

Newsletter for Shareholders

# AGC Review

Vol. 40 Issued in March 2022

The AGC logo is displayed in a white box on a blue background. It consists of the letters 'AGC' in a bold, blue, sans-serif font, with a small red square positioned above the letter 'C'.

AGC Kashima Plant office building achieved ZEB by adopting Sunjoule™ photovoltaic-embedded glass

**Focus**

**Efforts to  
Achieve Net Zero Carbon Emissions**

**AGC Inc.**  
Securities code: 5201

Your Dreams, Our Challenge

# | To Our Shareholders

I would like to express our sincere gratitude for your continued support.

In February 2021, the AGC Group formulated Vision 2030, its long-term management strategy, and **AGC plus-2023**, the medium-term management plan for achieving it.

In fiscal 2021, the first year of **AGC plus-2023**, we invested aggressively in strategic businesses such as Electronics and Life Science. In core businesses, we worked to further strengthen the foundations of the chlor-alkali business in Southeast Asia and implemented structural reforms, including the transfer of the North American architectural glass business and the consolidation of production lines in the automotive glass business. These efforts, combined with the steady expansion of strategic businesses and favorable market conditions for products, resulted in a significant increase in both net sales and operating profits compared to the previous year. As a result, we achieved the targets established in the medium-term management plan last year ahead of schedule and have now made a drastic upward revision to the financial targets for 2023.

With regards to the business outlook for fiscal 2022, the Group expects to increase both net sales and operation profits due to growth in strategic businesses and a recovery in automotive glass shipments as a result of the easing of the impact from the semiconductor shortage, despite expectations of a softening market for chlor-alkali products and higher raw material and fuel prices.



Representative Director, President and CEO  
**Yoshinori Hirai**

## Financial Results, Full Year FY2021

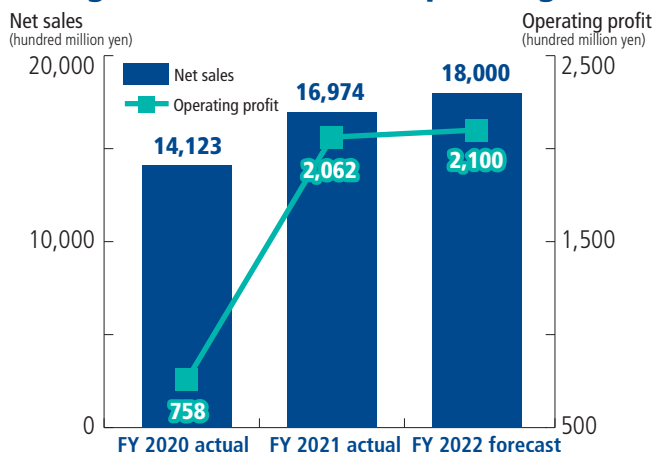
Net sales

**1,697.4 billion yen**

Operating profit

**206.2 billion yen**

### Changes in Net Sales and Operating Profit



## AGC plus-2023 Financial Targets

	FY 2021 actual	FY 2023 targets February 2021	FY 2023 targets (Upward revision)
Operating profit	206.2 billion yen	160.0 billion yen	230.0 billion yen
ROE	10%	8%	10%
Strategic business OP	53.8 billion yen	70.0 billion yen	80.0 billion yen
D/E ratio	0.41	0.5 or less	0.5 or less

# Business Portfolio Transformation for Sustainable Growth

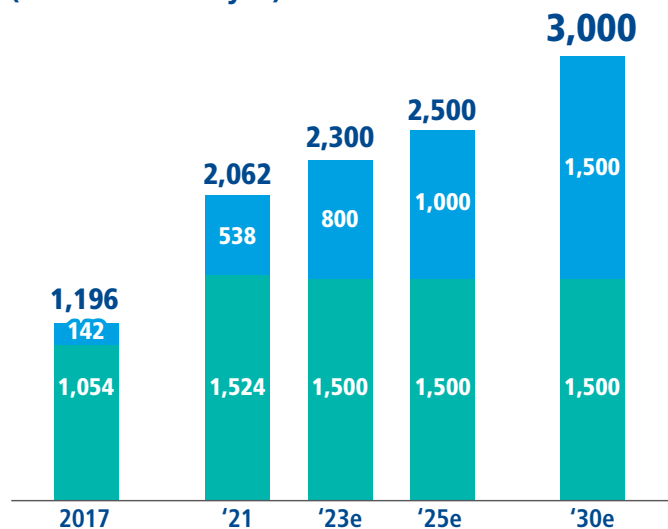
In order to realize Vision 2030, the AGC Group's corporate strategy aims to transform its business portfolio to be optimized driven by both strategic businesses, which are high-growth fields that are resilient to market fluctuations, and core businesses, which provide a stable, long-term earnings base, and continuously creating economic and social value.

## Vision 2030

By providing differentiated materials and solutions, AGC strives to help realize a sustainable society and become an excellent company that grows and evolves continuously.

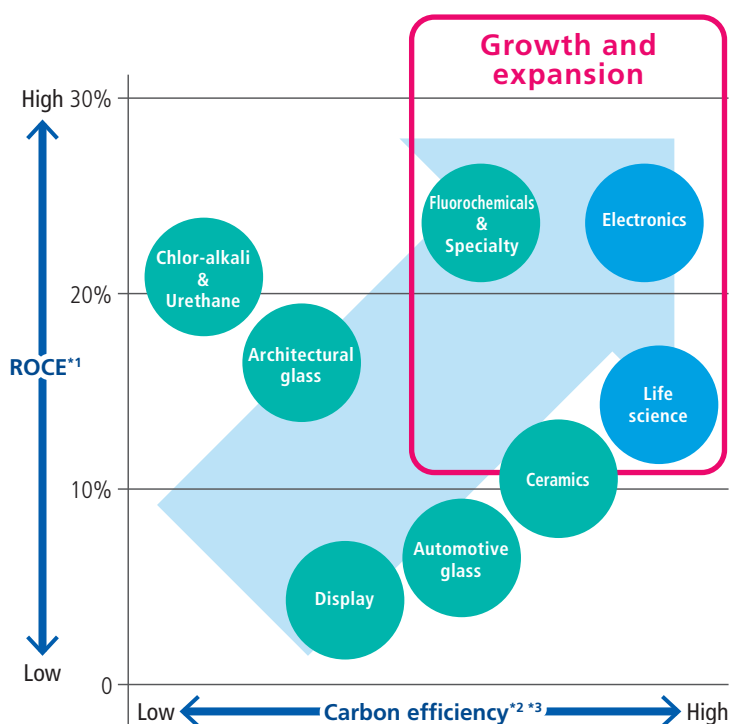
Based on this strategy, we will continue to invest aggressively in strategic businesses, such as Electronics and Life Science, with the aim that these businesses will account for the majority of consolidated operating profit by 2030. In core businesses, we will strengthen the foundation and invest aggressively in the Southeast Asian chlor-alkali business and the fluorochemicals and specialty business, which are expected to grow in the future. In the three glass businesses (architectural glass, automotive glass, and display), the Group will also promote measures to improve asset efficiency and increase the ratio of high value-added products to create a long-term, stable earnings base. In addition, Group will accelerate technology development and business expansion in the environment and energy domains in both core businesses and strategic businesses to help reduce global GHG emissions.

### Changes in operating profit structure (hundred million yen)



Strategic Businesses	Core Businesses
Electronics	Display
Life science	Chlor-alkali & Urethane
Mobility	Fluorochemicals & Specialty
	Architectural glass
	Automotive glass (existing)
	Ceramics

### Improving carbon efficiency and asset efficiency



\*1 Prepared based on 2023 targets

\*2 Prepared based on actual emissions per unit of net sales in 2020

\*3 Carbon efficiency = net sales / carbon emissions

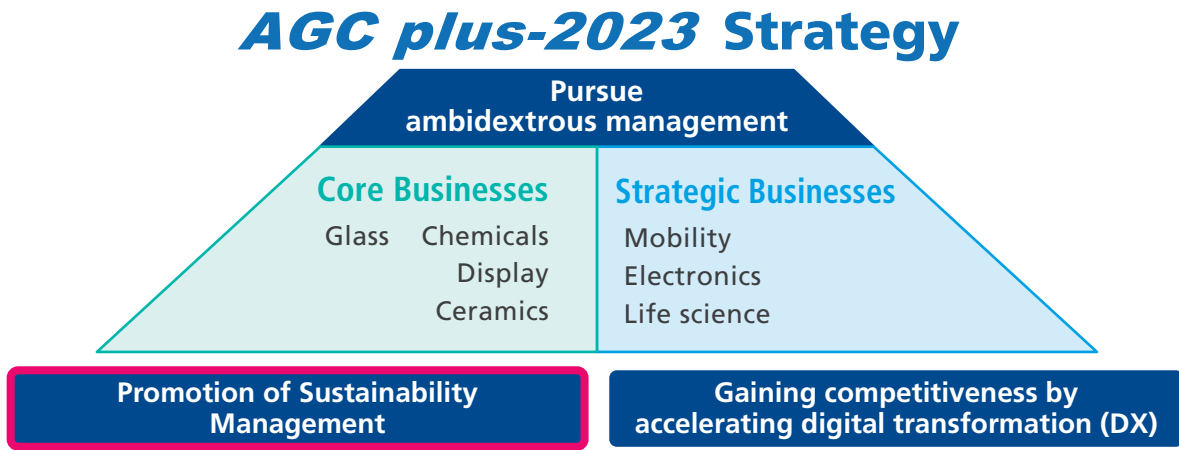
The AGC Group will create social and economic value by transforming its portfolio to realize Vision 2030, and add various pluses for shareholders and other stakeholders.

We look forward to your continued support and encouragement of the AGC Group.

# | Medium-Term Management Plan *AGC plus-2023*

The AGC Group is promoting the medium-term management plan *AGC plus-2023* in an effort to realize "Vision 2030".

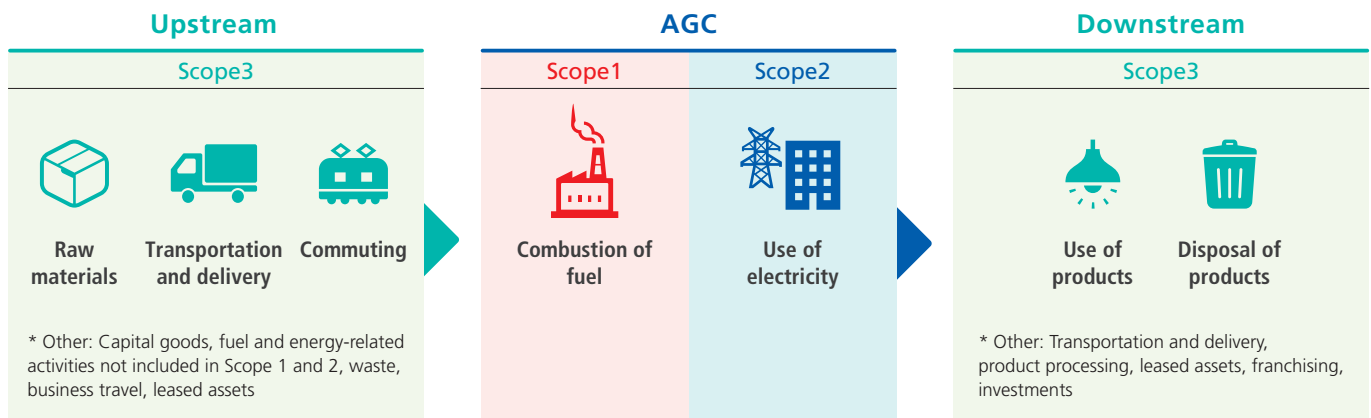
In this issue, we will introduce our efforts to address climate change, which is positioned as a particularly important aspect of the AGC Group's sustainability management.



## Aiming for Net Zero Carbon Emissions

The Paris Agreement, which was adopted in 2015, has sparked growing interest in global warming worldwide. Against this backdrop, the AGC Group has set a long-term goal of achieving net zero greenhouse gas (GHG) emissions resulting from its own business activities by 2050 as well as helping to achieve net zero carbon emissions around the world through its products and technologies.

### Reducing GHG Emissions from AGC's Business Activities



GHG emissions from our business activities can be broadly divided into the three categories of Scope 1 through Scope 3.

**Scope 1:** GHGs emitted at AGC's own sites through production at plants, etc.

**Scope 2:** GHGs emitted during the generation of electricity used in plants, etc.

**Scope 3:** GHGs generated in the production and distribution of purchased raw materials and in the distribution, use, and disposal of AGC's products.

The AGC Group aims to achieve net zero Scope 1 and 2 GHG emissions by 2050. We will also set specific targets for Scope 3 emissions and accelerate our efforts to reduce them.

### Using Products and Technologies to Help Reduce Global GHG Emissions

The AGC Group's products and technologies can provide a wide range of solutions for reducing GHG emissions in society. For example, we will contribute to the mitigation of climate change by providing products and technologies that contribute to energy saving and energy creation, such as Low-E glass that enhances the heating and cooling effects of buildings and houses, refrigerants with extremely low global warming potential (GWP), and solar power generation systems.



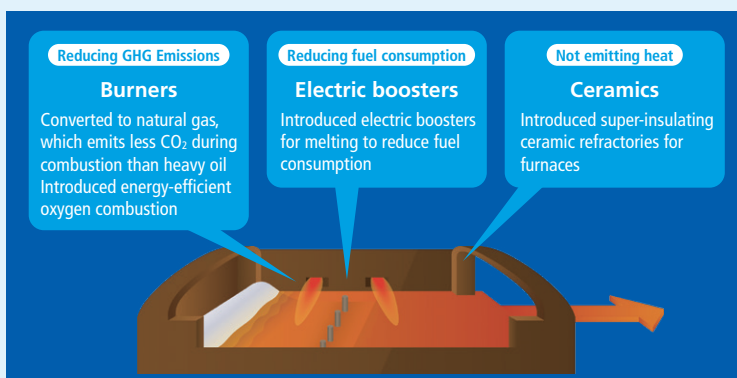
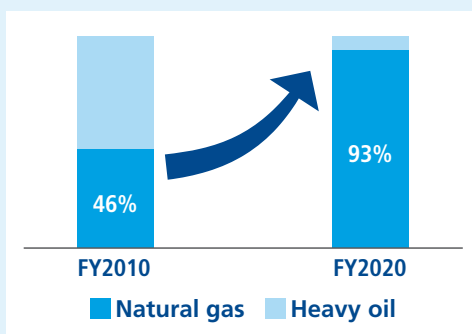
## Reducing GHG Emissions from AGC's Business Activities

The AGC Group is making various efforts to achieve net zero carbon emissions by 2050. Here we present are some of our initiatives.

### Innovation in the Glass Melting Process

The process for melting raw materials has the greatest environmental impact among glass manufacturing processes. Therefore, there is an urgent need to develop a melting process with low environmental impact. The AGC Group has introduced natural gas combustion, which can reduce CO<sub>2</sub> emissions by approximately 20% compared to heavy oil combustion, as well as energy-efficient oxygen combustion, electric boosters, and highly insulating furnace refractories. We are actively introducing new glass melting processes to achieve highly efficient glass production with low CO<sub>2</sub> emissions.

#### Fuel Conversion for Glass Furnaces\*1



\*1 Including float glass furnaces for architectural glass, automotive glass, and display glass

### Using Pallet\*2 IOT\*3 to Reduce CO<sub>2</sub>

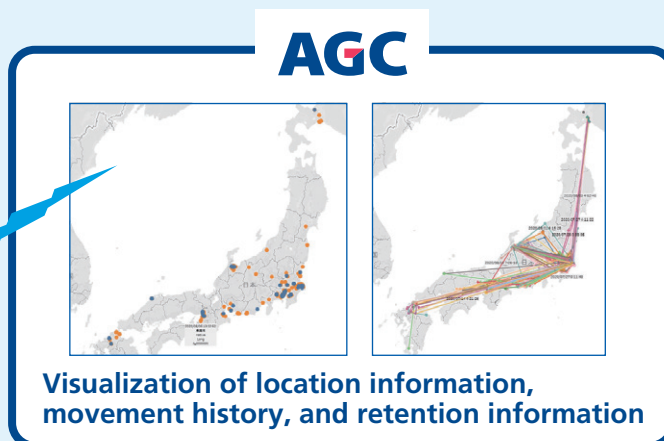
Glass is packed in pallets and delivered by truck to customers in Japan. The AGC Group is improving the efficiency of logistics by installing communication devices on pallets.

At present, 2,600 pallets are equipped with communication devices, and the optimization of truck mileages has reduced CO<sub>2</sub> emissions by approximately 1 ~ 5% compared to before the devices were introduced.

In the future, we will roll out similar initiatives overseas to reduce CO<sub>2</sub> emissions generated during product transportation.



Communication devices installed on 2,600 large pallets



\*2 Shipment packaging for glass product

\*3 An acronym for Internet of Things. It means that things communicate via the internet.

# Efforts to Achieve Net Zero Carbon Emissions

## Using Products and Technologies to Help Reduce Global GHG Emissions

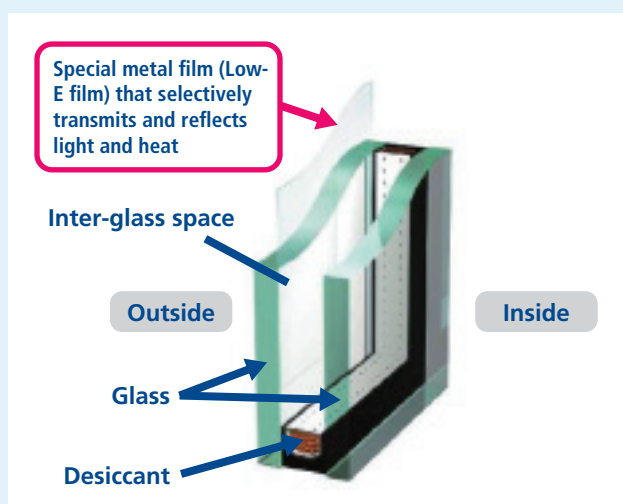
The AGC Group aims to help realize global net zero carbon emissions utilizing its products and technologies. Here we focus on some of the products helping to realize global net zero carbon emissions.

### Sunbalance™ Low-E insulating double glazing glass

Sunbalance™ is an architectural double glazing glass coated with Low-E film (silver) that reflects far-infrared rays. It allows light to pass through, and has the ability to reflect far-infrared rays, such as solar radiation and heat, allowing it to improve indoor heat insulation compared to ordinary glass.

Compared to 3mm thick float glass, which is commonly used in architectural applications, it reduces heat transfer by approximately 80%\*, helping to improve energy efficiency in buildings.

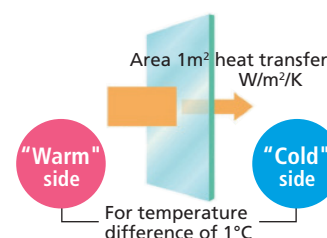
#### Structure of Low-E insulating double glazing glass



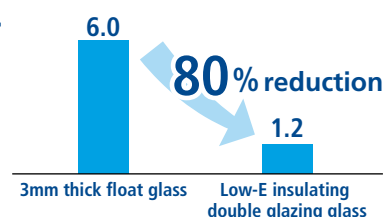
#### Examples of Low-E Double Glazing Glass Effects

##### Heat transfer coefficient

Amount of heat that passes through 1m<sup>2</sup> in 1 hour at 1°C inside and outside temperature difference



##### Heat transfer coefficient



\*1 Comparison of thermal transmission with 3 mm thick float glass and gas filled Low-E insulating double glazing glass

### Sunjoule™ Photovoltaics-embedded Glass

Sunjoule™ is a photovoltaic module integrated with a building material, in which photovoltaic cells are enclosed between two sheets of glass.

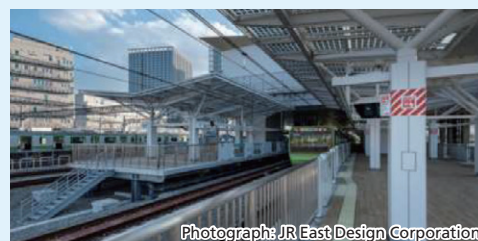
While combining the sense of openness and heat-shielding performance that take advantage of the characteristics of glass, Sunjoule™ photovoltaics-embedded glass allows for a high level of design through the free arrangement of the cells.

In addition, since energy can be created through windows, it helps to eliminate restrictions on the locations for the installation of solar panels.

#### Installation Examples



AGC's Kashima Plant Office Building



Platform roof, Takanawa Gateway Station

Photograph: JR East Design Corporation

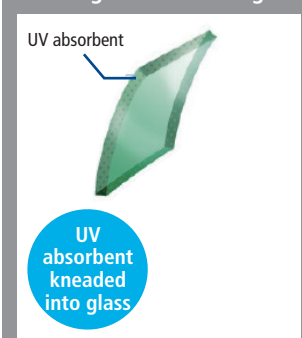
## UV Verre™ Series Automotive UV Blocking Glass

The UV Verre™ Series is a product made by coating conventional UV blocking glass with a high performance UV<sup>\*2</sup> and IR<sup>\*3</sup> absorbing film.

It can block IR from the sunlight shining through the glass of door windows, reducing the load on the air conditioner.

### Diagram of Structure

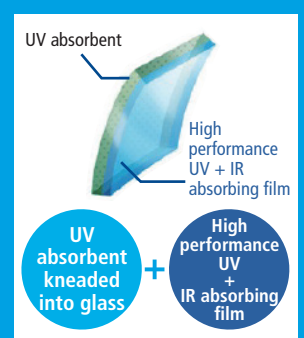
**Conventional UV blocking door window glass**



UV absorbent

UV absorbent kneaded into glass

**UV Verre™ Premium Cool on™**




UV absorbent

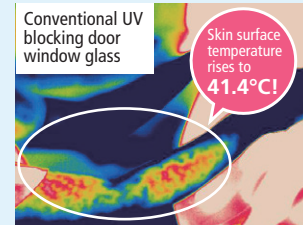
High performance UV + IR absorbing film

UV absorbent kneaded into glass + High performance UV + IR absorbing film

### Verification Scene<sup>\*4</sup>

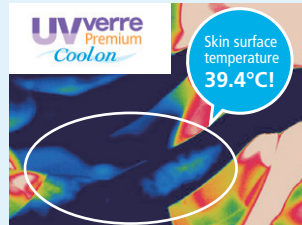


Conventional UV blocking door window glass



Skin surface temperature rises to **41.4°C!**

**UV Verre Premium Cool on**




Skin surface temperature **39.4°C!**

<sup>\*2</sup> UV: ultraviolet rays / UV light. It is said to cause sunburn, spots, and wrinkles.  
<sup>\*3</sup> IR: infrared rays. The heat-causing rays emitted by the sun.  
<sup>\*4</sup> Verification conditions: 2.4 kW metal halide lamps that mimic sunlight were irradiated for 3 minutes.

## AMOLEA™ Series Environmentally Friendly Next-Generation Refrigerant and Solvent

The AMOLEA™ Series are fluorinated refrigerants and solvents used in refrigeration and air conditioning equipment and industrial cleaning.


The products maintain or improve previous performance but with Global Warming Potential (GWP) reduced to less than 1. They contribute to the realization of a society that is friendly to the global environment by significantly reducing environmental impact.



### Refrigerant for car air conditioner

**GWP<sup>\*5</sup>**

1,430




**Less than 1**

R134a<sup>\*6</sup> AMOLEA™ 1234yf

### Refrigerant for centrifugal chiller

**GWP<sup>\*5</sup>**

1,030



**Less than 1**

R245fa<sup>\*6</sup> AMOLEA™ 1224yd

<sup>\*5</sup> An acronym for Global Warming Potential. A coefficient that represents the greenhouse effect as a multiple of the effect of CO<sub>2</sub>.  
<sup>\*6</sup> Conventional product

In this issue, we looked at some of our initiatives to achieve net zero carbon emissions. The AGC Group will continue to promote sustainability management to reduce its own GHG emissions and contribute to global net zero carbon emissions.

## Corporate Outline

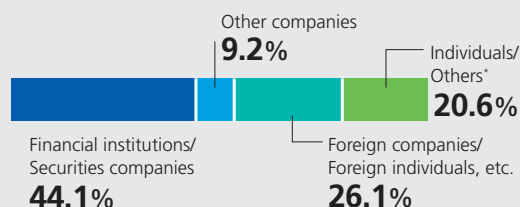
**Company name:** AGC Inc.  
**Founded:** September 8, 1907  
**Incorporated:** June 1, 1950  
**Capital:** ¥90,873,373,264  
**Head office:** Shin-Marunouchi Building, 1-5-1 Marunouchi,  
 Chiyoda-ku, Tokyo 100-8405  
**Phone:** +81-3-3218-5096  
**Number of consolidated subsidiaries:** 206  
 (including 169 companies overseas)

## State of Shares

**Number of shares outstanding:** 227,441,381  
**Number of shareholders:** 79,917  
**Shareholders who own shares of one unit or more:** 69,583

## Shareholder Composition

(Shareholders who own one unit or more)



\*Including 2.4% treasury shares

## Information about Shares

**Fiscal year:** January 1 to December 31  
**Ordinary general shareholders' meeting:** March  
**Shareholder registration date for entitlement to exercise:**  
 Voting rights at ordinary general shareholders' meeting: December 31  
 Rights to receive annual dividend payment: December 31  
 Rights to receive interim dividend payment: June 30  
**Public notice:** Electronic public notices  
<https://www.agc.com/en/>  
**Shareholder Registrar/Special Account Administrator:**  
 Securities Agency Division, Mitsubishi UFJ Trust and Banking Corporation  
 Contact:  
 Phone: 0120-232-711 (toll free within Japan)  
 Mailing address:  
 P.O. Box 29, Shin Tokyo Post Office, Tokyo 137-8081  
 Securities Agency Division, Mitsubishi UFJ Trust and Banking Corporation

### Payment of dividends:

As stated in the Articles of Incorporation, dividends not claimed within five years from the starting date of payment are no longer payable. We therefore urge shareholders to claim all payable dividends at the earliest convenient date. Dividends that the shareholder has not received will be paid at the Mitsubishi UFJ Trust and Banking Corporation.

### To shareholders owning shares constituting less than one unit:

Shareholders owning shares constituting less than one unit (1-99 shares) of AGC may request AGC to purchase such shares/sell additional shares. For the details of such procedures, including requests for necessary forms, please notify the following place of contact.

## Contact Information for Inquiries Regarding Shares

Shareholders who have an account with securities companies, etc.	Shareholders who have a special account
Securities companies or other entities with which you have an account	Mitsubishi UFJ Trust and Banking Corporation (our Special Account Administrator) Phone: 0120-232-711 (toll free within Japan)

(As of December 31, 2021)

### Note concerning information about the future

Please note that statements made in this document concerning projected figures, future measures, and other information about the future involve uncertainties.