

# AGC Report 2010



# AGC

## **Our Global Brand**

**AGC** is the global brand of the AGC Group, which conducts business in roughly 30 countries and regions worldwide. The AGC Group boasts the world's top-class technology and leading market shares in business areas such as glass, electronics and displays, and chemicals. Under the **AGC** brand, our approximately 50,000 employees work as one and create new values in order to realize the group vision *"Look Beyond"*.





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### **Communication Tools**

#### The AGC Group promotes communication with stakeholders through various tools.

General corporate activities "AGC Report" (This report)

Company brochure and annual report introducing the AGC Group's vision as well as business highlights.



Activities of each corporate site "Site Report"

#### \* On sites in Japan only

Introduces the activities conducted at Asahi Glass plants and major Group companies on issues such as the environment, work place safety and health, security and disaster prevention.\_\_\_\_\_



CSR activities "CSR Report"



Introduces the AGC Group's social responsibilities.

Rep busi cial cons

#### Financial information "Financial Review"

Reports the AGC Group's business outline and financial information including a consolidated financial statement.

Offers a broad introduction of the AGC Group through timely in-

This website offers access to the websites of major group com-



Comprehensive information

Website





AGC Group Website http://www.agc-group.com/



formation disclosure.

AGC CSR Website http://www.agc.co.jp/ english/csr/

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AGC Investor Relations Website http://www.agc.co.jp/ english/ir/

## **Top Message**

Under the New Medium-Term Management Plan "Grow Beyond-2012" We will Accelerate the Building of Foundations for Growth.



For the AGC Group, 2009 was a year for gathering our strength for the future. To respond swiftly to a rapidly changing business climate, the AGC Group took measures to streamline its businesses in all areas ranging from management to operations. In particular, the AGC Group made every effort to improve profitability and asset efficiency by taking measures such as establishing a production system that responds to demand trends, improving productivity by leveraging spare facilities and personnel, and optimizing cash management. In addition to our own efforts, the global economy gradually strengthened at the end of 2009, helping our business to recover. However, the global economic downturn hastened changes in the market structures, creating a need for us to accelerate the introduction of measures to cope with these changes.

## Contributing to a Sustainable Society by Accelerating *Grow Beyond* Measures

At the time we initially formulated our management policy **Grow Beyond**, we assumed that climate change and resource problems would become more serious and our market structure would change more dramatically with the growing importance of emerging markets by 2030. In reality, however, the market structure has been changing faster than expected. In order to respond to these drastic changes, the AGC Group needs to accelerate **Grow Beyond** measures. In addition, we believe that we must contribute to the creation of a "Sustainable Society" which, as we realized, is indispensable not only from the viewpoints of climate change and resource problems but also from a more comprehensive global viewpoint. Based on this recognition, we have clearly defined our aspirations for 2020 as follows, and set them as major polices of the AGC Group.

#### AGC's Aspirations for 2020

AGC Group aspires to excel as a highly profitable and fastgrowing global enterprise making contributions to a sustainable society by:

- . Having strong and differentiated technologies
- . Giving consideration to environmental friendliness not only of products but also for overall production processes and business activities
- . Contributing to the development of fast-growing regions

#### Building Foundations for Growth to Become a Truly Leading Global Enterprise

To achieve our aspirations for 2020, we will implement measures focusing on the following three points.

#### ① Delivering technology solutions for climate change

#### We will give due consideration to the environment in all our business operations.

Although climate change is a serious issue that could threaten the business continuity of the AGC Group, it also provides a great opportunity for us to contribute to society through our business. Recognizing our responsibility as a glass manufacturer belonging to an industry that consumes great volumes of energy, we earnestly strive to reduce energy consumption in our manufacturing processes. For example, we are developing technologies that will halve the energy consumption during the production process. Achieving significant energy-savings through technological innovations can minimize environmental burden and drastically reduce costs at the same time. Moreover we are now developing materials and parts for photovoltaic devices which can enhance power generation efficiency and highly energy-saving glass by taking advantage of our glass, chemical, and ceramics technologies. By promoting these products worldwide, we will deliver technology solutions for climate change.

#### ② Glass-technology-driven company

## —We will meet new needs through our strong and differentiated technologies.

The AGC Group will further differentiate our businesses by refining our core technologies. For example, we will advance our glass technology to produce high added-value and energy-saving glass products. Moreover, by integrating our glass, chemical, and ceramics technologies in a more proactive manner, we will provide our customers with products of higher value.

#### ③ Second round of globalization

## —As a global company, we will also contribute to the growth of emerging regions.

The AGC Group will further enhance businesses in developed regions including Japan, Europe and North America and will also expand operations in fast-growing regions. In addition to the areas where we have already established bases such as China, Russia, India, and Southeast Asia, we will take on the challenge of starting businesses in the countries and regions we have yet to enter and will contribute to the development of local communities through our business activities. In furthering our business in fast-growing regions, we will consider the use of global human resources and the establishment of a business model that differs from those used in developed regions.

#### Bringing Our People and Organization Together under the Slogan of "Our People are Our Strength"

It is indeed "our people" that actually perform various tasks necessary to build a growth foundation for the Group, tackling problem-solving and any other issues. Recognizing this, we offer sufficient growth opportunities to employees who have high motivation toward their own growth and are highly committed to their work. As the staff gain experience through such opportunities, they will be able to tackle more challenging tasks and this in turn will allow them to grow further. In addition, the AGC Group employs approximately 50,000 employees. One of our strength is that these employees are working in some 30 countries and regions with different commercial practices and social needs. Each employee will adopt and follow the four Shared Values in the Group Vision "Look Beyond" and fulfill their social responsibilities in their respective countries and regions, as well as provide products and services with high added value. Through this approach, we are aiming at becoming a true, leading global company which society expects further growth.

> Kazuhiko Ishimura President & CEO

K. Ishimura

## AGC Group Vision

Through unceasing reform and innovation, we will accelerate growth under unified global management. To this end, all members of the AGC Group around the world share our Group Vision and continue to work in unison to take on new challenges.



## "Look Beyond"

We, the AGC Group, "Look Beyond" to make the world a brighter place.

As a global materials and components supplier, based on our core technologies in glass, fluorine chemistry and their related fields, we will continue to: **"Look Beyond"**... Anticipate and envision the future,

"Look Beyond"... Have perspectives beyond our own fields of expertise and

"Look Beyond"... Pursue innovations, not becoming complacent with the status quo.

By "Looking Bevond," we will continue to create value worldwide.

demonstrating the vast potential of the Group's entire organization.

## **Our Shared Values**

Our four Shared Values are to be adopted and followed by all members of the Group and are of the foremost importance in accomplishing Our Mission. These Shared Values, described below, will serve as the basis for every judgment we make and action we take collectively and individually.

### Innovation & Operational Excellence

We will continuously pursue innovations in technology, products, services, business models and human resources. We will continuously improve our operations for maximum efficiency and quality in every activity and at all times strive for the highest possible standard of performance.

### Diversitv

We will respect individuals with different cultures, capabilities and personalities, and our global management will operate without regard to nationality, gender or background.

### Environment

We, as good global citizens, will shoulder the responsibility to contribute to a sustainable society in harmony with nature.

### Integrity

We will build open and fair relationships with all of our stakeholders based on the highest ethical standards.



## Management Policy Grow Beyond

The AGC Group will closely look at mid- to long-term changes in the market and respond to them in a timely manner to continue to grow further as a leading global company. The Management Policy *Grow Beyond* has been formulated to lead the Group's endeavors toward this end. *Grow Beyond* means "grow and change" beyond conventional frameworks such as business areas, regions, markets and existing technologies. It places top priority on building the next foundations for growth.

## Accelerating Grow Beyond Measures

To address such significant structural changes in the market, the AGC Group believes that we must contribute to the creation of a "Sustainable Society" which, as we realized, is indispensable from a comprehensive global viewpoint.

The AGC Group has clearly defined "Aspirations for 2020" as its future image. By using it as a powerful guideline, we will accelerate our **Grow Beyond** measures.

#### AGC's Aspirations for 2020

AGC Group aspires to excel as a highly profitable and fast-growing global enterprise making contributions to a sustainable society by:

- Having strong and differentiated technologies
- Giving consideration to environmental friendliness not only of products but also for overall production processes and business activities
- Contributing to the development of fast-growing regions

AGC's Aspirations for 2020

Second Round of Globalization

Build Foundations for Growth Build foundations for the growth of the AGC Group, locking at medium- and long-term structural changes in the global market.

Delivering Technology Glass-Technology-Driven Solutions for Climate Change Company

Embed the "JIKKO" mindset as the AGC Group's DNA

Our People are Our Strength - Realize the full potential of our people

Aiming to meet "Aspirations for 2020," we will work on building foundations for growth from three perspectives: "glass-technologydriven company," "delivering technology solutions for climate change" and "second round of globalization."

Specifically, to become a glass-technology-driven company, the Group will advance our glass technologies, as well as promote business differentiation by integrating the Group's core technologies in glass, chemicals, and ceramics. In addition, the Group will deliver technological solutions for climate change by achieving energy conservation in production processes and providing products based on our core technologies. Besides, the Group will push forward with a second round of globalization by proactively expanding business in emerging markets, while further enhancing profitability in the mature markets of Japan, Europe, and North America.

In order to build the foundations for growth, we will firmly establish and thoroughly imbue the mindset of the former management policy **"JIKKO"** as the DNA of the AGC Group. And, placing importance on "our people" who actually carry out all the work, we set the slogan "Our People are Our Strength." Under this slogan, the AGC Group aims to become a corporate group in which each employee exerts their full potential, and the growth of the people and the growth of the organization can nourish each other in a virtuous cycle.

## New Medium-Term Management Plan "Grow Beyond-2012"

The AGC Group has announced the establishment of a new medium-term management plan (MTP) for the Group entitled "Grow Beyond-2012" for the fiscal years 2010 to 2012. This follows the foundations for growth realized during the Group's "Grow Beyond-2010" MTP. Both MTPs derive from the Group's management policy Grow Beyond. The adoption of this new "Grow Beyond-2012" MTP reflects the Group's confidence that it has completed the reforms necessary to cope with the rapid and significant change in its business environment and embodies a confidence that the worst of declines are past in the world economy.

## Tasks in "Grow Beyond-2012"

Under our new medium-term management plan, "Grow Beyond -2012", the AGC Group regards the next three years to be a period for ensuring growth.

The first task of "Grow Beyond-2012" is a full-fledged recovery of the company performance. The Group aims to attain the highest level of business performance, and by leveraging the cash flows generated through optimum performance, we will proceed with the Grow Beyond measures and ensuring our financial strength at the same time.

The second task is accelerating **Grow Beyond** measures. The Group will promote measures to build a foundation for growth by focusing on the following three themes using the Group's core technologies in glass, chemicals, and ceramics: "glass-technologydriven company"; "delivering technology solutions for climate change"; and engaging in a "second round of globalization."

Tasks in "Grow Beyond-2012"

- Achieve full-fledged recovery of the company performance
- Accelerate Grow Beyond measures

## Investment Plan and Financial Targets

To address those tasks, the AGC Group plans to make capital expenditures totaling 450.0 billion yen over three years. In addition, the Group will proactively examine the possibility for investments and loans for M&A activities and strategic business alliances. Further, we will allocate 150.0 billion yen (three year total) to R&D activities with the particular focus on the development of energy-related businesses and electronic materials.

#### **Investment Plan**

- Capital expenditure: 450.0 billion yen (total for three years)
- In addition to capital expenditure, the Group will proactively examine the possibility for M&As and strategic business alliances.

R&D

• R&D expenses: 150.0 billion yen (total for three years)

Through these efforts, the AGC Group aims at achieving ROE (Return on Equity) of 12% or more and a D/E ratio (Debt/Equity ratio) of 0.5 or less.

#### **Financial targets**

- ROE of 12% or more
- D/E ratio of 0.5 or less

### Group Vision and Management Policy, New Medium-Term Management Plan



## Principal Measures of "Grow Beyond-2012" by Business

#### Glass Business

The AGC Group aims at continuing to be a global leader by maintaining a solid presence in developed countries and by aggressively expanding business in emerging countries.

The AGC Group considers that demand for both architectural and automotive glass bottomed out in 2009 and will recover with the growth of emerging markets such as China, but recovery in developed countries will be slow. Given such an environment, the AGC Group will enhance its cost competitiveness by radically improving productivity and production yields, while continuing to adjust the capacity utilization rate of its facilities in response to the demand. We will promote development and production of high added-value products such as solar products, and press ahead with developing and expanding sales of eco-friendly glass products that meet the needs of each region.

#### Solar-related Business

We will make concerted efforts throughout the Group to develop, manufacture, and sell solar-related components.

While growth of the solar power market slowed slightly due to the influence of the economic crisis, it is getting back on track for strong growth. In addition to the solar power market, the market for concentrating solar power generation systems is also expected to expand rapidly.

In these markets, the AGC Group will work to develop, manufacture, and sell not only glass but also solar-related components, using the Group's technologies in glass, chemicals, and ceramics.

#### **Electronics and Display Business**

In the display business, the AGC Group will build a flexible production system.

The AGC Group will respond to the FPD market, which is expected to grow at an annual average rate of 10% or more, by increasing productivity and production yields of existing facilities and making new investments. In addition, we will respond to the expanding production of FPD panels in China.

## In the electronics materials business, we will focus further on building mass-production technology and increasing productivity and production yields.

The semiconductor-related market is considered to have bottomed out in 2009 and is currently heading toward recovery. The personal computer (PC) market is expected to continue growing at an annual average rate on the order of 10%. In response to growth in these markets, we will strive to develop mass-production technologies and increase productivity and production yields.

## We will accelerate releases of new products by capitalizing on our marketing and development capabilities.

We will accelerate releases of new products in such fields as energy, display, semiconductor/electronic components, and lighting by differentiating our products with our special glass and chemicals technologies, and proactively capturing needs for glass, which are diversifying and growing at an accelerating pace.

#### Chemicals Business

The AGC Group will strengthen its business competitiveness by improving productivity, such as by consolidating production bases for intermediate fluorine materials, and taking other measures.

In addition, the Group will focus on expanding sales of products in environment- and energy-related markets including solar-related components, fluorochemicals, and urethane products that have smaller effects on the environment.

In Asia, we will enhance the capacities of facilities for basic chemicals by capturing market growth and boost sales of fluorine chemicals that meet the needs of emerging markets.

#### **Ceramics Business**

Taking advantage of possessing the ceramics technologies, the AGC Group will contribute to the development of glass-related businesses by extending the operating lives of facilities, differentiating products through higher quality, and developing furnace materials that improve production yields.

The Group will also focus on expanding sales in the environment and energy fields, including solar-related components.

## Feature An Important Part of the World We Live In

The AGC Group Makes Group-Wide Efforts to Improve the Technology of Solar Power Generation to Contribute to the Climate Change Issues.



The AGC Group supplies leading manufacturers of the CSP (Concentrating Solar Power) system with high transmittance glass and highly reflective mirrors that maximize the energy collection of the solar concentrator.

#### Contributing to improvements of power generation efficiency, durability, and productivity of solar power generation system

Japan and many other countries in the world are actively promoting the introduction of photovoltaic modules to prevent climate change. An outstanding feature of photovoltaic modules is that CO<sub>2</sub>, which causes global warming, is not emitted during the power generation process. By reducing power generation costs, photovoltaic modules are expected to be used more widely in the world.

In order to reduce power generation costs of photovoltaic modules, the AGC Group has been developing products to improve the power generation efficiency, durability, and productivity of photovoltaic modules by leveraging its core technologies in glass, chemicals and ceramics. We provide "photovoltaic cover glass with antireflection coating" and "glass substrates with transparent conductive oxide (TCO) films" to improve power generation efficiency, "fluoropolymer film for backing sheets" to improve durability, and "sputtering targets for electrodes" to improve productivity. In a bid to popularize solar power generation, we showcased our technologies and products to reduce power generation costs at the International Photovoltaic Power Generation Expo (PV EXPO) held in March, 2010.

In addition, we have begun providing "highly reflective mirrors" that can concentrate sunlight very efficiently. We also make a technological contribution to the wide adoption of solar thermal power generation, which is expected to be increasingly introduced in desert areas that enjoy a large amount of direct insolation.



AGC exhibition booth at International Photovoltaic Power Generation Expo (PV EXPO) held in March, 2010.

## Products that reduce solar power generation costs

#### Improving power generation efficiency

Photovoltaic cover glass Photovoltaic cover glass is designed to cover the light-receiving surface of a photovoltaic module. Our products use high transmittance glass so that the sunlight of the entire spectrum can be efficiently captured into the photovoltaic cell layer. We also offer cover glass with antireflection coating on the surface to boost the transmittance.



Improving power generation efficiency Glass substrates with TCO film for thinfilm silicon photovoltaic module

In a thin-film silicon photovoltaic module, glass substrates coated with TCO film serve as the light-receiving electrodes and have both the function to efficiently capture effective wavelength light into photovoltaic cells as well as the function to work as conductor to efficiently bring out generated electrical energy. The AGC Group's Type HU TCO film can efficiently confine light to the photovoltaic cells due to its high diffusivity (haze rate) up to 90% of incoming sunlight.



#### Improving durability Fluoropolymer film for backing sheets

AGC's fluoropolymer films have excellent weatherability and they do not deteriorate even if left outdoors for a long time. This feature contributes to improving the photovoltaic modules' durability. Another feature of this product is its light weight, which helps reduce the weight of photovoltaic modules.



Improving productivity

Sputtering targets for electrodes

The sputtering targets are used to fabricate TCO films, which are used as electrodes on photovoltaic cells. By stabilizing electrical discharge during film deposition, they produce high-quality thin film very efficiently.



### Feature An Important Part of the World We Live In

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2 LUMIFLON<sup>™</sup> Protects the Beauty of the Tokyo Sky Tree, the World's Tallest Broadcasting Tower at 634 Meters.

#### The Tokyo Sky Tree

The Tokyo Sky Tree is being constructed in Mukojima in Tokyo's Sumida Ward as a new symbol of Tokyo. It is expected to be used for various purposes including as a broadcasting tower for terrestrial digital television and as an observation tower offering breathtaking sights of Tokyo from a whole new perspective.

Construction client: Tobu Tower Sky Tree Co., Ltd.; Constructor: Obayashi Corporation



A windmill protected by LUMIFLON

## LUMIFLON™ Coating Protects Materials and Maintains Aesthetic Look

The Tokyo Sky Tree is currently under construction and is scheduled to be completed in 2011. When completed at a planned height of 634 meters, it will become the tallest broadcasting tower in the world. Because the exterior cannot regularly undergo maintenance, the tower needs a coating with excellent corrosion resistance and weatherability properties that will not deteriorate for a long time.

LUMIFLON is a high-weatherability fluoropolymer for coatings, which was developed using the AGC Group's fluorochemical technology. During the more than 20 years since its commercialization in 1982, the material has won trust as a maintenance-free coating. It also won high praise for its ability to reduce total volatile organic compound (VOC) emissions over the long-term. These features led to LUMIFLON being adopted for The Tokyo Sky Tree. Compared to polyurethane resins, which need to be reapplied roughly every seven years, coatings using LUMIFLON need only to be reapplied every 25 years.

LUMIFLON has been adopted in more than 200,000 projects of large-scale structures such as skyscrapers and bridges over the ocean as well as aircraft and vehicles, mainly in Japan. In the future, overseas business is expected to increase as the advantages of LUMIFLON resins become known.

Testing LUMIFLON's weatherability on a bridge.



A bridge beam (in its 16<sup>th</sup> year) without LUMIFLON coating



A bridge beam (in its 21st year) with LUMIFLON coating

## Major examples of LUMIFLON<sup>™</sup> usage

#### Burj Al Arab

At 321 meters tall, the Burj Al Arab is one of the world's tallest as well as most luxurious hotels. As a highweatherability fluoropolymer for coatings, LUMIFLON protects high-rise buildings from ultraviolet rays.



Photo by Satoru Mishima, Nikkei BP

#### Marunouchi Building

LUMIFLON is also used on buildings in Marunouchi, one of the main business districts in Tokyo.



#### **Rainbow Bridge**

In harsh natural environments like the sea surface, LUMIFLON protects the bridge's framework from chloride damage and helps bridges maintain their beauty.



Passenger Aircraft LUMIFLON is also used in aircraft and helps maintain high gloss and color.



## **Research & Development** Research & Development Creating the Future of the AGC Group

Since its foundation, the AGC Group has developed its core technologies centered on glass, fluorine chemistry and ceramics technologies.

The AGC Group looks at various trends with a long-term vision, sets the direction of our technology strategy, and is striving to build the foundations for growth set forth in Grow Beyond through sophistication, combination and application of our core technologies.

#### Technology Outlook and Technology Roadmap, which define the direction of technology strategies

In addition to mid- to long-term business strategies, the AGC Group formulates a Technology Roadmap based on our Technology Outlook that looks at various trends with a long-term vision in areas such as energy, resources and population, and thereby sets the direction of our global technology strategy.



#### Carrying out seamless operations ranging from basic research to product development

In R&D, the Research Center handles basic, long-term, innovative, and inter-business themes, while the Production Technology Center and Engineering Center undertake the development of innovative production technologies and equipment technologies. The Development Centers of each In-House Company enhance production technologies and undertake product development in close contact with customers. In fiscal 2010, the Production Technology Center was separated from both the Research Center and the Engineering Center in a bid to promote and accelerate "Glass-technology-driven company" as one of the foundations for growth.

#### Building foundations for growth through sophistication, combination and application of our core technologies

The AGC Group positions "glass materials and glass production technologies," "coating technologies," "optics and electronics technologies," "ceramics material technologies" and "fluorine chemistry technologies," as well as "fundamental common technologies" that support the above, as its current core technologies.

Through sophistication, combination and application of our core technologies, we will work to develop technology for implementing "group-wide promotion of solar business," "measures against climate change" and "glass-technology-driven company" as the foundations for growth set forth in our Grow Beyond management policy.



Materials development:

**Research Center** 

Production technology:

Production Technology Center

Commercialization

technology

Enhanced production

technology

Core technologies of the AGC Group and foundations for growth set forth in Grow Beyond





Foundations for growth Grow Beyond : Future business domains

### Group-wide promotion of solar business

#### Improving the efficiency of solar power generation

#### Glass substrates with TCO film for thin-film silicon photovoltaic module

This film scatters light by means of their surface concavoconvex texture, to conduct more light into the photovoltaic layer for higher power generation efficiency.

#### Glass mirrors for solar thermal generation

We provide high transmittance glass and highly reflective mirrors that maximize the energy reflectance of solar concentrators for solar photovoltaic cover glass thermal power generation system.





Concentrating solar thermal power generation system (highly reflective mirror)

## Glass-technology-driven company

#### Improving the energy efficiency of the glass production process

Total Oxygen Combustion Method By sending only oxygen to a glass melting furnace, it will reduce nitrogen oxide emissions and improve energy efficiency.

In-flight melting technology Granulated raw material mixtures

are injected into a furnace and instantaneously melted by a combustion flame or plasma. This technology will enable halving CO<sub>2</sub> emissions and energy consumption during the production process.



### Measures against climate change



The CO2 recycling system in the glass production process

#### Environmentally friendly products

Architectural glass (improves air conditioning efficiency) Automotive glass (improves fuel efficiency, responds to Eco-Cars)

Chemicals recycling (collection and decomposition of greenhouse gasses)





Automotive glass

#### Reducing the environmental impact of fluorinated products

Coolants with zero ODP (Ozone Depletion Potential) Coolants with one-digit Global Warming

Potential (GWP)



Coolants with zero Ozone Depletion Potential (ODP) ASAHIKLIN AE-3000

## **AGC Group Now**

To foster a deeper and clearer understanding of the AGC Group, we introduce our recent overall business-related activities in the following section. This includes a review of our business results for the fiscal year ended December 31, 2009, and an overview of each business

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segment, as well as a description of our corporate social responsibility (CSR) initiatives.

Marunouchi Park Building



## Corporate Data

• Name	Asahi Glass Co., Ltd.	
Head Office	1-12-1, Yurakucho, Chiyoda-ku, To	okyo 100-8405 JAPAN
• Founded	September 8, 1907	
Incorporated	June 1, 1950	
• Capital · · · · · · · · · · · · · · · · · · ·	90,873 million yen	
Outstanding stock	1,186,705,905 shares	
• Employees	6,330 (non-consolidated) 47,618 (	consolidated)
Consolidated Group companies · · ·	178 (141 overseas)	As of the end of December 2009

## Organization Data



## Consolidated Financial Highlights







## AGC Group around the World

As a global supplier of materials including glass, electronic materials, chemicals and ceramics, the AGC Group carries out its business activities in Japan, Asia, Europe and North America, backed by approximately 50,000 employees in roughly 30 countries and regions worldwide.



## AGC Global Network

#### • AGC Asahi Glass Co., Ltd.

- Japan
- AGC Glass Kenzai Co., Ltd.
- AGC Okinawa Glass Kenzai Co., Ltd.
- AGC Glass Products Co., Ltd.
- AGC Amenitech Co., Ltd.
- AGC Fabritech Co., Ltd.
- AGC Automotive AMC Co., Ltd.
- AGC Automotive ACC Co., Ltd.
- AGC Automotive Takahashi Co., Ltd.
- AGC Display Glass Yonezawa Co., Ltd.
- AGC Electronics Co., Ltd.
- AGC Techno Glass Co., Ltd.
- AGC Micro Glass Co., Ltd.
- Ise Chemicals Corporation
- AGC Si-Tech Co., Ltd.
- AGC Engineering Co., Ltd.
  AGC Seimi Chemical Co., Ltd.
- AGC Coat-Tech Co., Ltd.
- AGC Polymer Material Co., Ltd.
- AGC Green-Tech Co., Ltd.
- AGC Wakasa Chemicals Co., Ltd.
- AGC Matex Co., Ltd.
- AGC Ceramics Co., Ltd.
- AGC Research Institute Co., Ltd.
- AGC Insurance Management Co., Ltd.
- AGC Finance Co., Ltd.
- AGC Logistics Co., Ltd.
- AGC Technology Solutions Co., Ltd.

#### Asia Thailand

- AGC Flat Glass (Thailand) Public Co., Ltd.
- AGC Automotive (Thailand) Co., Ltd.
- AGC Electronics (Thailand) Co., Ltd.
- AGC Techno Glass (Thailand) Co., Ltd.
- AGC Micro Glass (Thailand) Co., Ltd.
- AGC Chemicals (Thailand) Co., Ltd.
- AGC Technology Solutions (Thailand) Co., Ltd.

#### Indonesia

- P.T. Asahimas Flat Glass, Tbk
- P.T. Asahimas Chemical

#### Singapore

- AGC Flat Glass Asia Pacific Pte. Ltd.
- AGC Electronics Singapore Pte. Ltd.
- AGC Chemicals Asia Pacific Pte. Ltd.
- AGC Singapore Services Pte. Ltd.

#### Malaysia

- AGC Flat Glass (Malaysia) Sdn. Bhd.
- MCIS Safety Glass Sdn. Bhd.

#### The Philippines

- AGC Flat Glass Philippines, Inc.
- AGC Automotive Philippines, Inc.

#### Taiwan

- AGC Display Glass Taiwan Co., Ltd.
- AGC Electronics Taiwan Co., Ltd.

#### India

Asahi India Glass Co., Ltd.

#### China

- AGC Flat Glass (Dalian) Co., Ltd.
- AGC Flat Glass (Suzhou) Co., Ltd.
- AGC Flat Glass Protech (Shenzhen) Co., Ltd.
- AGC Flat Glass (Hong Kong) Co., Ltd.
- AGC Automotive China Co., Ltd.
- AGC Automotive Foshan Co., Ltd.
- AGC Chemicals Trading (Shanghai) Co., Ltd.
- Zibo Asahi Glass Alumina Materials Co., Ltd.
- Zibo GT Industrial Ceramics Co., Ltd.
- Plibrico (Dalian) Industries Co., Ltd.
- AGC Shanghai Co., Ltd.

#### Korea

- Korea Autoglass Corporation
- Hankuk Electric Glass Co., Ltd.
- Hanwook Techno Glass Co., Ltd.
- Asahi Glass Fine Techno Korea Co., Ltd.
- Asahi PD Glass Korea Co., Ltd.
- AGC Display Glass Ochang Co., Ltd.



\* Year ended December 2009

\* The total percentage of employees does not add up to 100% due to numbers being rounded off.
 \* Sales and operating income by region are before eliminations, therefore the total amounts of sales and operating income for regions do not agree with total sales and operating income.

#### North America

#### The United States

- AGC Flat Glass North America, Inc.
- AGC Soda Corporation
- AGC Automotive Americas Co.
- AGC Automotive Americas R&D, Inc.
- AGC Electronics America
- AGC Chemicals Americas. Inc.
- AGC America, Inc.
- AGC Capital, Inc.
- AGC Investment Inc.
- AGC Holdings America, Inc.
- Canada
- AGC Flat Glass North America Ltd.
- AGC Automotive Canada, Inc.

#### Mexico

• AGC Automotive Glass Mexico, S.A. de C.V.

#### Europe Belgium

- AGC Glass Europe
- AGC Flat Glass Roux
- AGC Automotive Europe
- AGC Automotive Belgium
- AGC Europe

#### The Netherlands

AGC Flat Glass Netherlands B.V.

#### The United Kingdom

- AGC Automotive UK, Ltd.
- AGC Chemicals Europe, Ltd.

#### Czech Republic

- AGC Flat Glass Czech a.s., Clen AGC Group
- AGC Automotive Czech a.s.

#### Russia

- OJSC AGC Bor Glassworks
- AGC Flat Glass Vostok LLC
- AGC Flat Glass Klin LLC

#### France

AGC France

#### Japan

Number of employees: approx. 12,700 Net sales: ¥658.6 billion Operating income: ¥27.5 billion Main business: Flat glass, automotive glass, display glass, electronic materials, chemicals, ceramics

#### Asia

Number of employees: approx. 18,000 Net sales: ¥418.0 billion Operating income: ¥78.3 billion Main business: Flat glass, automotive glass, display glass, electronic materials, chemicals, ceramics

#### North America

Number of employees: approx. 3,700 Net sales: ¥76.5 billion Operating income: ¥–12.5 billion Main business: Flat glass, automotive glass, electronic materials, chemicals

#### Europe

Number of employees: approx. 13,200 Net sales: ¥236.1 billion Operating income: ¥–6.5 billion Main business: Flat glass, automotive glass, chemicals

#### Italy

- AGC Flat Glass Italia S.r.I
- AGC Automotive Italia S.r.I

#### Spain

AGC Flat Glass Iberica S.A.

#### Germany

AGC Automotive Germany Gmbh

#### Hungary

AGC Automotive Hungary Ltd.

#### Poland

AGC Gdansk Sp. z o.o.

#### Turkey

 AGC Otomotiv Adapazari Üretim, Sanayi Ve Ticaret Anonim Sirketi

#### Glass Electronics and Display

- Chemicals
   Ceramics
- Others

## As of end of March 2010, companies such as equity method affiliates that do not incorporate the "AGC" brand in their names are included.

## **Outline by Business Segment**

## **Glass Operations**

#### 2009 Overview

Sales in the flat glass business decreased year-on-year because shipments declined in Japan, North America and Europe while the demand recovered in Asia, notably in China. In Europe, while prices dropped sharply with a slump in demand, the Group adjusted the capacity utilization rate of its facilities to meet the weak demand, and has been trying to restore prices since the second quarter of the year. In the meantime, although the growth in shipments of glass for solar power systems temporarily slowed down, it got back on a recovery track after the middle of the year.

In the automotive glass business, shipments began to recover after the middle of the year due to the effect of demand stimulus measures implemented in various countries. However, shipments for the full fiscal year remained at low levels and sales in this business decreased year-on-year. Further, the Group ceased the automotive glass operations at the Kitakyushu Plant in December 2009.

As a result, net sales from the Glass operations for the fiscal year was 525.0 billion yen which was 216.3 billion yen or 29.2% decrease year-on-year, and operating loss was 35.0 billion yen which was 53.7 billion yen worse year-on-year.



#### Flat glass

- Float flat glass, figured glass, polished wired glass, heat-absorbing glass, heat-reflective glass, fabricated glass for architectural use, fabricated glass for industrial use, etc.
- Glass for solar power system

#### Automotive glass

- Automotive tempered glass, automotive laminated glass, etc.
- Other glass
  - Lighting lamp glass products, industrial glass products, etc.

## **Electronics and Display Operations**

#### 2009 Overview

Sales in the display business increased year-on-year on the strength of the rapid increase in the AGC Group's shipments from the latter half of the first quarter following a rebound in demand for glass substrates for flat panel displays (FPDs).

In the electronics materials business, although shipments have been recovering gradually since the second half of the year, shipments for the full fiscal year remained at low levels and sales decreased year-on-year.

As a result, net sales from the Electronics and Display operations for the fiscal year was 369.3 billion yen which was 3.4 billion yen or 0.9% decrease year-on-year, and operating income was 126.9 billion yen which was 0.4 billion yen or 0.3% increase year-on-year.

#### Main Products

#### Display

• LCD glass substrates, PDP glass substrates, glass bulbs for cathode-ray tubes, etc.

#### Electronic materials

• Glass frit and paste, materials for semiconductor manufacturing equipment, synthetic quartz glass, optoelectronics materials, optical filters for PDPs, LCD designed front glass, LCD backlight glass tubes, optical membranes, etc.



#### Net Sales/Operating Income





Year ended December 2009 Sales to customers

Net Sales/Operating Income



## **Chemicals Operations**

#### 2009 Overview

In the chlor-alkali & urethane business, sales decreased year-on-year. Shipments in Asia remained robust over the course of the year. Meanwhile, shipments in Japan dropped compared with the previous fiscal year but have been picking up gradually since the middle of the year.

In the fluorochemicals & specialty chemicals business, shipments of fluoropolymers dropped sharply in particular and sales decreased compared with the previous fiscal year.

As a result, net sales from the Chemicals operations for the fiscal year was 233.7 billion yen which was 69.4 billion yen or 22.9% decrease year-on-year, and operating loss was 7.7 billion yen which was 11.6 billion yen worse year-on-year.

#### Main Products

#### Chlor-alkali & urethane

• Vinyl chloride monomers, caustic soda, urethane materials, gases, solvents, etc.

#### Fluorochemicals & specialty chemicals

 Fluoropolymers, water and oil repellents, battery materials, iodine-related materials, etc.



20.1%

Year ended December 2009 Sales to customers





## Other Operations

#### 2009 Overview

In the ceramics business, sales decreased year-on-year due to the decline in demand both in the glass engineering market and in the environmental energy market.

As a result, net sales from the Other operations for the fiscal year was 68.9 billion yen which was 27.7 billion yen or 28.7% decrease year-on-year, and operating income was 2.0 billion yen which was 3.0 billion yen or 59.4% decrease year-on-year.

#### Main Products

Ceramics products, etc. Logistics services, financial services





## **Business Overview**

## **Glass Operations**

Glass Operations covers businesses with focus on flat glass and its use in architectural, automotive, and solar (photovoltaic) fields and maintains a leading share in these fields on a global basis. The architectural flat glass business is operated on a regional basis, with regions devising their respective product line-ups matching the particular characteristics of their respective geographic regions. The automotive glass business is characterized by global scale and operation, in line with the requirements of an automotive industry that operates on a global basis.

Global market share (AGC estimates)
 Flat glass

Automotive glass (new vehicle market)





İHH



Low-E double-glazed glass featuring high insulation and heat-shielding properties

No.1

No.1



Park Building



Color glass for interior surface wall



Photovoltaic cover glass "Solite™"





Safety glass for automobile windshields that will hold together when shattered



Tempered glass for automobile side windows, shock-resistant and specially treated to shatter into granules if broken

#### As part of our business foundation, we constantly strive to meet customer needs for superior performance by providing an extensive line-up of products, with a leading global share.

The AGC Group currently operates approximately 40 float glass furnaces around the world, supplying a wide variety of glass products to markets in Europe, North America, Japan and Asia. In 2009, the AGC Group integrated its flat glass business and automotive glass business to enhance its global manufacturing and supply structure through seamless production and operation ranging from raw glass production, processing and making into final glass products.

In the Glass Operations, the AGC Group undertakes manufacturing of glass in an environment-friendly manner through efficient processes that have minimal impact on the environment. The Group has a well-focused marketing network to promote the use of glass products matching the local trends and characteristics

## PairPlus™: Ecoglass for remodeling



"PairPlus™" is glass that incorporates an attachment frame into double glazing so that the unit can be installed in a single glazing sash used in an existing house.

#### Photovoltaic TCO\*1 glass substrates



Glass substrates with TCO films which function as electrodes for thin-film silicon photovoltaic module.

\*1 TCO: Transparent Conductive Oxide

of geographic regions. "Benchmarking" and "Sharing of Best Practices" are the regular features that are being promoted in the pursuit of "Continuous Improvement" across the Group.

The AGC Group also actively promotes the production and wide adoption of glass for photovoltaic and concentrating solar power generation use and energy-saving glass (Low-E double-glazed glass), thus targeting to expand business by responding to growing demands from emerging markets.

For automotive glass, the Group provides high-quality products and services through its global network in a timely manner to the global production bases of automakers. The business includes development and provision of high added-value products to be used for compact cars and ecologically friendly cars.

## Coolverret $\ensuremath{\mathsf{TM}}$ : contributing to improved energy-saving performance of automobiles



Coolverre  ${}^{\rm TM}$  is a thermal insulating laminated glass for automotives that blocks infrared rays (IR) and ultraviolet rays (UV).

#### TOPICS

#### Going ahead of the times -the embedded DTV compatible glass antenna

In Japan, all analogue broadcasting will be replaced by digital broadcasting in July, 2011. The AGC Group launched volume manufacturing of in-car antennas in July, 2007, going ahead of the times. The antenna is the world's first glass antenna designed under a new concept of the embedded highly receptive sealed type antenna, with distinctive appearance, inside the laminated glass. Its greatest feature is the adoption of the technology that allows the signals received at the embedded antenna to be transmitted to the electrodes on the in-car glass surface with minimum loss. Therefore, the installation can be done without complicated electrical connection setup.

It has been used widely as an automotive antenna because it will not sacrifice the car-body design and is easier to maintain, more durable and can be lightweight.



## Non-wired, fire-resistant glass "Myboka™" contributes to improving the interior environment of buildings

The "Myboka<sup>™</sup>" glass released in December 2009 is a highly fire-resistant, non-wired glass with enforced thermal resistance. Currently, more than 90% of Japan's fire-resistant glass uses wire-reinforced glass. But the shortcoming was that it cannot secure a clear view because the wire blocks visibility. In recent years, as window sizes become larger, there has been an increasing demand for a fire-resistant glass that offers clear visibility. This is why AGC launched a plant exclusively for "Myboka<sup>™</sup>," and started sales of the product. In addition, by using "Myboka<sup>™</sup>" for double-glazing glass and Ecoglass (low-E double-glazed glass), the thermal resistance features on such products can be improved. AGC aims to contribute to preventing global warming and improving the interior environment of buildings by offering highly functional glass.



Wired glass

Myboka™

### **Business Overview**

## **Electronics and Display Operations**

No.2

**No.1** 

Electronics and Display Operations covers businesses with focus on "display" and "electronic materials." The display business offers glass for all major types of displays, including thin film transistor liquid crystal displays (TFT LCDs) and plasma display panels (PDPs), and enjoys a leading share of the global market in this area. The electronic materials business deals with fields, such as optoelectronics, storage, and new energy, which are expected to grow remarkably in the years ahead.

Global market share (AGC estimates)
 Glass substrates for TFT LCDs
 Glass substrates for PDPs







Glass substrates for TFT LCDs

Synthetic guartz glass







LCD backlight glass tubes





Optical planar devices

Micro glass lenses

#### We supply materials that are indispensable in numerous industries, and support the advancement of displays and other devices.

The AGC Group manufactures glass substrates for various types of displays, mainly thin film transistor liquid crystal displays (TFT LCDs) and glass substrates for plasma display panels (PDPs). The AGC Group will develop and offer products with high added value by responding to various market trends that include increasingly larger-sized LCD panels. The Group will also continue to improve its production system and enhance the productivity of existing facilities, as well as develop new production facilities.

The AGC Group is targeting electronics and energy fields, focusing on the sectors of "semiconductor process materials," "display materials," "photonics components," "storage materials," and "energy materials" to cultivate this business as next-generation growth pillars.

The Group will endeavor to expand existing businesses and create new businesses by reinforcing its production technologies to provide high added-value products utilizing our strength of integrated production starting from raw materials and through the promotion of R&D in growth areas such as optical planar devices, micro glass lenses for digital cameras and glass substrates for hard disk drives.



#### The structure of hard disk drive



personal computers are made by forming a film of magnetic material on a glass substrate. A high degree of precision is required for this glass substrate, as even a microscopic irregularity will affect the forming of the film.

#### TOPICS

#### Contributing to the realization of the next-generation micro-fabrication technique, "Nanoimprint" lithography -Developing an environmentally friendly mold release production process-

"Nanoimprint" is ready to be mass-produced on a full scale as a next-generation micro-fabrication technique to be employed in electronics production. While it can raise processing precision at low cost, challenges in the past included the problem of how to remove the high-precision substrate from the molded product. Using the AGC Group's long-accumulated fluorinated chemical technology as the core, the Group developed various mold-release processes using fluoropolymer-coating quartz substrates and fluorinated UV cured resin to replace conventional releasing agents. Because there is no need to use environmentally harmful solvents as releasing agents, this process can reduce environmental impact. We plan to promote this process in the manufacturing processes for light-emitting diodes (LEDs), photovoltaic devices, and semiconductors in the future.



An example of micro-fabrication using "Nanoimprint" technology

#### Launching sales of **FON**<sup>†</sup>EX<sup>™</sup> -a commercial plastic optical fiber enabling the world's highest transmission speed

The AGC Group plans to start sales of  ${\rm FONTEX^{\rm TM}}$  (the name is derived from a word meaning "fountain of light"), a new fluoropolymer-based plastic optical fiber (POF), starting July 2010. FONTEX<sup>™</sup> is the world's first optical fiber product that combines high-capacity data communication at speeds of 10 Gbps (Gigabit per second) and secure data transmission even when bent, which is something we could never have dreamed of achieving with the existing silica optical fibers.

FONTEX<sup>TM</sup> is the optimal choice for products that are subject to be handled roughly and require high-capacity data transmission such as wiring displays for high-definition televisions and 3D televisions, which have been drawing public attention recently, and connecting peripheral devices to computers. Also, FON-TEX<sup>TM</sup> is being studied for adoption in the medical field and by data centers because of its feature of generating no electromagnetic noise and consuming little power.

In addition, the AGC Group participates as a core member in a research project titled "Plastic optical fiber for the world's highest data transmission speed," which was decided to secure a grant from the "Funding Program for World-Leading Innovative R&D on Science and Technology" provided by the Cabinet Office of the Japanese Government. We will aim at achieving a further ultra-high transmission speed (40 Gbps or

above) on a volume production level. AGC will venture into the markets for home information appliances and other wide-ranging fields in the rapidly growing markets for optical cables. We will accelerate the release of new products by leverag-

ing our marketing and development capa-

bilities



capable of high-capacity data transmissions

### **Business Overview**

## Chemicals Operations and Other Operations

Chemicals Operations conducts businesses with focus on "chlor-alkali & urethane" and "fluorochemicals & specialty chemicals," and it enjoys a leading global share in fluoropolymers (ETFE) for highly functional fluoropolymer films and other essential applications.

Other operations include ceramics, logistics and engineering businesses.

Global market share (AGC estimates)
 Fluoropolymers (ETFE)
 No.1







CYTOP™ transparent fluoropolymers for pellicle coating in semiconductor applications



Munich stadium (an example for application of highly functional fluoropolymer filr



The Akashi Kaikyo Bridge, treated with highly weatherresistant Lumiflon™ fluoropolymer coating

Flemion™ ion-exchange membranes

Roiceram<sup>™</sup>-C fine ceramics (silicon carbide)



Asahi Guard™ fluorinated water and oil repellents for coating

## We fulfill the latest needs through chemical technologies, and develop extensive operations in ceramics, logistics and engineering.

silica.

Other Operations

#### Chemicals Operations

The AGC Group's Chemicals Operations was originally established in 1917 to internally supply soda ash, a source material for flat glass. We are expanding our business domain to include basic chemicals essential to the industry such as caustic soda and hydrochloric acid as well as numerous value-added fluorinated products applying fluorochemicals, AGC's core technology, and urethanerelated products by utilizing chlorine, a byproduct of the caustic soda production process. Using the electrolysis of salt water as a base point, the AGC Group carries out integrated manufacturing of products, ranging from basic chemicals to high-performance chemicals. From raw materials to end products, throughout the entire manufacturing process, the Group makes efforts to produce products in an environmentally-friendly manner.

The Group's "chlor-alkali & urethane business" offers such chloralkali products as caustic soda, sodium bicarbonate, and vinyl

Crude salt is the raw material of basic chemicals, which in turn leads to the development of performance chemicals



F-Clean<sup>™</sup>, a high-performance fluoropolymer film with additional functions for greenhouse coverings



the environment and energy fields such as developing refractory materials for glass production facilities, solar-related parts and high-performance thermal insulating refractory.

chloride monomer; urethane-related products centering on polyols; as well as gas and solvents. Meanwhile, the "fluorochemicals

& specialty chemicals business" offers fluorochemicals, mainly

fluoropolymers, fluoropolymer films, fluoropolymer for coatings,

fluorinated water and oil repellents, as well as such specialty

products as battery materials, liquid crystal materials and fine

The Other operations are composed of the ceramics business

and a host of service-related businesses that include logistics and

engineering. The ceramics business is strengthening its efforts in

#### Ceramics sputtering target



#### TOPICS

## Fluon® ETFE Film is used in the Japan pavilion at Expo 2010 Shanghai China

AGC Group's high-performance fluoropolymer film Fluon® ETFE Film is used in the Japan pavilion Zi Can Dao (purple silkworm island) at Expo 2010 Shanghai China.

Fluon® ETFE Film, which is used as a membrane material in this pavilion, is a film produced from high-performance fluorores, which AGC manufactures through an integrated production process from raw material to final product. Fluon® ETFE Film is widely used because of its excellent heat resistance, chemical resistance, and transparency. It is also used increasingly as a construction material, mainly overseas.



The Japan pavilion Zi Can Dao in the Expo 2010 Shanghai China (CG image)

FRP grating\*1 decorates Yokohama Port's 150th Year

Japan's Yokohama Port celebrated its 150th anniversary in 2009. The Zou-nohana (elephant trunk) area played a central role in the port's opening and has been redeveloped as Zou-no-hana Park, where a monument was built under the concept of the port's origins. A fiber-reinforced plastic (FRP) grating made by AGC Matex has been selected to be a part of the monument, which consists of a vast circle of illuminating screen panels. The combination of the light panels symbolizing the modern age and cast iron louvers giving out a touch of history has won praise from various fields. The AGC Group's FRP grating is strong, light and stainless, and it has won high praise for its design as well. It is used in many buildings and structures, and an increasing interest is being shown in the use for photovoltaic module mounts. In addition, our highly weather-resistant Lumiflon<sup>™</sup> fluoropolymer coating is used on the monument's body.

\*1 A lattice-shaped panel using fiber-reinforced plastic (FRP)



"Zou-no-hana Park" decorated with FRP gratings

## 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.

In accomplishing this mission, all employees of the AGC Group are encouraged to take action based on the Group's shared values of "Innovation & Operational Excellence," "Diversity,""E nvironment," and "Integrity." We would thereby like to achieve sustainable growth as a socially trusted corporate group.

As a declaration of our commitment to achieving this target, we have established the AGC Group Charter of Corporate Behavior.

#### AGC Group Charter of Corporate Behavior (Extract)

- Integrity: Sincere Behavior
- Environment and Safety: With Due Consideration
- Diversity: Respect for People
- Harmony with Society: From "Responsibility" to "Reliability"

### CSR Activities under AGC Group Charter of Corporate Behavior

#### Integrity: Sincere Behavior

#### Compliance

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.

#### With Business Partners

For the fulfillment of its CSR, the AGC Group believes that it is essential to cooperate with business partners who are the members of the Group's supply chain. Based on this belief, we will press forward with CSR measures in cooperation with our business partners.

#### Quality and Customer Satisfaction (CS)

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

#### Environment and Safety: With Due Consideration

#### Environmental Activities

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

#### Industrial Safety & Security

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

#### Occupational Health & Safety

Based on the policy that "no production should be operated without assurance of safety," the AGC Group is ensuring occupational health and safety at its production sites by applying its Occupational Health and Safety Management System (OHSMS) and securing the equipment's safety.

### Employee Satisfaction (ES): Employe

**Diversity: Respect for People** 

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

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

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

#### Social Contribution Activities

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

#### Communication Activities

The AGC Group proactively discloses corporate information in a timely and appropriate manner so as to ensure sufficient communication with our stakeholders. Through such continuing efforts, the AGC Group aims to incorporate your opinions into our CSR activities and gain your understanding and support for our Group-wide activities.

For more details, see AGC Group CSR Report 2010

AGC CSR Report

AGC CSR Website http://www.agc.co.jp/english/csr/

## Corporate Governance / Internal Control / Risk Management

#### Approach to Corporate Governance

As stated in its basic policy on corporate governance, Asahi Glass clearly separates the function of "oversight" and "execution" of management, aiming to reinforce the management oversight function while ensuring quick decision-making in management execution.

Corporate Governance Structure

The Board of Directors of Asahi Glass comprised seven directors, including three outside directors. In order to ensure the independence of outside directors, we have established our own selection criteria. We comply with these inhouse criteria as well as the provisions on outside directors set forth in the Companies Act.

For the selection and evaluation of directors and executive officers and for their compensation, we have respectively established the Nominating Committee and the Compensation Committee. We entrust these non-statutory advisory committees to deliberate related matters, thereby ensuring the objectivity of any decisions made. As to the compensation of directors (excluding outside directors) and executive officers, we have introduced stock compensation-type stock options allowing them to share benefits with shareholders, and have also introduced performance-linked bonuses for executive officers (including directors who serve also as executive officers). Outside directors, on the other hand, are paid only monthly compensation. Under this policy, we have been implementing measures to further improve both our management system and internal control system in order to ensure highly transparent and efficient management.

AGC Group's Corporate Governance Structure (Outline)\*1



<sup>\*1.</sup> As of March 30, 2010

\*2. 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 three In-house Companies: Glass Company, Electronics Company, and Chemicals Company. Business units of smaller sizes are defined as Strategic Business Units (SBUs).

#### Internal Control

In response to the enforcement of the Companies Act, Asahi Glass decided on its corporate policy over internal control at the Board of Directors meeting held in May 2006, aiming to review its business operation systems, including the compliance system based on the policy, to ensure their appropriateness.

After introducing the internal control reporting system in compliance with the Financial Instruments and Exchange Act, we set the AGC Group's rules for internal control over financial reporting. Based on these rules, we proceeded with the documentation of process-level controls over financial reporting, identification of risks and organization of controls, and assessment of the implementation of controls. We then started the full implementation of internal control over financial reporting in fiscal 2009.

#### **Risk Management**

Based on its corporate policy over internal control, the AGC Group makes it a rule to identify important risk factors and monitor and discuss the state of risk control periodically at meetings of the Management Committee and the Board of Directors.

In identifying important risk factors, we conduct questionnaire surveys across the Group to create risk maps and assess risks. The Management Committee and the Board of Directors then discuss the factors at their meetings, and the related organizations formulate action plans to implement the Plan, Do, Check, and Act (PDCA) cycle for the continuous improvement of their risk control levels. Additionally, for important risk factors which might cause large-scale accidents and disasters, we are implementing measures to formulate and operate business continuity plans (BCPs). Specifically, we are taking countermeasures against the new type influenza and natural disasters such as earthquakes.

#### Internal Audit

The AGC Group has established a global internal audit system to manage its organization in Asia including Japan, Europe and North America. Through this system, independent monitoring is conducted on internal control and risk management measures implemented throughout the Group's organizations in the regions to ensure the effectiveness and efficiency of the measures. Under this system, the audit departments in each region monitor the progress made in establishing systems of internal control and risk management within their regions, and the legality and rationality of the implementation of the above systems for further improvement.

The internal audit results are reported to the AGC Group's CEO as necessary as well as its Board of Directors on a periodic basis.

#### CSR Promotion System

The AGC Group established its CSR Committee in 2005. This Committee, which serves as an organization to lead the fulfillment of CSR by the Group, is chaired by the CEO and composed of the CTO, CFO, and the heads of the in-house organizations. It discusses the Group's CSR-

related policies and issues. In addition, the Group Corporate CSR Office, which is led by a dedicated executive officer, serves as the secretariat for the Committee and its monthly meetings, while taking charge of CSR activity planning and CSR communications for the entire Group.

## Board of Directors, Corporate Auditors and Executive Officers

## Board of Directors



Masahiro Kadomatsu Chairman of the Board



Kazuhiko Ishimura Representative Director President & CEO



Katsuhisa Kato Representative Director Executive Vice President & CTO



Takashi Fujino Director Senior Executive Officer & CFO



Kunihiro Matsuo Director (Outside) Attorney At Law, Kunihiro Matsuo Law Office



Hajime Sawabe Director (Outside) Representative Director Chairman, TDK Corporation



Toru Nagashima Director (Outside) Chairman of the Board, Teijin Limited

## **Executive Officers**

- President & CEO Kazuhiko Ishimura CEO; GM of Group Strategy Office
- Senior Executive Vice Presidents Yuji Nishimi President of Electronics Company

Akio Endo President of Glass Company

• Executive Vice President

Katsuhisa Kato CTO; Deputy GM of Group Strategy Office

• Senior Executive Officers

Kei Yonamoto Vice President, Automotive, Glass Company

Shukichi Umemoto GM of Finance & Control Office

Yasutoshi Hirata GM of Human Resources & Administration Office

Nozomu Taguchi GM of Electronic Glass General Div., Electronics Company

Marehisa Ishiko Regional President of Japan/Asia Pacific, Glass Company

Yoshiaki Tamura GM of Display General Div., Electronics Company Jean-François Heris Regional President of Europe, Glass Company; President & CEO of AGC Glass Europe

Takashi Fujino CFO; GM of Office of President; Deputy GM of Group Strategy Office

• Executive Officers Tetsuji Kakimoto Technical Director of Japan/Asia Pacific, Glass Company

Masafumi Ohinata GM of Electronics General Div., Electronics Company

Masayuki Kamiya Assistant to President of Glass Company; Deputy GM of Group Strategy Office

Toru Kawatsura Assistant to President of Glass Company

Tadayuki Oi Vice President, Technology, Glass Company

Yasumasa Nakao GM of Production Technology Center

Shinichi Kawakami Deputy GM of Group Strategy Office

Takuya Shimamura President of Chemicals Company Tetsuo Tatsuno Vice President, Planning and Coordination, Glass Company

Eisuke Yanagisawa GM of Legal

Hiroshi Akagi GM of Business Management General Div., Chemicals Company

Tokio Matsuo GM of CSR Office

Akinobu Shimao President of AGC Ceramics Co., Ltd.

Tomoya Takigawa GM of Research Center

Takashi Shimbo GM of Purchase & Logistics Center

(Abbreviation)

"GM": General Manager

Shinji Miyaji Group Leader of Corporate Planning Group, Office of President; Deputy GM of Group Strategy Office



Takashi Terashima

Izumi Tamai (Outside)

Koji Ogaki (Outside)

Shigeru Hikuma (Outside)

## Milestones 1907 - 2010

History of AGC Group			Products & Technologies of AGC Group		
New medium-term management plan "Grow Beyond-2012" started.	2010		2010	Sales of <b>FON</b> <sup>↑</sup> <b>E</b> X <sup>™</sup> , a commercial plastic optical fiber enabling the world's highest transmission speed	
Glass Company and Electronics Company established.	2009				
Management policy Grow Beyond introduced.	2008				
Group brand unified as "AGC." Asahi Glass Company's 100th anniversary	2007				
		2002– Toward Global Management Scheme	2006	Fluon® highly functional ETFE fluoropolymer film selected for the main stadium and the venue for aquatics events at the Summer Games in Beijing.	
Electronics & Energy General Division established.	2005				
"JIKKO" management policy introduced.	2004		2004	Fluone highly functional ETFE fluoropolymer film utilized at the Munich stadium, the venue for the opening match of the football (soccer) world competition in Germany.	
Glaverbel made into a wholly owned subsidiary.	2002				
AGC Group Vision <b>"Look Beyond"</b> formulated. Global In-House Company System introduced.					
			1999	Mass production of "PD200" glass substrate for plasma display panels (PDPs) begins.	
			1998	Mass production of a new alkali-free glass for TFT LCDs begins.	
AFG Industries, Inc. of the U.S.A acquired.	1992				
Asahi Glass Foundation creates the "Blue Planet Prize" to honor those who help solve environmental problems.	1991				
	1001		1990	"CYTOPIM" transparent fluoropolymer developed.	
Asani Glass acquires Glaverbei S.A. glass company in Belgium.	1981				
		1950–2001	1980	AZEC System of caustic soda manufacturing using ion-exchange membrane developed.	
		Era of Growth and Expansion	1975	Production of "Asahi Guard <sup>™</sup> fluorinated water and oil repellents and "Aflon COP" fluorinated resins begins.	
				Ion-exchange membrane method for manufacturing caustic soda developed.	
			1966	Production of float glass begins.	
Manufacture of automotive glass begins.	1956		1961	Asani Glass moves into organic chemicals, manufacturing propylene oxide and propylene glycol.	
The Indo-Asahi Glass Co., Ltd. established in India.					
Asahi Glass moves into the cathode- ray tube (CRT) glass bulb business.	1954		1954	Production of double-glazing units begins.	
Asahi Glass Company incorporated.	1950				
			1938	Production of tempered glass and laminated glass begins.	
			1933	Caustic soda production using lime process begins.	
			1928	Production of ordinary sheet glass using Fourcault process begins.	
Shoko Glass Co., Ltd. established in China.	1925				
		1907–1949 The Early Years	1917	Japan's first soda ash produced using ammonium method.	
			1916	Production of refractories begins at the Amagasaki Plant.	
Acchi Class Company faur la tin	1007		1909	Production of Belgian-type hand- blown sheet glass, the first sheet glass successfully manufactured in Japan, begins.	
Asarii Giass Company iounded in Amagasaki, Hyogo Pref.	1907				



- Fluoropolymer-based plastic optical fiber (FONTEX<sup>™</sup>)
- 2 TFT LCD glass substrates
- 3 Liège-Guillemins Station, Belgium / ©AGC Glass Europe
- 4 Automotive glass
- Glass substrates for hard disk drive
- 6 Fluon® ETFE Film
- Solar panels / Spain Author : Fernando Tomás (Zaragoza, Spain)
   \*For illustrative purpose only
- Synthetic quartz glass

### ASAHI GLASS CO., LTD.

URL: http://www.agc-group.com

\*Soy ink is used for this Report

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The paper used for pages 1 to 28 of this report comes from trees thinned from forests. This represents the effective use of trees thinned from forests and should in turn contribute to the promotion of forest thinning for forest health.

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