

# Toward the Realization of Vision 2030



**AGC Inc.**

February 8, 2022

Your Dreams, Our Challenge

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# Toward the Realization of Vision 2030

- Countries/companies are accelerating their efforts toward the realization of a sustainable society.

## Global initiatives toward sustainability



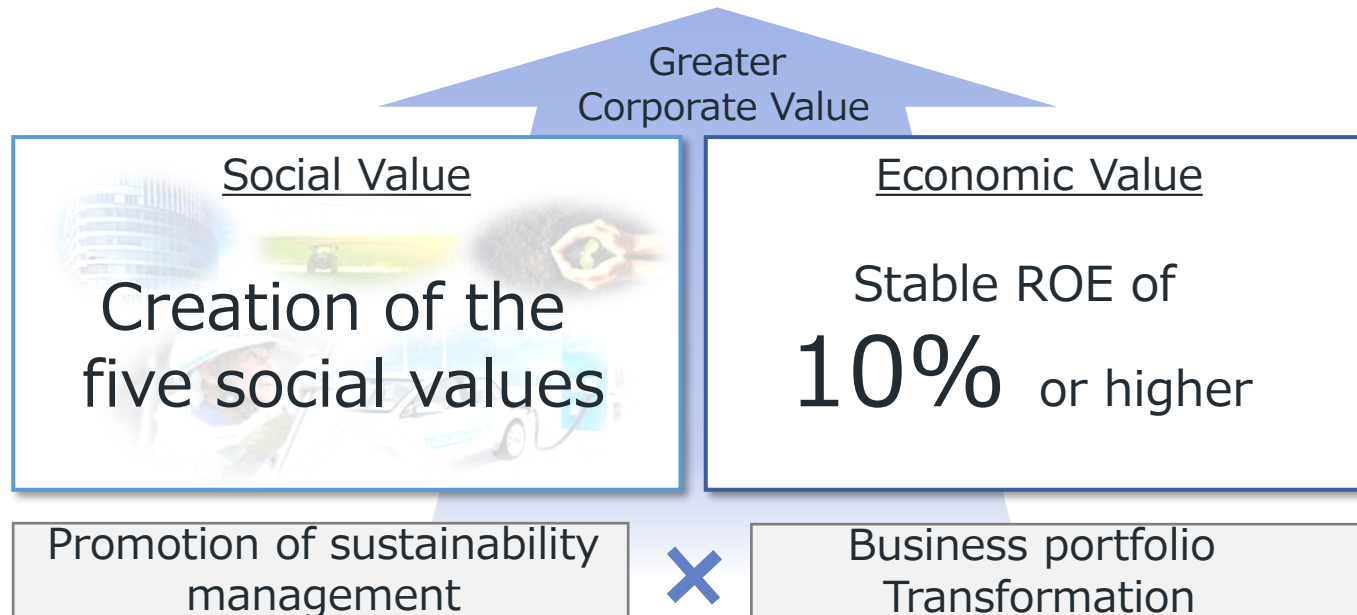
Increasing demand on companies for the realization of a sustainable society

## **AGC, an everyday essential part of our world**

AGC's unique materials and solutions make people's lives better around the world every day.

- Grow through well-balanced creation of social and economic value

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



# Solving social issues with differentiated materials and solutions

■ Provide the necessary materials and solutions in line with changes of the times



Construction boom



Motorization



Coming of the era of TV



Expansion of environment-conscious businesses and products



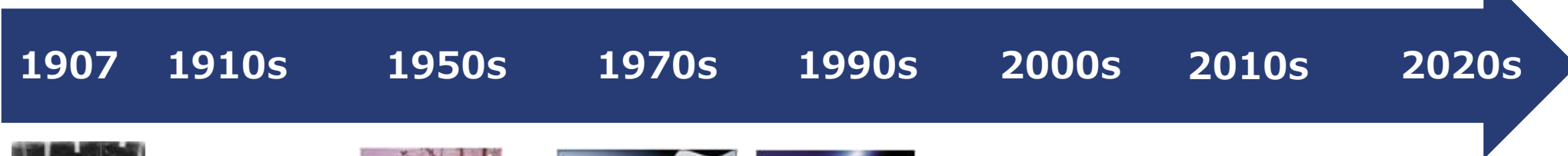
Advancement of IT



Arrival of the IoT era



Strat of 5G communication



1907    1910s    1950s    1970s    1990s    2000s    2010s    2020s



Started manufacturing of refractories

Started manufacturing of soda ash



Started the automotive glass business



Succeeded in the development of ion-exchange membrane



Started the business of alkali-free glass for LCD



Started the business of filters for tone correction for digital cameras



Started the business of chemically tempered glass for smartphones



Started the business of EUV mask blanks



Founded Asahi Glass Co., Ltd.  
Started the flat glass business



Started the business of glass valves for CRTs

Started the production of alternative CFC AK-225



Started the contract production business of pharmaceutical and agrochemical intermediates



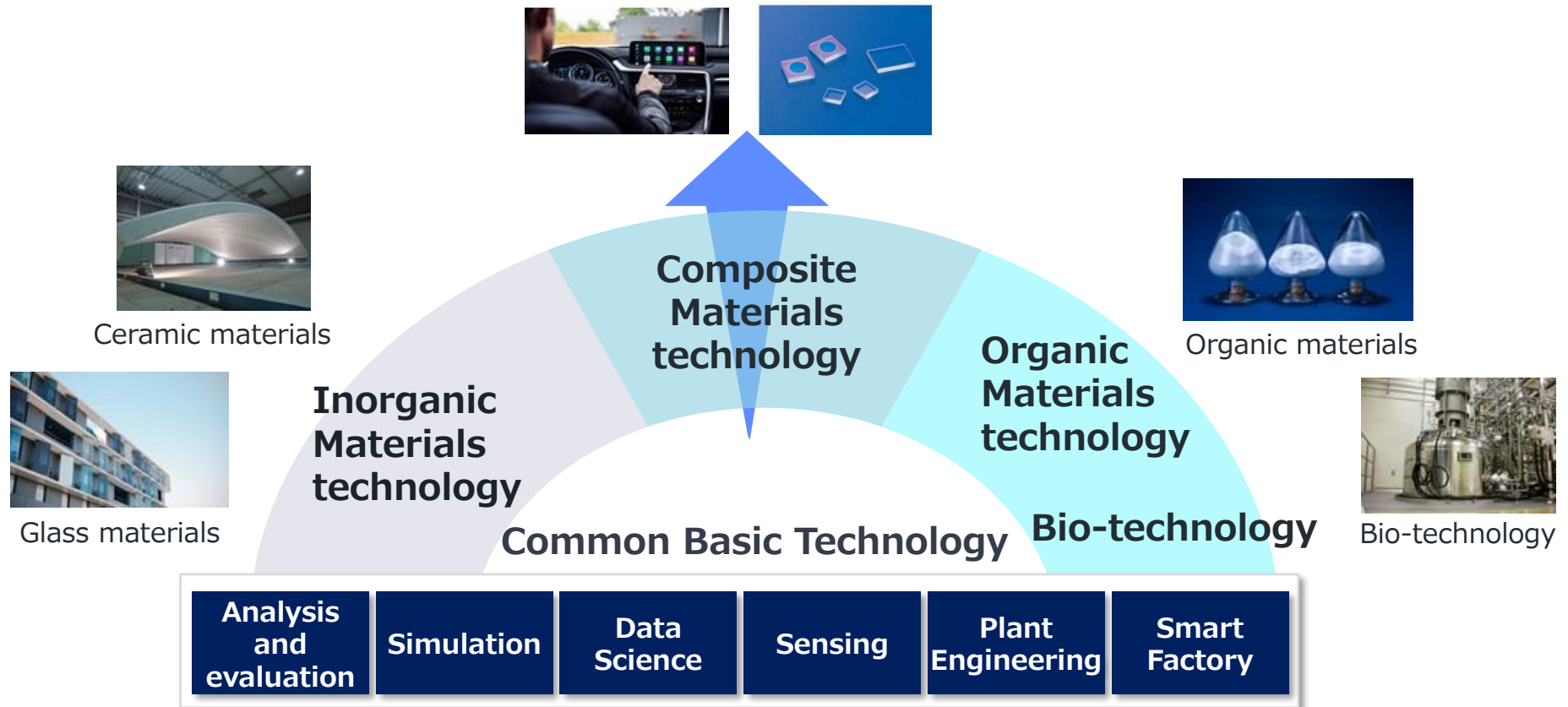
Started the business of cover glass for car-mounted displays



Developed glass antenna that adds cellular base station capabilities to windows

# AGC Group's differentiated materials and solutions

- Achieve competitive advantage with its differentiated materials and solutions based on the combination of its organic/inorganic material technologies, bio-technology and common basic technology
- Contribute to solving social issues by meeting needs for more advanced material functions





# Economic value to be created by AGC Group

- Make a drastic upward revision to operating profit and set a target for 2030
- In 2030, the strategic businesses account for more than half of the group's operating profit.
- Continuously grow/evolve to achieve stable ROE of 10% or higher

		2021 (Actual)	2023	2025	2030 . . .	2050
Economic Value	Operating profit	206.2 billion yen	230.0 billion yen	250.0 billion yen	300.0 billion yen	
	Strategic Business OP	53.8 billion yen	80.0 billion yen	100.0 billion yen	150.0 billion yen	
	EBITDA*	372.9 billion yen	433.0 billion yen	490.0 billion yen		
	ROE	10%	Stable ROE of 10% or higher			
	D/E	0.41	0.5 or less			

\* EBITDA=Operating profit +Depreciation

# Social Value to be created by AGC

■ AGC creates the following five social values through its business activities.

Realization of safe and comfortable urban infrastructure



Low-E glass for building



UV cut glass for vehicles



Polyvinyl Chloride Resin

Realization of safe and healthy lifestyles



Pharmaceuticals(intermediate/active ingredients)



Agrochemicals (intermediate/active ingredients)



ETFE film for agricultural green-houses

Maintenance of a healthy and secure society



Relationship with local communities



Consideration for local environment



Human rights in supply chains

Creation of fair and safe workplaces



Workplace safety



Diversity



Employee engagement

Realization of a sustainable global environment



Response to climate change



Effective use of resources

# Toward the Realization of Vision 2030

- **Business portfolio Transformation**
- Promotion of sustainability management

## Overall Strategy

Leveraging the core businesses and the strategic businesses as two wheels, we will shift to an optimal business portfolio and continuously create economic and social value.

### Core Businesses

Establishing long-term, stable sources of earnings by increasing competitiveness of each business



Architectural Glass



Automotive Glass (existing)



Display



Chlor-Alkali/  
Urethane



Fluorochemicals  
& Specialty



Ceramics

### Strategic Businesses

Create and expand highly profitable businesses that will become future pillars by using AGC's strengths in high-growth fields



Electronics



Life Science



Mobility

# Direction of the Business Portfolio Transformation

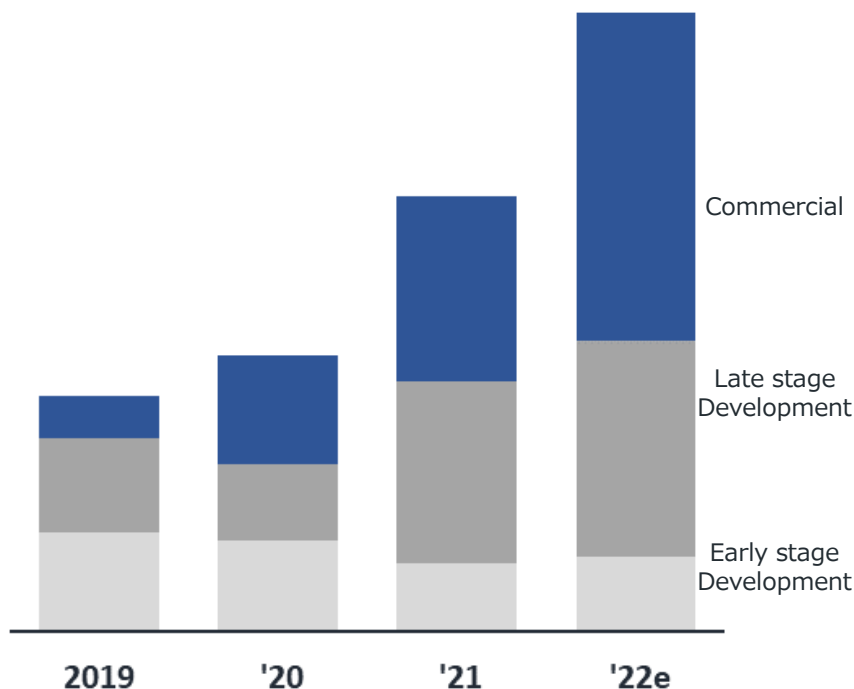
- Through the practice of ambidextrous management, we aim to build a business portfolio that is resilient to market fluctuations and has high asset efficiency, growth potential, and carbon efficiency.



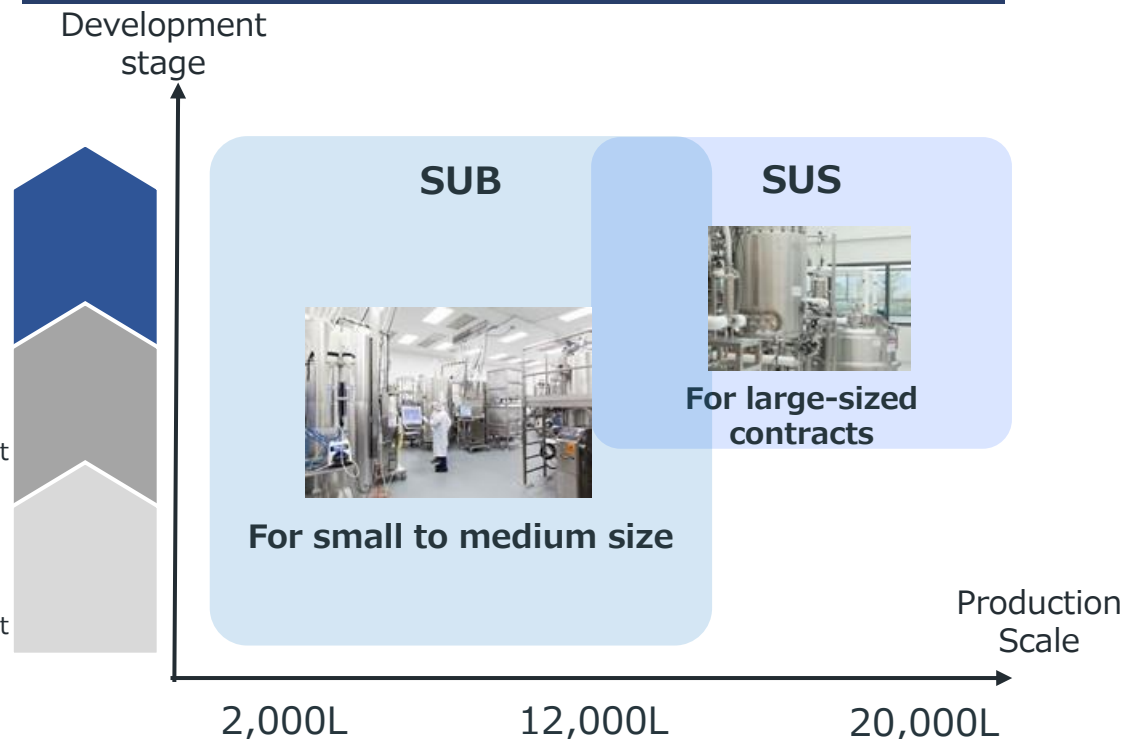
# Strategic Business Initiatives: Life Science (1)

- With GMP\* facilities and inspection experiences in Japan, North America and Europe, AGC provides high-quality and consistent CDMO services.
- By combining SUB\*\*, suitable for small quantity & large variety, and SUS\*\*\*, suitable for large-sized contracts, AGC responds to needs from development stages to commercial production.

Biopharmaceuticals CDMO Contract  
(amount of money)



AGC Group's Biopharmaceuticals CDMO



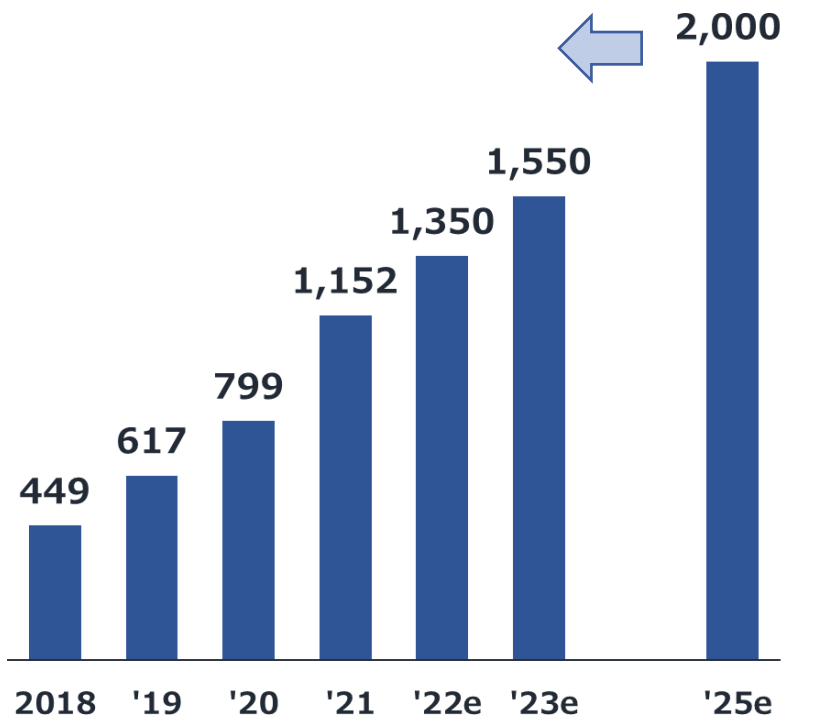
# Strategic Business Initiatives: Life Science (2)

- Supplement the growth of the bio CDMO industry through timely capacity expansion

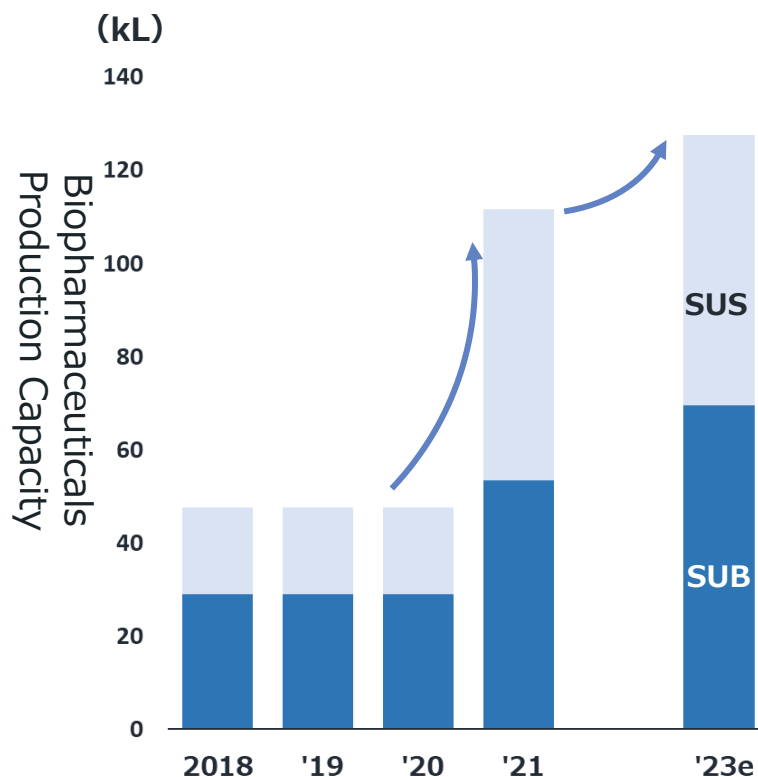
## Life Science Net Sales

(100 million JPY)

Aiming one year ahead of schedule



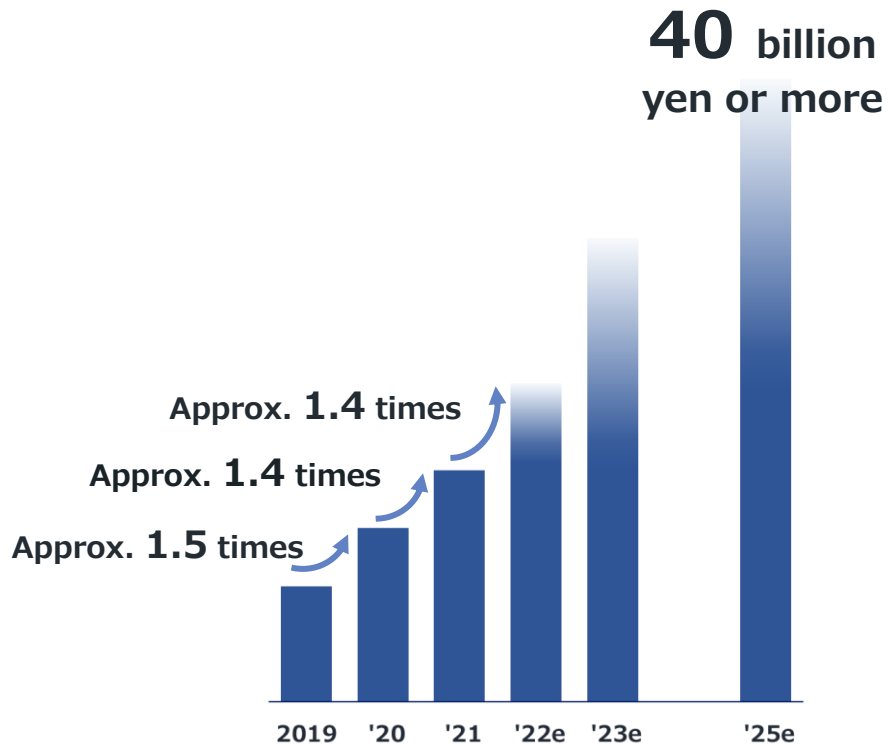
## Biopharmaceuticals CDMO Production Capacity



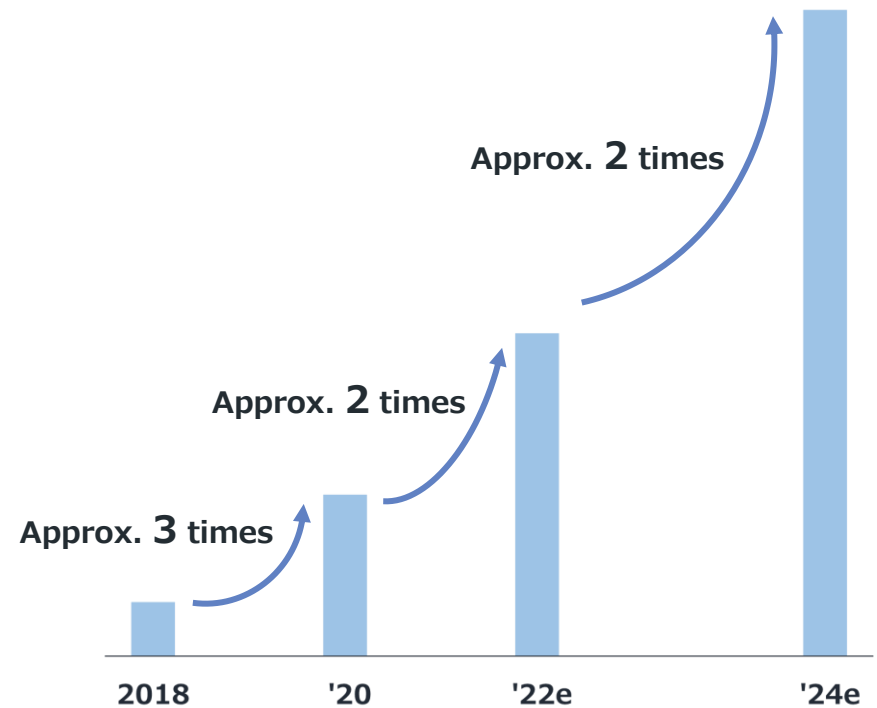
# Strategic Business Initiatives: Electronics

- Applications of AGC's EUV mask blanks are expanding to include memory, in addition to logic.
- In 2022, the manufacturing capacity for EUV mask blanks doubled, and will further double in 2024.
- Will continue aggressive investments along with the market growth

AGC Group's EUV Mask Blanks  
Net Sales



EUV Mask Blanks Capacity Expansion

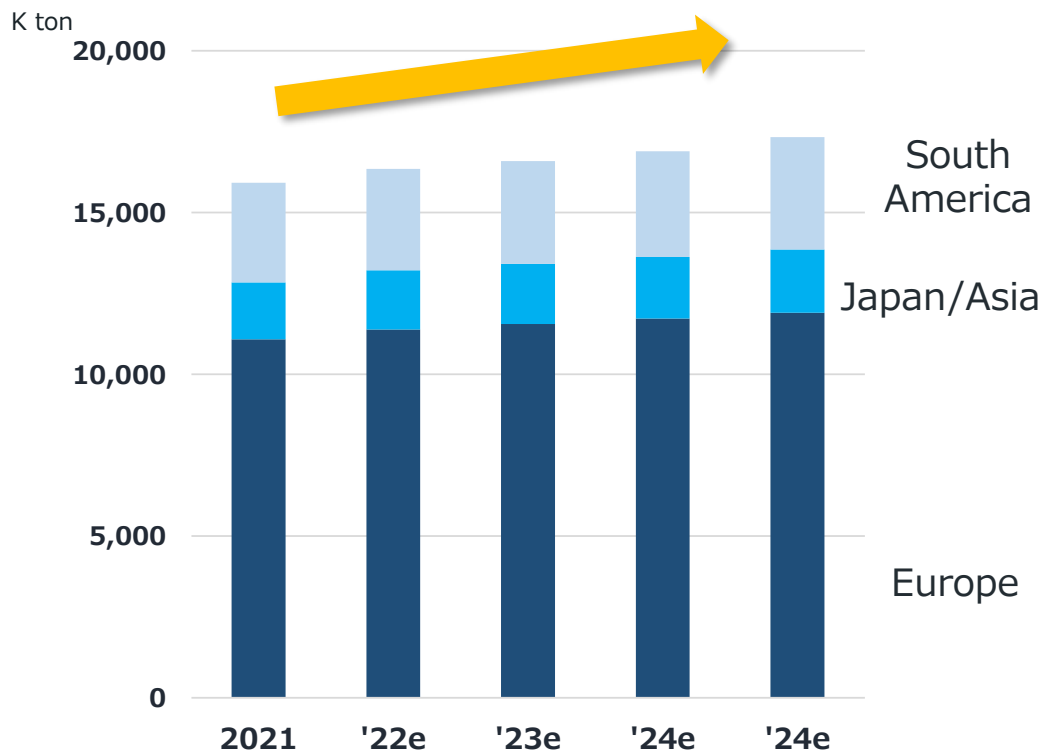




# Core Business Initiatives: Architectural Glass

- Amid demand for environmental responsiveness, renovation demand and demand for environmentally friendly products are increasing.
- With a focus on high value-added products that lead to energy saving & creation, AGC aims to build businesses that are less susceptible to economic fluctuations.

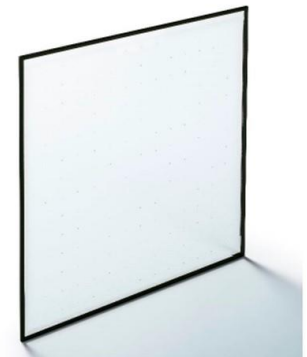
## Architectural Glass Demand Outlook\*



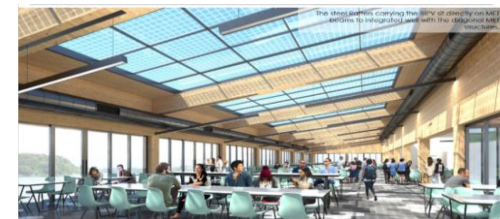
## Environmentally Friendly Products (examples)



Warm-edge highly insulated double glazing



Vacuum insulated Glass



BIPV module\*\*

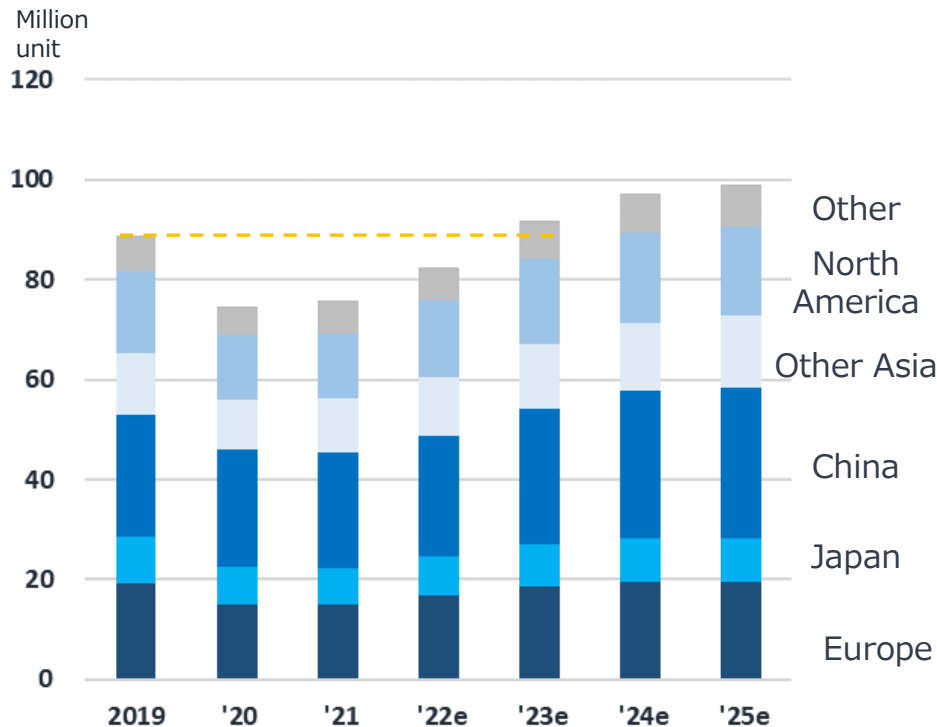
\*: AGC's estimate (only regions where AGC operates)

\*\* : PV glass to be installed at Singapore Institute of Technology

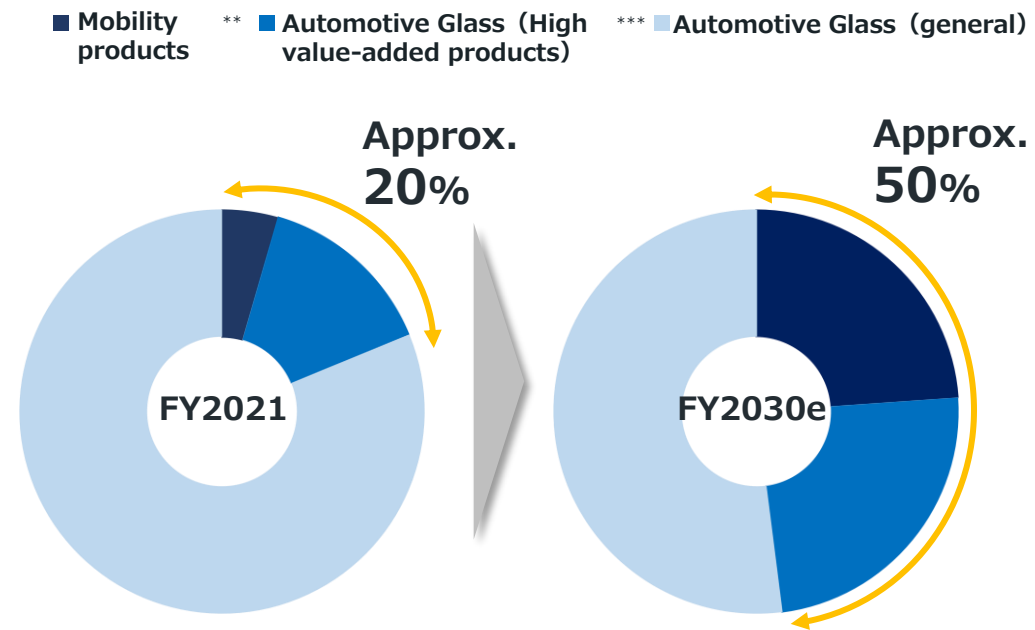
# Core Business Initiatives: Automotive Glass

- Lower the break-even point and strengthen the resilience against market fluctuations by realigning its manufacturing structure, converting facilities to those with higher efficiency and promoting DX initiatives
- Increase the percentage of high value-added products such as CASE-related applications to improve the profitability

## Automobile Production (by region) \*



## AGC's High value-added products (%)



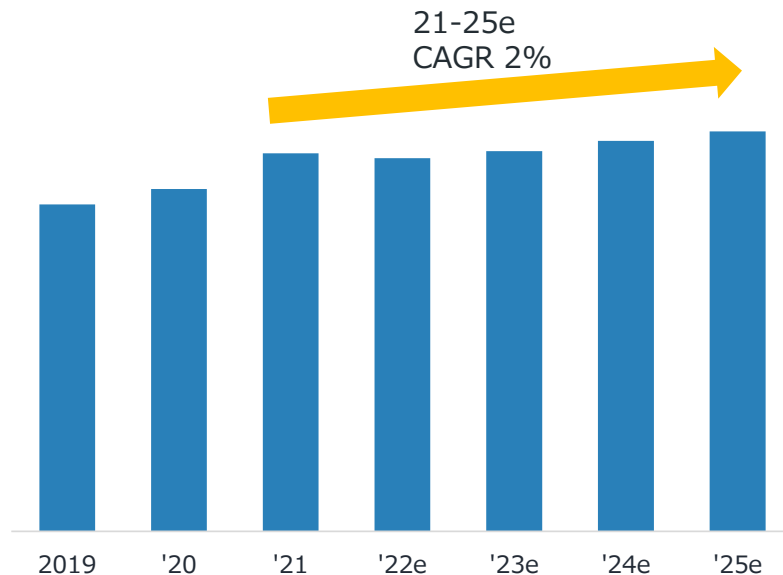
\*: Based on IHS data

\*\* : Car mounted Display Glass, sensor, etc.    \*\*\* : Value-added products such as light adjustment, sound-insulation and HUD

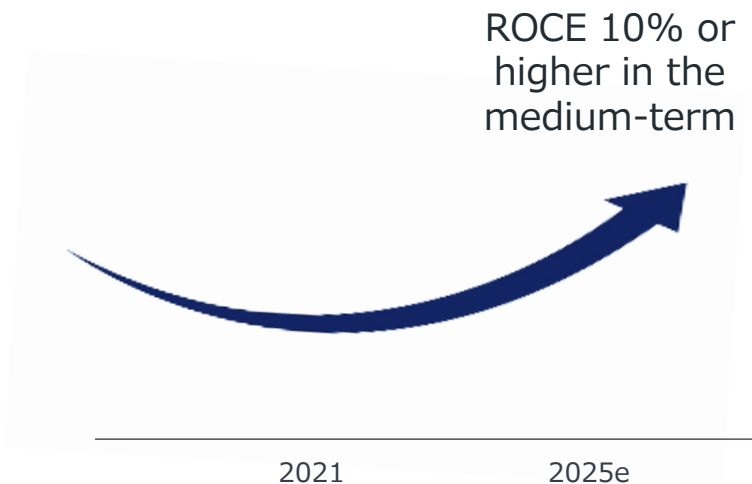
# Core Business Initiatives: Display

- With the maturing TV market, the glass demand is shifting to a stable growth due to a trend for larger-sized TV panels
- Promote the shift to the manufacturing structure to fit large-sized panel production and aim ROCE of 10% or higher by improved manufacturing efficiency
- Promote the introduction of technologies to improve carbon efficiency

### Demand for LCD Glass Substrates

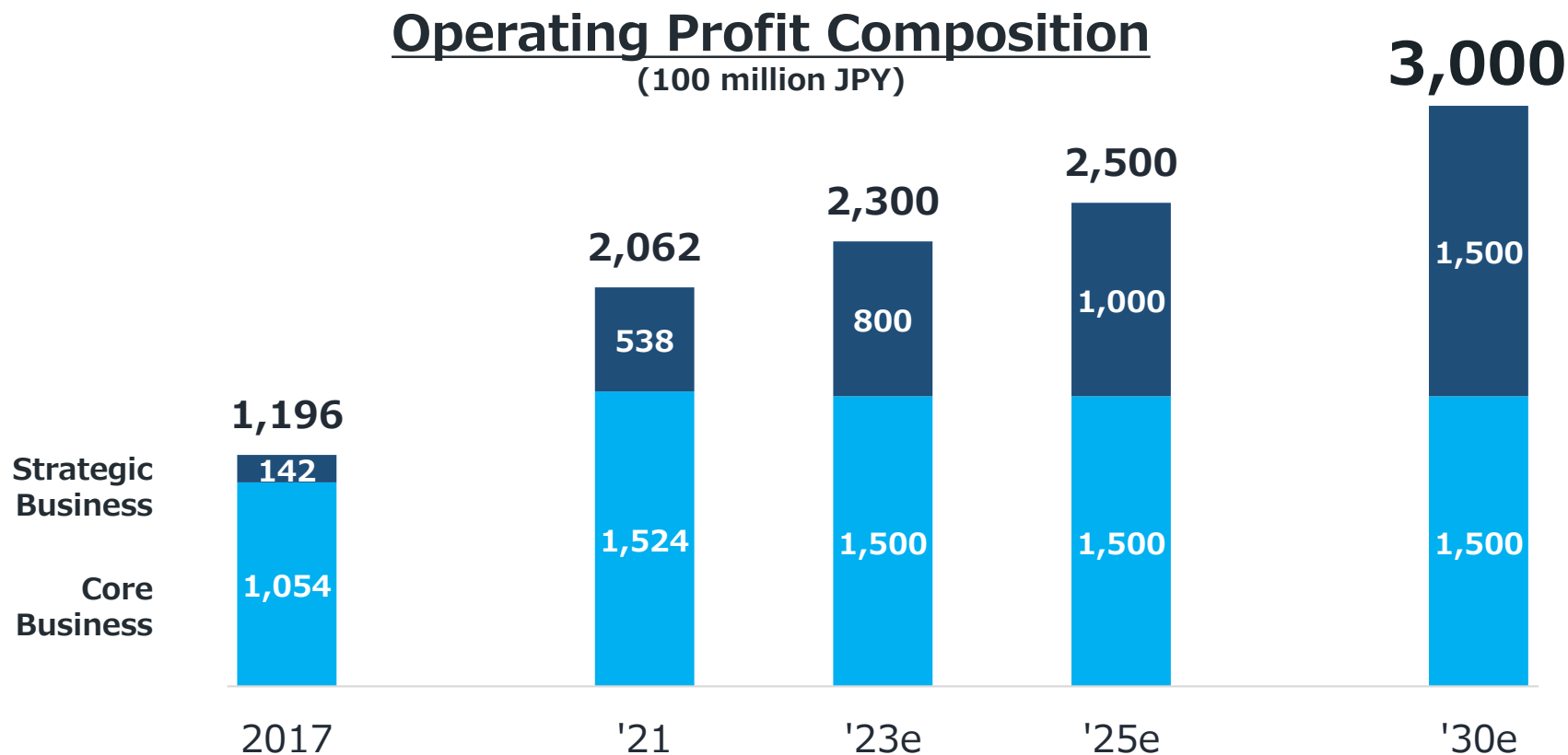


### Display Business ROCE



# Business Portfolio Reform (To-be image)

- Core businesses to become a long-term stable source of earnings
- Develop the strategic businesses so that they will account for more than half of the group's operating profit in 2030.

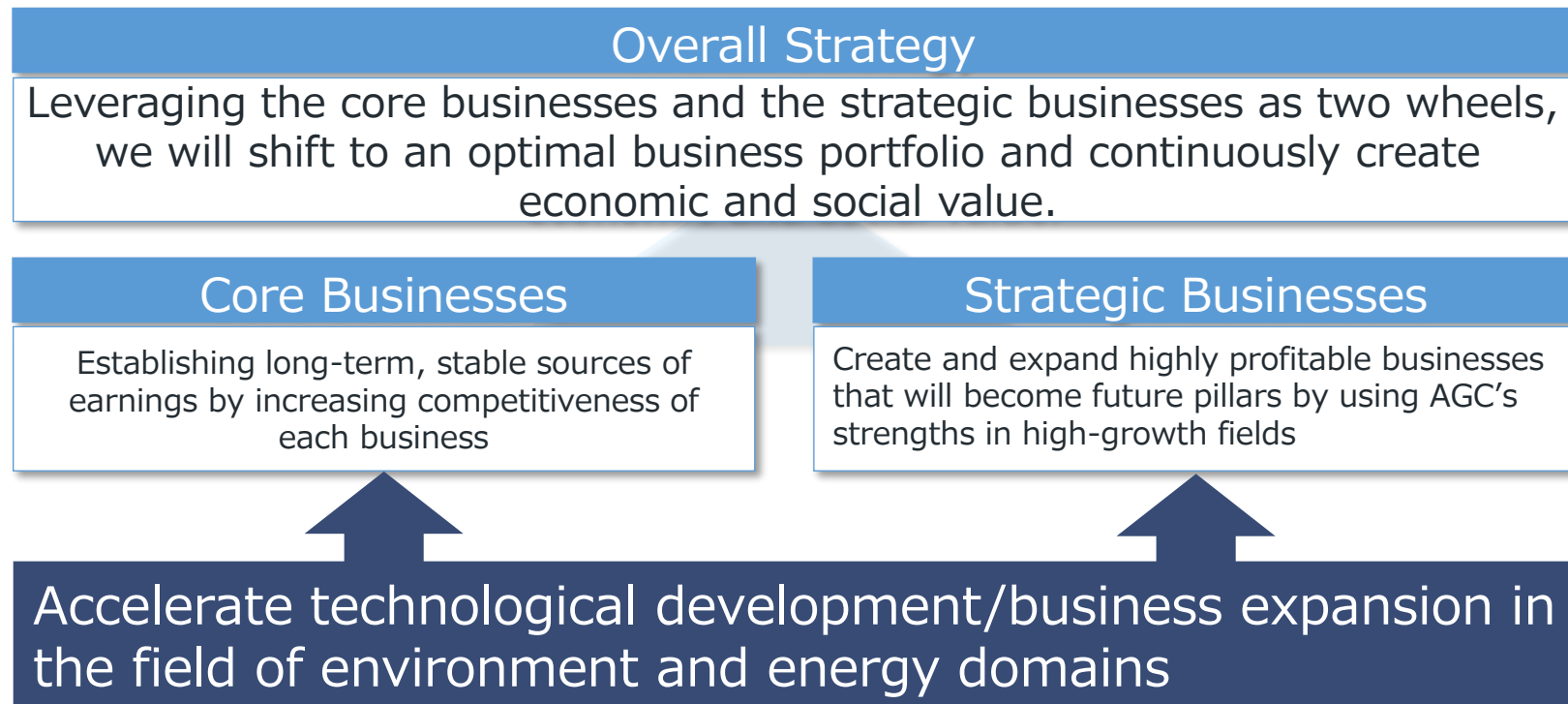


# Toward the Realization of Vision 2030

- Business Portfolio Transformation
- Promotion of Sustainability Management
  - Responding to Climate Change
  - Human Resources Initiatives
  - Acceleration of Open Innovation

# Pursue Ambidextrous Management for Sustainable Society

- Enhance the creation of social value in addition to economic value
- Incorporate the technological development/business expansion in the environment and energy domains into the core businesses and strategic businesses

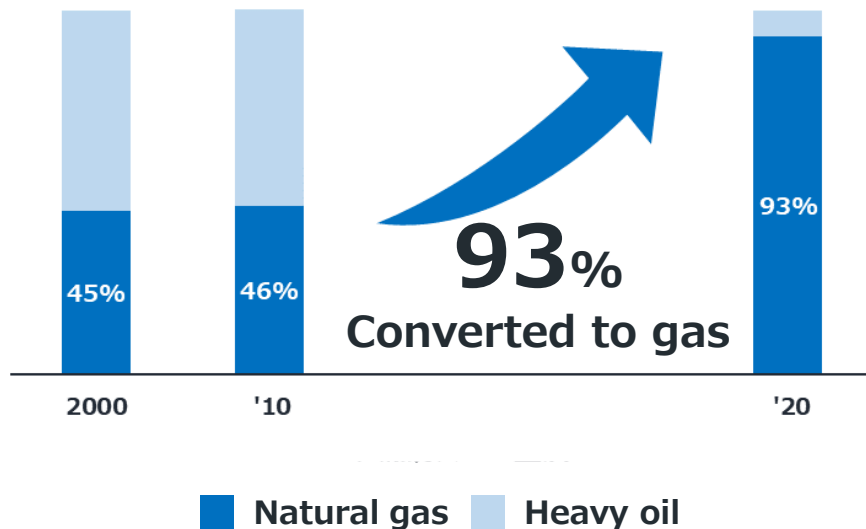


# Examples of GHG Emission Reduction

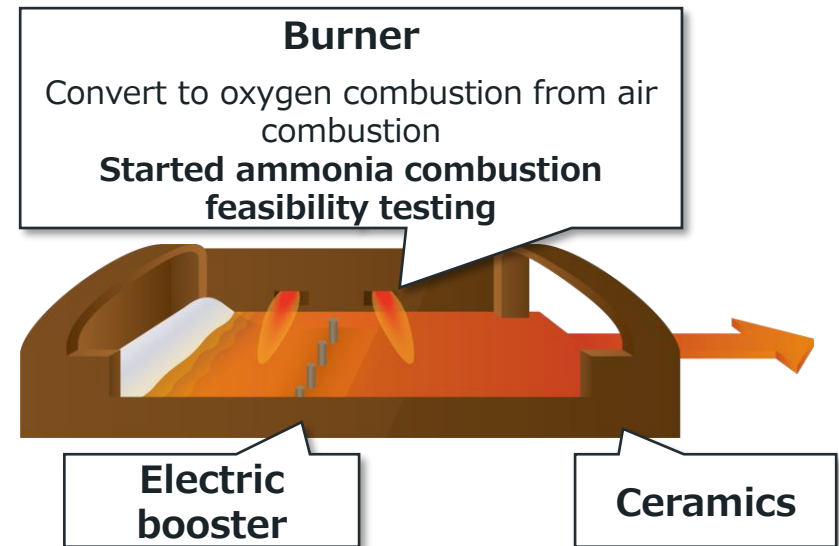
(Core Businesses: Architectural Glass/Automotive Glass/Display)

- Promote fuel conversion from heavy oil to natural gas that can achieve an approx. 20% reduction of CO<sub>2</sub> emissions at the time of combustion
- Develop and implement the world's top-class energy-saving glass production technology as an industrial leader
- Promote cutting-edge manufacturing technology development such as carbon-free ammonia combustion toward net zero carbon emissions

## Fuel Conversion for Glass Furnaces\*

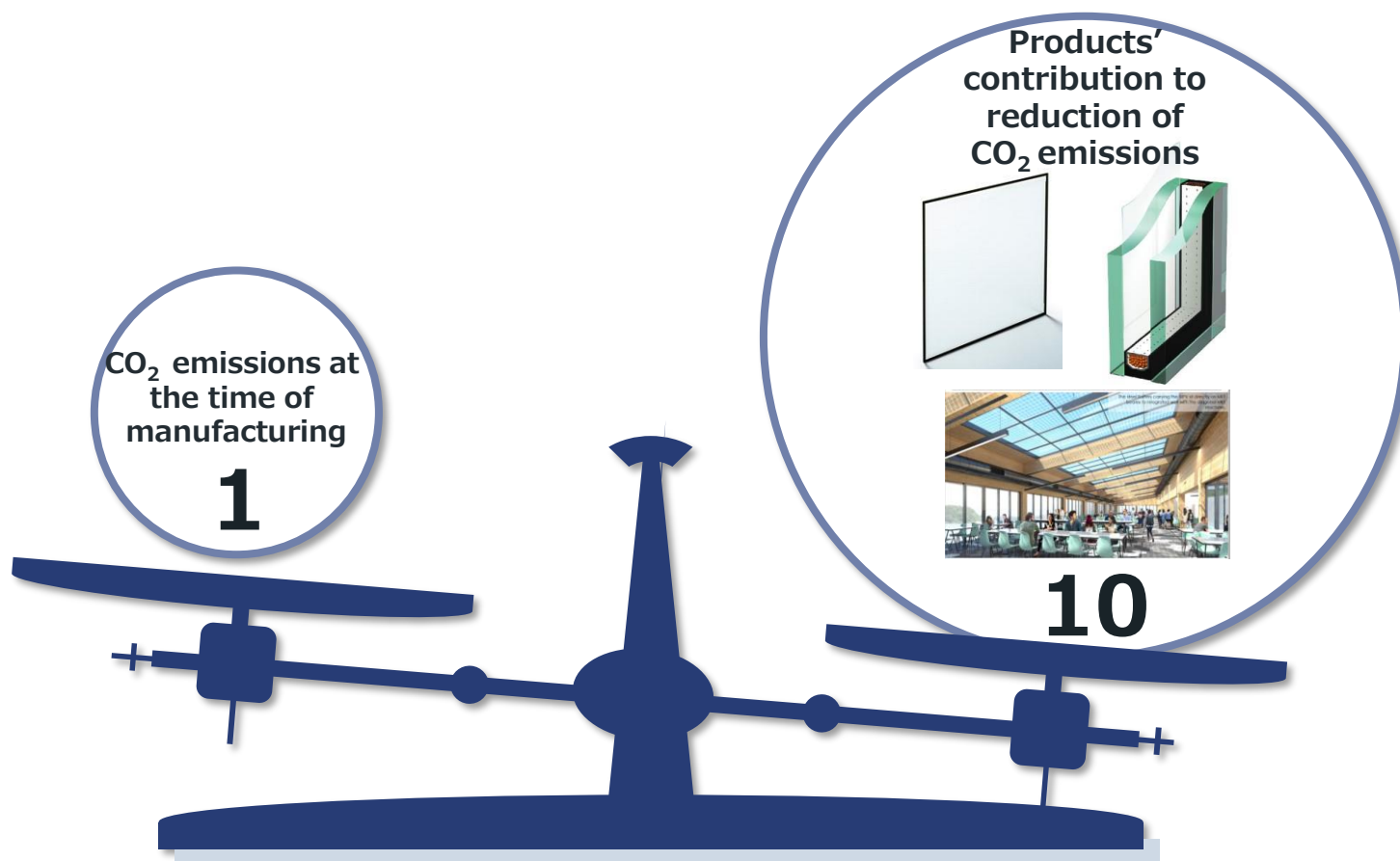


## Energy-saving Glass Production Technology



# Reduction of GHG Emissions in Business (Core Businesses: Architectural Glass)

- Developed a number of environmentally friendly products such as vacuum insulated glass, building integrated photovoltaic power generation glass
- Architectural glass contributes to reduction of CO<sub>2</sub> emissions during product use by 10 times the amount emitted during manufacturing.



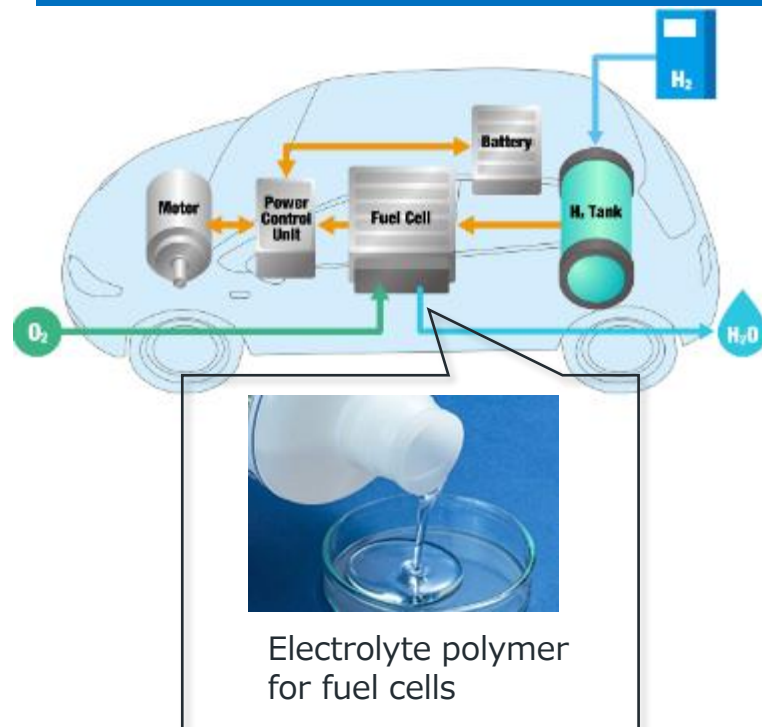


# Reduction of GHG Emissions in Business (Strategic Businesses: Mobility)

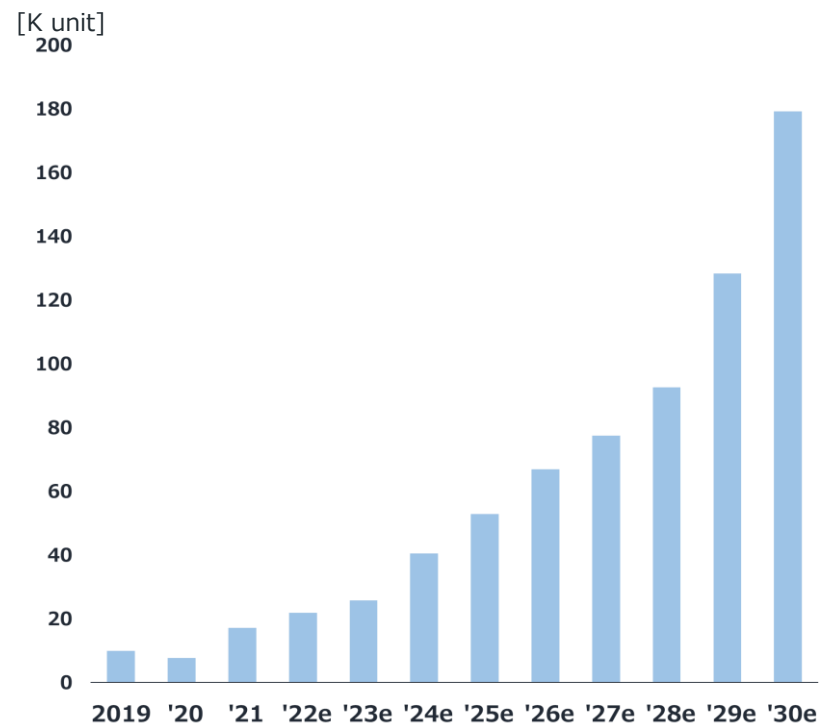
<Electrolyte polymer for fuel cells>

- Demand growth will accelerate together with the increased use of fuel cell vehicles and technological advancement toward the realization of a hydrogen society.
- Overwhelming No.1 position by realizing both high power generation and high durability

Structure of fuel cell vehicle



Fuel Cell Vehicle Production Outlook\*

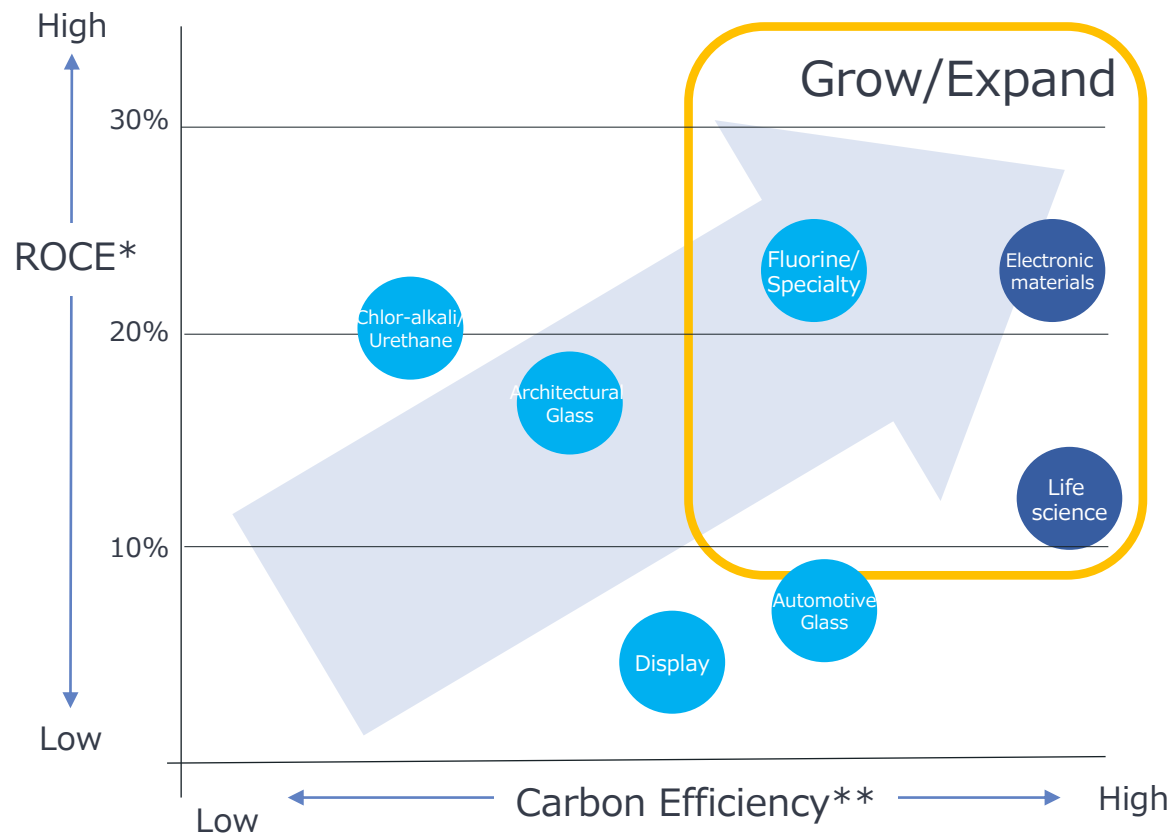


\*: Based on IHS data

# Carbon efficiency and asset efficiency

- Expand the strategic businesses that have high carbon efficiency and asset efficiency, and at the same time increase the carbon efficiency and asset efficiency of other businesses

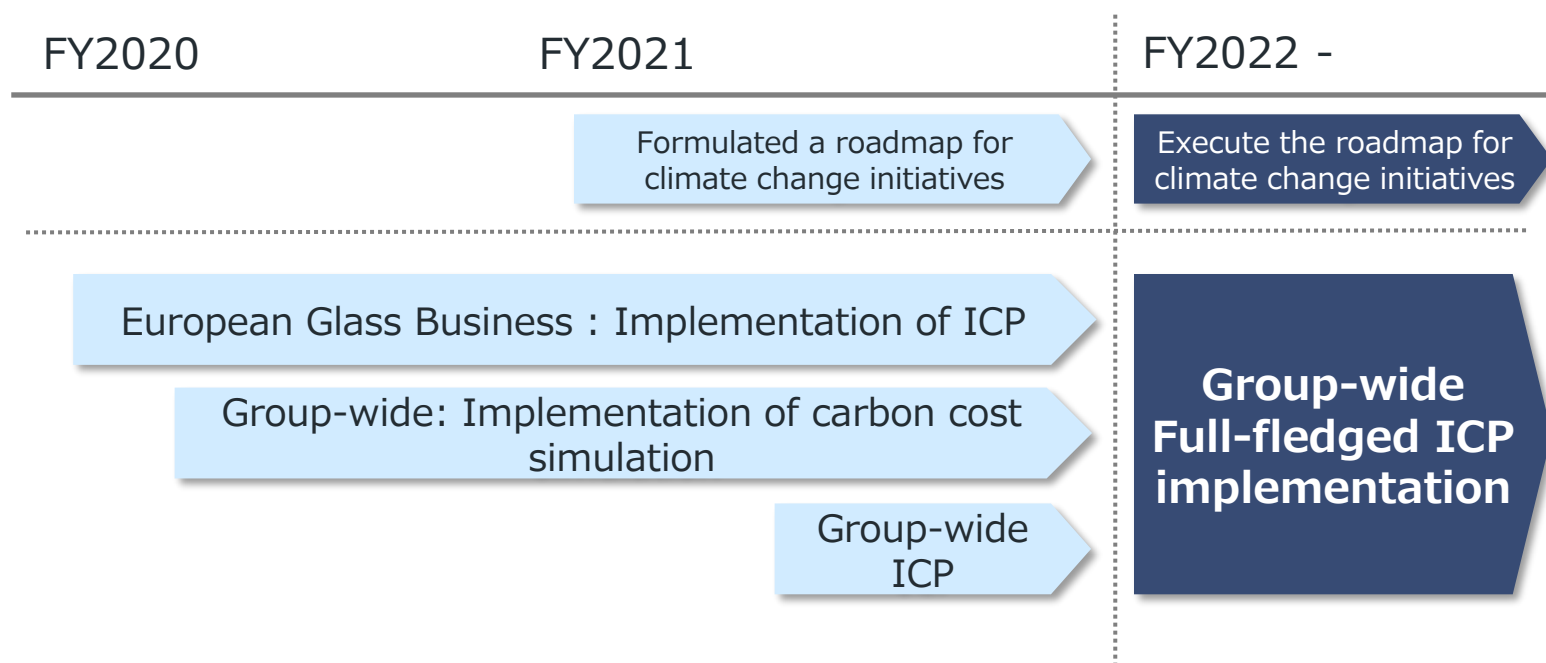
## Direction of the AGC Group's business portfolio



# Internal Carbon Pricing (ICP)

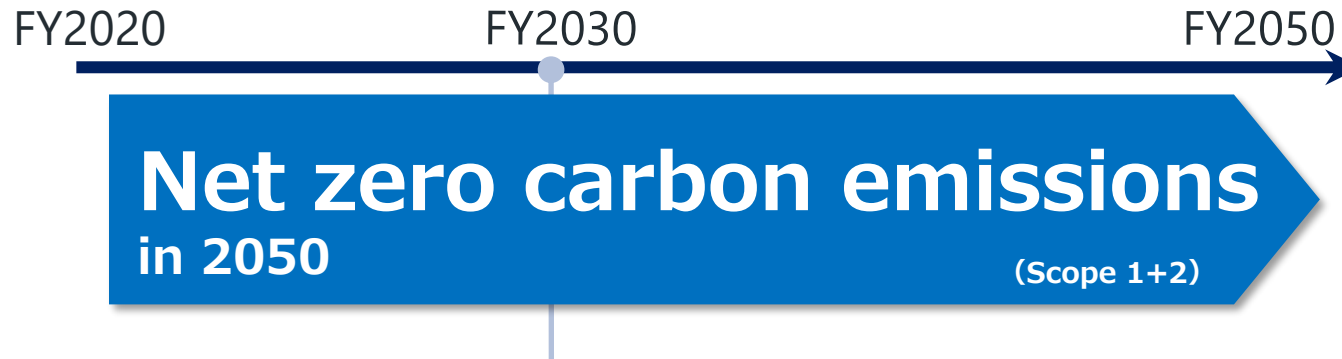
- Full-fledged implementation of ICP from February 2022 and accelerate AGC's GHG reduction initiatives

## Internal Carbon Pricing Introduction Plan



# Net Zero Carbon Target (FY2050)

- Mostly achieved the CO<sub>2</sub> reduction target “of reducing annual CO<sub>2</sub> emissions by 6 times by 2020 through energy-saving and energy-creating products” set in 2014
- Will continue to focus on GHG reduction through products and technology
- Aiming to achieve net zero carbon in 2050



**FY2030 milestone** (from the 2019 figure)

- GHG emissions **30%**reduction  
(Scope 1+2 emissions)
- GHG emissions per unit of sales **50%**reduction  
(Scope 1+2 emissions/Net Sales)

# Toward the Realization of Vision 2030

- Business Portfolio Transformation
- Promotion of Sustainability Management
  - Responding to Climate Change
  - Human Resources Initiatives
  - Acceleration of Open Innovation

# AGC People: the driver of our growth!

- Continuously grow and evolve by pursuing diversity, human resources development, and continuous improvement of work engagement



# Greater Diversity/Human Resources Development

## ■ Establish and improve the personnel system for greater diversity HR development

2020

### Directors/ Officers

2002-

- Executive officer with foreign nationality started (9% as of January 2022)

2014-

- Female outside director appointed

-2030

- Ratio of female executives 30% (18% at the end of 2021)
- Ratio of female executive officers 20% (3% at the end of 2021)

2020-

- Female executive officer appointed

2003-

- "Global management talent development program" started

2019-

- Data scientist development program started

2005-

- Global job grade system

2011-

- CNA activities

2011-

- Formulating recruitment policy\*
  - Ratio of new female graduates hired for career-track positions
  - Increased foreign nationals

-2030

- Ratio of female management positions approx. 8%\* (Approx. 4% at the end of 2021)

2010-

- Skill mapping

1989-

- Flexible work hours (with no core time)

2011-

- Registration of reemployment requests for resigned employees

2003-

- Childcare leave program (no gender restriction)

2012-

- Teleworking to support childcare and nursing-care (No reason required from 2017)

2017-

- Spouse transfer leave program
- Set the Secretariat for women's activities

### HR Programs\*

# Engagement Initiative: Employee Dialogues with Top Management

- Communication with top management and employees started globally in 2015.
- With the purpose of encouraging independent action
- Amid the Covid pandemic, dialogue sessions are held online.



## CEO Dialogue Sessions (Global)

FY2018: **135** times (45 sites)

FY2019: **120** times (40 sites)

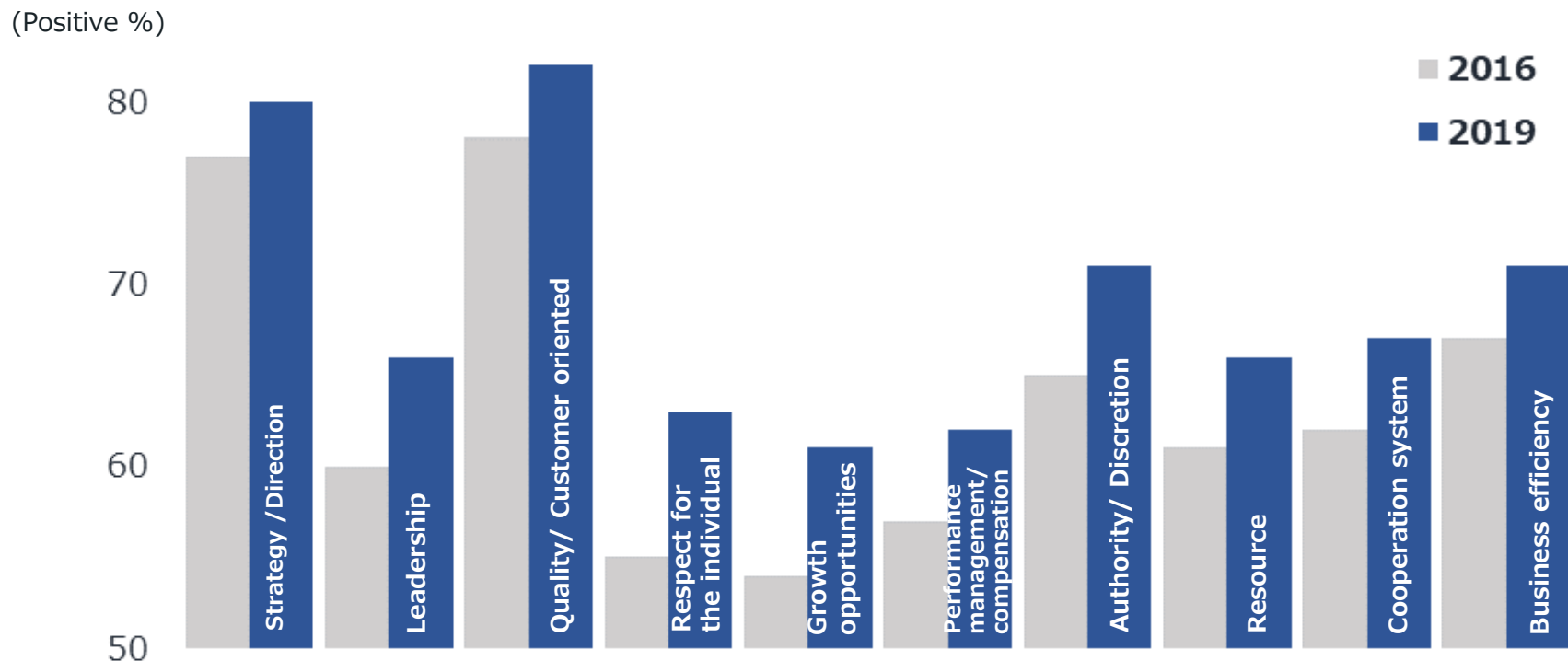
FY2020: **52** times (12 sites in Japan)

FY2021: **63** times (21 sites)



# Engagement Survey Results

- In the 2019 results, all categories exceeded the previous results.



## Engagement Survey Overview

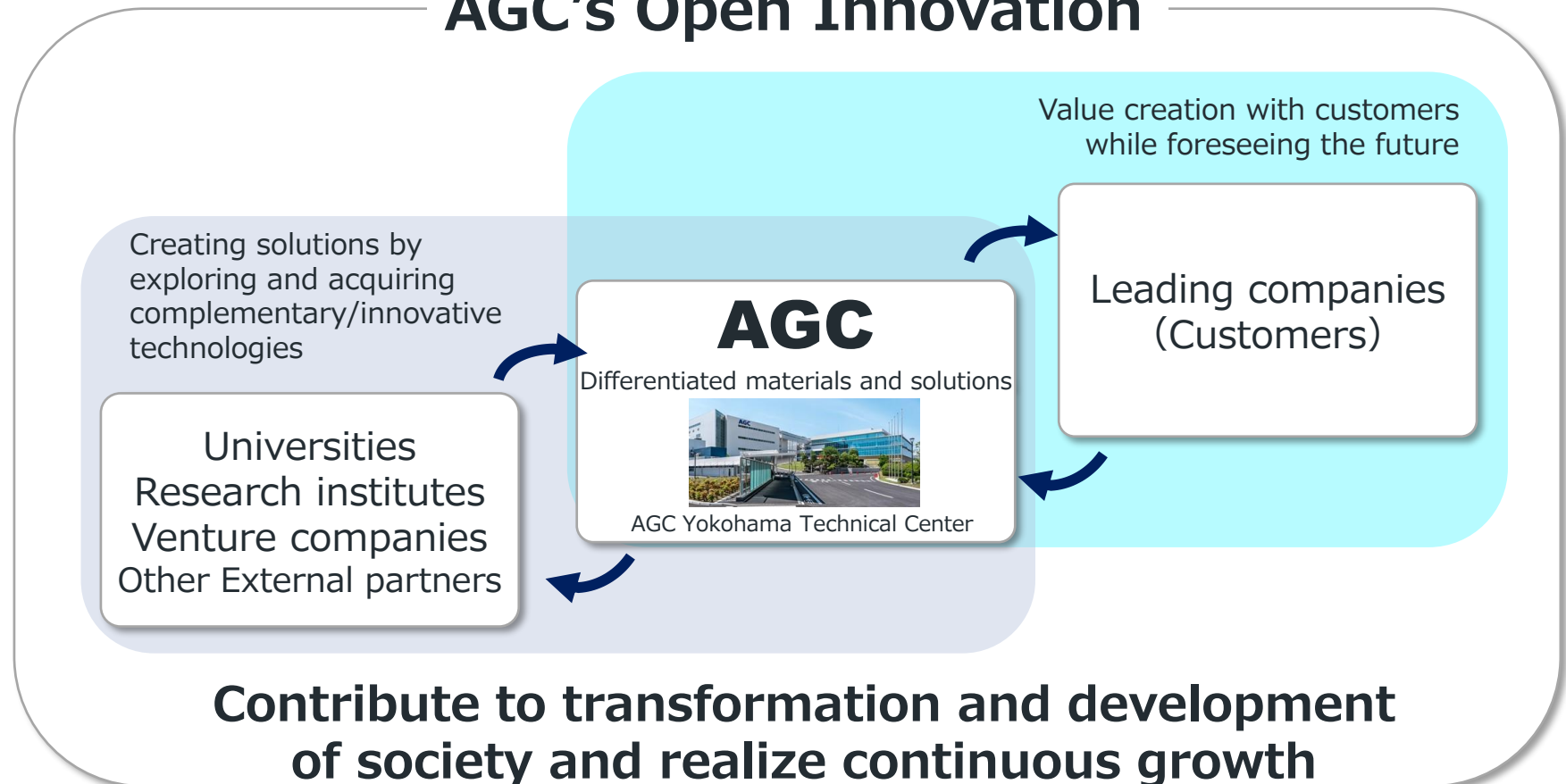
- Conducted 6 times since 2005
- 22 languages, 43 countries and regions (FY2019)
- All group members (FY2019 42,000 respondents with 88% response)

# Toward the Realization of Vision 2030

- Business Portfolio Transformation
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  - Acceleration of Open Innovation

- Constantly creating social value and economic value through open innovation with customers and external partners

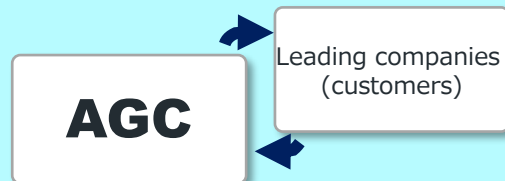
## AGC's Open Innovation



- Accelerate innovation by strengthening collaboration with customers and external institutions

## Initiatives (examples)

Value creation with customers while foreseeing the future



### Collaboration with leading companies/industries

- Predict next changes
- Strategic technological communication
- Strategic means to bring out future needs



#### AGC Yokohama Technical Center

- Integrated R&D functions
- Facilitate collaboration within/outside AGC

Creating solutions by exploring and acquiring complementary/innovative technologies



### Acquisition of innovative technologies

#### 1. M&A, Venture-related investments

- 9 M&A cases in 2016 onward (8 Strategic Businesses)
- 18 venture-related investments

#### 2. Industry/Academia Collaborations

- 4 large-scale collaborations with universities in 2016 onward

#### 3. Collaborations with Companies

- Collaboration, horizontal specialization, joint development

#### 4. GTNET (Global Technology Network)

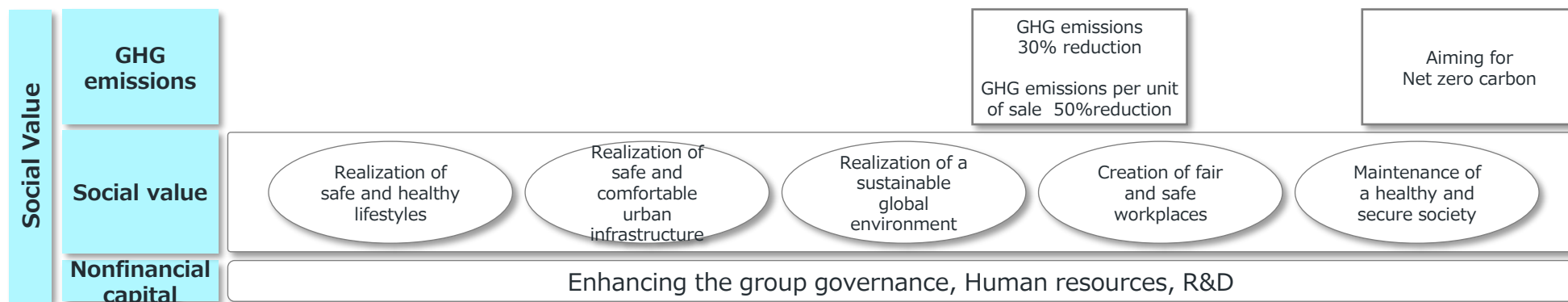
- Work with universities, startups and cutting-edge customers in Japan, USA, Europe, Singapore, China

# Today's Summary

# Grow by creating both social value and economic value

- Achieve through the portfolio transformation and the pursuit of sustainability management

		2021 (Actual)	2023	2025	2030 . . .	2050
Economic value	Operating profit	206.2billion yen	230.0billion yen	250.0billion yen	300.0billion yen	
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	EBITDA *	372.9billion yen	433.0billion yen	490.0billion yen		
	ROE	10%	Stable ROE of 10% or higher			
	D/E	0.41	0.5以下			



\* EBITDA=Operating profit +Depreciation

# AGC Group's Brand Statement

Never take the easy way out, but confront difficulties  
Trust is the best way to inspire people  
Strive to develop technologies that will change the world  
A sense of mission leads us to advance

For more than a century, AGC has been guided by these founding spirits. Our unique materials, solutions and reliable partnerships have facilitated leading innovations across diverse industries and markets.

Today, by working with others to combine knowledge and advanced technology, we help make ever greater achievements possible, and bring bolder ideas to life

## Your Dreams, Our Challenge



# Reference



# Life Science Global Operations

- In Japan, North America and Europe, the AGC Group can provide high and consistent CDMO services with its GMP facilities/experiences.

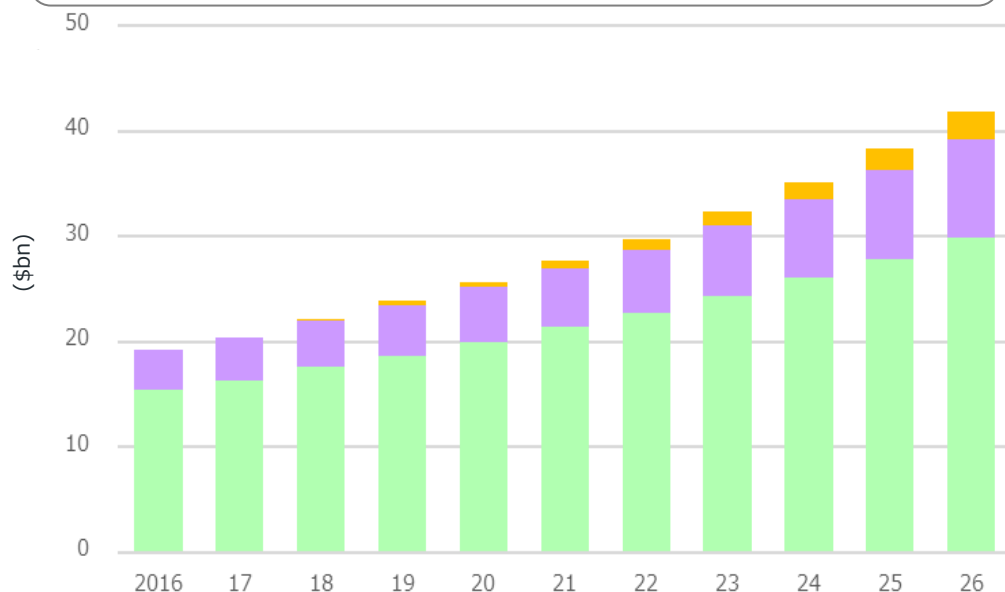


# Life Science Business Environment

- Synthetic pharmaceuticals & agrochemicals will expand business based on its development technologies
- Biopharmaceuticals will achieve a high growth by expanding geographical / technological coverage

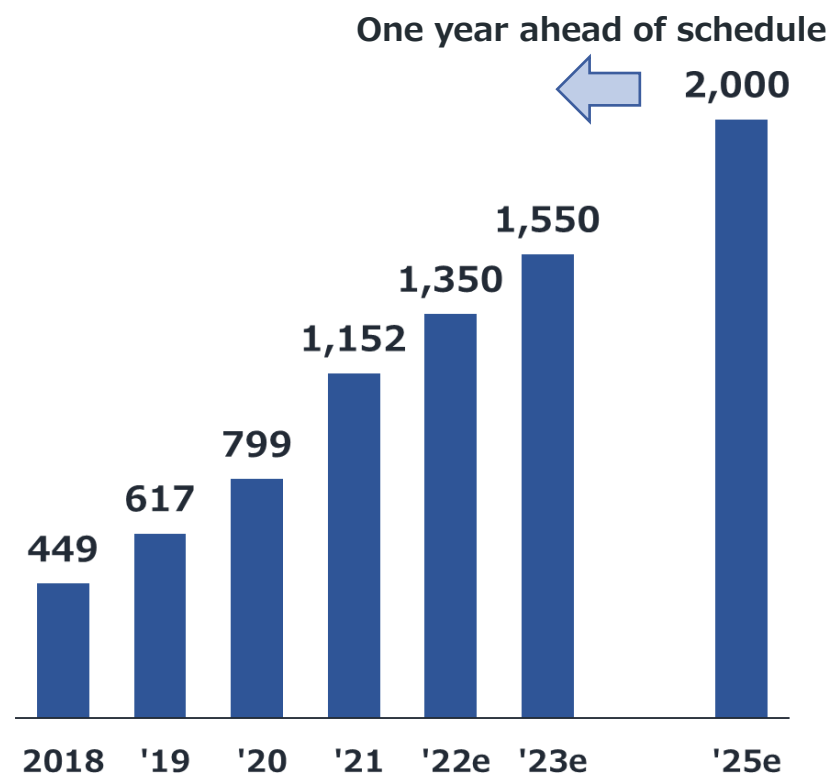
## Pharmaceuticals CDMO Market Outlook

- Gene and cell therapies(CAGR+30%)
- Conventional biopharmaceuticals (CAGR+11%) (microbial/mammalian)
- Small molecule pharmaceuticals(CAGR+7%)



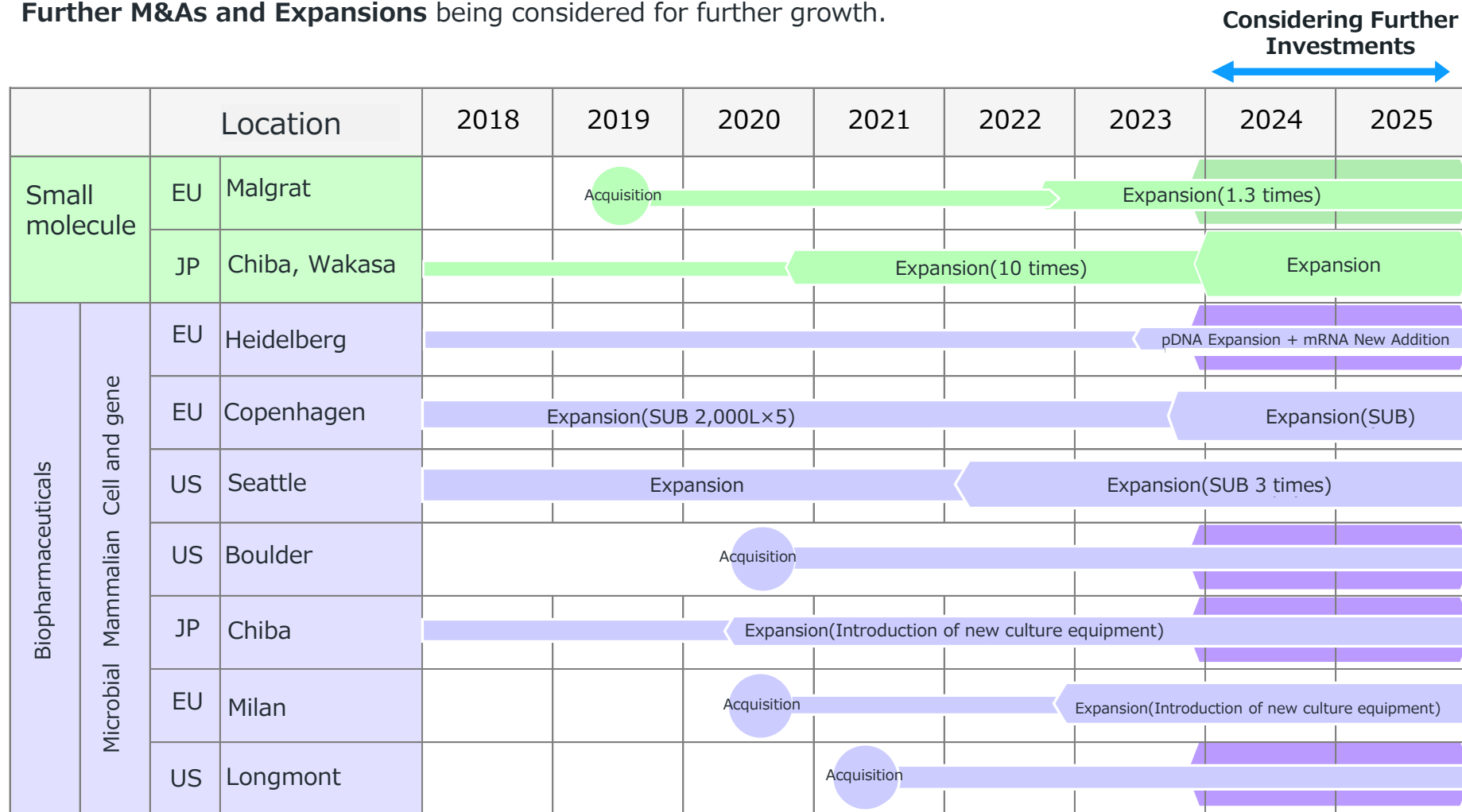
## Life Science Net Sales

(100 million JPY)



# Life Science Capacity Expansion

- ① Active investments leading to the achievement of initial goal 4 years earlier than originally planned **and net sales reached 1,152 hundred million yen in FY2021.**
- ② **Investments necessary to reach revenues of 2,000 hundred million yen already decided.** Investments carried out since 2020 coming online.
- ③ **Further M&As and Expansions** being considered for further growth.



\*Based on the operation start

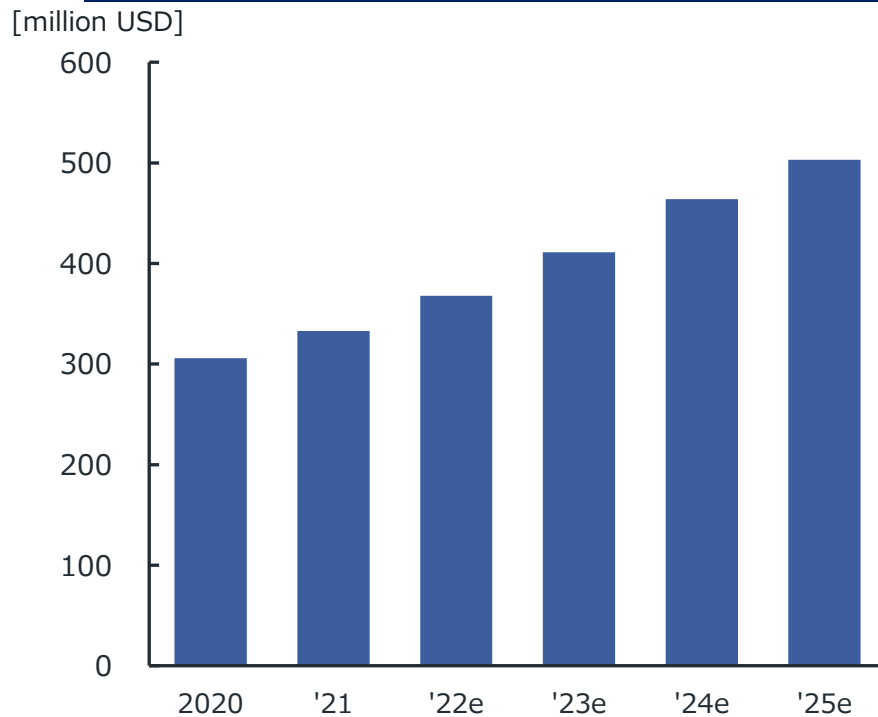
## CMP Slurry

- The ceria slurry market is growing with its applications expanding in semiconductor manufacturing processes for logic system, etc.

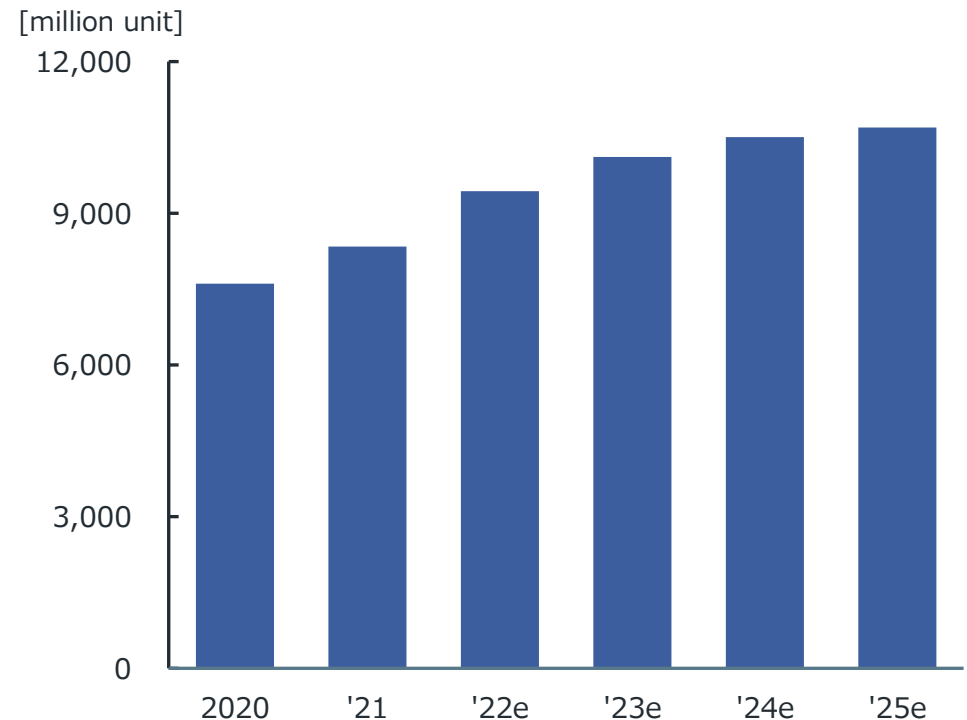
## Optoelectronics materials

- While the growth of smartphones will slow, the number of cameras used will continue to grow as smartphones will be equipped with more camera lenses.

### Ceria slurry market

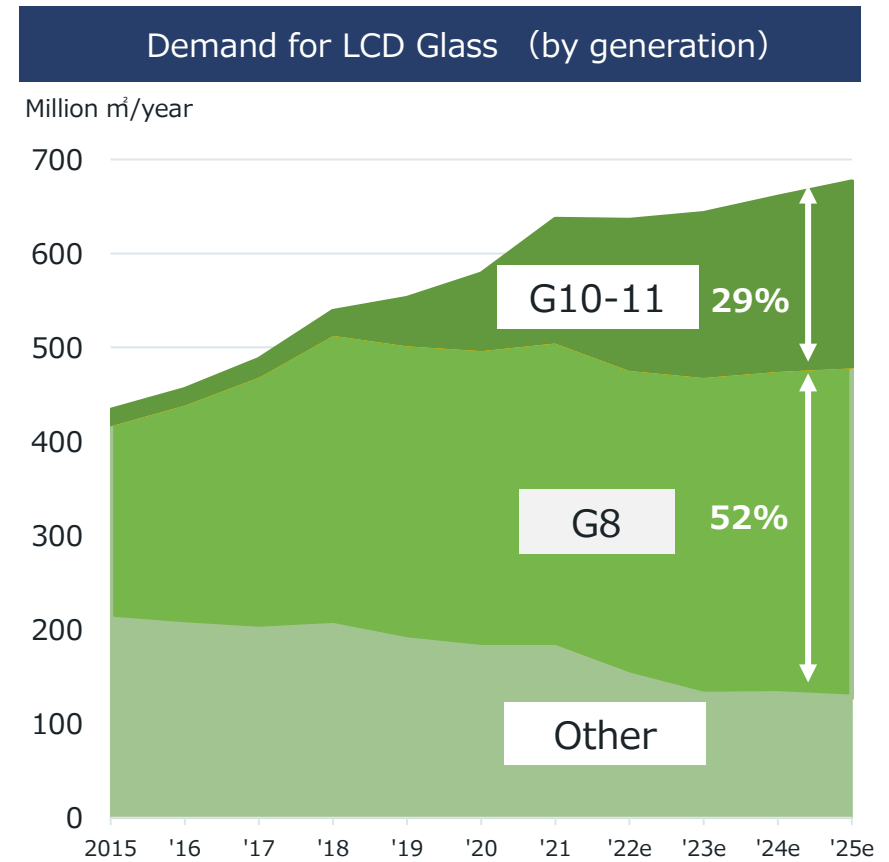
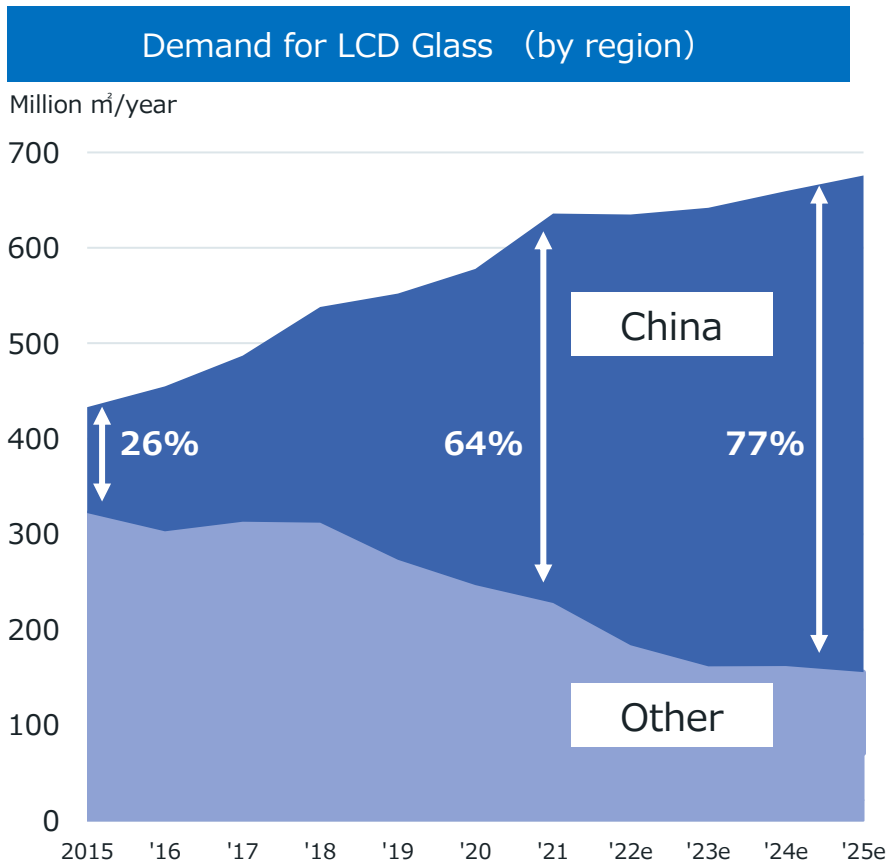


### Image sensor for cameras



# Display Market Environment

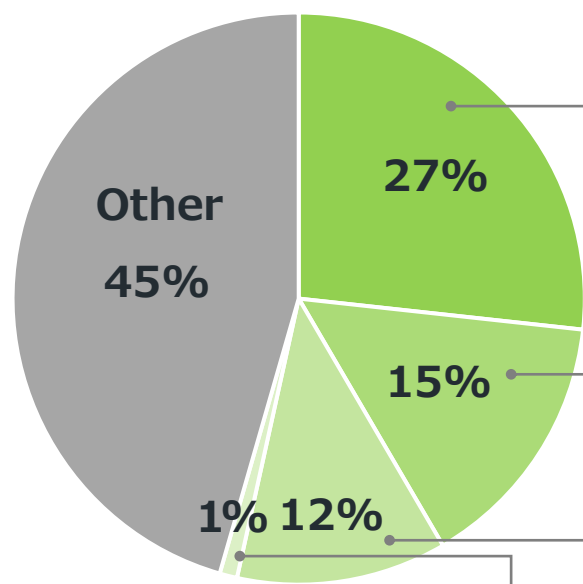
- Demand in China will continue to expand until 2025
- Enhance capacity to respond to growing demand for G11 in China



# Fluorochemicals & Specialty Overview

- Approx. 50% of the demand is for the main applications such as transportation (automobile, aircraft), Electronics, Buildings and Energy
- The remaining half consists of demand in various and specific fields.

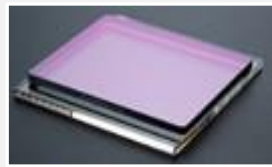
Net Sales by Application (2020)



**Transport-ation**



**Electronics**



**Building**



**Energy**



# Sustainability: Products and technologies to create social value

## Material opportunities

## AGC Group's materials and solutions

## Social value

## Related SDGs

Addressing climate change

Architectural glass, Green refrigerant, automotive infrared cut glass, refractories for biomass boiler, etc.

Realization of a sustainable global environment



Effective use of resources

Fuel cell materials, products for recycled raw materials (glass, refractories, etc.)

Developing social infrastructure

Architectural glass, caustic soda, sodium hypochlorite, sodium bicarbonate, PVC, etc.

Realization of safe and comfortable urban infrastructure



Achieving a safe and comfortable mobility

Automotive glass antennae, components for automotive sensing radar, HUD components, etc.

Building an info-intensive and IoT society

Antenna for building windows, materials for semiconductor production, Display glass, high-speed communication parts, etc.

Realization of safe and healthy lifestyles



Addressing food crises

Agrochemical active ingredients/intermediates, film for agricultural green houses

Facilitating better health and longevity

Pharmaceuticals active ingredients/intermediates, high-speed communication parts, high-performance membrane for water treatment

# Sustainability: Create social value through healthy corporate activities

## Material risks

## AGC Group corporate activities

Addressing climate change

Continuous energy-saving, development of production technology/facilities to reduce GHG emissions, etc.

Effective use of resources

Use of recycled raw materials/materials, Reduction of land, etc.

Creating a socially and environmental-conscious supply chain

Supplier selection based on respect for human rights/environmental protection

Ensuring fair and equal employment and workplace safety

Reduce water usage, protect biodiversity, prevent environment accidents, supporter-making, etc.

Considering relationships with local communities and the environment

Increase employee engagement, prevention of serious disaster/ accidents requiring a leave, etc.

## Social value

## Related SDGs

Realization of a sustainable global environment



Contributing to the maintenance of a healthy and secure society

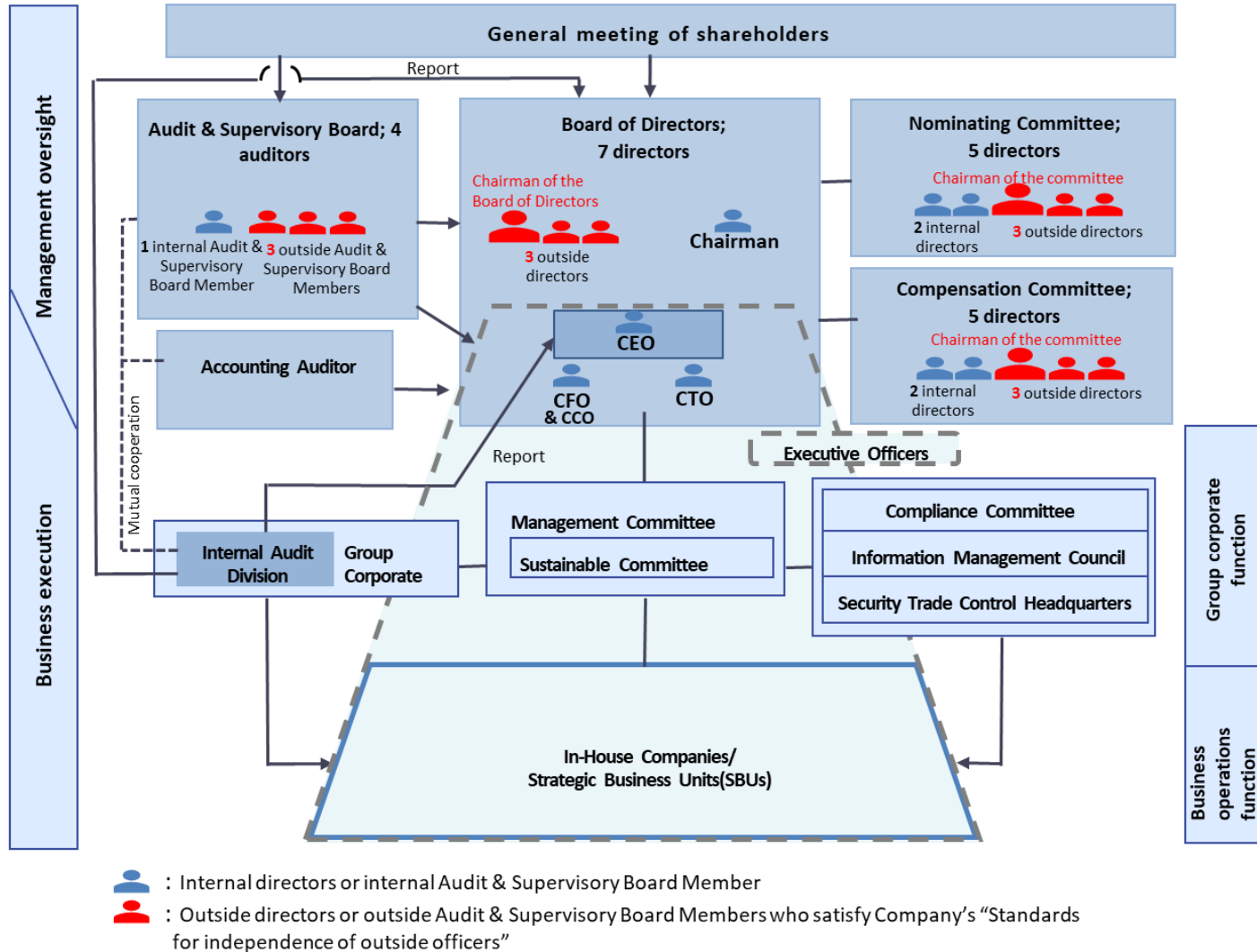


Contributing to the creation of fair and safe workplaces





# AGC's Corporate Governance Structure



FTSE4Good Index Series



FTSE Blossom Japan Index



CDP Climate Change A-



Nadeshiko Brand

as a company that excels in promoting the advancement of women



“White 500” Company

in recognition of initiatives to promote strategic health management for its employees



EcoVadis Supplier Evaluations

PLATINUM rated for the Kashima plant

GOLD rated for the Chiba plant and AGC Pharma Chemicals

Silver rated for AGC Biologics Copenhagen



Derwent Top 100 Global Innovator 2021

DX Brand 2021

in recognition of digital transformation efforts



Your Dreams, Our Challenge

**END**

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