



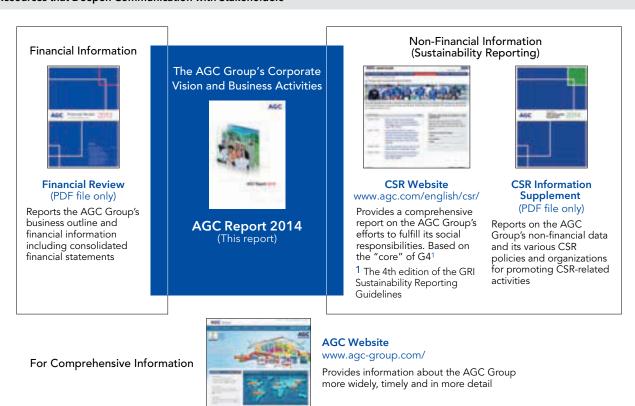
AGC Report 2014

# Reporting and Editing Policy

Based on its mission to "'Look Beyond' to make the world a brighter place," we, the AGC Group communicates our corporate attitude and business initiatives to our stakeholders in ways that are easy to understand.

The AGC Group publishes its corporate attitude and business initiatives in its annual AGC Report. In addition to relating progress made on the Group's mid-term management plan "Grow Beyond-2015," this report presents the Group's unique initiatives from the perspectives of Markets, the Earth and People. Detailed financial and non-financial data can be found on our website.

#### Resources that Deepen Communication with Stakeholders



#### Scope

- Reporting Period
- Fiscal 2013 (Jan.-Dec. 2013) Some information includes content from both fiscal 2012 and 2014
- Organizations Covered in the Report Asahi Glass and its 200 consolidated subsidiaries (Group companies in and outside Japan)
- Primary Notation and Report Targets Used in the Report
- -The AGC Group

Same as "Organizations Covered in the Report" mentioned above.

-The AGC Group (Japan)

Group companies in Japan including Asahi Glass Co., Ltd.

-Asahi Glass/the Company

Asahi Glass Co. Ltd. (on an unconsolidated basis)

#### **Related Information**

WEB Articles with this mark have related information on the AGC website.

# "Look Beyond"

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

We will continuously:

"Look Beyond" ... Anticipate and envision the future,

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

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

We will continue to create value worldwide, demonstrating the vast potential of the Group's entire organization.



#### Our Shared Values

#### **Innovation & Operational Excellence**

- We will seek innovations in technology, product and services beyond conventional concepts
- •We will create value directed at our current and potential customer needs, accounting for changes in the business environment and, social and market evolution.
- •We will continuously improve all aspects of our operations striving to achieve benchmark

**Environment** 

- We will contribute to creation of a sustainable society in harmony with nature as a successful and responsible global citizen.
- We will strive to ensure and further improve occupational health and safety in our working environment.
- Related information .....p. 23

#### Integrity

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

Related information .....p. 15

- •We will comply with all applicable laws and regulations.
- •We will fulfill our contractual and legal responsibilities to achieve customer satisfaction and trust.
- Related information .....p. 37

#### Diversity

- •We will respect individual diversity of varied capabilities and personalities.
- •We will respect cultural diversity of race, ethnicity, religion, language and nationality.
- We will respect different perspectives and opinions at all times.
- Related information ......p. 29

#### **AGC Group Vision and Policies**

#### Group Vision "Look Beyond"

The Group Vision "Look Beyond" is at the root of all business operations and social activities of the AGC Group. This corporate philosophy will be carried on into the future.

#### Management Policy Grow Beyond

The Management Policy sets the course of action for all of the Group's business activities providing social and business aspirations, guidelines and directives. It is revised as necessary to reflect changes in the business environment and circumstances of the Group.

WEB www.agc.com/english/ir/pdf/c\_overview.pdf

#### AGC Group Charter of Corporate Behavior

The Group Charter sets forth and declares the perspectives that form the basis of our behavior to ensure that the AGC Group will remain a good corporate citizen.

WEB www.agc.com/english/csr/agcgroupcsr/

#### AGC Group Code of Conduct

The Code of Conduct sets forth standards to be observed by all Group members from the perspective of "Integrity" in Our Shared Values under the AGC Group Vision "Look Beyond.

WEB www.agc.com/english/csr/integrity/coc.html



# **Toward a Truly Strong AGC Group**

We communicate its corporate attitude and business initiatives from the perspectives of Markets, the Earth and People.



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#### Chapter I

#### For Markets 15

The AGC Group outlines its unique value, generated in three business domains: Safe, Sound and Comfortable Living **Spaces & Materials Higher Quality Display Devices &** Communication Clean & Green Energy







**Business Domain 1** Safe, Sound and Comfortable **Living Spaces & Materials** 17 Business Domain 2 **Higher Quality Display Devices &** Communication 19 Business Domain 3 Clean & Green Energy 21

### Chapter I

### For the Earth 23

We present measures with regard to initiatives regarding energy issues-an important theme in environmental management. Specifically, it introduces various measures to reduce energy use through production activities and environment-related products.



Activity Highlight 1



- Reducing Energy Consumption in Production Activities Ingenuity in Energy Conservation Goes Global 25 Activity Highlight 2 - Energy Reduction through Environment-Related Products AGC Group to Enhance Its Energy-Saving and Energy-Creating Products 27

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We discuss initiatives related to "Our People are Our Strength" and "No Production Without Safety," statements given as the backbones of its business activities in the management policy Grow Beyond.





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# **CEO Message**

Under the AGC Group's Aspirations for 2020, we are aiming to become a highly profitable and fast-growing leading global enterprise—achieving net sales of at least 2 trillion yen—that also contributes to the realization of a sustainable society.

#### AGC's Aspirations for 2020

The 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
- Incorporating environmental friendliness not only in our products but also in our production processes and business activities
- Contributing to the development of fast-growing regions

With an eye toward becoming a truly strong AGC Group, we began carrying out measures designed for growth under our mid-term management plan in fiscal 2013. As two action items, we have been working to strengthen and generate substantial results from the Group's growth foundations, and to put our business back on an upward trend.

In fiscal 2013, the first year of the plan, sales increased year on year on the back of the positive impact of the yen's depreciation. Profits, however, decreased as a result of declining prices of architectural glass in Europe and electronic-related products, among other factors.

Considering these results, and for the purpose of realizing our Aspirations for 2020, we will continue to push forward with initiatives in our three business domains in fiscal 2014, pursuing three strategies organized under the concepts of becoming a Glass-technology-driven Company, providing Technology





Solutions for Environment and Energy, and promoting a Second Round of Globalization. To this end, we have been accelerating our efforts in modifying and evolving our tactics for achieving these strategies. At the same time, the AGC Group will boost its competitiveness by transforming its range of diversity in materials, technologies, markets and business regions respectively into a comprehensive strength. I invite you to read about some of these specific initiatives in the pages that follow.

In the AGC Group, we regard the Group's vision to "Look Beyond" to make the world a brighter place—as our mission. Our purpose as a corporate enterprise is to bring more comfort, convenience, and abundance to people's lives and society, while also considering the environment, through superior products and services. By fulfilling this mission, we will evolve the AGC Group while gaining the trust of customers and meeting their expectations.

# from the Group's Growth Foundations No Change in the Group's Three Strategies and Business Domains Three strategies **Business domains** Globalization ild Foundations technologyinvironment Comprehensive strength of the AGC Group

**Strengthen and Generate Substantial Results** 

By fulfilling our mission to bring more comfort, convenience, and abundance to people's lives and society, we will evolve the AGC Group into a truly strong organization while gaining the trust of customers and meeting their expectations.

President & CEO

K. Ishimura

# "Grow Beyond-2015" Review

With the aim to become a truly strong organization, the AGC Group has set two action items in its Mid-Term Management Plan "Grow Beyond-2015": to put business back on an upward trend, and to strengthen and generate substantial results from the Group's growth foundations. The plan commenced in 2013, but although that was a year for pursuing initiatives intended to reverse the Group's performance, operating income decreased 21.5% year on year to 79.9 billion yen. This was mainly the result of declining profitability in the display business, owing to the depreciation of the yen, and a slow recovery in the architectural glass business in Europe. (Details of net sales and other financial results are presented on page 9.)

#### **Progressing toward 2020 Sales Ratio Targets**

## The Ratio of Sales in Emerging Markets Grows Markedly In each of the categories of emerging markets, environ-

ment-related products, and new products, the AGC Group is aiming to have sales account for 30% or more of total net sales, respectively, by 2020. Progress toward achieving these sales ratio targets is shown in chart 1.

As a result of carrying out various measures designed to enhance business in Asia, particularly in China, sales in emerging markets has grown markedly to 24% of total net sales. Sales of environment-related products, however, accounted for only 15% of net sales, mainly owing to sluggish sales of cover glass for solar power systems and other products. Meanwhile, the sales ratio for new products grew to 12%, primarily due to the sales contribution from electronic-related materials and components.

#### **Revision of the Targets**

#### Budgets for CAPEX and R&D Expenses Reduced, and **ROE Target Date Reviewed**

Taking into account the above results as well as changes in our operating environment, we revised certain financial targets that had been set in the mid-term management plan at the start of the plan's second year (as shown in charts 2 and 3).

The amount budgeted for capital expenditures (CAPEX) from 2014 to 2015 was downwardly revised to 280 billion yen, about 20 billion yen below initial plans. Based on this revision, we will aim to keep CAPEX within the same range as depreciation by carefully selecting investments, particularly those in fast-growing countries.

For the same period, we downwardly revised the amount budgeted for R&D expenditures to 90 billion yen, 10 billion yen lower than our initial plans. These expenditures will be concentrated in key areas, including the development of high-function glass products with high added value, technical development and upgrading of production processes, and research and development related to fluorine chemicals.

Furthermore, while we had targeted a return on equity (ROE) of 12% by 2015, we will now aim to achieve this by 2020, and pursue a target of 5% and above over the short term (see chart 3).

Chart 1: Progress toward the Projected Business Outline in 2020

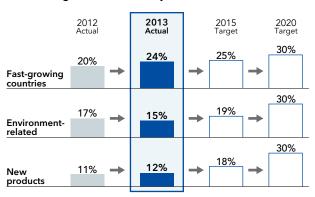
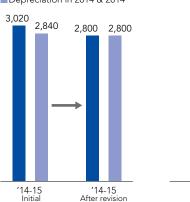


Chart 2: Revision of CAPEX and R&D Expenditures

**CAPEX & Depreciation** By carefully selecting items, Narrow down the R&D we will keep CAPEX less than theme and scale down the the level of depreciation. **R&D** expenses (100 million yen) (100 million yen) CAPEX in 2014 & 2015 Depreciation in 2014 & 2014 1,000



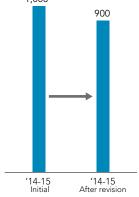
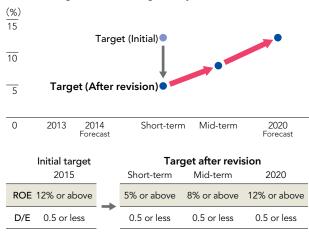


Chart 3: Progress of ROE Target (Projection)



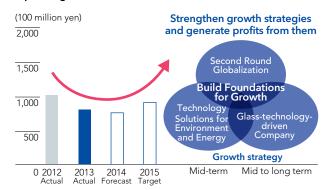
#### Measures in 2014 Onwards

#### Pushing Forward with Key Initiatives for Realizing a **Truly Strong AGC Group**

We set three priority issues to each of two action items in our mid-term management plan, for the purpose of becoming a truly strong AGC Group.

By aggressively pushing forward with these initiatives in 2014 onwards, the Group intends to rebound its performance and return to the growth track over the period of the plan.

#### Operating Income Results and Forecasts from 2012 to 2015



#### Priority Issues in 2014 Onwards

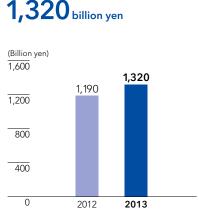
Priority issues in 2014 Onw	Priority Issues in 2014 Onwards			
	Priority issue 1 Turn around the performance of the glass business	We will continue restructuring the flat glass business in Europe, and will bolster marketing and improve the cost performance of the architectural glass business in North America. Through these initiatives, we intend to improve the profitability of Glass operations		
Action item 1 Put our business back on an upward trend	Priority issue 2 Minimize the profitability decline in the display business	We plan to expand operations in the market for small and medium- size displays and in China's display market, which is forecast to grow. At the same time, in order to minimize declining profitability in its display business, we will introduce high-efficiency equipment and reduce costs by optimizing the global operations of manufacturing plants.		
	Priority issue 3 Group-wide efforts to enhance efficiency	Cost reduction will be promoted through Group-wide projects intended to strengthen operations as a whole. This initiative intends to improve efficiency in all of its divisions and departments spanning from research and development to sales and administration.		
	Priority issue 1 Enhance business in fast-growing countries	We have established a more stable business platform in fast-growing countries through proactive investments initiated in 2010. By leveraging this platform and aggressively investing in markets where high profitability is likely, we will strive to generate steady earnings growth in emerging markets.		
Action item 2 Strengthen/generate substantial results from growth foundations	Priority issue 2 Accelerate new product launches and promote sales expansion	We will release and promote new products in its three business domains (presented on page 15) in an effort to accelerate earnings. We also plan to step up marketing of its mainstay chemically strengthened glass products by broadening the diversity of their applications to include transport vehicles, solar power plants, and building materials.		
	Priority issue 3 Growth in Chemicals operations	With fast-growing countries and new products as growth drivers, Chemicals operations is expected to grow more than any of the Group's businesses. We intend to boost investment in basic chemical products in Southeast Asia with an eye to increase its market share and generate steady earnings. Promoting sales of high-performance fluorinated products will also be essential for growth.		

# Financial and Non-Financial Highlights

Organizations Covered in the Report: Asahi Glass Co., Ltd. and its consolidated subsidiaries Reporting Period: Consolidated fiscal year ending December 31 All numeric data (except non-financial data) is based on International Financial Reporting Standards (IFRS)

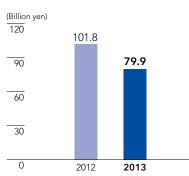
# Financial Data

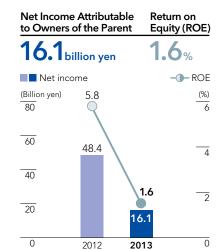
Net Sales<sup>1</sup>



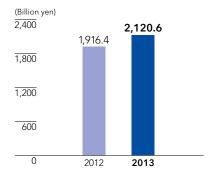
<sup>1</sup> Sales by region calculated before elimination





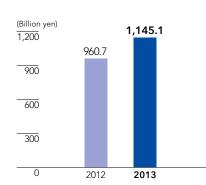


2,120.6 billion yen



Capital

1,145.1 billion yen



Interest-Bearing Debt (D/E) Ratio

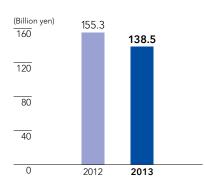
575.0 billion yen

0.5%

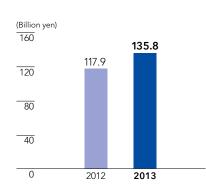


Capital Expenditures

138.5 billion you

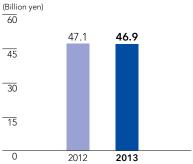


Depreciation Costs



R&D Costs





(Note) Please refer to page 11 for financial data by segment, and to the Annual Securities Report (Japanese only) or Financial Review booklet (English only) for more detailed financial data.

### Non-Financial Data

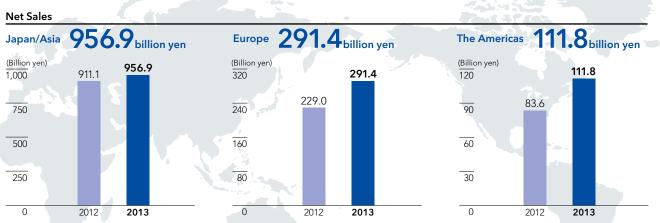
- 1011111111111111111111111111111111111	2011	2012	2013	Year-on-year change
Human resources and occupational safety data <sup>2</sup>				
Number of employees	50,957	49,961	51,448	1,487
Persons registered in Skill Map personnel database	5,500	7,300	8,300	1,000
Fatal accidents <sup>3</sup>	2	3	1	-2
Environment data <sup>4</sup>				
Total energy consumption (PJ) <sup>5</sup>	147	150	147	-3
Greenhouse gas emissions (1,000 tons-CO <sub>2</sub> )	9,860	10,050	9,870	-180
Total waste generated (1,000 tons)	811	650	664	14
Total waste disposed (1,000 tons)	25	25	22	-3
Total wastewater (million m³)6	48	47	48	1

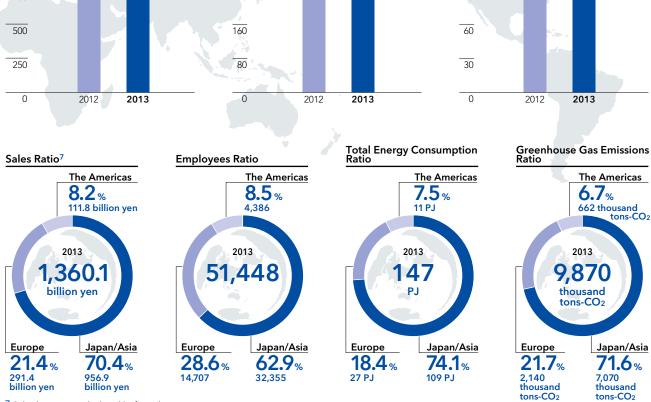
(Note) Please refer to the separate CSR Information Supplement and our CSR website for more detailed non-financial data.

2 Please refer to Chapter 3 (Human Rights and Labor Practices) starting on page 29 for related information.
 3 Numbers are for AGC Group employees.
 4 Please refer to Chapter 2 (The Environment) starting on page 23 for related information.

5 PJ (petajoule) =  $10^{15}$ J (joules) 6 Numbers are for the AGC Group (Japan).

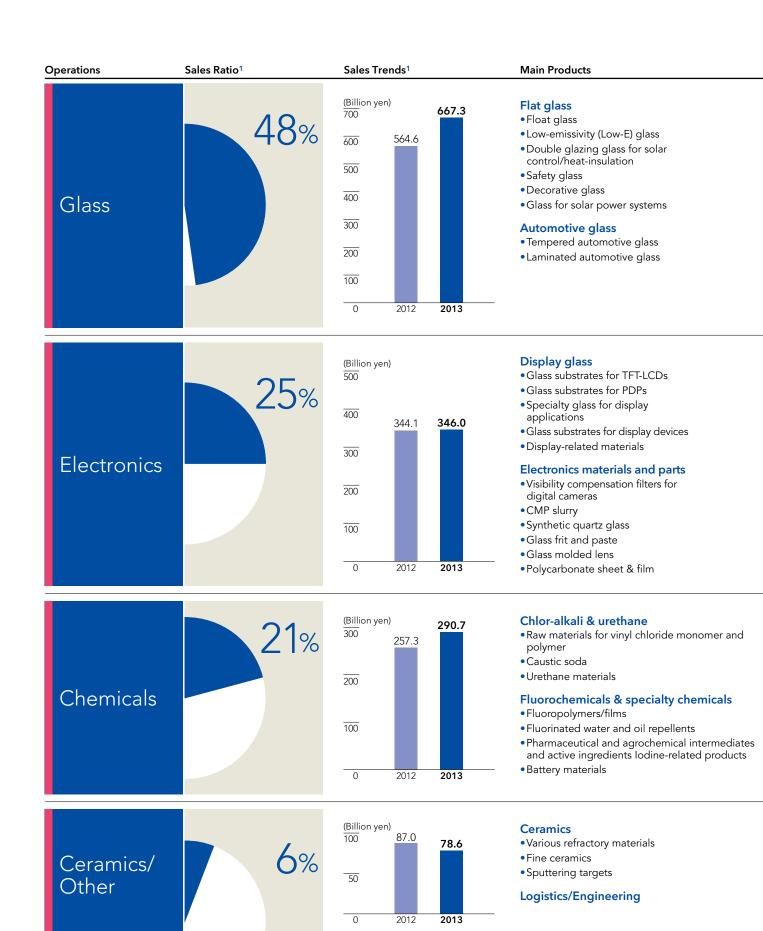
# Data by Region





<sup>7</sup> Sales by region calculated before elimination

# Overview of the AGC Group



<sup>1</sup> All numeric data is based on International Financial Reporting Standards (IFRS)

#### Corporate Data

As of the end of December 2013

Name Asahi Glass Co., Ltd.

(Global brand: AGC)

1-5-1, Marunouchi, Chiyoda-ku, Tokyo 100-8405 JAPAN **Head Office** 

Founded September 8, 1907

Incorporated June 1, 1950

Capital 90,873 million yen Outstanding stock 1,186,705,905 shares **Employees** 51,448 (consolidated),

6,269 (non-consolidated)

Consolidated Group companies 200 (164 overseas)

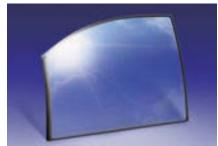
#### Glass



Low emissivity (Low-E) double glazing unit



Stopray Ultra 50 on Clearvision



"UV Verre Premium™" Series for automotive glass

#### Electronics



"Dragontrail  $\ensuremath{^{\text{TM}}}$  X" specialty glass for chemical strengthening



Glass substrates for TFT-LCDs



Visibility compensation filters for digital cameras

#### Chemicals



"Fluon® ETFE FILM" Fluoropolymer film



"Lumiflon $^{\text{TM}}$ " highly weather-resistant fluoropolymer resin for coatings



 $\label{thm:continuous} Tafluprost^2\,pharmaceutical\,and\,agrochemical\,intermediates\,and\,active\,ingredients$ 

#### Ceramics/Other



Fused cast refractory bricks for glass furnace crowns



"THERMOTECT WALL $^{\text{TM}}$ " high thermal insulation furnace walls



Ceramic sputtering targets



Cement rotary kiln

#### AGC Asahi Glass Co., Ltd.

### Japan

- AGC Glass Products Co., Ltd.
- AGC Glass Kenzai Co., Ltd.
- AGC Okinawa Glass Kenzai Co., Ltd.
- AGC Amenitech Co., Ltd.
- Ryugasaki Glass Co., Ltd.
- AGC Fabritech Co., Ltd.
- AGC Automotive AMC Co., Ltd.
- AGC Automotive Window Systems Co., Ltd.
- Autoglass Co., Ltd.
- AGC Display Glass Yonezawa Co., Ltd.
- AGC Electronics Co., Ltd.
- AGC Techno Glass Co., Ltd.
- AGC Micro Glass Co., Ltd.
- AGC Polycarbonate Co., Ltd.
- Optical Coatings Japan
- ▲ Ise Chemicals Corporation
- ▲ Keiyo Monomer Co., Ltd.
- ▲ 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 Filtech Co., Ltd.
- ▲ Hokkaido Soda Co., Ltd.
- ▲ Kashima Chemical Co., Ltd.
- ◆AGC Ceramics Co., Ltd.
- AGC Plibrico Co., Ltd.
- AGC Research Institute, Inc.
- AGC Insurance Management Co., Ltd.
- AGC Finance Co., Ltd.
- AGC Logistics Co., Ltd.
- OAGC Technology Solutions Co., Ltd.
- Tokai Kogyo Co., Ltd.

#### Asia

#### Thailand

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

#### Indonesia

- PT Asahimas Flat Glass Tbk.
- PT IWAKI Glass Indonesia
- PT Cahayatiara Mustika Scientific Indonesia
- PT Asahimas Chemical

#### Singapore

- AGC Flat Glass Asia Pacific Pte., Ltd.
- AGC Electronics Singapore Pte. Ltd.
- ▲ AGC Chemicals Asia Pacific Pte. Ltd.
- AGC Ceramics Singapore Pte. Ltd.
- OAGC Asia Pacific Pte., Ltd.
- AGC Singapore Services Pte. Ltd.

#### North America

#### U.S.A

- AGC Flat Glass North America, Inc.
- AGC Soda Corporation
- AGC Automotive Americas Co.
- AGC Automotive Americas R&D, Inc.
- AGC Electronics America, Inc.
- ▲ AGC Chemicals Americas, Inc.
- ▲ Woodward Iodine Corporation
- AGC America, Inc.
- AGC Capital, Inc.

- AGC Flat Glass North America, Ltd.
- AGC Automotive Canada, Inc.

- AGC Automotive Mexico S. de R.L. de C.V.
- AGC Automotive Glass Mexico S.A. de C.V.

#### **Philippines**

- AGC Flat Glass Philippines Inc.
- AGC Automotive Philippines Inc.
- AGC Philippine Ecozone Management Corporation

#### Taiwan

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

- AGC Flat Glass (Dalian) Co., Ltd.
- AGC Flat Glass (Suzhou) Co., Ltd.
- AGC Flat Glass Protech (Shenzhen) Co.,
- AGC Flat Glass (Hong Kong) Co., Ltd.
- AGC Automotive China Co., Ltd.
- AGC Automotive Foshan Co., Ltd
- Beijing Kuayian Car Glass Sales & Service Co., Ltd.
- AGC Glass Substrate (Hong Kong) Co.,
- AGC Glass Substrate (Guangdong) Co.,
- AGC Display Glass (Kunshan) Co., Ltd.
- AGC Display Glass (Shenzhen) Co., Ltd.
- AGC Chemicals Trading (Shanghai) Co.,
- Seimi Tongda Lithium Energy Co., Ltd.
- Zibo Asahi Glass Alumina Materials Co.,
- Yixing AGC Ceramics Co., Ltd.
- Plibrico (Dalian) Industries Co., Ltd.
- OAGC(China) Holdings Co., Ltd.
- AGC Shanghai Co., Ltd.
- AGC Technology Solutions (Kunshan) Co., LTD.

#### Korea

- Hanwook Techno Glass Co., Ltd.
- Asahi Glass Fine Techno Korea Co., Ltd.
- Asahi PD Glass Korea Co., Ltd.
- AGC Display Glass Ochang Co., Ltd.

### South America

#### Brazil

■ AGC Glass Brazil, Inc.

### Europe

#### Belgium

- AGC Glass Europe S.A.
- AGC Glass Europe Sales S.A.
- AGC Automotive Europe S.A.
- AGC Automotive Belgium S.A.
- OAGC Europe S.A.

#### Netherland

AGC Flat Glass Nederland B.V.

- AGC Glass UK Ltd.
- ▲ AGC Chemicals Europe, Ltd.

#### Czech Republic

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

- OJSC AGC Bor Glassworks
- AGC Flat Glass Klin LLC

AGC France SAS

#### Italy

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

#### Spain

AGC Flat Glass Iberica S.A.

#### Germany

- AGC Glass Germany GmbH
- Interpane Glas Industrie AG

#### Hungary

AGC Glass Hungary Ltd.

AGC Gdansk Sp. z o.o.

#### Turkey

 AGC Otomotiv Adapazari Üretim, Sanayi Ve Ticaret Anonim Sirketi

- Glass
- Flectronics
- Chemicals
- Ceramics
- Others

(Note) As of December 2013

#### AGC's Wide-Ranging Technologies that Support the 2014 FIFA World Cup

Asahi Glass is providing glass roofs for the player benches of all 12 stadiums hosting the 2014 FIFA World Cup Brazil. These roofs utilize Dragontrail™ X, specialty glass for chemical strengthening (see page 20 for



details), one of the world's most durable. Dragontrail™ X's surface strength is approximately eight times that of ordinary glass, and its impressive shock resistance has been further strengthened by layering two panes together. The glass has also been given a unique anti-reflective coating that reduces its reflective properties to 1/13th those of ordinary glass, allowing fans a clear view of the players and coach.

The AGC Group has also been selected as the official glass supplier for São Paolo's Arena Corinthians football stadium. The Group enhances the beauty of the stadium with Planibel Clearvision, an exceptionally clear glass.

In addition, the exterior of Recife's Itaipava Arena Pernambuco football stadium utilizes Fluon® ETFE FILM, a high-performance fluoropolymer film. This lightweight, flexible fluoropolymer film made the beautiful stadium with its curved lines a reality (photo on page 18).

We used our unique glass and chemical technologies to add to the excitement at the 2014 FIFA World Cup Brazil.



The glass roof for player benches utilizes Dragontrail™ X, a specialty glass for chemical strengthening



The east façade of the Arena Corinthians stadium utilizes Planibel Clearvision, a high-transmission glass © Coutinho, Diegues, Cordeiro/DDG

# **Chapter** I

# For Markets

Leveraging AGC Group's Comprehensive Strength in Markets that Integrate beyond Conventional Frameworks

Recent years have seen the creation of new markets that span multiple industries, smart cities being a prime example. Meanwhile, the AGC Group has been creating new products by combining its core glass, chemical and ceramics technologies.

If the AGC Group is to grow in the midst of dynamic internal and external changes, it must seize business opportunities that extend beyond the boundaries of conventional frameworks. In light of this situation, in 2013, the AGC Group broke away from the traditional business domains, which it had established for each product and industry, and defined new domains.

Based on these new business domains, the AGC Group generates a comprehensive strength by leveraging its diversity in materials, technologies, markets and business regions, and provides value that goes beyond the boundaries of its business divisions.



#### **AGC Group Business Domains**

#### **Business Domain 1:**

#### Safe, Sound and Comfortable Living Spaces & Materials

Products and technologies for safe and secure lifestyles that contribute to more comfortable spaces. Major target industries include buildings & residences, cars, infrastructure, lighting and pharmaceuticals.



# Business Domain 2: Higher Quality Display Devices & Communication

Materials and technologies for improving the performance of devices in the rapidly evolving fields of telecommunications and imaging equipment. Major target industries include displays, information & communication devices and optical instruments

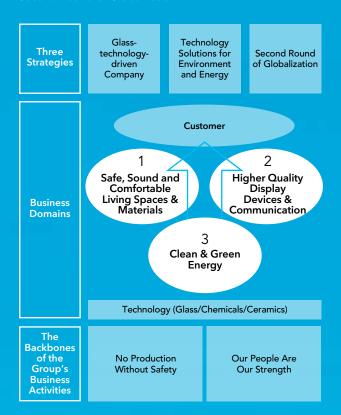
Details ..... p. 19

#### Business Domain 3: Clean & Green Energy

Materials and technologies designed to save energy and make it cleaner. Major targets include industries related to energy-saving and energy-creating products including components, solar power generation and eco-friendly vehicles.

Details ..... p. 21

Based on these business domains, the AGC Group will realize growth by promoting three strategies: to be a Glass-technology-driven Company, providing Technology Solutions for Environment and Energy and pursuing a Second Round of Globalization.

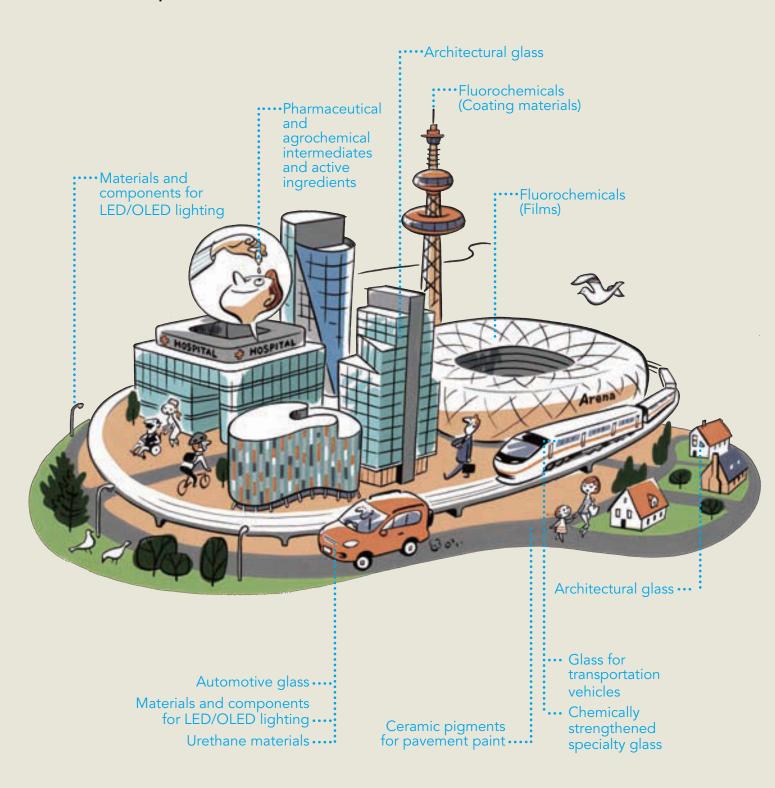


#### Sales by Region



# Safe, Sound and Comfortable Living Spaces & Materials

Products and technologies for safe and secure lifestyles, and that contribute to more comfortable spaces



In rapidly growing new markets, there is increasing demand for homes and cars, and these commodities are becoming more functional as public infrastructure is put into place. In developed nations, the need for further comfort in lifestyles and spaces is anticipated to continue rising.

In a move to steadily capture the demand from these markets, the AGC Group has integrated its glass, chemical and ceramics technologies and is promoting the development of products to support safe and secure lifestyles and create more comfortable spaces.

#### Main Products

#### **KEY PRODUCT**

#### **UV Verre Premium™ Series**

### A Powerful Ally for Drivers: Blocks Ultraviolet and Infrared Rays!

In recent years, there has been an increasing demand from drivers for protection against heat-producing infrared rays and ultraviolet rays, the culprits behind sunburns, skin spots, wrinkles, and even skin cancer.

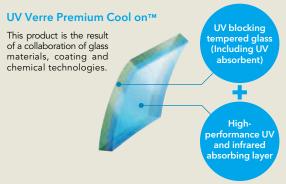
The AGC Group's "UV Verre Premium Cool on™", tempered automotive door glass, is the first in the world<sup>1</sup> to cut ultraviolet rays by 99%<sup>2</sup>, and its infrared ray blocking performance has been improved as well. Not only does it protect the driver from the intensity of ultraviolet rays, but the reduced heat inside the car makes it possible to keep the air

conditioner set to a higher temperature, helping to reduce environmental load. In 2013, UV Verre Premium Cool on™ received the seal of recommendation from the US-based Skin Cancer Foundation for its ultraviolet ray-blocking function.



- 1 As of December 2012. Research conducted by Asahi Glass
- <sup>2</sup> ISO 9050. Research conducted by Asahi Glass





#### **OTHER PRODUCTS**

**High-performance** fluoropolymer film Fluon<sup>®</sup> **ETFE FILM** 



Pharmaceutical active ingredient for glaucoma treatment

#### Tafluprost<sup>3</sup>

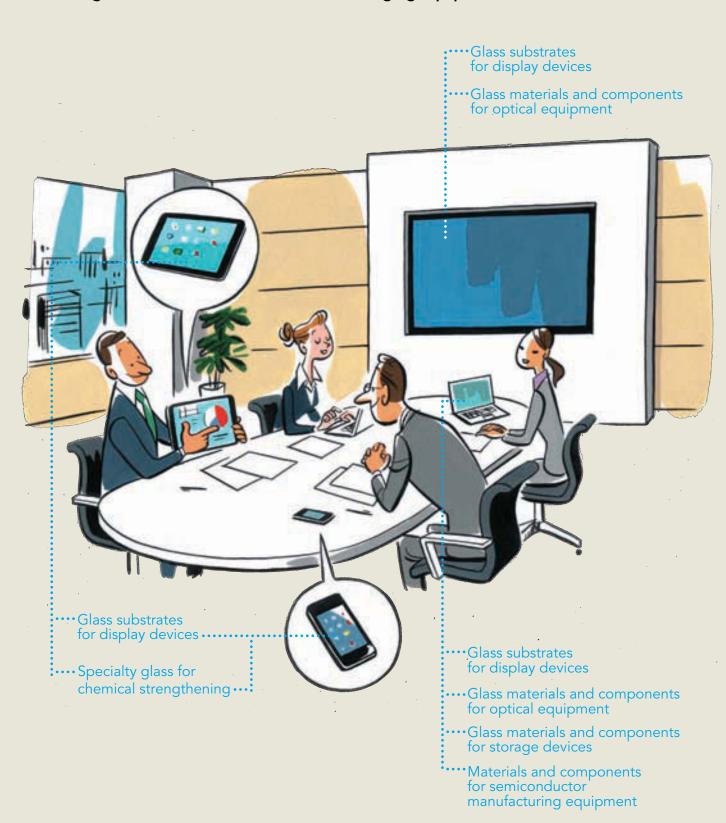
3 Tafluprost is glaucoma treatment co-developed with Santen Pharmaceutical Co., Ltd.



(Note) For information on products and technology related to Safe, Sound and Comfortable Living Spaces & Materials, please refer to the AGC website. WEB www.agc.com/english/portal/index.html

# Higher Quality Display Devices & Communication

Materials and technologies for improving the performance of devices in the rapidly evolving fields of telecommunications and imaging equipment



Due to the global spread of smartphones and other information terminals, the communications and imaging market is anticipated to expand even further. At the same time, user needs are growing more sophisticated and diverse, with requests for thinner and lighter devices and higher image definition. In addition, the appearance of the 4K TV that surpasses conventional image resolution has created a demand for an even faster, larger capacity communications infrastructure.

The AGC Group creates high-performance products that are able to respond promptly to these rapidly evolving markets and works to proactively develop new uses for them.

#### Main Products

#### **KEY PRODUCT**

# Specialty Glass for Chemical Strengthening<sup>1</sup> Dragontrail<sup>™</sup> X

### Increased Surface Strength to Create the Unbreakable Smartphone!

Users require many different things from the touch panels on their smartphones. They want them to be unbreakable, impossible to scratch, thin and light, glossy and beautiful. The answer: Dragontrail™ specialty glass for chemical strengthening, which possesses excellent strength, scratch resistance, and surface texture. At present, it has so far been used over 300 models across 37 brands worldwide<sup>2</sup>.

2014 saw the launch of Dragontrail™ X, a product whose surface strength is more than 30% stronger than that of the original Dragontrail™. This product, the strongest chemically strengthened glass in the world<sup>3</sup>, is contributing to the realization of mobile devices that are even harder to break.

The AGC Group is proactively promoting chemically strengthened specialty glass for an even wider range of uses.





- 1 Chemical reinforcement is a technique in which a sheet of plain glass is soaked in chemicals to chemically strengthen its surface.
- 3 Compression stress values: Conventional Dragontrail™ can handle a maximum of 800Mpa, while the new Dragontrail™ X can handle up to 1GMpa.

#### **OTHER PRODUCTS**

**Ultra-low thermal** shrinkage glass substrate AN Wizus™



Self-adhesive glass for optical bonding

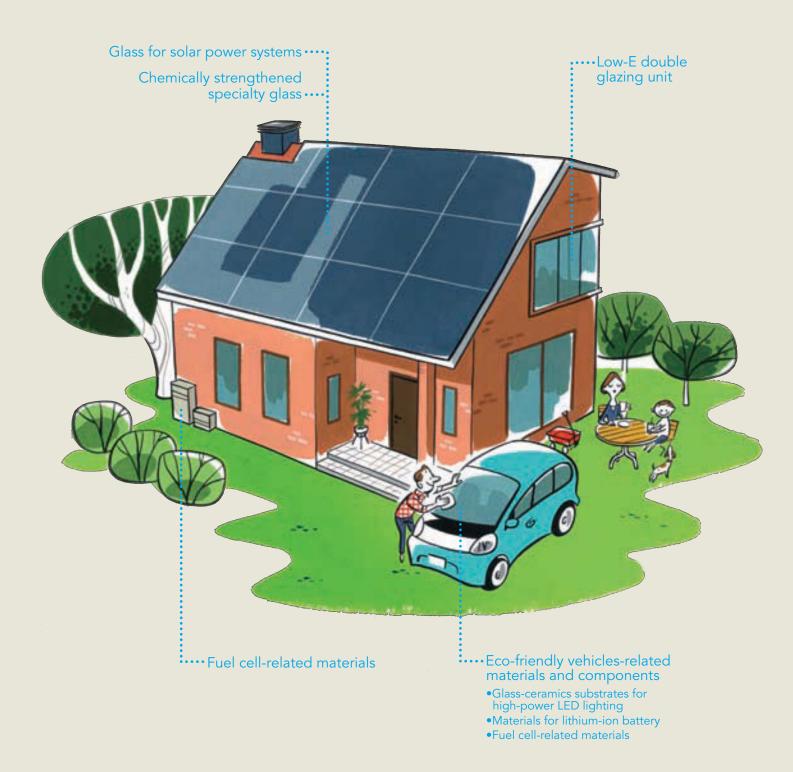


(Note) For information on products and technology related to Higher Quality Display Devices & Communication, please refer to the AGC website.



# Clean & Green Energy

Materials and technologies designed to save energy and make it cleaner



In addition to environmental issues such as climate change, global interest in energy conservation and the use of clean energy from the perspective of securing energy resources is increasing. The AGC Group sees business opportunities in the resolution of urgent environmental issues, and is creating the value society seeks through its products.

In specific terms, the Group is focusing on developing products on two fronts: Low-energy products that contribute to reductions in home and office power use, and energy-creating products that contribute to the spread of solar power generation and eco-friendly vehicles.

#### Main Products

#### **KEY PRODUCT**

# ATTOCH™ for Easy Energy-Saving Renovation

### Making Offices Comfortable Year-Round with Every-Saving Glass for Easy and Low-Cost Renovation!

While people are becoming increasingly conscious of energy conservation, indoor temperature control in office buildings and shops still depends largely on air conditioning. Window glass replacement in office buildings and shops is difficult, and solar control film is often used as an alternative solution. This solar control film, however, blocks not only the summer heat but also the sunlight in winter. In addition, it does not have sufficient thermal insulation to keep warm air inside in colder seasons.

ATTOCH™, an energy-saving glass from the AGC Group





displays excellent energy conservation performance all year round. The product successfully reduces air conditioner energy use by approximately 33%, thereby lowering air conditioning energy costs by approximately 570,000 yen annually.1

Installation is very simple: energy-saving glass is simply attached to the inside of the existing window glass. There is no need to dispose of the glass and scaffolding is also unnecessary. Therefore—taking just 30 minutes to an hour per window—this simple installation reduces total costs. In addition, ATTOCH™ does not need to be replaced like solar control film, and it can help to reduce waste.

In recognition of these functions, ATTOCH™ was awarded "The Energy Conservation Center Chairman's Prize" in the FY2013 Energy Conservation Grand Prize and the 2013 Special Award in the ECHO CITY Product Grand Prize.

1 When architectural conditions are as follows (Location: Tokyo). Building width: 15m / Length: 15m / Number of floors: 6 / Floor area of standard floor: 225m² / Main direction: South / Standard story height: 3.6m / Glass surface area of entire building: 432m<sup>2</sup>

#### **OTHER PRODUCTS**

Ultra-light solar cell module Lightjoule™



Chemically strengthened specialty glass Leoflex™



(Note) For information on products and technology related to Clean & Green Energy, please refer to the AGC website.

WEB www.agc.com/english/portal/index.html

# Chapter II

# For the Earth

Focusing on the Business Opportunities in "AGC's responsibility as Part of Energy-Intensive Industry" and in "Responses to Low-Energy and Energy-Creation Needs"

Positioning the environment as a top management priority, the AGC Group states in its "Aspirations for 2020" its intent to consider the environment, not only in its products, but in its production processes and business activities as a whole. Specifically, the Group identifies initiatives regarding energy issues, prevention of pollution and sustainable resource use as material issues, and is promoting a range of measures.

In terms of initiatives regarding energy issues, the AGC Group works to reduce the energy involved in its production activities. At the same time, the Group contributes to reduced energy consumption for society as a whole through environment-related products that facilitate energy conservation and energy creation, while at the same time seeks out business opportunities in the growing global response to the environment.

Material Issues for Environmental Management<sup>1</sup>

Material Issue 1
Initiatives regarding energy issues

Reduction of energy involved in production activities

Reduction of energy through environment-related products

Material Issue 2
Prevention of pollution

Material Issue 3
Sustainable resource use

1 For detailed information on the selection process for material issues and progress on each issue, visit the CSR website.

WEB www.agc.com/csr/env/index.html



# Reduction of Energy Consumption Involved in Production Activities

# Working from the Perspective of Both Production Facilities and Utilities

In order to reduce the amount of energy consumed in its production activities, the AGC Group is working on various measures such as changing the fuel source to natural gas and achieving greater energy efficiency through improved production processes. In particular, the process of melting raw materials is very energy-intensive, so the Group is working to develop new technology while also promoting the practical application of in-flight melting technology, a technique which utilizes plasma or flame produced by oxygen combustion.

In addition, the Group is implementing global efforts to reduce the amount of energy used for utilities, such as electricity and steam used in production processes.

Activity highlight .....p. 25

#### Energy Reduction through Environment-Related Products

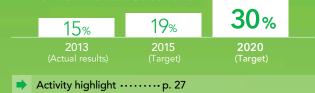
# Finding Business Opportunities Amongst the Growing Need for Energy Conservation and Energy Creation

As a corporation that contributes to the creation of a sustainable society, the AGC Group develops and promotes widespread use of environment-related products which will lead to reductions in the environmental load of society as a whole. The Group sees these efforts as a business opportunity, and in order to accelerate this measure, it has set a goal of increasing its environment-related sales ratio to 19% by 2015, and to 30% by 2020. In 2013, the environment-related sales ratio stood at 15%.

In specific terms, the AGC Group has an extensive lineup of products such as energy-saving architectural glass in addition to components used in solar power generation and eco-friendly vehicles. The Group is also working to release information that will lead to the further spread of its environment-related products through efforts that include among others, making the effects of these products visible by calculating the lifecycle CO<sub>2</sub> (Note 2) for each product

(Note 2) CO<sub>2</sub> emissions generated throughout the lifecycle of a product, from the procurement of raw materials through manufacture, sales. logistics and use to disposal or recycling

#### **Environment-Related Sales Ratio**



#### **Greenhouse Gas Emissions by Region**

Europe 2,140,000 The Americas 662,000 t-CO2

# Slogan for CO<sub>2</sub> emissions avoided through environment-related products

The AGC Group, through its energy-saving and energy-creating products, will enable avoidance of over six times AGC Group's own annual CO<sub>2</sub> emissions in 2020.

# Ingenuity in Energy Conservation Goes Global

The Goal: A 30% Reduction in Utility-Related Energy Use

Since 2009, the AGC Group has been working to reduce the amount of energy associated with its use of utilities, such as electricity and steam.

The Group implemented energy conservation assessment at each of its production bases in Japan and promoted updates and improvements to equipment and energy conservation measures. In 2012, by encouraging information sharing between plants and horizontally developing countermeasures, the Group achieved its target of an 8.5% reduction from the previous year.

In fiscal 2013, in addition to setting a new 3-year target of reducing utility-related energy use by 30%<sup>1</sup> by the end of 2015, the Group expanded its activities and scope. Energy conservation measures for existing equipment and the incorporation of energy conservation measures for new equipment from time of introduction resulted in a reduction of 15.6% from the previous fiscal year.

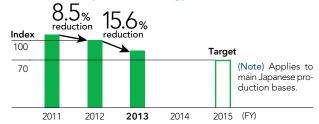
In fiscal 2014, the Group extended the numerical

targets it had used in Japan to its Asian production bases and has begun to conduct quantitative evaluations. The Group is also proactively sharing its measures in Japan and other Asian countries with Europe and North America and is working to develop them horizontally.

In the future, the AGC Group will continue working to reduce the environmental impact of the Group as a whole by globally expanding the energy conservation technology it has cultivated up to the present.

1 Relative to fiscal 2012

#### Trends in Utility-Related Energy Use







# In Asia Leading Energy Conservation Technology Responds to the Trust and Expectations of Asian Societies

In order to respond to rising infrastructure demands in Asia, the AGC Group is increasing the production capacity of its local Glass and Chemicals businesses. As it does, it also works to reduce its local environmental impact to fulfill its social responsibilities as an environmentally advanced company.

In China, for example, at a plant that is currently under construction and scheduled to begin mass production in 2015, the Group has included measures promoted by previous energy conservation assessment for air conditioning and lighting and fully incorporated its energy conservation technology into the new production line, resulting in a plant that will realize excellent energy conservation performance from the very beginning of operations.



# In Brazil State-of-the-art Green Plant Begins Operations in Brazil

In October 2013, AGC Glass Brazil began full production in the Brazilian state of São Paulo. This plant has been built using various advanced environmental technologies, including energy conservation, exhaust gas treatment and low water-use technology, and in doing so became the glass plant with the lowest environmental impact in South America.

In addition, consideration was extended to the ecosystem in the vicinity of the plant. Beginning in 2011, the AGC Group joined the local government to implement a revegetation and wildlife protection project. Emphasis was placed on fauna resource recovery, on capturing wildlife and relocating it to safe areas, and on keeping deforestation to a minimum and maintaining soil permeability and water quality. The approximately 33,000 trees that were removed during construction are being replanted in other areas.





# **AGC Group to Enhance Its Energy-Saving** and Energy-Creating Products

Towards the Realization of "Low-Energy Contributions" Equaling Six Times Its Own Energy Use in 2020

The glass industry is an energy-intensive industry, accounting for approximately 1% of the energy consumption of the entire manufacturing industry (in Japan). Conscious of its own environmental load, the AGC Group is working to develop and supply environment-related products that can contribute to energy conservation and creation, in order to make a contribution that outweighs its environmental impact. To spur on this initiative, the Group has established the statement "The AGC Group, through its energy-saving and energy-creating products, will enable avoidance of over six times AGC Group's own annual CO2 emissions in 2020" as its slogan in fiscal 2014.

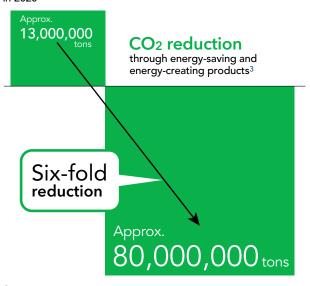
By current estimates, the amount of CO<sub>2</sub> reduction the Group will need to achieve in fiscal 2020 is approximately 80,000,000 tons annually, an amount equivalent to the annual energy use<sup>1</sup> of nearly 16,000,000 average

In order to achieve this goal, the AGC Group is working to develop energy-saving and energy-creating environment-related products, and to further augment proposals conducted in cooperation with its sales partners.

1 Annual CO<sub>2</sub> emissions for one household: Approx. 5 tons (fiscal 2011) Source: Greenhouse Gas Inventory Office of Japan http://www.jccca.org/chart/chart04\_06.html

#### AGC's Aspirations for 2020 regarding CO<sub>2</sub> **Emissions Reduction**

#### CO<sub>2</sub> emissions in 2020<sup>2</sup>



2 The AGC Group's estimated annual CO<sub>2</sub> emissions in 2020

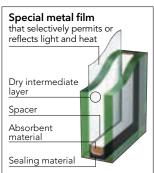
3 The amount of CO2 reduction if the energy-saving and energy-creating products manufactured in 2020 are used to the end of their useful lives.



#### **Energy-Saving Architectural Glass Creates** Comfortable, Low-Energy Spaces

Low-E double glazing repels the heat of summer through the power of metal coating applied onto the glass. In addition, the layer of air between the two panes raises heat efficiency in winter and keeps dew condensation from forming. These heat insulating and heat shielding effects dramatically increase heating and cooling efficiency, making it possible

to cut annual air-conditioning cost by 1/3 (compared to single-paned windows). When comparing CO<sub>2</sub> emissions over the entire lifecycle of the product from manufacture to use, Low-E double glazing has an emission reduction effect between 8 and 9 times greater than that of conventional products.



CO<sub>2</sub> emissions 8 to 9 times **reduction** (as compared to conventional products)



#### Flemion™: A Fluoropolymer Ion-Exchange Membrane that Realizes Energy Savings in Caustic Soda Production

Caustic soda is a basic industrial chemical that is indispensable to various industries, such as synthetic fibers, paper and pulp. The fluoropolymer ion-exchange membrane Flemion  $^{\text{\tiny{TM}}}$ is a core component of the ion-exchange membrane process, a caustic soda manufacturing method. In comparison to the conventional mercury process, this process reduces energy usage by approximately 40%, in addition to not using any toxic substances. At present, the AGC Group has developed and is selling Flemion F-8080™, a new product that consumes even less electricity than the standard Flemion™. The Group has become the first company in the world to achieve a total conversion to the ion-exchange membrane method in all its caustic soda production bases. In the future, it plans to

promote the spread of this method to fast-growing countries through mechanisms such as the binational offset credit system4 whose systematic implementation is anticipated.



4 A mechanism by which Japan's contribution to the effect realized through fast-growing countries' greenhouse gas reduction measures is quantitatively evaluated by both countries and used to achieve Japan's

### Energy Approx. 40% reduction

#### 1234yf and AMOLEA™: Low-Énvironmental Impact Refrigerants with Reduced Influence on Climate Change

Hydrofluorocarbons (HFC) are used as refrigerants in air conditioners and cars. However, since their global warming potential (GWP) is high, their use is being increasingly restricted in Japan, Europe, North America, and the rest of the world. The AGC Group is the world's first company to establish the production technology for the next-generation automotive refrigerant 1234yf, one that has an extremely low environmental load with a GWP that's equal to or less than 1/1300 the GWP of conventional products<sup>5</sup>. In January 2014, the AGC Group announced that it would supply the product to the US company Honeywell. In addition, in March 2014, the Group developed AMOLEATM, a new refrigerant for air conditioners whose performance is the same as conventional products<sup>6</sup>, but whose GWP has been lowered to approximately 1/6. Commercial production is expected to begin in 2016.

5 As compared to the automotive refrigerant 134a 6 As compared to HFC-410A

**GWP** (Global Warming Potential) AMOLEA™ 1234yf Approx. 1/1,300 Approx. 1/6

# Chapter **Ⅲ**

# For People

Transforming the Growth of Diverse Employees Worldwide into Growth for the AGC Group

The driving force behind the growth of the AGC Group is none other than its 51,000 employees in over 30 countries and regions. In its management policy, *Grow Beyond*, the Group gives the concepts Our People Are Our Strength and No Production Without Safety as the backbones of its business activities (see page 16).

In order to create an environment in which its diverse employees can reach their true potential, the AGC Group implements personnel management that emphasizes leadership, expertise, competence and motivation. At the same time, the Group focuses on providing secure environments in which employees

can work safely. Through these measures, the power of each individual employee will be transformed into growth for the Group.

Material Issues for Human Resources and Occupational Safety Management<sup>1</sup>

Material Issue 1
Human
resource
development

Material Issue 2
Occupational
health and
safety

Material Issue 3 Creation of pleasant work environments

1 For detailed information on the selection process for material issues and progress on each issue, visit the CSR website.

WEB www.agc.com/csr/employee/index.html



#### **Human Resource Development**

#### Personnel Development that Drives Growth

The AGC Group considers the growth of each of its employees to be the driving force that supports the growth of the content, the Group works to facilitate more effective growth.

Activity highlight .....p. 31

#### Occupational Health and Safety

#### Two Mainstays: Risk Reduction and **Improving Awareness**

activities in accordance with two main policies. One is the raise employee sensitivity to occupational health and safety.

Activity highlight .....p. 33

#### **Creating Pleasant Workplaces**

#### **Creating Environments in which Employee Diversity is Respected**

that it will respect human rights, engage in management that

#### Women's Advancement Initiatives Result in 2nd Consecutive Nadeshiko Brand Selection

was selected as a Tokyo Nadeshiko Brand<sup>2</sup> for the



life stage.

#### Number of Group Employees by Region





# Learnings Generated by **Cross-Organizational Interaction**

Cross-Divisional Network Activity through Skill Map Brings New Value

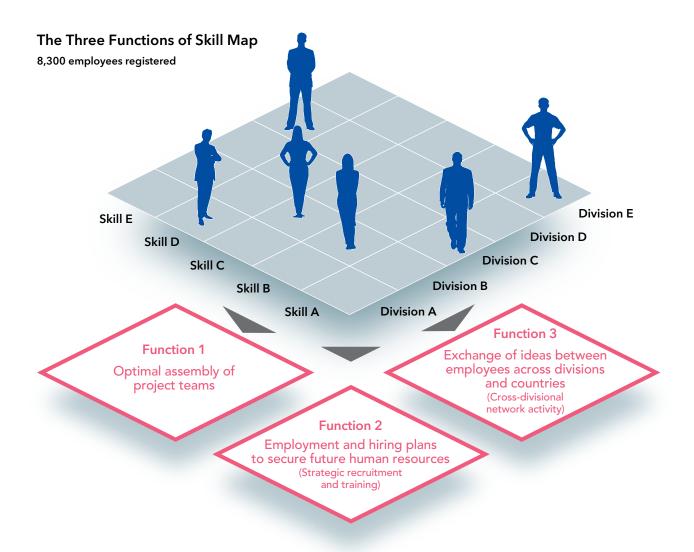
#### Skill Map: A Unique Personnel Database

The AGC Group introduced a unique personnel database, Skill Map, in fiscal 2010. This group-wide database is designed to promote communication and provide effective staffing as employees are registered by speciality. It enables the Group to "see" the skills held by employees in various divisions at various companies.

As of the end of 2013, approximately 8,300 employees are registered in Skill Map in 26 technical categories and 13 sales/administrative categories. When beginning a new project, for example, Skill Map facilitates the creation of optimal teams as it shows which organization in which country employs personnel who have the necessary skills.

In addition, the database allows at a glance to see which fields have sufficient personnel and which may not have enough in the future across the whole Group, facilitating strategic hiring and training of personnel in accordance with the growth strategy.

Employees with common skills who work for different companies or divisions and so had no previous point of contact can also find each other and build networks. This cross-divisional network activity facilitates communication that crosses organizational and national boundaries and similar preexisting frameworks, making it possible to further develop skills and work to resolve problems from unprecedented perspectives.



#### Collaboration through Cross-divisional **Network Activity**

Cross-divisional network activity provides opportunities for employees to exchange information and perform joint research with those who have skills in common but belong to different organizations and do not come into contact with each other in the course of their daily work. By posing questions to each other and sharing their individual skills, employees uncover clues to the resolution of problems and the creation of new techniques.

In addition, as the number of employees registered on Skill Map increases, cross-divisional network activity grows more active and collaborations between separate networks begin. In some fields, these collaborations have already begun, not only among employees with technical skills, but between employees with technical skills and those with sales or administrative skills. Unprecedented perspectives and ideas are resulting in new initiatives, such as, for example, a collaboration between the sales division and research & development division whose goal is to make better use of customer views in research & development.

By making personnel exchange that crosses preexisting frameworks part of the AGC Group's unique culture, the Group will generate new products and services that were never before possible.

#### **Collaborations Between Employees with Different Skills**





# **Creating Safe Workplaces**

# Globally Developing the Serious Accident Eradication Project

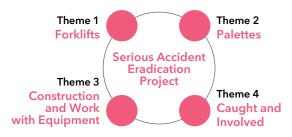
In April 2012, based on its health and safety policy, No Production Without Safety, the AGC Group launched the Serious Accident Eradication Project. The project aims to eliminate fatal or crippling occupational accidents and environmental or industrial safety and security accidents that could result in worker injuries and heavily affect the surrounding area.

The AGC Group established subcommittees for occupational accidents on four themes that are particularly high-risk across the Group: Forklifts, Palettes, Construction and Work with Equipment, and Caught and Involved. Preventative measures are being devised on a global, cross-divisional scale using unconventional approaches.

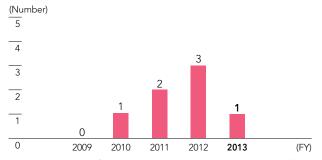
In fiscal 2013, the Group surveyed each plant, closely examining the causes of accidents and latent risks, then formulated policies and guidelines to counteract them.

In the future, these countermeasures will be implemented at production bases around the world and their full establishment encouraged.

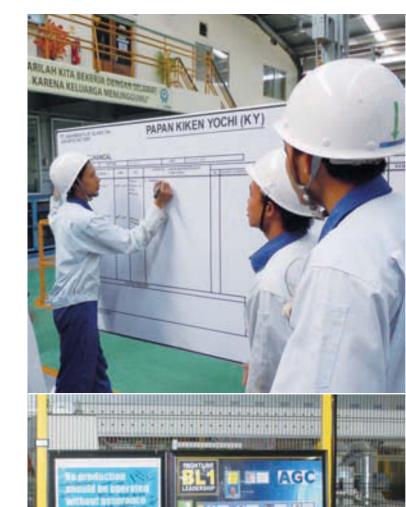
#### **Serious Accident Eradication Project**



#### Change in Occurrence of Fatal Accidents (AGC Group)



(Note) The number of AGC Group employees. The AGC Group collects data regarding occupational accidents, including those that occur at its business partners, and discloses detailed information on its CSR website.



Upper left: A safety meeting held before work at PT Asahimas Flat Glass, Thk (Indonesia)

Lower left: The manufacturing floor at the Bellefontaine Plant, AGC Automotive Americas Co. (United States)

#### **Pallet Working Group Initiative**

#### Clarifying Safety Standards Based on Surveys of the Current Situation

is heavy equipment such as H-shaped boxes—which can't stand independently—falling over. In order to prevent these

glass during transport.



#### **Eliminating Occupational Accidents** with the Pallet Working Group 99

glass pack storage and safety loads for



Zhao Bin General Manager AGC Flat Glass (Dalian)



Upper right: The manufacturing floor at the Bellefontaine Plant, AGC Automotive Americas Co. (USA) Lower right: Safety patrol training (Japan)

#### **Social Contribution Activities**

Guided by the AGC Group Social Contribution Basic Policy, the AGC Group carries out activities for supporting communities around the world. The Group will promote activities meant to contribute to the resolution of social issues in fast-growing countries where the company operates.

#### **AGC Group Social Contribution Basic Policy Priority Areas**

**Support for the Next Generation** 



We, as a creator of future value, support the development of children, who will carry the future, helping them to live out their dreams.

Harmony with Local Communities



We, as a member of the communities in which we operate, contribute to their sustainable development.

#### **Natural Environment Conservation**



We, as a global enterprise, contribute to the solution of global environmental problems.

#### Highlights in Fiscal 2013



**AGC Chemicals Europe** 

In the UK

#### **Environmental Workshops** for Schoolchildren

AGC Chemicals Europe (AGCCE) communicates the importance of environmental conservation to children by offering workshops on the environment and creating a sustainable society at four local elementary schools in partnership with a charity organization.



#### **AGC Glass North America**

In the **USA** 

#### Awarding Achievements on Earth Day

AGC Glass North America (AGNA) holds a contest and other activities every year for Earth Day on April 22 to increase awareness and appreciation of global environmental conservation among employees. This year awards for outstanding efforts were presented to individual employees and several AGNA locations.



#### AGC Flat Glass (Thailand) Public

In Thailand

#### **AFT Promotes Activities** to Support the Sustainable Development of Local Communities

AGC Flat Glass (Thailand) Public (AFT) is actively promoting its Open Kids Vision initiative, which includes efforts to improve the education of children in rural forested regions in collaboration with local residents, specialists and NGOs.





Asahi Glass Fine Techno Korea / Hanwook Techno Glass / Asahi PD Glass Korea

In South Korea

#### Books Donated, **Book Report Competition Hosted**

Three AGC Group companies in South Korea are supporting the development of children by donating books to three local elementary schools. The companies also held a book report contest to foster reading habits and make good use of the donated books.







#### **AGC Group**

Global

#### Safety Glass Donation Activities Expanding Worldwide

The AGC Group has been supporting the development of local communities through the donation of glass in many countries and regions around the world.

Since 2005, Asahi Glass has conducted its Glass Power Campaign to promote safety measures in local communities through the donation of safety glass. As part of this effort, safety glass that is designed to be effective in natural disasters, including typhoons, strong winds, and earthquakes, has been donated to 35 local governments thus far.

Donations were made to aid Tsukuba City in Ibaraki Prefecture, which was severely damaged by a tornado in May 2013, and in February 2014, donations were made to aid Koshigaya City in Saitama Prefecture, which also saw tornado damage. All of the window glass was replaced with safety glass in each facility's elementary school gymnasiums, which also function as designated evacuation shelters-making the gym a

safer place during natural disasters.

In addition, in 2013, 145 square meters of glass was donated to the police station and the temple in the vicinity of the PT Asahimas Flat Glass, Tbk (AMG) Cikampek Plant in Indonesia, increasing both comfort and convenience for the local residents in their use of these facilities and thereby contributing to the development of the local community.

Additionally, to encourage a speedy recovery in affected areas, AGC Glass Europe donated 2000 square meters of glass to hospitals and educational institutions

damaged by the February 2013 meteorite explosion in Russia's Chelyabinsk Oblast, while also providing other support, such as augmenting glass supply in the affected areas.



Glass donation for local temple (Indonesia)



#### The Asahi Glass Foundation

In Japan

#### Two Individual Researchers Receive the Blue Planet Prize in 2013

The Blue Planet Prize is an international environmental award that, as of 2013, has been presented a total of 22 times. It is presented annually to two individuals or organizations that make significant contributions in scientific research or applications and practices to solve global environmental problems.

In 2013, the Blue Planet Prize was awarded to Dr. Taro Matsuno (Japan) for his superior leadership in meteorological research, forecasting and analysis and his great contributions to deepening world consciousness of global warming and climate change, and to Professor Daniel Sperling (US) for his comprehensive practical research regarding the influence of transportation on the environment, covering everything from science and technology to political administration, and for the resulting major advances and guidelines gained by urban environmental measures.

An awards ceremony was held on October 30 at

Palace Hotel Tokyo, where the prize-winners were greeted by Their Imperial Highnesses Prince and Princess Akishino. The winners gave commemorative lectures on the following day, October 31, at the United Nations University in Tokyo.



Yoshihiro Hayashi, Chairman of the Selection Committee makes an explanation about the selection process, and the recipients with their families

## Risk Management / Compliance / **Intellectual Property**

### Risk Management

In accordance with its Corporate Policy over Internal Control, the AGC Group has established the AGC Group Enterprise Risk Management Basic Policies. Under these policies, the Group defines risks that could interfere with achieving its management objectives, and works to continuously enhance and improve the ability of its management to prevent risks from occurring and to respond to any risk that becomes manifest.

#### Examples of risks managed by the AGC Group:

- •Natural disasters such as earthquakes
- Environmental regulations
- Market conditions with regard to product demand
- Occupational accidents
- Product liability
- Procurement of resources
- Overseas business development

#### **Business Continuity Management (BCM)** Structure

Taking Group-wide Measures to Ensure that Business Can Continue with the Establishment of a Business Continuity Plan Development Guideline and a Basic Policy to Cope with Natural Disasters

The AGC Group formulated its business continuity plan (BCP) in fiscal 2008 to prepare for a large-scale accident or disaster. Additionally, in March 2011, the Group issued the AGC Group Business Continuity Plan (BCP) Development Guideline for use by divisions and business sites when formulating BCPs for each type of risk. The Group has been regularly reviewing and enhancing its BCPs based on its business continuity management (BCM) processes for continuously maintaining and improving BCPs.

Since fiscal 2011, Asahi Glass's headquarters has been conducting drills with unannounced emergency scenarios. Executive managers up to the Group CEO participate in the drills in an effort to raise the effectiveness of the BCPs and ensure that all employees are aware of proper procedures.



BCP training at Asahi Glass headquarters in October 2013

### Compliance

#### Raising Awareness of Compliance

#### Conducting Compliance Training in Each Region

Issued in 12 types covering 18 languages, the AGC Group Code of Conduct contains guidelines that all employees are required to follow in their work. The Group has also introduced a system in which employees periodically submit a personal certification to follow the AGC Group Code of Conduct. The purpose of the system is to give employees regular opportunities to renew their awareness of compliance and recognize its significance in the workplace and in their own work. In fiscal 2013, the certification was submitted by about 40,000 designated employees, equivalent to around 80% of all Group employees.

As a means to raise awareness of its Code of Conduct globally, the AGC Group is stepping up its compliance training programs for employees around the world. For example,

the Group continually implements compliance-related online training (e-learning) in Japan, Europe and North America. The Group also proactively promotes training activities intended to reinforce compliance in each country and region, including classroom training as well as the production of training materials that include illustrations and quizzes, compliance pocket-sized cards, video materials for training and educational posters.



The illustrated explanation of the Code of Conduct

#### **Globally Establishing Help Lines**

#### Committed to Promoting Awareness and Protecting **Callers**

The AGC Group has established several varieties of help line to serve as points of contact regarding compliance. As a general rule, help lines are set up at each company, while additional, common help lines are established in Europe, North America, China, Japan and South Korea.

To encourage employees to use the help lines, the Group protects the anonymity of consultants and strictly forbids any act of retaliation against anyone who makes a report in good faith. When consultants offer their real names, efforts are made to facilitate effective two-way communication and provide feedback on the status and results of handling reported issues.

In addition, the Group is making efforts to promote awareness of its help lines so that its members do not hesitate to use them if necessary.



#### **Compliance with Antitrust Laws**

#### Ensuring Fair Transactions through Strict Adherence to Guidelines, Training and Audits

In addition to the Group Code of Conduct, the AGC Group has formulated and implemented global guidelines for compliance with antitrust laws. Under the guidelines, the legitimacy of having a meeting with a competitor company must be thoroughly vetted first. As a means to minimize the necessity of such meetings, employees must gain approval to participate from a supervisor in advance, and then submit meeting minutes and a report to the supervisor after the meeting. The Group is also carrying out various other measures, such as providing training on compliance with antitrust laws in each region and organization, and conducting audits on the status of compliance with relevant guidelines.

#### **Promoting Supply Chain Management**

#### Commencing a Survey of Suppliers' CSR Activities

As a corporate enterprise that contributes to a sustainable society, the AGC Group is implementing initiatives designed to address human rights and labor practices, as well as to solve various environmental and social issues across the entire supply chain, including efforts with suppliers.

The Group has emphasized the importance of corporate social responsibility in its AGC Group Purchasing Policy, revised in 2009, and is encouraging suppliers to incorporate the policy and cooperate in its enforcement.

In 2013, the Group requested 244 of its main suppliers, including those from outside Japan, to cooperate in raising awareness of the AGC Group Purchasing Policy among their employees. In the same year, the Group commenced a survey of suppliers in Japan to determine their progress in implementing CSR activities. The survey is scheduled to be carried out in Europe and North America in 2014.

#### **Excerpt from the AGC Group Purchasing Policy**

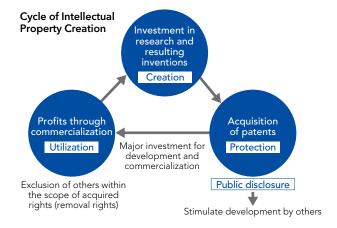
Items suppliers are requested to cooperate on when promoting CSR in the supply chain:

- 1. Concentrate to supply products and services with good quality, considering Safety & Environment and Compliance to Laws & Regulations of each country.
- 2 .Secure and proper managing of Proprietary information and Intellectual property.
- 3. Not to be engaged to forced labor or child labor and never tolerate infringements of human rights.
- 4. Make efforts to environment preservation and ensuring safety and security.
- 5. Maintain adequate level of occupational health and

# Intellectual Property

Recognizing that intellectual property is a crucial asset for its business strategies, the AGC Group is working to create, protect, and enhance its intellectual property as a means of sharpening its competitive edge. While making the most of inventions created at its development facilities in Asia including Japan, as well as Europe and the United States, the Group makes sure to acquire intellectual property rights according to its business activities, utilizing relevant systems in various countries to acquire rights at an early stage.

Looking ahead, the Group intends to be at the forefront of intellectual property activities, incorporating intellectual property strategies when determining the future direction of its business and R&D.



#### Selected as One of the World's 100 Most Innovative **Companies and Organizations**

In November 2013, Asahi Glass was recognized as one of the world's 100 most innovative companies and organizations with a 2013 Top 100 Global Innovators



Award, sponsored by Thomson Reuters.

The award is presented to companies that have made major achievements in technological innovation in consideration of international trends related to intellectual property and patents. Evaluation criteria are organized into four categories: patent success rate, internationalization, influence, and volume<sup>1</sup>. Among them, Asahi Glass received particularly high ratings in the internationalization and influence categories. On the momentum of this award, the Company looks forward to pursuing innovative technologies, products, and services beyond conventional frameworks in the future.

1 The criteria are based on the ratio of published applications to granted patents, the international breadth of the patent portfolio, the extent patents are cited, and the number of patents.

### **Corporate Governance**

# Approach to Corporate Governance

As stated in its basic policy concerning corporate governance, the AGC Group clearly separates the functions of oversight and execution of management, aiming to strengthen the management oversight function.

By establishing a sound and effective system of corporate governance, the Group ensures the appropriate supervision of operations as it strives to realize highly efficient and transparent management.

# Framework for Management Oversight

#### **Board of Directors**

Improving the Objectivity and Transparency of the Board of Directors by Incorporating Opinions and **Scrutiny from Outside Directors** 

The Board of Directors of Asahi Glass comprises seven directors, including three outside directors<sup>1</sup>, and is tasked with approving the AGC Group's basic policy and monitoring the execution of its management.

Asahi Glass began employing outside directors in 2002 in an effort to enhance the management oversight function. The appointment of outside directors is carried out in accordance with requirements under the Companies Act of Japan as well as Asahi Glass' own selection criteria designed to ensure director independence (see page 40 for details). The three outside directors also fulfill the criteria for Independent Directors set forth by the securities listing regulations and enforcement rules for the securities listing regulations.

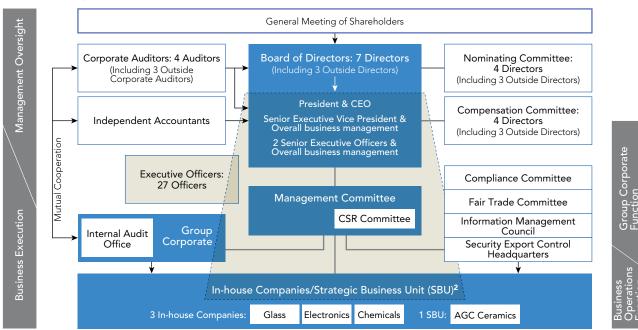
The term of office for outside directors is one year, during which they are expected to draw on their extensive experience in global corporate management to offer proposals in the Board of Directors concerning general management from an independent standpoint.

1 As of March 28 2014

#### **Board of Directors Meetings in Fiscal 2013**

- •Meetings held: 13
- Attendance rate of each outside director in meetings: 97%

#### Overview of Corporate Governance Structure (as of March 28, 2014)



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: the Glass Company, the Electronics Company and the Chemicals Company. Business units smaller than this are defined as Strategic Business Units (SBUs).



#### **Board of Corporate Auditors**

#### Enhancing the Effectiveness of Audits with Accounting Auditors and the Internal Audit Organization while Auditing the Performance of Directors

Asahi Glass employs corporate auditors who audit the performance of directors by attending important meetings such as management committee sessions and holding regular meetings with representative directors. The corporate auditors also enhance the effectiveness of auditing by exchanging views and obtaining information concerning audit results and other matters in cooperation with accounting auditors and the Internal Audit Office. As of March 28, 2014, Asahi Glass employed four corporate auditors in total, of which three were outside auditors. All three fulfill the requirements of the Companies Act, as well as standards for independence set forth by our company (see list at right). The outside auditors also fulfill the criteria for Independent Auditors set forth by securities listing regulations and the enforcement rules for the securities listing regulations.

#### Framework for Enhancing the Management Oversight Function

#### Early Establishment of Nominating and Compensation Committees in 2003

Asahi Glass established its Nominating and Compensation Committees in 2003 as voluntary advisory committees of the Board of Directors.

#### **Committee Activities in Fiscal 2013**

Committee and members	Duties	Number of meetings held
Nominating Committee: 4 Directors (of which 3 are outside directors)	Deliberate on candidates for director and executive officer positions, and make recommendations to the Board of Directors	5 times
Compensation Committee: 4 Directors (of which 3 are outside directors)	Deliberate on the compensation system for directors and executive officers, directors' compensation limits and bonuses to be reported to the general shareholders meeting, and the amount of compensation for executive officers	4 times

#### Standards for Independence of Outside Officers

Asahi Glass has set the following standards to ensure the independence of outside directors and outside corporate auditors.

#### Standards for Independence of Outside Officers (Summary)

- An outside officer shall not be a business executing person from a company competing in the same industries as the AGC Group, a company which has the AGC Group as a major business counterparty or a major business counterparty of the AGC Group (in the past three years), or a major shareholder of Asahi Glass.
- An outside officer will not have received a significant sum of money (in the past three years) from the AGC Group besides compensation designated for their respective
- An outside officer shall not have been an employee of an auditing firm that has conducted audits on the AGC Group in the past three years.
- The absence of serious conflicts of interest between the Company and an outside officer, or any matter between the Company and an outside officer that may damage his or her independence.

#### **Support System for Outside Officers**

#### Company Organizations Support Effective Supervision and Auditing

To enable outside directors to effectively oversee operations based on adequate information about the Company, the Office of the President, which serves as the Secretariat of the Board of Directors, notifies them about Board of Directors meetings, distributes related materials beforehand, and provides full explanations of agenda items for the meetings in advance.

Likewise, to enable outside corporate auditors to more effectively perform audits, the Secretariat of the Board of Corporate Auditors holds Board of Corporate Auditors meetings, and assists them in coordinating meetings with representative directors and accounting auditors.

At Asahi Glass, the management execution function is the

# Framework for Management Execution

#### Executive Officers Perform their Duties Promptly and Appropriately while Each In-house Company Flexibly Manages the Business

responsibility of executive officers below the president & CEO. As an advisory committee to the president & CEO, Asahi Glass establishes the Management Committees and discusses business management monitoring and decisions regarding management execution. A system of In-house Companies (quasi-subsidiaries within the Group) has been introduced and a global consolidated management system is adopted with regard to business execution. Much of the responsibility and authority for business execution has been delegated to the In-house Companies and the Strategic Business Unit.

# Compensation System

#### **Basic Philosophy on Compensation System**

#### Establishing an Objective and Highly Transparent Compensation System

In its Compensation Principles, Asahi Glass sets out its basic stances and philosophies on overall compensation for officers as follows.

- The compensation system shall be one that enables the Company to attract, secure and reward diverse and talented personnel, in order to establish and expand the Company's edge over its peers.
- The compensation system shall be one that promotes continued improvement of corporate value, and in this way allows shareholders and management to share gains
- The compensation system shall be one that gives motivations to achieve performance goals relating to management strategies for the AGC Group's continuous development.
- The decision-making process of determining compensation shall be objective and highly transparent

#### **Composition of Compensation**

#### Outside Directors Receive Fixed Compensation while Inside Directors Receive Both Fixed and Performance-**Linked Compensation**

Under the Company's compensation system, outside directors and corporate auditors receive fixed compensation in the form of monthly compensation. Directors who serve as executive officers receive monthly compensation as well as performancelinked compensation in the form of bonuses and stock compensation-type stock options.

The amount of the Bonuses, which is aimed at motivating recipients to achieve their single-fiscal-year business results goals, varies depending on consolidated business results for a single fiscal year. The Stock Compensation-Type Stock Options are intended to allow recipients to share benefits and risks associated with stock price fluctuations with our shareholders, and enhance their motivation and morale so as to raise business results and corporate value on a medium to long term basis.

#### Composition of Compensation for Directors and Corporate Auditors

	Type of compensation		Eligible persons
Directors	Fixed compensation	Monthly compensation	All directors
	Performance- linked compensation	Performance-linked bonuses	Directors who also serve as executive officers
		Stock compensation- type stock options	Directors excluding outside directors
Corporate auditors	Fixed compensation	Monthly compensation	All corporate auditors

#### **Compensation Determination Method**

#### Ensuring the Objectivity and Transparency of the Company's Compensation Decision-Making Process

The Compensation Committee deliberates on matters such as the compensation system and level for directors and executive officers based on the Compensation Principles, makes proposals regarding them to the Board of Directors, and verifies the results of compensation payments in order to increase the objectivity and transparency of the compensation determination process.

#### **Compensation to Directors and Corporate Auditors** in Fiscal 2013

	Number of recipients <sup>1</sup>	Total payment (millions of yen) <sup>1</sup>
All directors	9	378
Outside directors only	4	48
All corporate auditors	5	93
Outside corporate auditors only	3	57

<sup>1</sup> Figures include compensation for two directors (including one outside director) and one corporate auditor who stepped down at the time of the 88th General Meeting of Shareholders held on March 28, 2013.

### Internal Control

#### Maintaining, Applying, and Assessing Internal Control over Financial Reporting

In response to the establishment of the Companies Act, Asahi Glass voted on its corporate policy over internal control at the Board of Directors meeting held in May 2006. The aim was to review and ensure the appropriateness of its business operation systems, including the compliance system.

The Company adopted an internal control reporting system in compliance with Japan's Financial Instruments and Exchange Act, and then established the AGC Group Internal Control over Financial Reporting Implementation Regulations. Based on these regulations, the Group maintains, operates and evaluates internal controls for financial reporting.

Independent auditors evaluated the Group's internal control systems in fiscal 2013, and confirmed that the systems were effective and compliant.

### **Board of Directors, Corporate Auditors and Executive Officers**

## **Board of Directors**



Kazuhiko Ishimura Representative



Nishimi Representative

Hiroshi

Kimura

Director



Takashi **Fujino** Director



Yoshinori Hirai Director



Masahiro Sakane Director (Outside)

Appointed in March 2011 Member of the Nominating and Compensation Committees Councilor of Komatsu Ltd. Outside Director of Tokyo Electron Limited Outside Director of Nomura Holdings, Inc. Outside Director of Nomura Securities Co., Ltd.



(Outside) Appointed in March 2013 Member of the Nominating and Compensation Committees Chairman of the Board of Japan Tobacco Inc.



Egawa Director (Outside)

Appointed in March 2014 Member of the Nominating and Compensation Committees Executive Vice President of the University of Tokyo

# **Executive Officers**

#### President & CEO Kazuhiko Ishimura

#### Senior Executive Vice President

#### Yuji Nishimi

Overall business management (AGC Group Improvement Activities, Electronics business and Business development)

#### Executive Vice Presidents

#### Kei Yonamoto Representative for the Americas, Glass Company

Yoshiaki Tamura President of Glass Company

#### Senior Executive Officers

#### Marehisa Ishiko GM of Automotive General Division, Glass Company

### Jean-François Heris GM of Building & Industrial General Division, Glass Company; <President & CEO of AGC Glass Europe>

#### Takashi Fujino Overall business management (Finance); GM of Office of the President

Yasumasa Nakao GM of Technology General Division, Glass Company

### Takuya Shimamura President of Electronics Company

## Yoshinori Hirai Overall business management (Technology); GM of Technology General Division; Deputy Leader of AGC Group Improvement Activities and Business Development

#### **Executive Officers**

Tadayuki Oi GM of Strategy & Planning Office, Glass Company

Shinichi Kawakami GM of Human Resources & Administration Office

# **Tetsuo Tatsuno** GM of Finance & Control

Tokio Matsuo GM of CSR Office

#### Akinobu Shimao President of AGC Ceramics Co., Ltd.

**Tomoya Takigawa** GM of Production Technology Center, Technology General Division

#### Takashi Shimbo Chief Representative of AGC Group for China

**Shinji Miyaji** GM of Electronics General Div., Electronics Company

# Kimikazu Ichikawa

Deputy GM of Building & Industrial General Division, Glass Company; GM of Japan/Asia Pacific Division, Building & Industrial General Division, Glass Company

#### Yoshinori Kobayashi Chief Representative of AGC Group for Southeast Asia

# **Kazuyoshi Watanabe** GM of Display Glass General Div., Electronics Company

## Kihachiro Okamoto Deputy GM of Automotive General Division, Glass Company

#### Shigekuni Inoue GM of Electronic Glass General Div., Electronics Company

#### Hiroyuki Watanabe GM of Research Center, Technology General Division

#### Masao Nemoto President of Chemicals Company

Takayasu Ide GM of Technology Management General Div., Chemicals Company

## **Seigo Washinoue** Deputy GM of Display Glass General Div., Electronics Company

### Corporate **Auditors**

Shukichi Umemoto Izumi Tamai (Outside) Kenji Haga (Outside) Toru Hara (Outside)

#### Date of Publication

June 2014 (Last date of publication: June 2013)

#### Regarding Future Assumption, Forecasts and Plans

Future perspectives described in this report are based on the latest information available to the AGC Group at the time of editing this report. Nevertheless, please note that results and consequences may vary with fluctuations in the business environment.

# **ASAHI GLASS CO., LTD.**

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