, the improvement of audit reports, and involvement of the J-SOX project. The meeting helped foster deeper mutual understanding between internal auditors from the different regions.

By continuing to hold global meetings, we aim to further improve our internal control across the Group.



Members of the global meeting

### Compliance

### Basis for Fair and Transparent Corporate Activities



The AGC Group is committed to increasing the fairness and transparency of its business operations, regarding strict compliance as the basis for Our Shared Value, Integrity, and as a premise for its sustainability as a corporate citizen.

### Targets for fiscal 2007

- To integrate the codes of conduct of individual Group companies into one that is shared across the Group
- 2To promote the frequent use of the Help Lines
- **3**To expand the scope of the compliance certificate programme
- To further strengthen the global legal management system
- **5**To enhance antitrust education and audits on a global basis
- 6 To further better information security

### **Results in fiscal 2007**

- The AGC Group Code of Conduct (the global common part) was established.
- 2 The number of contacts received by the Help Lines totaled 235 for the entire Group and 57 for Asahi Glass.
- **3**Coverage and scope of the programme increased from 42% to 46% against all employees of the AGC Group (to approximately 25,000 employees).
- OThe collection and reporting of information regarding litigations and disputes were expedited.
- SAntitrust education programmes were held again and audit methods were reviewed.
- <sup>6</sup>The information security guidelines were issued and the scope of self-check was expanded.

### Targets for fiscal 2008

- To add regional supplements to the AGC Group Code of Conduct and implement the code across the Group
- To continue the operation of the Help Lines and the compliance certificate programme
- To further strengthen the global legal management system and establish a strategic litigation management system
- To further strengthen education and audits on compliance with antitrust laws
- To implement the information security guidelines in Asia
- To expand the range of Group companies targeted for self-check on information security in Japan/Asia and launch the same initiative in Europe

Approach Higher Corporate Ethics to Enhance Trust from Society

### Global Compliance System

In order to make all employees of the AGC Group aware of the importance of compliance, we are implementing compliance programmes under the global compliance system (Fig.: p28, top). Furthermore, we periodically collect compliance-related information, incorporate the results in our compliance measures,

and use them in our compliance monitoring activities. The collected information will be reported to the Board of Directors, shared by the In-House Companies/SBUs through the CSR Committee, and incorporated in their departmental measures.

In case of serious noncompliance, the fact will be promptly reported to management through the compliance reporting system, and countermeasures will be immediately implemented.

### Code of Conduct

Each of the AGC Group companies has its own Code of Conduct based on Asahi Glass Code of Conduct. In order to ensure that employees comply with their Code of Conduct, we give e-learning opportunities and stratified training to employees, and hold seminar tours.

In this year, we will establish the AGC Group Code of Conduct. We already established the global common part of this code on January 1, 2008. Within 2008, we will add regional supplements about code items, local laws and regulations to the global common part, and replace the codes of conduct of individual Group companies with the new one.

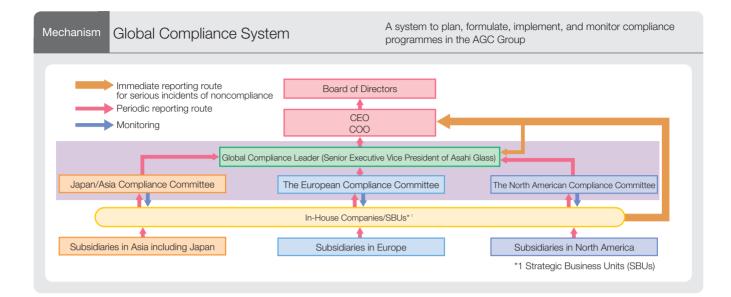
### Items for the global common part

- ① Compliance with laws and corporate policies and doing business with integrity
- ② Fair trade; compliance with antitrust law
- ③ Occupational health, safety and security
- Environment protection
- ⑤ Respect for human rights
- 6 Product safety and quality specification
- ⑦ Fair financial reporting⑧ Prohibition of insider trading
- Proper handling of company property and respect for others
- Prohibition of conflict of interest
- Department Proper handling of entertainment and gifts
- 0 Relationship with politicians and public officials
- International trade control

### Compliance Certificate

The AGC Group introduced the compliance certificate programme, under which employees submit their compliance certificates to their companies on an annual basis. This programme is designed to encourage employees to renew their recognition of the importance of compliance and review their operations and workplaces from the viewpoint of compliance. We aim to collect compliance certificates from all the Group employees.

In fiscal 2007, all employees of Asahi Glass, including parttimers, submitted their compliance certificates. For the entire group, approximately 25,000 employees or 46% of all employees submitted the certificates.



### Global Legal Management System

In 2006, we established a system to report disputes and litigations on a monthly and as-required basis. This system is designed for the prompt identification and management of disputes and lawsuits throughout the Group. Through this global legal management system, dispute- and litigation-related information is collected at the Group General Counsel level; the Counsel then reports the information to top management. Utilizing this system, and in cooperation with the Regional General Counsels and related departments, we are working to reduce the Group's legal risks.

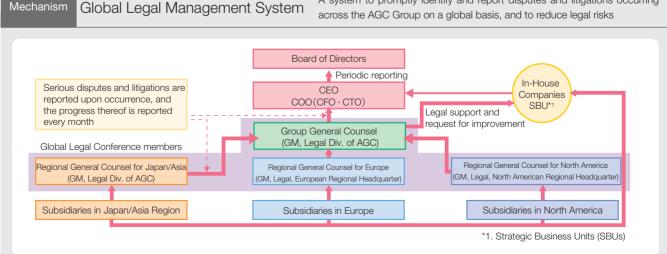
In addition, we are implementing both organizational and personnel measures in response to the Group's global legal needs, including the assignment of an employee dedicated to legal issues in Shanghai, and holding legal meetings attended by members from the United States, Belgium, the Czech Republic, Russia, etc., where relevant policies are shared and confirmed. Reports on disputes and litigations and the progress of the global legal management system are submitted regularly to the Board of Directors.

### Compliance with Antitrust Laws

In November 2007, the European Commission imposed a fine for the anticompetitive behavior of AGC Flat Glass Europe (former Glaverbel), one of Asahi Glass's European Subsidiaries. In addition, as of January 2008, AGC Automotive Europe, a subsidiary of AGC Flat Glass Europe, continues to be under inspection for its anticompetitive behavior.

We sincerely and fully responded to the Commission's investigations. Asahi Glass acutely senses its social responsibility to supervise the actions of its subsidiaries from a Group management point of view.

The AGC Group has long been committed to preventing violations of antitrust laws through education and enlightenment. We take the incident in Europe with the utmost seriousness, and pledge to further implement various measures, including providing compliance education on antitrust laws to each region and organization, monitoring participation by Group companies in trade organizations, and conducting antitrust law-related audits on pricing backgrounds, in order to prevent the occurrence of similar incidents.



A system to promptly identify and report disputes and litigations occurring across the AGC Group on a global basis, and to reduce legal risks

### Compliance

### Compliance Help Line

The AGC Group's Compliance Help Line serves as a contact point allowing employees to voice concerns or make inquiries regarding compliance-related issues. We are increasing employees' awareness of the Help Line and encouraging them to actively use it. In addition to the in-house Help Line, we have commissioned an external company to operate a Help Line that employees can feel free to consult concerning their worries.

The confidentially of those contacting the Help Lines is strictly maintained, and it is ensured that employees suffer no harm or retaliation from having consulted the Help Lines. We give feedback on the relevant progress and results to employees who have made contacts under their own names. In fiscal 2007, the Help Lines received a total of 235 contacts from the employees of the entire AGC Group and 57 from the employees of Asahi Glass.



Help Line Reporting Route (Asahi Glass): http://www.agc.co.jp/english/csr/compliance/

### Information Security

Asahi Glass manages confidential information based on its Information Security Policy and Standard formulated in 2001. We are implementing the Policy and Standard and other measures across the AGC Group, thereby improving our information management level. We thus appropriately manage our information assets and ensure information security as part of our compliance programmes.

In fiscal 2007, we issued information security guidelines, which present specific information security-related examples and illustrations, for Asahi Glass and other domestic Group companies. In addition, we expanded the range of companies targeted for self-check on information security to include more Group companies in Asia including Japan, thereby strengthening our information security level. In fiscal 2008, we will implement the information security guidelines in the Asian region and expand the range of companies targeted for self-check to include still more companies in Japan, Asia, and Europe. We will conduct activities for the implementation of the relevant PDCA cycle in these areas.

### Information security measures in fiscal 2007

#### Information security education (e-learning)

- Asahi Glass: approx. 3,300 employees
- Other Group companies in Japan: approx. 3,100 employees

#### Self-check on information security

- Asahi Glass: approx. 3,300 employees
- Other Group Companies in Japan: approx. 3,100 employees (from 25 companies)
- Group companies in Asia: approx. 1,500 employees (from 19 companies)

### CSR Promotion in Cooperation with Suppliers

Asahi Glass adopted the ombudsman system for purchasing in 2004, in order to ensure transparency in its procurement activities and prevent misconduct. Under this system, suppliers are able to report any problems concerning deals with AGC Group employees in writing to the General Manager of the Purchase and Logistics Center, who is in charge of purchasing.

Furthermore, we have held briefings and lectures to help suppliers understand the AGC Group's concept of and approach to CSR. In June 2007, we held a briefing on the AGC Group Charter of Corporate Behavior and in October 2007, we held a lecture on CSR.

At the lecture, following a speech by an external lecturer, explanations were given regarding the AGC Group's CSR measures, as well as on the following elements to be incorporated into the AGC Group Purchasing Policy: legal compliance, management of confidential information and intellectual properties, respect for human rights and so on.

In the future, we will invite more suppliers to such briefings and lectures to help them deepen their understanding of the AGC Group's commitment to fulfilling CSR in its purchasing activities.



Speech on the importance of CSR for corporate management given by Mr. Masamitsu Komuro, President of Tohmatsu Environmental Research Institute Ltd.

### Topic

### Organization of a Global Compliance Meeting

In order to foster compliance across the Group, the AGC Group has been holding a global compliance meeting semiannually (in June and December) since 2005. Every June, the members of the secretariats of the Japan/Asia, European, and North American Compliance Committees gather to discuss Group-wide measures and report the progress of local measures. At the meeting held in December, also attended by the Global Compliance Leader, participants review the implemented measures and discuss plans for the following fiscal year.



Global compliance meeting



Meeting participants



# Stakeholder Dialogue What Compliance Means for Global Companies

For the AGC Group, compliance does not mean merely complying with laws and regulations. It also means ensuring that employees act sincerely regarding the Group's corporate ethics. At this third stakeholder dialogue meeting, we exchanged opinions with our stakeholders on the challenges and targets to be met to enable the Group to share the concept of compliance and promote an appropriate corporate culture on a global scale.

### Held from 1:00 to 3:30 p.m. on Tuesday, January 22, 2008

#### **Participants**

Mr. Susumu Akiyama Managing Director, Giuliani Compliance Japan Inc.

Ms. One Akiyama President, Integrex Inc.

Mr. Takuji Hasegawa Attorney at Law, Miyake & Partners

#### Participants from the AGC Group Jim Mabon

Vice President, Regional General Counsel and Chief Compliance Officer, AGC America, Inc.

#### Kouichi Hayasaka

General Manager, Internal Audit, Asahi Glass Co., Ltd.

### Akio Endo

Senior Executive Officer, General Manager, Environmental & Social Responsibility, Asahi Glass Co., Ltd. (Presently Senior Executive Officer, Vice President of Flat Glass Company, and Regional President of Japan/Asia)

### Facilitator

### Mr. Tohru Tsukushi

Senior Planner, Planning and Research Office, General Press Corporation

### AGC Group's Compliance

Mr. Endo: We presently regard compliance as a major management priority, in addition to our commitment to care for the global environment. One of the factors that might cause corporate scandals is the fact that corporate values and ethics have not yet been globalized despite trends toward economic and social globalization in other areas. Anticipating that the AGC Group might also face such problems during the process of globalization, we established the AGC Group Charter of Corporate Behavior last year. It is essential that we operate our business in compliance with this Charter. We have celebrated the 100th anniversary of our foundation, and in order to continuously gain trust from society and be a corporate group that is expected to keep sustainable development for the next 100 years, we define compliance in a wider sense. Compliance does not merely mean complying with laws and regulations: it also means abiding by corporate ethics and policies. Compliance is, indeed, the core of our Integrity and must be valued across the Group.

**Mr. Hayasaka:** In the AGC Group, the Senior Executive Vice President serves as Global Compliance Leader, and at the Leader's initiative, compliance is promoted among employees in each country and region through the business operations of the In-House Companies/SBUs. In the event of serious noncompliance, the fact will be directly reported to top management for a speedy response.

In addition, to encourage individual employees to be aware of the importance of compliance, we have three compliance pillars,



namely, our Code of Conduct, our Help Lines, and the compliance certificate programme. Through the formulation and implementation of the Code of Conduct, the establishment and utilization of the Help Lines, and the submission of compliance certificates by employees, which will encourage them to periodically review the Code of Conduct and absorb its importance, we are promoting our compliance across the Group.

Mr. Susumu Akiyama: For a Japanese company to become a



truly global corporation, it would have to meet different requirements from those needed to become a top company in Japan. Although the required behavior and values will differ by business and region, it is important to clarify the mission to be fulfilled by all employees on a global scale. In other words,

you need to have global integrity or globally consistent values. **Mr. Hasegawa:** Local markets are now being overwhelmed by the accelerating pace of globalization, and it would be better for companies to adopt global values rather than localized values from a long-term viewpoint.

Ms. One Akiyama: Integrity means that you "walk the talk." It means that employees share the Group vision and values and



Group vision and values and continuously perform their work to fulfill their workplace missions and realize the Group vision.

To comply with laws and regulations, however, you must also have a local viewpoint, and so I think it is right for the AGC Group to pursue the best practice while giving due consideration to

legal systems and business practices that differ by country and region.

### Promoting Integrity across the Group

Mr. Susumu Akiyama: First of all, the AGC Group must make it clear across the Group that employees should not do anything contrary to the Group vision, and that even if they create economic value, if it comes at the cost of integrity, their actions

and performances will not be appreciated.

**Mr. Hayasaka:** The AGC Group operates in countries and regions with differing legal systems and business practices. We make it absolutely clear that we will not tolerate employees who improve their business performance in violation of the Group's four Shared Values.

Mr. Mabon: At AGC America, we have formulated clear rules,

and employees have a good understanding of the rules. We also make them aware of the Help Lines, and the Lines are actually being used.

Ms. One Akiyama: For the Help Lines to function appropriately, it is important for top management to commit themselves to



ensuring the effectiveness of the Lines, for employees to be aware of the Lines through information communication in their business operations, and for the examples of improvement achieved through the use of the Help Lines to be introduced to employees across the Group.

**Mr. Hasegawa:** By incorporating "criteria" into "specific procedures" and encouraging employees to follow the procedures as part of their routine work, you can make them more aware of the importance of compliance and integrity. In addition to the already introduced compliance certificate, you can also distribute free-of- postage-charge envelopes to employees so that they can freely write their questions and concerns and submit them in the envelopes. Through such measures, you can ensure open communication between employees and their companies.

**Mr. Hayasaka:** The compliance certificate mentioned is designed to motivate employees to review their work and relevant systems from the viewpoint of integrity. Moreover, the certificate includes a column where employees are free to write down any compliance issues they face or any other comments. In contrast to the Help Lines, whereby we passively wait for questions, the compliance certificate serves as a more active interface in that it encourages employees to make their requests in the comments column.

### Balance between Business Performance and Compliance

**Mr. Mabon:** At present, AGC America is striving to improve its business performance, but we still strongly recognize the need to ensure compliance in a well-balanced manner.

Ms. One Akiyama: Generally when people talk about business performance, they refer to short-term performance. In order to improve business performance in a sustainable manner, however, it is vital that you ensure compliance, and in the AGC Group, the top management clearly states that it will not be acceptable for employees to violate the Group's values even if in doing so they improve business performance. For the next step, the Group might need to link this top commitment with its management system such as a personnel evaluation system and try to create an open corporate culture where individual employees do not find themselves impaled on the horns of a dilemma.

Mr. Hasegawa: When companies recall their products due

to a compliance violation, they are actually trying to regain trust from society by bearing the cost of the recall. Compliance risk management is indispensable to maintaining corporate brand value, and the company must adopt the mentality that there are no trade-offs between compliance and business performance.



**Mr.** Akiyama: To give a sporting analogy, investigation of the relationship between fouls in games and goals scored has revealed that football teams committing fewer fouls turn out to be stronger. These teams have established their tactics to avoid foul play and all the players are committed to attacking and defending for the team, all the while improving their individual abilities. I believe the same principle applies in the business world.

**Mr. Hayasaka:** It is indeed wrong to think that you cannot improve business performance while ensuring compliance. The top management of the AGC Group firmly believes that compliance is a premise for corporate activities. At present, we impose penalties for noncompliance, but we have yet to devise a method for rewarding deserving compliance efforts.

**Mr. Endo:** It would be best if we could develop an open corporate culture where employees can easily communicate their problems to others without being backed into a corner all alone, and desperately feeling they have to escape from the situation.

### The Staff Departments Should Act Not as a Policeman but as a Coach

**Mr. Akiyama:** Employees in the line departments are daily taking on new challenges to provide customers with high value. The staff departments should support them in so doing. The staff departments, including the legal and internal audit departments, play an important role. If the staff departments just point out flaws to operating departments without also proactively contributing ideas to fix current problems and prevent future issues, the line departments.

**Mr. Endo:** I tell the staff in charge of environmental audits to act as a coach rather than a policeman. They shouldn't simply point out, "That is not good," to the audited departments. Instead, they should consider why the department did not do well enough and help them find out what responsive measures need to be taken. Thinking together in this way will foster more open communication, which is why I instruct the auditors to act in this way.

**Mr. Hasegawa:** For the successful operation of the compliance system, the staff departments are indeed indispensable. They can provide a "safety net" to those who have nowhere else to turn.

**Ms. One Akiyama:** Once, when I was discussing compliance, I was asked, "Which do you envision by the term "compliance," a zoo or a safari park?" A zoo is a place where animals are confined to cages and are prohibited from many activities, while a safari park is a place where animals can move freely under certain rules. I believe compliance should be fostered along the lines of a safari park, where the guards have to "support" each of the animals while ensuring that they do not violate the rules.

**Mr. Mabon:** Excellent employees, who are the keys to elevating the company's business performance, have more options, and want to work for a company in which they can take pride. I believe that companies like the AGC Group, which have values shared by all employees, can attract such excellent human talent.

### Sharing Proud Values on a Global Scale

Mr. Hayasaka: Exchanging opinions with all of you here has



strengthened my conviction that the AGC Group is moving in the right direction in terms of compliance. We will continue to conduct our compliance activities with strong faith. We have been making efforts to formulate the AGC Group Code of Conduct since 2006 and established the global common part in January

2008. Within this year, we will add regional supplements to the code and implement it across the Group.

**Mr. Mabon:** I feel it important for each and every employee to desire to develop their company into a world-class enterprise. To this end, we must ensure strong compliance. We must build our company based on the visions and values shared by all employees.

Mr. Endo: The global sharing of values in which employees can take

pride and the development and maintenance of an open corporate culture where employees can communicate their problems to others these factors will help us firmly establish our compliance. We will accelerate our compliance activities and patiently make all employees aware of their importance.



The staff departments will serve as a coach, not as a policeman, to encourage the participation of all employees in compliance activities. Thank you very much for taking part in today's meeting.

# **Customer Satisfaction (CS) and Quality**

To Increase Customer Satisfaction and Win Their Trust

Concept

The AGC Group is committed to improving quality in every aspect of its business operations by changing employees' ways of thinking based on the idea of incorporating the concept of CS into each employee's daily work processes, and by implementing process reform to improve the quality of its products and services in order to increase customer satisfaction.

### Targets for fiscal 2007

- 1 To ensure the actual implementation of CS-focused measures
- 2 To strengthen quality management by conforming our quality management systems to the ISO 9000 series

### **Results in fiscal 2007**

- A handbook on CS concept activities was created and distributed, and CS commendation was awarded in 24 cases.
- (1) Surveys were conducted on Group companies in Japan to examine their compliance with product-related regulations.
  - (2) Rules for compliance with the Consumer Products Safety Law were established.

### Targets for fiscal 2008

- To continuously improve and clarify the CS-focused activities
- To expand the CS-focused activities on a global scale
- To build a management system to ensure product safety

Approach Improving Quality from the Viewpoint of CS

### Measures to increase CS

The AGC Group is enhancing CS and quality management as an important objective to be fulfilled in implementing its management policy. CS is an abbreviation for customer satisfaction, and if we limit "customers" to our customers in the market, CS will have a very limited scope for us as a materials manufacturer. We therefore include "people and organizations who receive work-in-process within the Group" in our definition of customers. Based on the slogan of "incorporating the concept of CS into each employee's

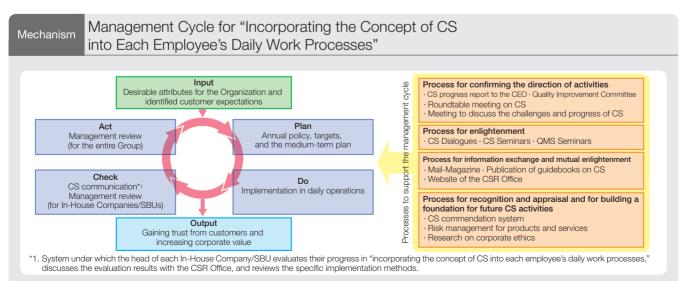
daily work processes," we are encouraging employees to participate in CS activities. Specifically, employees are expected to perform their jobs following the eight steps described below. Within the Group, employees regard those working in the next work process as their customers and review their jobs from the viewpoint of their "customers," eventually creating a value chain that provides customers with value they truly desire. In so doing, employees will be able to offer higher value to true customers in the market. Please see the figure below for the management cycle applied to this end.

### Eight steps for incorporating the concept of CS into each employee's daily work processes

- ① Learn about your customers.
- ② Clarify the value that you believe you are providing to your customers.
- ③ Take the viewpoint of your customers, and consider the value that they require. It is important to also directly ask your customers.
- ④ Based on ② and ③, in a candid manner, ascertain the areas in which the value that you provide differs from the value sought by your customers.
- (5) Based on (4), offer your customers the best value that you think you can provide.
- (6) Ask your customers to evaluate the results.
- ⑦ Based on that evaluation (the concept of CS), change your daily work.
- ③ Develop these into policies and targets. It is important that you change your daily work on an ongoing basis and with everyone's participation.



Handbook (in Japanese and English) on the concept of "incorporating the concept of CS into each employee's daily work processes" and brochure on how to implement the concept



### **CS** Commendation

The AGC Group awards "CS commendation" under its commendation system (see page 50). CS commendation is awarded to individuals and organizations that have achieved great results by incorporating the concept of CS into their daily work processes. Their excellent activities are introduced across the Group to encourage the entire Group to make concerted efforts for CS.

In fiscal 2007, 19 individuals and teams and five organizations were awarded CS commendation. Their activities were described in a research note on excellent activities receiving CS commendation, copies of which are distributed to employees for the promotion of CS activities.

### Measures to Improve Product and Service Quality Surveys to examine compliance with product-related laws and regulations

From November to December 2007, the AGC Group conducted interview surveys on Asahi Glass and other three major domestic Group companies to reexamine their compliance with productrelated laws and regulations. The surveyed companies were found generally to comply with the laws and regulations, but some of their departments needed to strengthen their compliance management. Accordingly, improvement measures are now being implemented in these departments. From fiscal 2008 onwards, we will further expand the scope of companies to be surveyed to still further ensure our compliance with product-related laws and regulations.

### Compliance with the Consumer Product Safety Law

Following the revision of the Consumer Product Safety Law in December 2006, manufacturers who have become aware of a serious product-related accident must notify the Minister of Economy, Trade and Industry of the fact within 10 days.

Asahi Glass established its rules for compliance with the Consumer Product Safety Law in January 2008, which stipulates the measures to be taken by the relevant departments in the event of a serious product-related accident. We implement preventive measures and prepare for prompt responses to such accidents.





Research note on cases receiving CS commendation

Presentation of commended cases held concurrently with the commendation ceremony

### Quality management system

The AGC Group is promoting the acquisition of ISO 9001 and ISO/TS 16949 certifications for its quality management systems so that it can continue to provide customers with products and service of supreme quality.

As of December 2007, we have acquired the following certifications. We will continue to acquire the certifications to reinforce quality management.

Acquisition	of ISO	9001	and	ISO/TS	16949	certifications	(as of
December	2007)						

Location	Number of targeted organizations	Number of certified organizations
Japan	43	29
Asia	35	19
Europe	62	38
North America	20	13
Total	160	99

### Voluntary Inspection of the Hot Water Purification System

In May 2007, upon examination of past product-related accidents concerning its hot water purification system (dubbed the "24hour bath" system), Asahi Glass discovered that, in very rare cases for certain models sold between 1989 and 1995, the part inside the water heater to which wires were pressurebonded could produce heat, emit smoke, or catch fire due to the corrosion or deterioration of the part from contact with water. As of the end of 2007, however, no damage to users had been reported.

In response to the examination results, we announced the possibility of accidents to the press and on our Website, in order to prevent the occurrence of any accidents in the future, and also individually informed the product users of the problem. We are now checking the products returned from the customers, replacing their heaters, and waterproofing them free of charge. We pulled out of the "24hour bath" market in 1998.

We take seriously the fact that the problem has caused troubles and distress to customers, despite our dedication to quality improvement as a top management priority. We take this matter very seriously and pledge to further strengthen our quality management system to deliver even safer products to customers.



Spa Dream hot water purification system for household baths

## **Environmental Activities**

### With Full Awareness that Our Operations Have High Environmental Impact



The AGC Group, fully aware of the high environmental impact of its operations, regards the environment as one of its most important management priorities, and all Group members are committed to contributing to developing a sustainable society.

#### AGC Group Basic Environmental Policy

(Established on February 9, 2001 and revised on March 28, 2008)

### **Basic Policy**

AGC Group has designated environmental activities as one of the Shared Values in the Group Vision, "Look Beyond," with an awareness of large amount of resources and energy consumption. We shall contribute to the development of a sustainable society as a materials and components global enterprise, through effective use of the limited resources and energy, and consideration the influence of our activities on the natural environment including biological diversity.

### Slogan

Play your part as a responsible citizen in creating a better environment.

### **Guidelines for Environmental Activities**

AGC Group will implement environmental activities based on the following Guidelines throughout our business activities.

- ① We will make continuous improvements based on the Integrated Environmental Management System.
- (2) We will comply with all regulations and standards prescribed by environmental laws, ordinances, treaties, and agreements.
- ③ We will take steps to reduce environmental impact and to prevent pollution.

We will set voluntary targets as regards resource conservation, global-warming countermeasures, waste reduction and recycling, and the proper control of chemicals. We will work to accomplish these goals while making further improvements.

- ④ We will develop and provide eco-conscious products, technologies, services, and facilities for society in all areas of our activities.
- (5) We will actively communicate with society to foster an appropriate understanding of all aspects of our environmental activities.

The AGC Group Environmental Policy is disclosed to the public.

### AGC Group's ISO 14001 Certification (As of the end of December 2007)

Location	No. of production sites	No. of production sites (Numbers in parentheses indicate sites incorporated into the Integrated EMS)
Asahi Glass	11	10 (10)
Japan	61	44 (40)
Asia	29	24 (18)
Europe	54	34 (11)
North America	22	7 (7)
Total	177	119 (86)

### \*Criteria for self-evaluation of results in fiscal 2007

- A: Satisfactory level, in which the intended target has been achieved B: Almost satisfactory level, in which a part of the intended target has not vet been achieved
- C: Unsatisfactory level, in which the intended target has not been achieved

### Targets for fiscal 2007

- Expansion of the Integrated Environmental Management System (Integrated EMS)
- 2 Reduction in environmental impact and prevention of pollution
- 3 Global promotion of positive environmental activities

#### **Results in fiscal 2007**



#### Targets for fiscal 2008

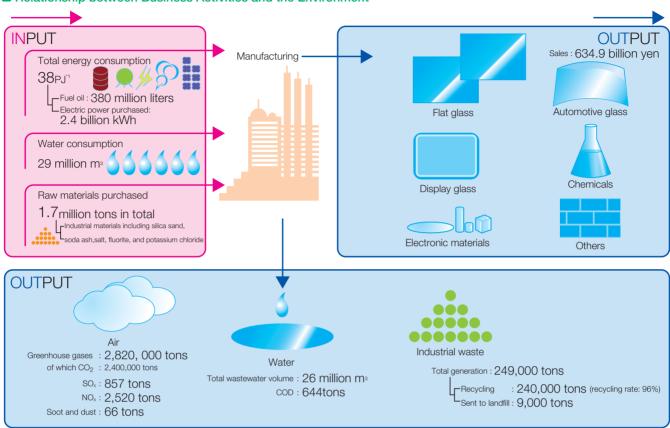
- Promotion of global environmental management
- Establishment of an environmental management system in consideration of product lifecycles
- Establishment of a comprehensive chemical substance management system
- Appropriate measures for greenhouse gases
- Improvement of environmental communication
- Enhancement of environmental education programmes

Approach Reduc

Reducing Environmental Impacts through Concerted Efforts of the Group

### Integrated EMS

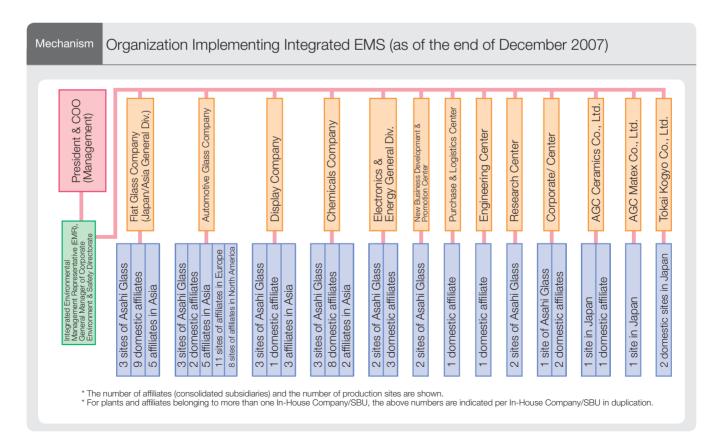
The AGC Group is conducting its business focusing on glass, electronics and displays, chemicals, and other fields, and each of its business operations differs in its environmental impact. In the past, each In-House Company/SBU independently implemented efficient measures to reduce its environmental impact, but since 2003, the Group has been establishing an Integrated Environmental Management System (Integrated EMS) to enhance the synergistic effect within the Group. All the domestic Group companies are already incorporated into the Integrated EMS, and since 2007, we have been pressing forward with the establishment on a global scale. The Automotive Glass Company, ahead of the other In-House Companies/SBUs, incorporated its overseas manufacturing sites into the system in 2006. The Flat Glass, Display, and Chemicals Companies are now steadily incorporating the overseas Group companies in Southeast Asia.



### Relationship between Business Activities and the Environment

Scope of data: Asahi Glass (unconsolidated) Totals do not always match the sum of the individual figures because of rounding.

See pages 37 and after for details of environmental performance data. \*1. PJ (peta joule) =  $10^{15}$  J (joule)



### **Environmental Activities**

### AGC Environmental Indicator

The AGC Group has introduced the AGC Environmental Indicator to estimate objectively the absolute quantities of the environmental impact from its manufacturing activities and make improvements to activities that exert more environmental impact on a priority basis. We calculate the Indicator by comparing the total economic effect (GDP) and the total emissions of substances of concern (SOC) of Japan as a whole, with the Group's economic effect (sales) and emissions of SOC from its manufacturing activities.

Since fiscal 2006, Asahi Glass and several other domestic Group companies have been conducting their activities based on this Indicator. In the future, we will examine the introduction of a global environmental indicator for the entire Group and set a numerical target for the indicator.

### Results in fiscal 2007 and future measures

In recognition of the fact that Asahi Glass is engaged in a smokestack industry characterized by high energy consumption, we are presently committed to limiting the AGC Environmental Indicator to twice the level of the economic indicator for all SOC.

In fiscal 2007, we improved the Indicator for energy, greenhouse gases including CO<sub>2</sub>, soot and dust, and COD, but were not able to achieve the target for NOx emissions, for which we will formulate and implement a long-term reduction plan.

Aiming to reduce CO<sub>2</sub> emissions, which contribute considerably to global warming, Asahi Glass has been continuously implementing measures to promote fuel conversion in glass manufacturing, which requires a lot of energy, and to further develop innovative manufacturing technologies (see page 17). In fiscal 2007, the Environmental Indicator was 1.5 times the economic indicator, and we aim to actively reduce our CO2 emissions to even lower levels.

### Topic

### Granted an Incentive Award for the AGC Environmental Indicator at the Eco-Efficiency Awards

Asahi Glass received an incentive award for the creation of the AGC Environmental Indicator at the Eco-Efficiency Awards 2007, which was held by the Japan Forum on Eco-Efficiency (secretariat: Japan Environmental Management Association for Industry), receiving support from the Ministry of Economy, Trade and Industry.

The Eco-Efficiency Awards are held to commend the activities and products of companies that are committed to reducing their environmental impact and improving their socio-economic activities based on the concept of environmental efficiency.

Asahi Glass was commended for (a) its creation of a unique environmental efficiency indicator and establishment of numerical targets for the indicator; and (b) the innovativeness of the indicator, which allows comparison of environmental efficiency on a national scale. It was, however, also pointed out that more specific grounds should be given for the appropriateness of the numerical figures. Encouraged by the award, we aim to accelerate

environmental efficiency in specific areas on a global scale.



Mr. Rvoichi Yamamoto, Professor at the University of Tokyo and Chairman of the Japan Forum on Eco-Efficiency (center)

AGC	Environmental impact ratio Economic size = -	Emissions of SOC by Asal (or by a domestic consolidated Total emissions of SOC in	subsidiary)
Environmental = Indicator		Sales of Asahi Glas (or of a domestic consolidated	
		Japan's GDP	

Targeted value for the AGC Environmental Indicator

How to Calculate the AGC Environmental Indicator

AGC Environmental Indicator  $\leq 2$ 

### AGC Environmental Indicator (Year-on-Year Comparison)

	Scope of data: Asahi Glass (unconsolidate				
	Fiscal 2	007	Fiscal 2006		
	Economic size/ environmental impact	AGC Environmental Indicator			
Sales	634.9 billion yen	1.0	1.0		
Total energy consumption	38 PJ	2.0	2.0		
Greenhouse gas emissions	2,820,000 tons	1.7	1.8		
of which CO <sub>2</sub> emissions	2,400,000 tons	1.5	1.6		
SOx emissions	857 tons	1.2	1.0		
NOx emissions	2,520 tons	2.4	2.2		
Soot and dust emissions	66 tons	0.9	1.2		
Sent to landfill	9,000 tons	0.3	0.3		
COD	644 tons	0.3	0.4		

Source

Topic

System of National Accounts (SNA), Website of the Cabinet Office of Japan; White Paper on Energy, Agency for Natural Resources and Energy; Environmental Statistics, Ministry of the Environment

### Adopting "Forest Thinning Support Paper" of Morino Chonai-Kai

Some 70% of Japan's land area is covered by forest, of which 40% comprise artificial forests. Many of the artificial forests, which were created in the rapid postwar afforestation, are left untended due to the lack of funds for thinning, and vital forest functions, including CO2 absorption through photosynthesis, watershed protection, prevention of sediment runoff, and protection of wild birds and animals, are deteriorating. Office Chonai-Kai, an environmental NPO, is implementing the Morino Chonai-Kai (Forest Neighborhood Association) project and asking companies to support thinning activities conducted under this project. Companies supporting the activities use paper made from thinned wood, thereby indirectly contributing to sustaining healthy forests. The AGC Group has decided to proactively use the "Forest Thinning Support Paper" of the Morino Chonai-Kai based on the Group's basic environmental policy of giving consideration to the influence of its activities on the natural environment, including biodiversity. We have already adopted this paper for external communication media, including this CSR report, corporate brochures, and annual financial reports as well as for our in-house communication media such as the Group's in-house magazine and training guidebook.



Website of the Morino Chonai-Kai: http://www.mori-cho.org/index\_en.html

Training guidebook and the Group's in-house magazine for which the "Forest Thinning Support Paper is used



### Reduction in Greenhouse Gas Emissions

In fiscal 2007, CO<sub>2</sub> emissions from energy use by Asahi Glass decreased by 30% as compared to the baseline year (1990) for the Kyoto Protocol. This was achieved mainly by the domestic restructuring of business, the introduction of glass melting furnaces using the total oxygen combustion<sup>\*1</sup> system, and the introduction of energy-saving technologies. In the future, we will promote fuel conversion to fuels that are more environmentally friendly than heavy oil and accelerate technological innovation. At present, we are converting the fuel for gas turbines at the Asahi Glass Chiba Plant from heavy oil to natural gas. Also, for glass melting furnaces, we are comprehensively developing new technologies to promote fuel conversion without compromising product quality.

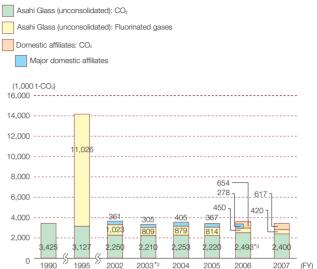
In terms of the five greenhouse gases other than CO<sub>2</sub>, we, as a manufacturer of fluorinated gases, are producing HFC, PFC, and SF<sub>6</sub>. These gases have very high global warming coefficients, and we have been aggressively reducing the emissions of these gases as part of our efforts to fulfill our social responsibilities. In fiscal 2007, we reduced their emissions by 96% as compared to the baseline year (1995). The amount reduced is equivalent to approximately 31% of the total reduction of the three gases achieved in Japan.

We are also striving to reduce greenhouse gas emissions at our sales and other offices. For example, the head office of Asahi Glass achieved a reduction of approximately 9% in CO<sub>2</sub> emissions in fiscal 2007 compared with the previous fiscal year by promoting casual office dress throughout the year and setting the thermostats of air conditioners at more environmentally friendly levels.

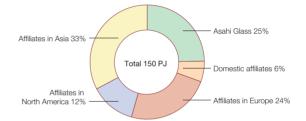
Furthermore, the AGC Group is manufacturing and selling Ecoglass, a double-glazed glass which is useful for energy saving throughout its lifecycle (see page 19). We believe this substantially contributes to the reduction of CO<sub>2</sub> emissions from households, which greatly increased (by 36%) in 2006 as compared to 1990.

- \*1. Fuels such as heavy oil are usually combusted in air, but if they are combusted using only oxygen, the energy required to heat nitrogen—which accounts for 80% of air—will become unnecessary.
   \*2. In 2003, we changed our fiscal year period, which resulted in there being only nine
- "2. In 2003, we changed our tiscal year period, which resulted in there being only nine months in our fiscal 2003. For the fiscal year, data for the nine months are multiplied by a fraction of 12/9 to achieve an annualized figure.
- \*3. In fiscal 2006, we changed the CO<sub>2</sub> conversion factor for electricity from those indicated by individual electric power companies to the statutory factor (0.555 tons-CO<sub>2</sub>/kWh), and this has led to a nominal increase of 10% in CO<sub>2</sub> emissions.

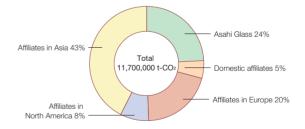
# Emissions of Greenhouse Gases (including $\mbox{CO}_2$ and Fluorinated Gases)







### The AGC Group's Greenhouse Gas Emissions in Fiscal 2007



### Prevention of Soil and Groundwater Contamination

Asahi Glass conducts surveys on soil and groundwater contamination at its plants and other premises. If contamination is detected through these surveys, we will notify the fact to the relevant administrative agency and publicly announce it as well. In such a case, we will prevent the spread of any pollutants, remove said pollutants, and decontaminate the soil and groundwater, following the instructions of the administrative authorities.

At present, at the Chiba and Kashima Plants of Asahi Glass, we have been continuously implementing measures to prevent the spread of pollution by volatile organic compounds (VOC) and heavy metal and decontaminating the sites. We regularly report the progress to the relevant administration agency and also disclose the information on our website and through other media. As for the remedial work that had been conducted at the site of the former Funabashi Plant since 2005, it was successfully completed as planned in September 2007.

## **Environmental Activities**

### Waste Reduction Activities

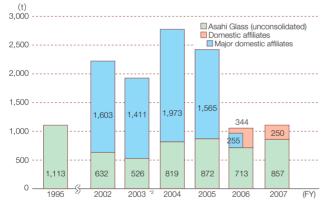
Asahi Glass started its waste reduction activities in 1996 and achieved its target of a 90% reduction from the fiscal 1995 level in fiscal 2001. For the recycling of sludge generated in the chemicals business, we achieved a recycling rate of 96% in fiscal 2007. To achieve zero emissions\*1 in fiscal 2008, we aim to further promote our activities. The head office and other offices of Asahi Glass as well as the production and sales bases of other domestic Group companies launched waste reduction activities in 2003, with three of our sites achieving zero emissions in fiscal 2007. We will expand the range of these activities to achieve zero emissions on a global scale across the Group.

\*1. We define zero emissions as recycling 99% of waste.

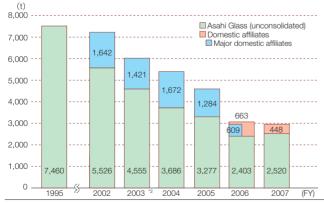
### Prevention of Air and Water Pollution

The AGC Group is conducting environmental improvement activities both in and outside Japan. In particular at our sites in Southeast Asia, we are actively installing emission gas treatment facilities (see page 40) and providing instruction on measurement and analysis technologies by capitalizing on our domestic

### SOx Emissions

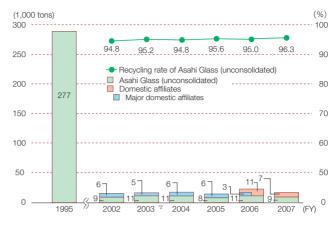


NOx Emissions



\*2. In 2003, we changed our fiscal year period, which resulted in there being only nine months in our fiscal 2003. For the fiscal year, data for the nine months are multiplied by a fraction of 12/9 to achieve an annualized figure.

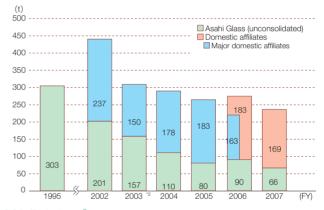
### Waste Sent to Landfills and the Recycling Rate



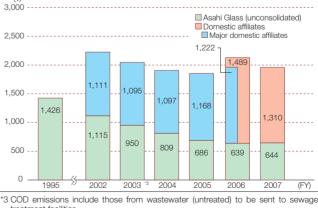
experience in pollution prevention.

Regarding environmental performance data, we started totaling the data of all domestic Group companies in fiscal 2006. For overseas Group companies, we made their data available for aggregate calculation in fiscal 2007.

### Soot and Dust Emissions







eatment faciliti

### Environmental Performance Data of Overseas Affiliates for Fiscal 2007

Waste sent to landfill (1,000 tons)	SOx emissions (tons)	INC Y AMISSIONS (TONS)	Soot and dust emissions (tons)	COD emissions (tons)	
55	16,900	28,800	2,110	653	

### Topic Pursuing Zero Emissions across the Group

### Achieving Zero Emissions at Two Automotive Glass Manufacturing Plants in North America

AGC Automotive Americas (AAUS) manufactures a variety of automotive glass, with bases in Ohio, Kentucky, Alabama, Mississippi, Canada, and Mexico. AGC Automotive Glass Company established an Integrated EMS in 2006 and accordingly, AAUS has been conducting activities to improve its environmental performance to achieve its global objectives and goals. Especially regarding waste reduction, all the plants of AAUS are promoting recycling, including recycling used oil into fuels for other industries such as the asphalt industry, glass sludge into construction materials, and scrap wood into fuels.

The two plants that produce automotive glass in Ohio and Kentucky have been achieving zero emissions since 2006, and other plants are also continuously implementing improvement measures toward zero emissions.



Members in charge of the environment at AAUS

**Recycling rates** 

	2004	2005	2006	2007
AAUS	97.6%	98.7%	99.1%	99.4%

### Efforts Made by Chemicals Affiliates to Meet the Great Challenge of Zero Emissions

For the AGC Group to achieve zero emissions, it is important to recycle sludge generated in our chemicals business field.

AGC Si-Tech Co., Ltd., which produces silica gel products for various purposes, such as use as a drying agent or for analytical instruments, joined the Integrated EMS in November 2006 and made a number of environmental improvements in fiscal 2007. For example, after consideration on how to recycle silica sludge, which comprised the largest volume of waste, the company is now effectively using the sludge as one of cement materials. As a result, the company achieved a 98% recycling rate for industrial waste, and is determined to make still further efforts toward zero emissions.

The Chiba Plant of AGC Engineering Co., Ltd. introduced an environmental management system in 2002 and is now joining the Integrated EMS. Two kaizen (improvement) teams from the plant began to conduct activities geared toward zero emissions. These activities include the maintenance of waste disposal places within the plant and office, meticulous sorting of waste, and further reuse of office supplies. The teams are also helping the plant reduce its environmental impact through the improvement of green space and environment beautification, and environmental enlightenment programmes for employees, including those of business partners who work regularly at the plant.

#### **Recycling rates**

	2002	2003	2004	2005	2006	2007
AGC Si-Tech	12.9%	77.1%	86.0%	80.5%	92.2%	98.3%
AGC Engineering (Chiba Plant)	63.5%	84.5%	85.8%	89.5%	90.9%	90.5%

### Topic

### Preventing Air Pollution by Installing Desulfurization Equipment to Glass Melting Furnaces

The AGC Group is conducting activities to reduce the environmental impact of gas emitted from its flat glass manufacturing plants.

We are implementing measures to reduce SOx emissions from glass melting furnaces operated at the Group's plants in the Asian region. Specifically, we finished installing exhaust gas desulfurizer by the end of fiscal 2007 in all the furnaces combusting heavy oil containing sulfur, thereby cleaning exhaust gas from the furnaces.

Furthermore, regarding technologies for analyzing and measuring air pollutants contained in exhaust gas from the plants, we are introducing necessary equipment and providing relevant education to the staff.

We are carefully preventing air pollution through these measures and continuously reducing our environmental impact by managing the emission targets.



Emitting gas after removing sulfur from it by desulfurization equipment (at AGC Flat Glass (Dalian))

# **Environmental Activities**

### Proper Management of Chemical Substances

In 1997, Asahi Glass participated in a pilot project implemented by the Japan Chemical Industry Association, and has since been strengthening its system to manage the emissions of chemical substances. As for the emissions of dichloromethane and other priority chemical substances, we achieved an 80% reduction for the fiscal 1995 level.

In 2006, the Japanese government started to regulate suspended particulate matters (SPM) and volatile organic compounds (VOC), which could cause photochemical oxidant, with the aim of reducing total emissions of these substances by 30% (of which 20% should be reduced through voluntary measures taken by companies) from the fiscal 2000 level by 2010. Asahi Glass and domestic Group companies launched a number of activities to reduce their emissions by 25% by 2010, a numerical target higher than the voluntary target set by the government. As a result, we made an achievement far beyond the target for fiscal 2006.

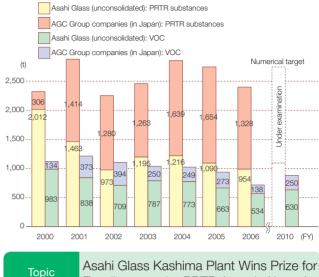
#### Signing the Responsible Care Topic **Global** Charter

AGC Chemicals Company signed the Responsible Care Global Charter of the International Council of Chemical Associations (ICCA), concurring with the purpose of the Charter. This Charter comprises nine items, including the commitment to advancing sustainable development and the enhancement of the management of chemical substances worldwide. It is designed to help chemical companies contribute to developing a sustainable society. Of the top 150 chemical companies in the world, 110 belong to the ICCA and 67 (including eight Japanese companies) signed the Charter by the end of January 2008.

#### Elements of the Global Charter

- 1. Adopt global responsible care core principles
- 2. Implement fundamental features of national responsible care programmes
- 3. Commit to advancing sustainable development
- 4. Continuously improve and report performance
- 5. Enhance the management of chemical products worldwide product stewardship
- 6. Champion and facilitate the extension of responsible care along the chemical industry's value chain
- 7. Actively support national and local responsible care governance processes
- 8. Address stakeholder expectations about chemical industry activities and products
- 9. Provide appropriate resources to effectively implement responsible care

Emissions and Transfer of Substances Regulated by the PRTR Act. and VOC Emissions



Excellence at the PRTR Awards (Japan)

The PRTR Awards are held to commend companies and business establishments that are actively promoting the chemical substances management and related risk communications. In February 2007, the Kashima Plant received a prize for excellence at the PRTR Awards in recognition of the following practices. First, the Plant was managing chemical substances based on four management systems, namely, systems for quality, environment, occupational health and safety, and industrial safety and security. Second, it was steadily reducing the emissions of PRTR substances in line with the management plan for the substances. Third, the Plant appropriately communicated with local communities after announcing occurrences of soil pollution within its premises

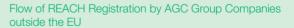
In addition, the Plant has been implementing a self-security system for the operation and management of its chemical substance manufacturing equipment. The system is government certified, thereby enabling the Plant to conduct its own security and completion tests as a certified high pressure-gas establishment.

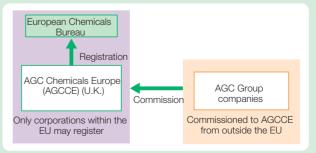


Award ceremony held in ebruary 2007

Steady Preparation for the EU's REACH (Regulation concerning the Registration, Evaluation, Authorization and Restriction of Chemicals)

REACH is a comprehensive regulation on both chemicals manufactured in the EU and those imported into the region, and existing chemical substances as well as new ones must be registered and evaluated under the regulation. The AGC Group, in anticipation of the start of their pre-registration in June 2008, has been promoting information sharing within the Group, in order to identify all the raw materials, related materials, and products that need to be registered. We have held seminars on REACH at the AGC Group's environmental forums, meetings to share progress on REACH-related issues among domestic staff, and briefings on the regulation at the global meetings. At the same time, we are collecting relevant information from suppliers, while also sharing information with customers.





Topic

### The AGC Group's Environmentally Friendly Products Contributing to a Reduction in Environmental Impact of Chemical Substances

### "Mirox 3G" Third-Generation Ecological Mirror: A world premiere in environmental contribution

AGC Flat Glass Europe's "Mirox 3G," a third-generation ecological mirror, is the first mirror to meet the EU's RoHS (Restriction of Hazardous Substances) directive, with a lead content of less than 0.1%. The total absence of formaldehyde and copper and a 70% reduction in solvent content compared to second-generation products makes this mirror the most ecological in the world. It also offers higher quality, with greater resistance to scratches, corrosion, humidity and chemical attack by cleaning products. The "Mirox 3G" received the Belgian Environment Prize in 2007, culminating 30 years of development and expertise in mirrors.

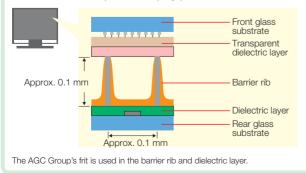


Award ceremony (left: Mr. Bruno Tobback, Belgian Federal Minister of Environment)

### Lead- and Bismuth-Free Frit: Reducing Environmental Impact and Cost

Frit is powdered glass which is melted to be used in sealing materials and coating materials. In order to lower its softening point, frit is made with lead\*<sup>1</sup> and bismuth. However, lead is subject to EU environmental regulations and bismuth is a rare and costly metal. In view of these drawbacks, the AGC Group has developed frit made with alkali, tin, and phosphoric acid. At present, approximately 30% of our frit is lead- and bismuth-free, and we will further improve the chemical durability of the frit, aiming to increase their percentage to 60% by 2009. In 2009, we will have a full range of lead- and bismuth-free frit (excluding those to be used as sealing material) for plasma display panels.

\*1. The melting point of glass can be lowered by adding lead, hence lead has been used in artistic glass since ancient times. Glass is a stable material and therefore the risk of lead contained in glass being released into the environment is extremely low. However, amid global trends toward safer products that are kinder to human health, lead content is being reduced or phased out, particularly in glass used in electrical products.

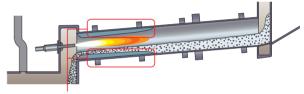


### Cross-section of a plasma display panel

### Chrome-Free Ceramics: To Reduce Environmental Impact on Soil and Water Quality

AGC Ceramics succeeded in developing chrome-free ceramics for cement kilns. At present, most of the ceramics that the company uses for the higher-temperature parts of its kilns are chrome-free. Conventional ceramics contain chromic oxide, which, if combined with calcium (Ca) contained in limestone (CaCO<sub>3</sub>) at high temperatures of around 1,450°C, produces hexavalent chrome, which is believed to be carcinogenic. This means that if conventional bricks are used to build cement kilns, hexavalent chrome will be contained–albeit in minute quantities–in the manufactured cement. Chrome-free ceramics are therefore useful in reducing environmental impact on soil and water. They are also excellent in durability and help prolong the lives of kilns.

### Structure of a cement rotary kiln



Chrome-free ceramics are used as lining material for the high-temperature parts.

### AsahiGuard E-SERIES: A New Generation of Fluorinated Water/Oil Repellents

"Asahi Guard" products provide the strong features of fluorinated water/ oil repellent finishing agents, and they have been recognized for high performance for more than 35 years in more than 30 countries around the world. The AsahiGuard E-SERIES products, which we developed using our latest technologies and released to the market in 2006, do not contain PFOA, longer length PFCAs or their precursors (at or above detection limits).\*<sup>2</sup> These repellent products can be applied to food packaging such as fried potatoes and can be used as well on a range of fabrics, including those used for outdoor sports. We will further improve the AsahiGuard E-SERIES to help people have better lives while improving the environmental performance of our products.

\*2. Perflurooctanoic Acid (PFOA) is used as a polymerization aid to make fluorinated resins and generally has been contained in fluorinated water/oil repellent agent final products in trace amounts as an unintended impurity. PFOA is relatively chemically-stable and tends to remain in nature in its original state. Therefore the persistence and widespread presence of PFOA in the environment have resulted in efforts by governmental regulators to seek reductions in, and where practical the elimination of, the use and presence of PFOA. For example, the U.S. Environmental Protection Agency (EPA) approached the world's eight leading manufacturers of fluorinated resins and fluorinated water/oil repellent agents to participate in a programme for further reducing emissions and product content of PFOA, longer chain length PFCAs and their precursors. The AGC Group accepted this challenge.



Fabric processed with AsahiGuard E-Series AG-E061

### **Environmental Activities**

### Environmentally Friendly Transportation

The revised Act Concerning the Rational Use of Energy was put into effect in April 2006, and shippers are increasingly required to reduce the environmental impact caused by their transportation of products. Asahi Glass handles bulky and heavy products, and in fiscal 2006 (April 2006 to March 2007), our transportation volume reached 850 million ton-kilos<sup>\*1</sup> per year (equivalent to 69,000 tons of CO<sub>2</sub> emissions per year). We set the target of reducing our per-unit emission of CO<sub>2</sub> by 1% every year for the period from fiscal 2007 to 2011 (a 5% reduction over the five year period) and proactively implemented measures to attain this target. As a result, emissions decreased by 3.6% (equivalent to 2,500 tons of CO<sub>2</sub> emissions per year) during the period from January to December 2007. (See (1) and (2) below for the specific measures.)

We will continue to improve our transportation efficiency by consolidating our production and transportation bases, promoting modal shift, upsizing transportation vehicles, expanding use of low-emission vehicles, making effective use of local ports, and arranging joint transportation with other companies, while making daily improvement efforts, such as avoiding idling and promoting "eco-driving."

\*1. When freight weighing one ton is carried over one kilometer, the transportation volume is represented as 1 ton-kilo.

### (1) Reducing CO<sub>2</sub> emissions through consolidation of production and transportation bases

Asahi Glass is reviewing its production and transportation systems to decrease its energy use (and CO<sub>2</sub> emissions) by reducing the transportation distance of its products. Specifically, we have moved our production bases nearer to our major customers and relocated our transportation bases. As a result, we have been able to reduce CO<sub>2</sub> emissions by approximately 500 tons a year.

# (2) Reducing CO<sub>2</sub> emissions through modal shift and upsizing of transportation vehicles

Asahi Glass has been improving its transportation efficiency by promoting modal shift to increase its ratio of low-emission transportation and by upsizing transportation vehicles to achieve higher efficiency in truck transportation.

As of December 2007, the modal shift rate was 40%. As for the upsizing of transportation vehicles, we have increased the minimum quantity of products to be delivered to customers, thereby increasing one-time transportation volumes to promote efficient transportation by larger vehicles. As a result, we were able to reduce CO<sub>2</sub> emissions by approximately 2,000 tons a year.

### Modal shift and its effect

Modal shift means shifting from road transportation by truck to railroad and ship transportation, which enables products to be transported in larger quantities with less environmental impact.

### Effect 1: Reduction in energy use (CO2 emissions)

It is generally said that CO<sub>2</sub> emissions from truck transportation are approximately eight and four times as large as those from railroad and ship transportation, respectively.

#### Effect 2: Mitigation of traffic jams and prevention of traffic accidents

Reducing transportation distances by truck will be effective in preventing traffic accidents.

"Reducing CO<sub>2</sub> emissions by the effective use of local ports" and "Reducing CO<sub>2</sub> emissions by joint transportation with other companies": http://www.agc.co.jp/english/csr/environment/teigen\_

http://www.agc.co.jp/english/csr/environment/teigen\_ onshitsu.html



"Green procurement" and "Cooperation with suppliers": http://www.agc.co.jp/english/csr/environment/positive\_act. html

### Topic

### Reducing CO<sub>2</sub> Emissions through Shift to Low-Emission Forklifts

Since 2005, Asahi Glass has been more actively replacing the forklifts used at its plants with low-emission models, with the aim of reducing the emissions of CO<sub>2</sub> and particulate matters (PM) from these vehicles. Specifically, we are replacing forklifts powered by light oil with more environmentally friendly ones powered by batteries and liquefied petroleum gas (LPG). For example, by battery-powered forklifts, we are able to reduce CO<sub>2</sub> emissions by approximately 80% compared with diesel-powered forklifts.

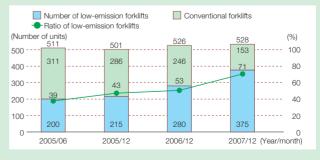


Low-emission forklift

Initially in 2005, low-emission models accounted for 39% of all forklifts, with this percentage rising to 71% (375 units) by the end of 2007. This is equivalent to reducing CO<sub>2</sub> emissions by 1,100 tons.<sup>\*2</sup> We will continue to expand the use of these low-emission forklifts to further increase their percentage.

\*2. If a diesel-powered forklift is operated for 100 hours a month, it will emit approximately 670 kg of CO₂ per month.

### Increase in the Number of Low-Emission Forklifts



### Environmental Accounting

In order to accurately determine the management resources spent in reducing environmental impacts and the resultant effects, Asahi Glass calculates its environmental accounting data based on the AGC Environmental Accounting Calculation Manual created in line with the Environmental Accounting Guidelines 2005 (Ministry of the Environment).

In fiscal 2007, we invested significantly more in environmental protection than in the previous fiscal year. Specifically, we converted fuels used in the gas turbines at the Asahi Glass Chiba Plant to natural gas, and introduced energy-saving manufacturing equipment to reduce emissions of greenhouse gases. In terms of pollution prevention, we additionally installed an exhaust gas

incinerator to reduce the emissions of PRTR substances into the air

Regarding environmental costs, our resource circulation cost decreased from levels prior to and during fiscal 2005, as a result of zero emission activities conducted since 2006 and an increase in effective use of recycled materials accompanying soaring material costs. Accordingly, as an economic benefit of these environmental conservation measures, income from our recycled materials business has increased. The environmental remediation cost includes the cost of decontaminating the soil and groundwater of the former Funabashi Plant, which was completed in fiscal 2007.

Scope of data: Asahi Glass (unconsolidated)

Targeted period: January 1 to December 31, 2007

Breakdown of Environmental

Environmental Conservation Cost		(N	lillions of yen)
		Investment	Cost
(1) Busines	s area	4,532	6,556
	(1)-1 Pollution prevention	1,220	4,515
Breakdown	(1)-2 Global environmental conservation	3,160	1,152
	(1)-3 Resource circulation	152	889
(2) Upstrea	m/downstream	0	731
(3) Adminis	tration	0	471
(4) R&D	(4) R&D		5,231
(5) Social activity		25	114
(6) Environr	(6) Environmental remediation		3,270
Total		6,611	16,373

\* The breakdown figures do not add up to the total because of rounding off.

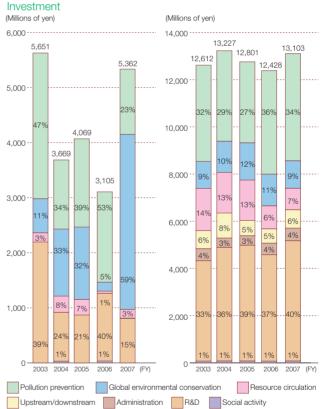
**Environmental Conservation Benefit** 

#### Change in Simple Y-to-Y Sales-corrected environmental change\*4 change impact\* Total energy 0 PJ0% 0% consumption CO<sup>2</sup> emissions 93,000 t-CO2 -4% -4% Waste sent to 15,000 t -14%-14%landfill COD emissions 5 t 1% 1% SOx emissions 144 t 20% 20% NOx emissions 117 t 5% 5% Soot and dust -24 t -27% -27% emissions Benefits (Actual benefits Recycling of product shipment corresponding listed in table packaging materials to upstream/ on right) downstream Cullet collection 236,000t cost Other environmental Benefits associated with transportation and other conservation operations (not measured by Asahi Glass) benefits

Change in environmental impact and simple Y-to-Y change: A positive figure indicates an increase and a negative figure indicates a decrease in environmental impact from the previous fiscal year's level. \*3 Change in environmental impact = (Fiscal 2007 output volume) – (Fiscal 2006 output

volume) \*4 Sales-corrected change = Fiscal 2007 output volume / (Fiscal 2006 output volume x Y-to-Y sales ratio) - 1

Asahi Glass (unconsolidated) Y-to-Y sales ratio = (Fiscal 2007 sales) / (Fiscal 2006 sales) = 6.349/6.371 = 0.9966



Because of the method of allocating cost and investment for environmental remediation costs differs depending on the year of calculation, environmental remediation costs are excluded from the above summation. The accounting period in fiscal 2003 is nine months, from April to December, so absolute

values of either investment or cost are multiplied by 12/9 tim

#### Economic Benefit Associated with (Millions of yen) **Environmental Conservation (Actual Benefit)**

	Benefit		Value (FY2006)
Revenue	Revenues from the recycling of waste generated by main business activities and the recycling of used products	479	378
	Effects of energy saving	1,053	850
Expense saving	Lower waste treatment costs due to resource saving and recycling		235

Breakdown of Environmental Cost

# **Occupational Health & Safety**

# Workplace Safety: A Precondition for Sustainable Growth in Manufacturing



Based on management's strong commitment to workplace safety as a precondition for sustainable growth in manufacturing, the AGC Group is implementing a range of measures to ensure employees' safety and health.

AGC Group Basic Occupational Health & Safety (OH&S) Policy (Extract)

- ① Top-down communication of OH&S policies to employees
- ② Detailed management of OH&S related issues on all production lines
- ③ Voluntary participation in OH&S activities by all employees

### Targets for fiscal 2007

- To combine traditional safety activities<sup>\*2</sup> with the OH&S management ment system to improve the effectiveness of safety management activities
- 2 To collect good examples of safety activities conducted within the Group and introduce and implement them across the Group
- 3 To foster safety measures for equipment in compliance with international safety standards

### **Results in fiscal 2007**

	Self-evaluation (See page 35.)
The effectiveness of traditional safety activities* <sup>2</sup> was improved by conducting training, including pa- trol training.	А
2 Good examples were globally shared through meet- ings, in-house seminars, and the in-house maga- zine.	А
Group companies in Japan and other Asian coun- tries checked if their facilities were equipped with safety plugs, emergency stop switches, and safety shelves/covers, and implemented measures to make up for deficiencies.	B*1
** • • • • • • • • • • • • • • • • • •	<b>C</b> 1

\*1. Reason for "B" evaluation: Regarding the safety of machines, some safety measures such as the revision of in-house standards have been delayed.

### Targets for fiscal 2008

- Compliance with OHSAS 18001: 2007 version and improvement of the effectiveness of the OHSMS
- Activation of traditional safety activities<sup>\*2</sup>
- Promotion of safety measures for equipment in compliance with international safety standards

### Topic

## Holding a Global Health & Safety Symposium in Indonesia

The AGC Group held its Global Health & Safety Symposium at Asahimas Flat Glass in Indonesia for two days in September 2007. In this symposium, 42 health and safety representatives participated from 10 Group companies in six countries, including AGC Flat Glass Europe and AGC Automotive America, as well as Japanese and Asian Group companies. Participants shared good examples of safety activities and toured the plant of Asahimas Flat Glass.

This symposium has been held every year since 2005, attended by representatives from Group companies in Asia.

The 2005 symposium held in China received representatives from five companies in China and two companies in Taiwan, while 13 companies from four countries, including Japan and countries neighboring Thailand, participated in the 2006 symposium in Thailand. The 2007 symposium attracted Group companies from Europe and the United States, turning it into a truly global event. The 2008 symposium will be held in Japan, and participants will have the opportunity to discuss thoroughly global issues.

Web

text)



Participants in the Health & Safety Symposium

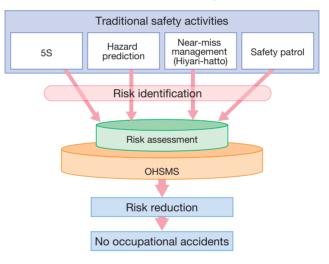
Approach Ensuring Safety and Health of Employees

### Global Safety Management Activities

We must give first priority to workers' safety by all means, but we must also be aware of the fact that machines and equipment can break down and people can make mistakes. It is therefore important to identify and reduce risk (i.e., unsafe) factors to prevent potential risks from leading to any mishaps or occupational accidents.

The AGC Group is organizationally promoting safety management based on its Occupational Health & Safety Management System (OHSMS). In particular, to increase the effectiveness of our traditional safety activities<sup>\*2</sup> by combining them with the OHSMS, we hold seminars to teach employees how to point out potential risks in safety patrol, so that other employees can identify and reduce their workplace risks according to the comments given to them during safety patrol.

### The AGC Group's Concept of Safety Management



AGC Group Basic Occupational Health & Safety Policy (full

http://www.agc.co.jp/english/csr/employee/anzen.html

### Safety measures implemented in each region in 2007 Plants of Asahi Glass

- Identified and reduced potential risks by focusing on traditional safety activities<sup>\*2</sup>
- Increased the effectiveness of safety management activities by improving the near-miss management (hiyari-hatto\*<sup>3</sup>) system and increasing the number of proposals made under the system as well as introducing safety simulation facilities to more sites

### **Domestic Group companies**

 Expanded the range of the OHSMS and risk assessment<sup>\*4</sup> continuously from fiscal 2006

### AGC Group (Japan/Asia, Europe, North America)

- Introduced and expanded the range of the OHSMS and risk assessment  $^{\ast 4}$
- Collected good examples of safety activities and shared them through meetings, in-house training, and the in-house magazine to improve the level of safety activities on a global scale
- Proposed and introduced Japan-originated traditional safety activities<sup>\*2</sup> to improve the safety standard
- Collected and shared occupational accident information and implemented preventive measures across the Group

### Occupational Accidents in Fiscal 2007

In fiscal 2007, the AGC Group (companies in Japan and other Asian countries) had 134 accidents<sup>\*5</sup>, down 21 (14%) from the previous fiscal year. In particular, accidents requiring leave decreased by 41%, and accidents not requiring leave by 17%. The percentage of occupational accidents involving entanglement or getting caught in machinery decreased from 32% in 2006 to 22% in 2007, demonstrating the effectiveness of equipment safety measures implemented based on risk assessment<sup>\*4</sup> over several years. In the future, we will build a risk assessment<sup>\*4</sup> system for the design of equipment, in order to ensure the safety of equipment even before it is installed. We will correct the "unsafe behaviors" of workers, which may constitute the direct causes of accidents, give insight into the background to the unsafe behaviors, and implement fundamental countermeasures, including the promotion of inherent safety by design in equipment.

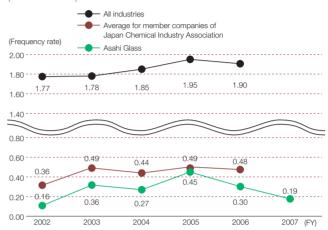
- \*2. Traditional safety activities: promotion of the 5Ss (seiri [neatness], seiton [orderliness], seiketsu [cleanliness], seisou [cleanness], and shitsuke [discipline]), hazard prediction, near-miss management (hivari-hatto), and safety natrol
- near-miss management (hiyari-hatto), and safety patrol
  "3. Hiyari-hatto: Activities to collect examples of near-misses that could lead to serious accidents and reduce the risk of near-misses as a means of preventing occupational accidents
- \*4. Risk assessment: Activities to comprehensively identify risks associated with equipment and work processes, evaluate the risk levels, and implement safety measures, giving priority to serious risks.
  \*5. The numbers of accidents of minor injury and more serious accidents were totaled
- '5. The numbers of accidents of minor injury and more serious accidents were totaled for Asahi Glass (unconsolidated) and some other domestic Group companies, and the numbers of accidents not requiring leave and more serious accidents were totaled for other Group companies in and outside Japan.

### Number of Occupational Accidents in Fiscal 2007<sup>\*5</sup> (Including cooperating companies) [Japan and other Asian countries]

	Asahi Glass	Other domestic Group companies Group companies in Asia		Total
Fatalities	0 (0)	0 (0)	2 (2)	2
Accidents requiring leave	5 (10)	9 (18)	26 (40)	40
Accidents not requiring leave	6 (13)	10 (14)	22 (19)	38
Accidents of minor injury	44 (29)	10 (10)	Not measured	54
Total	55 (52)	29 (42)	50 (61)	134

Figures in parentheses: No. of occupational accidents in fiscal 2006

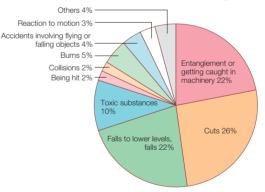
# Changes in the Frequency Rate for Accidents Requiring Leave\*<sup>6</sup> (Asahi Glass\*<sup>7</sup>)



\*6. Number of workers involved in accidents requiring leave per 1 million actual working

hours \*7. Asahi Glass data include employees at all operating sites (including cooperating companies)

### Types of Occupational Accidents in Fiscal 2007 (AGC Group [Japan and other Asian countries])



# Topic Factories with Excellent Safety Management Receive High Internal and External Evaluations (Thailand)

All employees at AGC Flat Glass (Thailand), which supplies flat glass to Asia, are engaged in ongoing safety activities aimed at preventing occupational accidents. In particular, the company's factories are focusing on the reduction of equipment-related risks (unsafe elements). The company's factories in Chonburi and Rayong achieved zero accidents, including both accidents requiring leave and those not requiring leave in fiscal 2006 and were internally commended as factories that excelled in safety achievements within the AGC Group in fiscal 2007 (see page 50.) In addition, the Rayong factory was named the Best Safety Factory (in the eastern district) by the Thai government in 2006 for its outstanding safety results for the previous two years, which included no violations of local occupational safety and health laws and no serious occupational injuries. In 2007, the Chonburi factory received the same commendation.



# Occupational Health & Safety

### Cooperation with Suppliers

The AGC Group conducts its business in cooperation with a lot of suppliers. We cannot ensure occupational health and safety without their cooperation. In fiscal 2007, we held safety training sessions, lectures on safety by external speakers, and tours to the plants of other companies with excellent safety records in cooperation with the suppliers. We will further collaborate with our suppliers with a view to our mutual sustainable development.

### Health Management Policy

In March 2007, the AGC Group set its Health Management Policy, thinking it necessary to clearly show the Group's idea of health management to employees. We have been implementing measures to manage the health of employees based on this policy, which provides for health consciousness, corporate support for employee health, and self-discipline by employees.

### Measures for fiscal 2007 onwards

- O Mental health care measures (See the "Mental Health Care" section.  $\checkmark$  )
- ② Health maintenance measures
- In April 2008, we began to provide special healthcare instructions (against metabolic syndrome) to employees to help them prevent lifestyle diseases, and introduced a cancer screening support system to encourage employees to undergo a medical checkup for the early detection of cancer, which is the leading cause of death in Japan.
- ③ Measures to prevent health damage due to excessive work We reviewed the methods industrial doctors used to advise employees, and the scope of the target employees.



Health Management Policy

http://www.agc.co.jp/english/csr/employee/anzen.html

### Topic

# Prompt Safety Improvements Made Top Management Priority (United States)

AGC Flat Glass North America (AFNA) has made safety one of their top priorities and has energized their employees and safety process leading to some significant improvements. Placing safety as a high priority serves as a platform for future improvements in operational performance and shareholder value.

AFNA's objective was to substantially reduce occupational accidents at all of their plants. To be successful, AFNA needed to establish a strong safety culture by raising safety awareness with the plant managers and all 2500 employees, and the AFNA safety team rolled out a "Safety Tornado"

### Main Activities of the Safety Tornado Campaign

- Communicating relevant safety alerts to all locations within 24 hours of an occupational accident
- Reporting accidents requiring leave to the AFNA CEO within 24 hours
- A member of the leadership team visits any site that experiences an accident requiring leave within 48 hours to investigate the cause and communicate necessary measures to sites with similar risks
- Conducting intensive safety Kaizen blitz improvement activities at the five highest risk locations
- Implementing "Lock out/Tag out"
- Providing leaders, managers and those in charge of operating equipment, the tools, resources, training and risk abatement programmes (AFNA's Critical 5 Programme) to prevent accidents
- $^{\ast}$  A programme designed to ensure that no employees are injured when maintenance or third parties are working on them

campaign at its 46 plants.

Mental Health Care

In recent years, the number of workers suffering from mental

health problems has been increasing, and this is becoming a

social concern. Accordingly, Asahi Glass has started to enhance

Under the programme launched in June 2007, employees and their family members can consult external experts (counselors)

Training for managers, who should play a vital role in the mental

healthcare of employees, has been provided through e-learning

For employees to understand their mental health situation and manage their health in a proactive manner, mental checkup sheets will be distributed to all employees within 2008.

since 2008, through which the managers will obtain and reexam-

its mental health care measures for employees.

2 Provision of training (e-learning) for managers

ine necessary knowledge and information.

① Introduction of an employee assistance programme

Measures in fiscal 2007 onwards

about their mental problems.

③ Mental checkups

As a result of these intense initiatives and the active participation of all 2500 AFNA employees, AFNA has reduced their 2007 accidents requiring leave by 86% from the previous year and finished the 4th quarter with zero serious accidents! AFNA will continue to promote its Safety Tornado campaign and accelerate the implementation of these important processes. For 2008, they hope to significantly increase the level of safe behaviors and risks abated in their factories.



AFNA safety leadership team members

# **Industrial Safety & Security**

# Protection of Society and the AGC Group against Contingencies

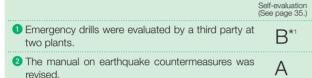
Concept

The AGC Group has been implementing measures to minimize the damage caused by accidents. Specifically, we are trying to prevent contingencies (accidents and natural disasters) and to promptly and appropriately take action in the event of their actual occurrence.

### Targets for fiscal 2007

- 1 To increase the effectiveness of emergency drills through their evaluation by a third party
- 2 To revise the manuals on earthquake countermeasures
- 3 To make examinations to formulate a business continuity plan (BCP)

### **Besults in fiscal 2007**



- 3 A plan was made to formulate a BCP.
- **R**\*2 \*1. Reason for "B" evaluation: Emergency drills have not yet been evaluated by a third party at all Asahi Glass plants
- \*2. Reason for "B" evaluation: Although a general plan was made, a detailed plan has vet to be formulated.

### Targets for fiscal 2008

- To identify and figure out risks through audits, etc.
- To incorporate the concept of business continuity in earthquake countermeasures
- To continue to have a third party evaluate the emergency drills to further increase their effectiveness

AGC Group Basic Industrial Safety & Security Policy (full text) http://www.agc.co.jp/english/csr/environment/hoan\_bousai. html

Strengthening Preventive and Respon-Approach sive Measures

### Fire Prevention

Web

The AGC Group has been conducting environment, safety and security audits to continuously improve the relevant activities of Group companies both within and outside Japan. In particular, we conducted a questionnaire survey on overseas Group companies to analyze the strong and weak points of their industrial safety and security measures. We give feedback on the analysis results to each In-House Company/SBU, in order to further strengthen our preventive and responsive measures.

In fiscal 2007, we had eight small fires and notified them to the local fire stations, since Asahi Glass makes it a rule to notify the local public fire station of any fires, including even small fires that can be extinguished with one single fire extinguisher. The fires were promptly extinguished and caused no serious damage. We, however would like to apologize to all those concerned for any inconvenience caused by the fires. To prevent reoccurrence of fires, we analyzed the fires that had taken place during the past four years and shared some important tips on fire prevention.

### Important tips on fire prevention at the AGC Group

Main origin of fire	High-temperature equipment or sparks from welding	
Main cause of fire	Insufficient hazard prediction, defects in equipmen insufficient cleaning	
Specific measures	<ul> <li>To implement safety patrol for fire prevention</li> <li>To conduct hazard prediction activities before starting work (especially for welding)</li> <li>To check the location of fire extinguishers before starting work that might cause fire</li> <li>To check for embers after finishing work that might cause fire</li> </ul>	

### Earthquake Countermeasures

Asahi Glass formulated a manual on earthquake countermeasures in 1995. The manual outlines responses to be made in the event of a large earthquake and preparations to be made in normal times. In December 2007, we revised the manual by adding explanations about the emergency messaging service and making the manual consistent with the inhouse rules.



Manual on earthquake countermeasures

### Disaster Prevention Measures

The plants of the AGC Group regularly implement emergency drills. In fiscal 2007, the plants had their comprehensive emergency drills evaluated by a third party and made mutual visits to observe how relevant drills were being conducted, thereby strengthening and improving their disaster prevention measures, including the creation of disaster scenarios.

#### Strengthening Risk Management through Topic Third-party Evaluation of Emergency Drills (Japan)

The plants and the Research Center of Asahi Glass conduct emergency drills every year. In fiscal 2007, the Kansai and Kashima Plants had their emergency drills evaluated by a third-party consulting company to enhance their effectiveness. The consulting company evaluated the preparations against disasters in normal times, their plans for emergency drills, and employees' behavior on the very day of the drills, and identified issues needing to be tackled. Specifically, employees were evaluated as acting promptly, and reporting and communicating loudly and clearly, but it was also revealed that some improvements had to be made regarding the use of fire extinguishers and fire hydrants.

In the future, further improvement measures will be implemented and third-party evaluations will be made at other plants to strengthen their risk management measures



Comprehensive emergency drill (at Asahi Glass Kashima Plant)

# Employee Satisfaction (ES): Employee Job Satisfaction and Pride in Accomplishment

# Driving Force to Maximize Corporate Value



The AGC Group relies on the capabilities of its employees as a basis for increasing its corporate value, and is dedicated to improving its work environment to enable all the employees to work with satisfaction and pride in their daily operations, and share mutual respect based on the value of diversity.

### Targets for fiscal 2007

- To conduct the second ES<sup>\*1</sup> survey to clearly understand the present ES level
- 2 To hold the first AGC Group award ceremony to appreciate excellent activities and achievements across the Group
- O To further improve globally-based management talent development programmes
- O To examine a variety of employment measures in consideration of business and social needs (at Asahi Glass)
- 5 To improve human resources development measures implemented by domestic Group companies

### **Results in fiscal 2007**

- 1 Conducted the ES survey with an expanded scope
- 2 A total of 130 cases awarded globally
- 8 Renewed the programmes of the AGC Institute and newly opened the AGC Management College in Japan
- Improved the system for continuously employing retirees and the system for supporting employees in balancing their work and childcare
- Introduced stratified employee training to domestic Group companies

### Targets for fiscal 2008

- To share the results of the second ES survey and implement ES improvement measures
- To hold the second AGC Group award ceremony
- To open AGC University in Europe
- To implement measures to ensure the appropriate allocation of human resources (at Asahi Glass)
- \*1. ES stands for employee satisfaction, but the AGC Group defines it to mean "employee job satisfaction and pride in accomplishment" and regards it as a basis of maximizing its corporate value.

### The AGC Group "7 Key Principles for People"

- "Look Beyond"
- Diversity for Organizational Competitiveness
- Development and Growth
- Job Satisfaction and Pride
- Work Environment and Conditions
- Open Communication
- Evaluation, Recognition and Rewarding Performance

The AGC Group "7 Key Principles for People" (full text): http://www.agc.co.jp/english/csr/employee/es01.html Approach t

Listening to the Employees Opinions to Continually Improve the Work Environment and Systems

### ES Activities Based on the ES Survey Results

Based on the "7 Key Principles for People" that is the AGC Group's direction in human resources management, we have been conducting the AGC Group ES activities based on a two-yearly cycle since 2005.

In order to clarify the problems to be solved for ES improvement, and as a part of our communication with employees, we conducted our first ES survey in 2005. Then in November 2007, we conducted the second ES survey with an expanded scope. In these surveys we asked employees for their opinions concerning their work environment, improvement in their job capabilities and skills, and their evaluation and treatment by their company. We have been incorporating the survey results into our measures to cultivate a still further improved corporate culture.

### Flow of ES Activities:

http://www.agc.co.jp/english/csr/employee/es01.html

### First ES Survey (July 2005)

The first ES survey was conducted in 13 languages, targeting approximately 15,600 employees. Based on the survey results, we identified the ES issues at various organizational levels, such as "workplace," "plant," and "In-House Company," and have planned and implemented measures to solve the problems.

### ES Improvement Measures for the AGC Group

① To create a better climate with recognition and praise

- Start with saying "Thank you" to each other
- ② To have leaders and workers communicate toward the achievement of their goals
- Implement a range of training sessions for leaders on the personnel system and management issues, to enable them to set appropriate targets and communicate about the progress toward the achievement of the targets with workers (in Japan)
- To improve the system for Group-wide internal communication
   Promote interactive communication through top management's visits to the Group's business sites
- Introduce AGC Group Web to communicate information quickly, widely, and visually within the Group
- Demonstrate appreciation for excellent activities and achievements through the AGC Group Award System

### Second ES Survey (November 2007)

The second ES survey was conducted in 18 languages, targeting approximately 40,000 employees in a greater number of countries and areas. Through this survey, we verified the effect of ES improvement measures implemented after the first survey and identified the ES levels of the AGC Group members, including those newly participating in the survey. Based on the survey results, we will further strengthen our ES activities, while executing the PDCA (Plan, Do, Check, Act) cycle of ES thoroughly throughout the Group.

Web

### Commendation to Employees

In order to create a better organizational climate in which employees are encouraged to respect each other and appreciate their mutual achievements and efforts, the AGC Group has introduced its award system shown in the table below targeting all the employees.

Nominated activities and achievements of each year are selected by the selection committees. The award ceremony for all awards is held the following May.

### Commendations Awarded across the AGC Group

Турез	Number of award cases in 2007
"Look Beyond" Award	19
CS Award	24
Excellent Quality Improvement Plant Award	5
Excellent Cost Reduction Plant Award	4
Excellent Safety Plant Award	14
Environmental Contribution Award	5
Technical Innovation & Performance Award	15
Environmental Improvement Award	1
New Business/ New Market Development Award	9
Excellent Business Support Award	8
KAIZEN Award	21
Enhancement and Transfer Technologies & Skills Award	5
Total	130



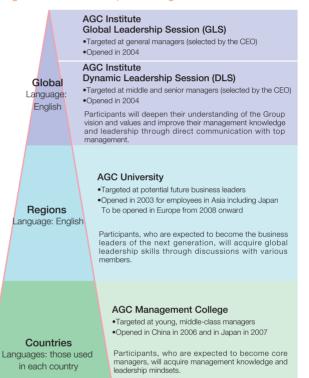
AGC Group award ceremony

### Global Human Resources Development

The AGC Group is fostering next-generation leaders as the basis for the Group to constantly strengthen its competitiveness for the global development of its business.

Specifically, as shown in the following figure, we are holding Dynamic Leadership Session for middle-class managers as a means to develop them into global leaders. Also, we are implementing a variety of human resources development programmes in each region and country. Based on the global infrastructure of human resources developed through these measures, we will optimize the allocation and use of employees throughout the entire Group.

### Management Talent Development Programmes



### Comment from a Participant in the Dynamic Leadership Session (DLS)

DLS is one of the initiatives that the AGC Group takes to develop and train the next generation of leaders to improve the Group's global competitiveness. In DLS 2007, a total of 26 mid-level managers from a range of business departments and countries learned about the AGC Group's unique leadership principles and values at six-month training sessions.

"DLS 2007 was for me extremely valuable in many respects. I was able to discuss directly with the top management and learn the essentials of leadership. The advanced business management theories reflected into real live business cases and discussed in our multicultural group stimulated me even more to look beyond. Specifically, I appreciated the importance of examining the "big picture"—inside and outside the company"— and of selecting factors that can contribute to the development of AGC. It was also confirmed that it is essential for managers to communicate clearly, continuously and with commitment about the direction the Group is heading, so as to bring the objectives and strategy of each department into line with those of the Group. I enjoyed, together with my colleagues, the enriching experience of working with a diversity of cultures, personalities, backgrounds, points of interest, responsibilities and languages. We are a true worldwide group!"



Marie-Ange Dhondt, Communication Manager AGC Flat Glass Europe

## Employee Job Satisfaction and Pride in Accomplishment

### Pursuing Quality Manufacturing and Reinforcing Production Site Expertise

# Pursuing quality manufacturing to establish a robust corporate structure

Baby boomers, who have been supporting manufacturing in Japan, will retire en masse from 2007 onward. In addition, due to the automation of equipment, it is becoming increasingly difficult for workers to acquire a full understanding of the principles of manufacturing technology, and due to changes in and the rapid expansion of business, there is a shortage of skilled and experienced workers. In the face of this, it is essential for the AGC Group to pass down the manufacturing technologies and skills developed by experienced and highly skilled engineers to the next generation.

In 2004, the AGC Group listed "pursuing quality manufacturing and reinforcing production site expertise" and "enhancing and transferring technologies and skills" as one of the major items in its management policy. To achieve these goals, we identified the technologies and skills required at each workplace and are developing talents based on the plans created for the education and development of human resources.<sup>\*1</sup>

\*1. Based on the idea that people make the company, we value human resources as an important asset.

### Expansion and enhancement of programmes

To reinforce production site expertise, the AGC Group completed the development of necessary systems and programmes based on the two pillars of "identifying technologies and skills" and "developing human resources" by fiscal 2006.

In fiscal 2007, we expanded the range of systems and programmes to include AGC Group companies in Japan and Asia.

Each In-House Company/ SBU and Group company has been planning and implementing measures for evaluating technologies and skills, training employees, utilizing human resources, and fostering a corporate culture conducive to quality manufacturing.

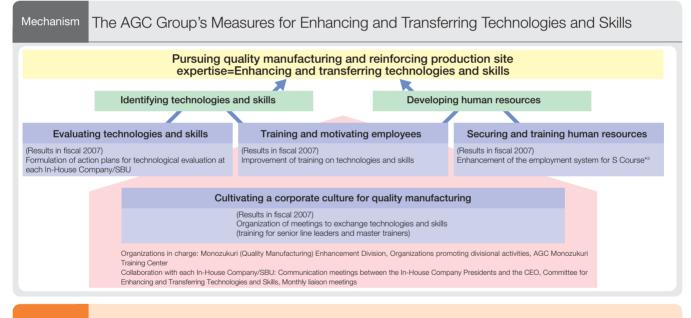


Training at the Practical Training Building

# Number of Trainees and Users at the Monozukuri Training Center

Fiscal 2006 (opened in July): 11Fiscal 2007: 24

: 11,247 : 24,344



Global Training Center for Enhancing and Transferring Technologies and Skills

AGC Automotive Glass Company renewed its training building, the Global Training Center, within the premises of the Asahi Glass Aichi Plant. The Training Center will serve as a base for human resources development, where employees can share and learn the unique technologies and skills that the Automotive Glass Company has accumulated in Japan, Asia, Europe, and North America. The Center strives to help the Company provide the same quality across the world in every aspect of its activities, including its safety, environment, production, cost, marketing, and development-related activities.

We will further strengthen our capability to provide higher quality products and services uniformly to customers all over the world, by unifying our employees' manufacturing skills and know-how at a higher level.



### Asahi Glass Human Resources Management (HRM) System

Asahi Glass treats employees fairly in consideration of their abilities and performance. We aim to provide our diverse range of employees with the systems and environments necessary to help them perform their jobs, without discrimination based on gender, age, or disability.

We have introduced the following two human resources management systems in order to clarify employees' roles, functions, and responsibilities; to utilize capable employees regardless of their age, length of service, and gender; and to evaluate them in a fair manner.

#### Job grading system (for managers, introduced in 2005)

Job grading system is an HRM system focusing on the functional roles and responsibilities of managers, which is linked with each business and organization toward the accomplishment of their business goals, and is designed to keep a good balance between the responsibility of managers and their compensation, thereby strengthening the competitiveness of the entire company. This system is scheduled to be implemented in the major Group companies.

Three different career courses (for non-managers, introduced in 2003) Each career course provides compensation and evaluation systems based on their features

### Human Resources Development

For the AGC Group to promote its global management system, a diversity of talented staff are required, including leaders in charge of global management, engineers who strengthen and pass down technologies and skills, and high-level professionals who take the lead in launching new businesses and other projects. In the development of these various human resources, it is necessary for the AGC Group to set and implement the same objectives across the Group, and so in 2006, Asahi Glass launched a new human resources development (HRD) system, which may also be used by its domestic Group companies.

### Priority Tasks to be Performed under the HRD System

#### Development of human resources having managerial capabilities

To develop highly capable business management personnel who will lead the consolidated business group based on the global In-House Company system

### Development of employees having technologies and skills

To develop engineers who can strengthen and pass down technologies and skills for new value creation and higher competitiveness

### Development of specialists

To develop specialists who take charge of Innovation & Operational Excellence in financial accounting, legal and general affairs, logistics, and sales and marketing

### Stratified employee training

To educate employees on capabilities, knowledge, and values commonly required for their job grades

### Career Development

Asahi Glass has in place the Challenging Career System. This is a system to encourage employees to choose jobs in which they can use their expertise, and through this system, we place the right people where necessary, such as in newly launched businesses and areas that need to be reinforced. This serves as a further stimulus to our organization.

Also, we have the Professional System and the Meister System to utilize and evaluate those having advanced technologies and skills.

#### **Challenging Career System**

- An in-house voluntary recruitment system, under which employees apply to job offers publicly given by in-house departments once a month (applied to five employees in fiscal 2007)
- An in-house "free agent" system, under which employees register the jobs that they want to perform at other departments, and undergo screening individually according to their details of registration (applied to 14 employees in fiscal 2007)

#### Professional System

A system under which managers having extremely advanced technological skills and expertise are used as high-level professionals, and evaluated and treated appropriately (applied to 21 managers as of December 31, 2007)

### Meister System

• A system under which engineers having extremely high skills and knowledge are used as highly skilled engineers, and evaluated and treated appropriately (applied to five engineers as of December 31, 2007)

### Employee-Related Data of Asahi Glass

Number of Employees (as of December 31, 2007, excluding those dispatched to other organizations)

Cla	Classification		Female	Total	Percentage of females
N	Managers		60	1,755	3.4%
	E Course*2	594	70	664	10.5%
Non-	S Course*3	3,028	39	3,067	1.3%
managers	C Course*4	13	341	354	96.3%
	Subtotal	3,635	450	4,085	11.0%
	Total	5,330	510	5,840	8.7%

\*2. Applied to employees who will promote business strategies and implement enhancement measures for their departments as key persons

\*3. Applied to employees who will contribute to productive activities by acquiring, improving, and handing down productive techniques and skills

\*4. Applied to employees who will execute office work accurately and quickly

### Other Employment Data

	Male	Female	Total
Average age	42.3	37.0	41.8
Average length of service	19 years	11 years and 5 months	
Average overtime working hours	22.1 hours/month (average for the members of the labor union)		

# Employee Job Satisfaction and Pride in Accomplishment

### Promoting the Employment and Promotion Prospects of Female Workers

At Asahi Glass, the number of female non-managerial staff (excluding those temporarily dispatched to other companies) is 450, accounting for approximately 11% of all non-managerial staff. The number of female managers is 60, five more than the previous year, and accounts for approximately 3.4% of all managers. We will continue to promote the employment and promotion of female workers to increase Diversity under our Group vision and to retain and utilize diverse human resources.

### Work-Life Balance

In order to help its employees perform their jobs with ease of mind and fully demonstrate their abilities at every stage of their lives, Asahi Glass is improving its workplace environment to make it more comfortable for employees, and implementing measures to help employees keep a good balance between their work and private lives.

### Supporting employees in balancing their work and childcare

We have long been providing employees with better conditions than legally required under our childcare support systems, and to further strengthen the support we provide, we partially revised the systems in June 2007.

In particular, we extended the childcare leave period and began to treat childcare leave of less than one month as special "shortterm childcare leave," thereby encouraging male employees to take such leave. As a result, two male employees took childcare leave in fiscal 2007.

# Comparison between Asahi Glass's Childcare Leave System and Legal Requirements

Legal requirements	Asahi Glass's system			
Childcare leave				
<ul> <li>Available until the child becomes one year old (or eighteen months old, depending upon conditions), if the spouse is working</li> </ul>	<ul> <li>Available until the child becomes eighteen months old or until the end of the April im- mediately following the child's first birthday, whichever is longer, regardless of whether the spouse is working or not</li> <li>Available as a special "short-term childcare leave" if the leave period is less than one month</li> </ul>			
Shortened working hours for childcare				
<ul> <li>Available until the child becomes three years old</li> <li>Employers are required to make efforts to shorten the working hours of employees with children aged three years or older, until the child enters elementary school.</li> </ul>	<ul> <li>Working hours can be shortened by up to 2.5 hours per day compared to full-time daily working hours until the child completes third grade education at elementary school. This system is available on a multiple basis. After a certain period has passed since starting to use this system, the employee may alter their application details (the num- ber of hours they wish to have reduced, their work starting and finishing times, etc.).</li> </ul>			
Capping of the number of overtime and holiday working hours for childcare				
The overtime working hours should not ex- ceed 24 hours per month or 150 hours per year if an employee with a pre-elementary school-age child so requests.	<ul> <li>If an employee so wishes, their overtime and holiday working hours may be reduced to zero until their child completes third grade education at elementary school.</li> </ul>			
Other				
_	<ul> <li>Flexible working hours without fixed "core working hours"</li> <li>Support for using facilities and services for childcare under the selective benefits pack- age system</li> <li>A system in which employees, as a general rule, assume the same job after returning from leave</li> </ul>			

# Supporting employees in balancing their work and family care

We are also actively supporting employees in working and caring for their family members in a compatible manner.

#### Systems to support the compatibility of work and family care

- Employees can take family care leave for up to one year per family member who needs to be cared for, and up to twice for the same member, as required
- Family care leave of less than one month is treated as special "short-term family care leave"
- Flexible working hours without fixed "core working hours"

### Employees Taking Childcare/Family Care Leaves

FY	No. of employees who took childcare leave	No. of employees who took family care leave
2003	31* <sup>1</sup>	1
2004	40	1
2005	29	1
2006	30	3
2007	43* <sup>2</sup> (including two employees taking short-term childcare leave)	5 (including one employee taking short-term family care leave)

\*1 of which one employee was male

\*2 of which two employees were male

### Annual paid leave

Asahi Glass has been encouraging employees to take annual paid leave. However, in fiscal 2007, the percentage of leave consumed came to 91.0% (average for the labor union members), down 3.5% from the previous year.

In fiscal 2008, we made it possible for all employees to take paid leave in half-day units to enable them to use their paid leave efficiently and flexibly for activities requiring only half a day, such as attending a child's school event or visiting the doctor.

> Helping Employees Maintain a Good Work and Life Balance by Providing Them with Better Childcare Support

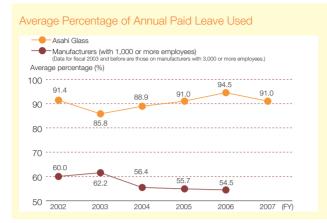


Planning Group Leader Human Resources and Administration Center (Presently serves as the General Manager of Planning and Coordination Office, Display Company, Asahi Glass Co., Ltd.)

We think it is essential for employees to keep a good balance between their work and private lives, which in turn will motivate them to contribute to the company through the performance of their work, while at the same time leading a fulfilling life as an individual. Recognizing the vital and urgent need to implement measures to support employees in raising their children, Asahi Glass has improved its childcare support system well beyond legally required levels. In the process of reviewing the system, we frequently held site meetings with employees to maintain sufficient communication with them. Through these meetings,

we discovered that male employees also desire to take part in childcare and take childcare leave, and so accordingly, we have improved the system to more easily satisfy the needs of such employees.

At the same time, as a basis for spurring employees on to work with high motivation, it is essential for the company to nurture a corporate climate which facilitates the use of the childcare system, and we are therefore now implementing measures to support those who wish to use the childcare system in gaining full understanding from their managers and colleagues.



### Labor-Management Relations

In Asahi Glass, the Asahi Glass Labor Union is organized. In labormanagement negotiations, both the labor and the management sides take a logical and reasonable attitude to solve problems through discussion. The labor union negotiates with the management on working and other conditions for its members.

In addition to open daily communications, the labor union management and directors of the company have a standing council on the entire business management at least twice a year.

### Employment of Retirees

Asahi Glass traditionally reemploys those who have retired at the retirement age of 60 if they are necessary for the company because of their advanced skills and expertise, and based on the necessity of making up for the lack of human resources.

We are committed to providing a work opportunity where employees with diverse backgrounds and high motivation can fully display their abilities and make use of their experience, regardless of age.

### Asahi Glass's Continuous Employment System for Retirees

Introduced a system to continuously employ retiring non-managers who meet the personnel criteria for such employment, following the revision of the Law concerning the Stabilization of Employment of Older Persons

•Increasing social need for the employment of retirees •Identification of the retirees' needs based on the results of

employee opinion surveys •Identification of the workplace needs for the securing and

transfer of technologies and skills

April 2008

April 2006

# Introduction of a new continuous employment system

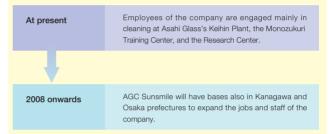
The criteria for continuous employment were revised to expand the range of employees who are eligible for the system, thereby enabling a greater number of employees to continue to work until they reach the legal retirement age.

### Employment of People with Disabilities

Asahi Glass, from the viewpoint of Diversity, has been implementing measures to increase its employment of people with disabilities. As of the end of December 2007, our employment rate of people with disabilities was 1.74%, up 0.2% from the previous year, but unfortunately below the rate designated by law (1.80%). We will continue to make efforts to raise the employment rate by fostering cooperation with relevant organizations, including local employment agencies.

### The Special Subsidiary, AGC Sunsmile, Inc. (Japan)

In 2002, Asahi Glass established AGC Sunsmile, Inc. as its special subsidiary, to expand the employment of people with disabilities from the viewpoint of Diversity. Since its foundation, AGC Sunsmile has been cooperating with Asahi Glass's head office and local employment support centers located in Kanagawa Prefecture as well to ensure a comfortable working environment for enthusiastic employees.



### Employment Rate of People with Disabilities

FY	Number of people with disabilities (actual number)	Employment rate
2002	91	1.67%
2003	82	1.64%
2004	87	1.60%
2005	82	1.51%
2006	83	1.54%
2007	94	1.74%

### Protection of Human Rights and Prevention of Sexual Harassment

The AGC Group, based on its principles under "Respect for People" set forth in its Charter of Corporate Behavior, is committed to respecting human rights, rejecting discrimination, forced labor and child labor, and never being involved in the violation of human rights. Also, employees are enlightened concerning this matter when senior executives visit their business sites or auditors conduct audits there.

Regarding respect for human rights and the prohibition of discrimination, Asahi Glass explicitly states these policies in its Code of Conduct and employee regulations, and ensures that all employees abide by them as part of their basic responsibility, through such measures as giving them relevant training. Also, we have a special section for human rights protection and the promotion of the establishment of sound and fair work environments that are free from discrimination. We have set rules on protection from sexual harassment, and offer both internal and external contacts whom employees, in the event that they are victims of sexual harassment, can consult with ease of mind. Reported cases are treated through the retraining of transgressors combined with an emphasis on reforming the consciousness of the workplace.

# Communication

# Connected with Society through Relations of Trust

Concept

The AGC Group actively and appropriately discloses its corporate information in a timely manner so as to maintain sufficient communication with various stakeholders. Such frequent communication helps us incorporate their opinions and requests into our CSR-related activities and achieve their understanding and support of our activities.

Approach Increasing the Trust of Stakeholders through Sincere and Fair Communication

### Public Relations Activities

The AGC Group established its Group Communication Guideline in January 2007, based on the recognition that it is important for the Group to dispatch its information appropriately to the world at large. We have a cooperation system between employees in charge of public relations at Asahi Glass and its affiliates in Japan/ Asia, Europe, and North America, and have set up the rules on disclosing and receiving information both within and outside the Group. Through these measures, we are fostering appropriate information disclosure and prompt information sharing across the Group, thereby maximizing our corporate value and promoting the integrated management of the Group.

As for the timely disclosure of corporate information, Asahi Glass appoints persons in charge of timely information disclosure from among the employees of its In-House Companies/SBUs and major affiliates, and the Corporate Communications & Investor Relations Division receives information from these persons. In addition to this system, based on the timely disclosure rules of the stock exchanges, our Timely Information Disclosure Committee holds regular meetings to deliberate and decide on the necessity of disclosure regarding the issues to be discussed by the Management Committee and the Board of Directors.

In addition, Asahi Glass also discloses negative information appropriately, such as soil and groundwater contamination (page 38, etc.), on its website and through press releases. We carefully investigate the facts and promptly announce them, while receiving instructions from the government and experts.



### Investor Relations (IR)

### Information Disclosure through a Range of Opportunities

The AGC Group is actively engaged in IR activities to help its shareholders and investors deepen their understanding of the Group by providing them with information regarding the Group's financial situation.

### Various events held for the purpose of information disclosure

- Results briefings
- Company information sessions
- Activities for both domestic and foreign institutional investors
- Acceptance of visits
- Acceptance of visits to the Plants and the Research Center

#### **Communication Tool**

As part of our IR activities, we publish and use a range of communication tools for shareholders and investors.

#### Communication tools

- AGC Report (corporate brochure)
- Financial Review (annual report showing the AGC Group's financial data)
- Company Overview
- Financial Data Book
- AGC Review (Newsletter for Investors)
- AGC Group CSR Report (this report)
- Website (http://www.agc.co.jp/english/ir/index.html)

### Fair and Prompt Information Disclosure

In order to achieve prompt and appropriate information disclosure, we post information that should be promptly disclosed on our website, thereby ensuring fair and timely information disclosure. In addition, we have a call center for individual investors.

Company information session

Topic

### Corporate Social Responsibility as an Investment Criterion

Investors generally invest in companies based on their financial performance, but in recent years, an investment approach that evaluates and selects investee companies according to their fulfillment of corporate social responsibility (business activities giving consideration to ethics, society, the environment, and safety, etc.) is attracting more attention in Japan as well as in Europe and North America. This investment style is called "socially responsible investment" (SRI).

Companies are evaluated based on SRI indices comprised of evaluation items on social responsibility, and are included in SRI funds. The shares of Asahi Glass are included in the Morningstar Social Responsibility Index (MS-SRI) and various other SRI funds in Japan, and also in famous overseas SRI indices, as shown on the right.

Global SRI indices in which shares of Asahi Glass are included (as of March 2008)

Dow Jones Sustainability Indexes

This index is created jointly by Dow Jones & Company, Inc. and SAM Research AG, an SRI survey and rating company based in Switzerland.

 Ethibel Sustainability Index This index is created by Forum Ethibel, a consultancy agency for socially responsible investing in Belgium.

Dow Jones Sustainability Indexes



# **Social Contribution Activities**

### Contribution as a Good Corporate Citizen

Concept

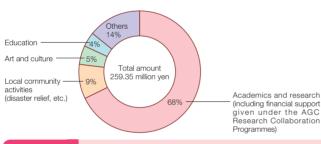
The AGC Group is engaged in a variety of social contribution activities, with the aim of contributing to further enhancing the prosperity of society as a responsible corporate citizen.

Approach Diverse Activities to Build a Better Relationship with Society

### Social Contribution by Asahi Glass (on an Unconsolidated Basis)

Asahi Glass is committed to contributing to further enhancing the prosperity of society. To this end, we make donations to academic and research activities and provide support for glass art works. We also conduct activities to support local communities, including the organization of local events by our plants, the provision of free access to the fields of these plants, and cleanup activities around their premises. Furthermore, we belong to the "1% Club"\*<sup>1</sup> of the Japan Business Federation (Nippon Keidanren), a membership which we believe further facilitates our social contribution activities.

Breakdown of Financial Expenditure on Social Contribution of Asahi Glass (Unconsolidated) by Category (for fiscal 2006)



### Artistic and Cultural Activities

We support artistic and cultural activities, in particular both domestic and overseas glass-related exhibition projects.

### Specific activities conducted in fiscal 2007

- Support for the organization of an exhibition at Koganezaki Crystal Park (a modern glass arts museum in Shizuoka Prefecture) of art works that won prizes at the Exhibition of Contemporary Glass Koganezaki
- Support for "The 100th Anniversary of NITTEN," held at the National Art Center, Tokyo and other museums



Exhibition of art works that won prizes at the Exhibition of Contemporary Glass Koganezaki

\*1. A voluntary membership organization of individuals and companies established by Nippon Keidanren in November 1990, which donates at least 1% of the members' ordinary or discretionary income for social contribution activities

# Topic The Blue Planet Prize—International Environmental Award Presented by the Asahi Glass Foundation

The Asahi Glass Foundation strives to contribute to the creation of a richer, more vibrant society and human civilization. To this end, the Foundation supports research in leading-edge scientific and technological fields and recognizes efforts to solve issues of concern to people around the world in the field of science and technology.

The Blue Planet Prize is an international environmental award presented to individuals and organizations for outstanding achievements in scientific research and application thereof, which have helped provide solutions to global environmental problems. Each year, two recipients are chosen from among the candidates. The winners of the 2007 Blue Planet Prize, in its 16th year, were Professor Joseph L. Sax and Dr. Amory B. Lovins, both from



Conducting annual survey on global environmental issues

### Results for fiscal year 2007

- Total number of grants: 174 (156 in Japan and 18 overseas)
- Total value of grants: 234.4 million yen

the United States. The award ceremony was held in Tokyo in the presence of Their Imperial Highnesses Prince and Princess Akishino on October 17, 2007, and the commemorative lectures were held at the United Nations University on the following day, October 18. Professor Sax and Dr. Lovins gave lectures entitled, "The Unfinished Agenda of Environmental Law," and "Profitable, Business-Led Solutions to the Climate, Oil, and Proliferation Problems," respectively.



The Blue Planet Prize award ceremony



# Social Contribution

### Glass Power Campaign

### Raising awareness of laminated glass for disaster resistance for safer living

Glass is coming to play a wider role than ever before. Traditionally, it was simply used to allow sunshine into the room and keep wind and rain out. Glass technology has advanced tremendously over the 100 years since the material was first produced in Japan, and now a wide variety of glass has been developed, including glass with high energy-saving performance and glass with excellent disaster resistance and safety performance.

Asahi Glass has developed laminated glass for disaster resistance by applying the technology it had developed for its laminated safety glass for automobiles to large-sized glass used for construction. This glass is uniquely designed not to shatter into tiny pieces even if it breaks. We regard it our mission as a glass manufacturer to raise awareness of this glass which contributes to safer living, and in order to fulfill this mission, we have been conducting our Glass Power Campaign since October 2005. In this campaign, we donate laminated glass for disaster resistance to evacuation centers throughout Japan and make presentations on glass at elementary and junior high schools.



Comment on a donation

Mr. Sakurai, Principal of Suzukawa

as a local evacuation center.)

Elementary School in Yamagata City (The first donation was made to

I feel relieved that laminated glass for disaster resistance

is now used for our school

greater peace of mind.

Kakkun," a character featuring in the Glass Power Campaign

### Donating Laminated Glass for Disaster Resistance to the Evacuation Centers

Glass can pose serious danger in the event of a disaster. In the past, there have actually been cases where people have been injured by broken glass and evacuation centers have been rendered unusable due to broken window glass. The AGC Group, as part of its Glass Power Campaign, has been continuously donating laminated glass for disaster resistance to the evacuation centers located throughout Japan. As of the end of 2007, we donated this type of glass to 15 evacuation centers, and in 2008, we will donate it to another five evacuation centers. We select candidates for donation in consultation with relevant officials and experts in disaster resistance and decide to which evacuation center we should actually make donations based on the results of the questionnaire surveys conducted targeting those who have registered with the campaign programme on the website of the Glass Power Campaign.

### School Presentations to Increase Awareness among Children of Safety and the Environment

As part of the Glass Power Campaign, employees of Asahi Glass visit elementary schools as volunteers to make presentations on glass, which include some experiments. As of the end of 2007, we made 14 school presentations.

At a school presentation made at Sakuragi Elementary School in Saitama City in October 2007, parents also learned about the different types of glass together with their children. In an experiment held subsequently, various types of glass were broken to assess their strength, and the participants were all impressed by the strength of the laminated glass for disaster resistance

Another experiment was conducted as follows: a light bulb is placed in

the center of a box, the sides of which are made of different types of glass, and children touch the box to learn how heat is transported from the lit bulb to the sides. They then recognize that the side made of Ecoglass (see page 19) is not so hot compared with other sides, which are made of ordinary glass. The Children and their parents thus learn that Ecoglass is useful for saving energy consumed in cooling and heating and contributes to the prevention of global warming, and this experience encourages them to talk about glass in their own homes.



"Dr. G," a character featuring in the school presentations



with this type of glass. I am pleased to hear that since the glass

was donated to our school, Yamagata City has been adopting it

for local public schools and halls when repairing these facilities to reinforce their seismic resistance. Thanks to the adoption of

this glass, local inhabitants including children can now live with



A school presentation At the end of the presentation, we invite opinions from children and their parents



# Domestic and Overseas Activities to Support Local Communities

### Support for Local Ecosystem Protection and Environmental Education (Thailand)

AGC Flat Glass (Thailand) has been committed to mangrove forest rehabilitation in coastal areas since 2003. In August 2007, the company's employees, their families, and the company's dealers planted several thousand trees and released approximately 10,000 fish and crabs into the river in Chon Buri Province. Also, employees of the company's head office and three manufacturing plants visited el-

ementary schools, where they provided environmental education incorporating games and donated computers and other teaching materials.



Releasing fish and crabs

### A Work Experience Programme for Children (U.K.)

As part of CCI,\* AGC Chemicals Europe welcomed pupils from a local primary school to its site. They enjoyed a tour of the production areas and the laboratories, where they tried out some laboratory techniques such as filtration. The pupils were especially thrilled when an engineer of the company appeared dressed as Father Christmas! The head teacher of the school commented, "The project has far

exceeded my expectations."

\* CCI stands for Children Challenging Industry, a joint programme implemented by the Chemical Industries Association and the University of York to promote science education and deepen mutual understanding between the chemical industry and schools.



Employee appearing in a Father Christmas costume

### Supporting Recovery after a Large Earthquake off the Coast of Chuetsu (Japan)

On July 16, 2007, Niigata Prefecture was struck by a large earthquake of magnitude 6.8. The AGC Group provided quake victims with drinking water, food, and daily goods through its dealers. In addition, we gave priority to supply glass to the devastated areas for the prompt replacement of broken window glass of houses and stores.

You can obtain the latest information about the damage to glass caused

by the earthquake through a series of video images on the following website (Japanese only): https://www.glasspower.jp/disaster/disreport/



### Tree-Planting Ceremony (Japan)

In July 2007, Asahi Glass Osaka Plant held a big tree-planting ceremony. More than 700 people, including employees, local inhabitants, and other stakeholders participated in the ceremony and planted a total of 8,300 trees of 53 species, such as Castanopsis, Machilus, and Quercus, in order to surround the Osaka Plant with green trees.



Employees and their families participating in the ceremony

### Assisting at "Fun Fest" as Part of Local Contribution (U.S.A.)

AGC Flat Glass North America sponsored a country music concert at "Fun Fest," an event held every July in Kingsport, Tennessee. The company has been supporting Fun Fest for 27 years as a means of returning its profits to local communities. This event has developed in-

to one of the largest in the United States, receiving as many as 180,000 visitors a year.



Stage of the concert

### Supporting the Special Olympics Nippon (Japan)

Since 2003, AGC Ceramics has been annually donating 500,000 yen to support the Special Olympics, which are held under the concept of helping people with intellectual disabilities lead independent lives and participate in social activities. At the 2005 Special Olympics World Winter Games in Nagano, the eighth to be held, the company

donated banners to be used in the torch run and dispatched volunteers to present a documentary film. The company has been thus continuously supporting the event.



Torch run for the Special Olympics

# Social Contribution

### External Communication

### Acceptance of trainees from the OPCW

As part of its international contribution, AGC Chemicals Company accepted two trainees from September 6 to 14, 2007. They were dispatched under the Associate Programme of the Organization for the Prohibition of Chemical Weapons (OPCW). Under the Programme, trainees from developing countries that have signed the Chemical Weapons Convention are dispatched to the headquarters of the OPCW located in the Netherlands, as well as to universities and companies of developed countries. At the sessions, trainees learn about the current situation of the Convention and the chemical industry to enable them to help facilitate the enactment of domestic laws required for the implementation of the Convention after they return to their home countries. The AGC Group provided the two trainees with sessions on chemical substances management and on environmental impact reduction at the Asahi Glass Chiba and Kashima Plants.

### Trainees' Comments on What They Learned



Rajiour Rahman Mollick, MD Deputy Chief Chemist Training Institute for Chemical Industries (Bangladesh)

I got the impression that the chemical plants were operated with careful consideration given to safety and the environment. I learned how to treat and manage high-pressure gases and hazardous gases, which was a really valuable expe-

rience for me. I was also surprised at the high skill levels of individual employees. I will definitely share what I have learned with my colleagues to help reduce our environmental impact.

The radio calisthenics at the plants was also interesting. In Bangladesh, we do not practice calisthenics together during working hours, but I think such exercises provide employees with a good opportunity to refresh themselves physically and mentally.

### Jittima Laohapojanart

Office of the National Implementation for CWC Bureau of Hazardous Substances Control Department of Industrial Works (Thailand)

At the plants, employees worked in conformity with the high standards that they themselves had voluntarily set, not to mention the fact that they complied strictly with laws and regulations. I feel such working practices help the company to im-

prove and strengthen itself. I would like to make every effort to share the skills and knowledge I have learned with workers in the chemical industry in Thailand. I was also impressed by the fact that the employees seemed to enjoy working, which I believe must be thanks to their wonderful working environments.

### **External Commendation**

### AntiBacterial Glass, a World-Class Invention, Wins Top Prize at the World's Largest Construction Show

In September 2007, AGC Flat Glass Europe released its AntiBacterial Glass, with a unique feature to reduce health risks. The glass, which generates silver ions on its upper layer, halts the process of bacterial division, killing 99.9% of bacteria and preventing the spread of fungi. The product is to be used in all sectors where hygiene is a must, such as hospitals, hotels, and public centers. It can be used on all kinds of surfaces, from windows to wall coverings and mirrors. AntiBacterial Glass was awarded the highest innovation prize at Batimat, the world's largest construction show held in Paris.



### Acceptance of University Students under the "Eco-internship" Programme

The "Eco-internship" is a programme implemented by the Ministry of the Environment since 2007, under which university students (including postgraduate students) are dispatched to the environmental management departments of companies to undertake work experience in environment-related jobs. In fiscal 2007, a curriculum focusing on chemical substances management was implemented. For two weeks from November 5, 2007, AGC Chemicals Company accepted two students under the programme with a view to helping to foster eco-conscious human resources. They learned how chemicals are managed and then were actually able to take part in some management-related work.

### Students' Comments on What They Learned

Ai Yamazoe, studying cognitive psychology at a graduate school of pedagogy

This experience has taught me that my knowledge of environmental problems is almost entirely derived from the TV, newspapers and other media. With such limited knowledge, I can hardly expect to be able to identify real problems or the



solutions to such problems. The programme was a good opportunity to learn about the measures implemented at an actual business site. I also think that by communicating their proactive environmental measures to the public, companies could encourage people to reflect on their own lifestyles.



Seigo Kita, studying economics at a faculty of economics

I have learned that the environmental measures implemented by the company are far more advanced than those implemented by households. The company is strongly committed to environmental protection, investing hundreds of millions

of yen and establishing expert committees. Environmental protection, however, cannot be promoted any further without social systems and trends that reward companies for implementing environmental measures. When I am job hunting, I would like to consider what I myself can do to help bring about such trends, and I regard environmental contribution as an important aspect in my future work in society.

### Ohami-Shirasato Mining Station Awarded Mining Station National Safety Award

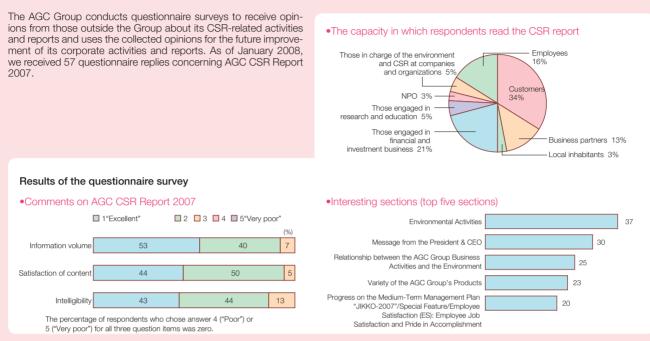
In October 2007, Ohami-Shirasato Mining Station received the Ministry of Economy, Trade and Industry Award as a Superior Safety Record Mine in recognition of its record of having no occupational accidents for more than 30 years since 1973. The Mining Station develops natural gas in the Chiba Prefecture Sotobo region and supplies methane to the Asahi Glass Chiba Plant as fuel and a chemical raw material, and brine, a byproduct of natural gas, to Ise Chemicals Corporation as a material to be used in iodine products.

#### Other awards and commendations

- The AGC environmental indicator was given an incentive award at the Eco-Efficiency Awards 2007. (See page 37.)
- The Kashima Plant was awarded a prize for excellence at the PRTR Awards 2007. (See page 41.)
- The Mirox 3G received the Belgian Environment Prize. (See page 42.)
- A factory of AGC Flat Glass (Thailand) was named the Best Safety Factory by the Thai government. (See page 46.)

### Incorporating Internal and External Opinions in the CSR Reports

### External Opinions: Results of the Questionnaire Survey on AGC CSR Report 2007



# Internal Opinions: Holding Meetings to Exchange Opinions on AGC CSR Report 2007

In order to help employees deepen their understanding of the AGC Group's CSR-related activities and CSR reports and to improve these activities and reports, we held meetings to exchange opinions on AGC CSR Report 2007 as we did for our previous CSR report in 2006. In 2007, the range of meeting participants was expanded to include those from the major domestic subsidiaries in addition to employees of Asahi Glass plants in Japan. We held a total of 12 meetings from August to November 2007, in which a total of 278 employees participated.

In the meetings, the AGC Group's CSR, the external evaluation of its CSR-related activities, and the contents of the AGC CSR Report 2007 were presented to the participants, who in turn exchanged opinions on the issues at hand. At the end of each meeting, a questionnaire survey was conducted with a view to incorporating the opinions of employees into future reports.

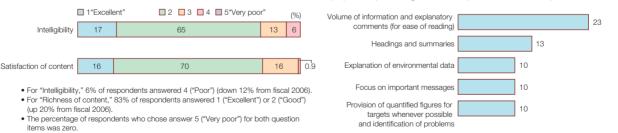


Meeting held to exchange opinions on CSR

Results of the questionnaire survey

•Comments on AGC CSR Report 2007

•Areas Needing Improvement in AGC CSR Report 2007 (Top five opinions given in an open answer format)



### Improvements to be Made Based on the Questionnaire Results

### Content

- Provide more focused messages in the special feature pages
- Clarify the PDCA cycle of each activity in the reporting pages
- Clearly differentiate the special feature pages from the reporting pages

### Design

- Make better use of photos
- Make the content easier to understand through more skillful use
- of headings and summaries
- Make the design more reader-friendly

Taking these improvement points into consideration, we have made efforts to improve the intelligibility of AGC Group CSR Report 2008.

# We have received third-party opinions about this AGC Group CSR Report 2008



Professor Katsuhiko Kokubu Graduate School of Business Administration, Kobe University

### Reduction of environmental impact through the use of technologies

This report highlights the AGC Group's commitment to reducing its environmental impact through the use of its technologies as well as the specific activities the Group is conducting to meet this commitment. To make the 21st century a sustainable century, it is essential for companies to implement comprehensive measures to reduce their environmental impact, instead of merely adopting end-ofpipe measures. To this end, companies are required to make efforts in every aspect of their business operations. I expect the AGC Group to develop still more technologies to help protect the global environment in the future.

### Environmental indicator incorporating societal perspective

The AGC Environmental Indicator is an environmental efficiency indicator that takes into consideration the potential impact the AGC Group may have on society. I strongly support its use. This unique indicator won an incentive award at the Eco-Efficiency Awards 2007, and is valuable insofar as it incorporates the aspect of CSR.

### Clarification of the specific details of the PDCA cycle

A special characteristic of the report is that it shows the targets and results for fiscal 2007, plus the targets for fiscal

2008, not only for environmental issues but also for social issues. This has helped clarify further the specific details of the Group's PDCA cycle. CSR-related activities can be conducted as a part of management activities by setting targets and comparing them with the actual results, as the AGC Group has successfully been doing. I think this is very important for the Group. The targets, however, are often shown without quantification, although the general directions are shown. If the targets were quantified as far as possible, the Group would be able to conduct even more specific activities.

### Measures for stakeholder dialogues

It is important for companies to hold stakeholder dialogue meetings both internally and externally. The AGC Group holds a regular stakeholder dialogue meeting inviting external experts. The Group also holds an in-house meeting to review its CSR reports, which also constitutes a kind of stakeholder dialogue meeting. If the in-house meeting were to be developed into a meeting for employees to exchange their opinions concerning the whole range of CSR activities, the effectiveness of the meeting could be further enhanced.

# Toward the establishment of a technology-oriented environmental management model

The AGC Group is promoting technology-oriented environmental management, and it is my hope that the Group will promote such management even more comprehensively as part of its management system in order to present an advanced model to the industry. Specifically, the Group could systematically set various environmental targets based on the AGC Environmental Indicator and link these evaluation indicators with business performance indicators to clarify the relationship between environmental management and business management. Through such measures, I expect the Group to achieve still further developments in the future.

# In Response to the Third-Party Opinions



Keita Shikii Senior Executive Officer General Manager of CSR Office Our company celebrated its 100th anniversary last year. In this CSR report, we published feature articles on our contribution to the global environment through our business operations, which we believe we should undertake to ensure our sustainable development over the next 100 years. We also think it increasingly important to ensure compliance, in the face of a series of corporate scandals that have eroded public trust in companies. Based on this idea, we have held a dialogue meeting with our external stakeholders, which is introduced in this report.

In preparing this CSR report, we have tried to enhance the intelligibility of our substantial information, and have incorporated readers' opinions on our previous CSR reports.

In this CSR report, we show the targets and results for



Ms. Kimiko Horii President, NPO GEWEL

Here I would like to comment on issues relating to "diversity," in my specialist role as consultant for Diversity and Inclusion.

For the AGC Group, which is a global corporate group both in terms of management indicators and its number of employees, diversity management is of paramount importance. The Group's vision "Look Beyond," which was formulated in 2002, is a wonderful, clear vision for the future and is attractive enough to lead employees of diverse nationalities and races in the same direction. I also appreciate the fact that the aspect of diversity is incorporated in the AGC Group Charter of Corporate Behavior, which was formulated based on the Group's values. Although American and European companies commonly incorporate "diversity" in their values, among Japanese companies, the AGC Group is fairly advanced in this respect, and I hope that other Japanese companies, increasingly required to compete in the global economy, will strive to follow the AGC Group's lead.

For the promotion of diversity management, diversity, just like any other CSR issue, must be linked to business strategies. This report defines diversity as respect for people. I would like the Group to take another step forward and examine what the further promotion of diversity means in terms of Group management. Companies that actively promote diversity regard the securing of excellent human resources as a key to corporate growth, and therefore aim to become employers of choice. I therefore believe it important for the management of the AGC Group to employ and develop talented people

fiscal 2007 and the targets for the current fiscal year at the top of the pages reporting on each item of our activities. This is to show our activities more clearly to our stakeholders and also to enable us to execute the PDCA cycle in order to further improve our activities.

As a global corporation, we have expanded the scope of our environmental data collection and introduced our overseas CSR measures more extensively. I hope this will help readers to deepen their understanding of the entire Group's activities.

We have also improved the structure and content of the CSR report to appeal to a wider range of readers.

We would like to thank both third-parties for their opinions and appreciation of our activities. By reading their opinions, we were able to reaffirm the need to promote the fulfillment on a global scale, and sincerely hope the Group will include the development of human resources based on diversity management in its management evaluation criteria.

The AGC Group relies on the capabilities of its employees as a source to increase its corporate value and is dedicated to improving its work environment, so that each and every employee of the Group can work with satisfaction and pride in their daily operations as well as mutual respect based on the value of diversity. To this end, the Group conducts ES activities based on the results of ES surveys, gives commendations to excellent examples across the Group, and promotes global human resources development. It would be even better if the Group could formulate an action plan to "create a better corporate culture through recognition and praise." There are a number of companies that are facing difficulties in reforming their corporate cultures and their employees' ways of thinking, despite their decisions to promote diversity. The AGC Group is showing its direction through its Group vision and Charter of Corporate Behavior, and if the Group takes more specific action toward the promotion of its corporate culture, it will definitely increase the presence of the AGC Group as an advanced company in terms of diversity. To this end, I urge AGC's top management to clearly show their commitment to diversity, including the establishment of an organization to promote diversity.

If the Group can create such an improved corporate culture and organization, it will be able to further accelerate its measures to more effectively use the skills of female employees, to employ people with disabilities and retired people, and to foster a better work-life balance for employees.

I expect the AGC Group, which has been promoting diversity as a necessity in its globalization, will establish and implement Japanese-style diversity management by taking more action and gaining more experience in this field.

I also hope the AGC Group will be more assertive in publicizing information regarding its outstanding activities to society at large.

of CSR under our management system as well as to quantify and disclose our targets on CSR.

We believe it important to sincerely listen and respond to the changing opinions and requests of our stakeholders. We will continue in our efforts to maintain our level of trust from society by sincerely examining the points raised in third-party opinions.

# ASAHI GLASS CO., LTD.

URL: http://www.agc.co.jp/english/

CSR Office 1-12-1 Yurakucho, Chiyoda-ku, Tokyo 100-8405 JAPAN Tel : +81-3-3218-5282 Fax: +81-3-3218-7801 E-mail: csr-info@agc.co.jp



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