

# IR DAY 2022



Architectural Glass (Japan & Asia)

AGC Inc.

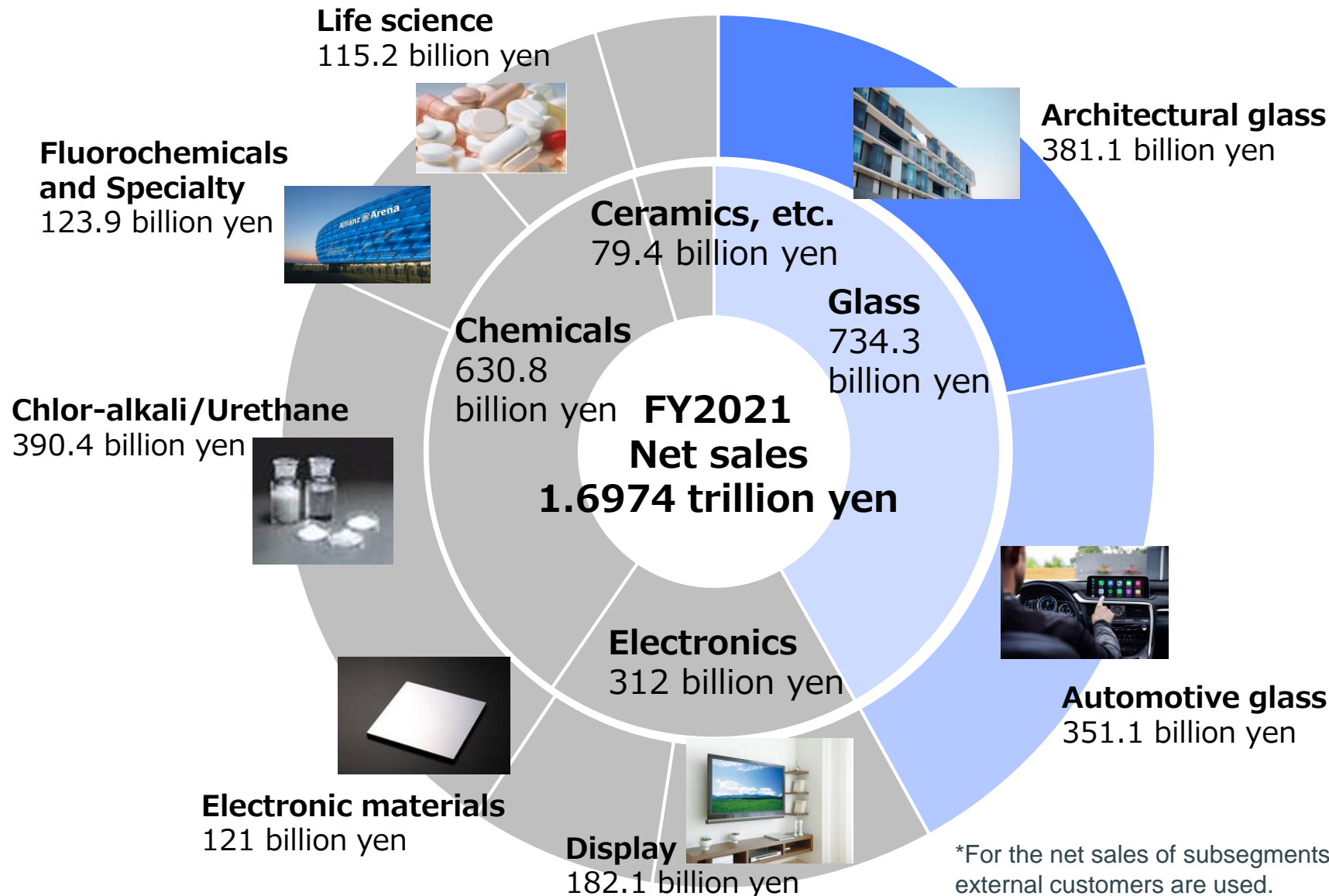
June 13, 2022

Your Dreams, Our Challenge

- Business overview
- Division policy
- Medium-term business strategy

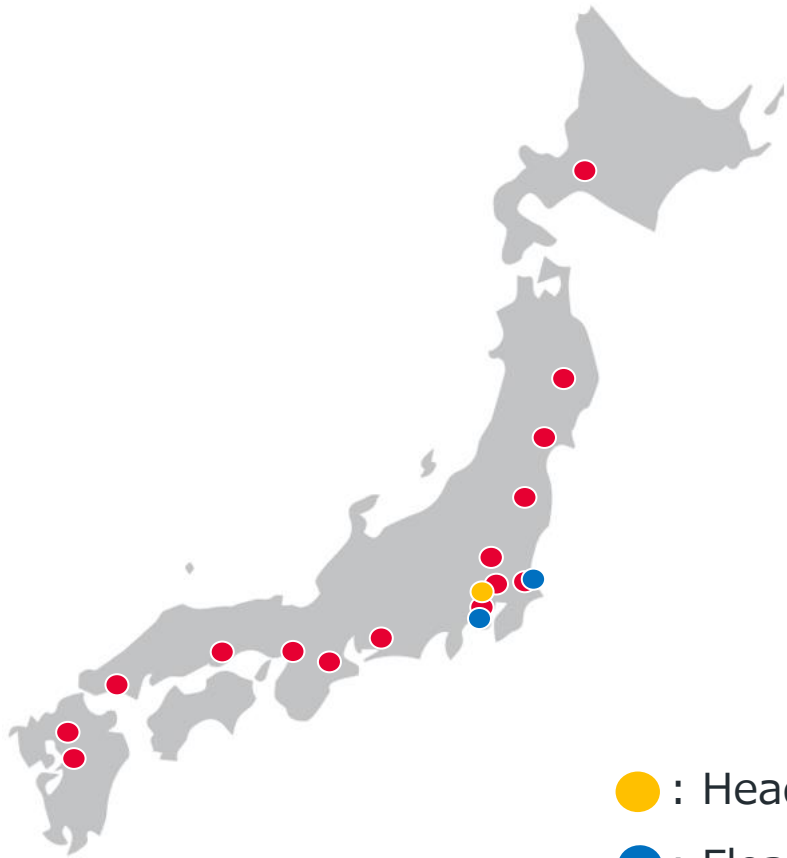
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# Position in the AGC Group



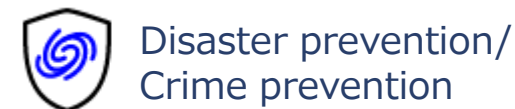
## Japan

## Asia



- : Head office
- : Float glass and figured glass sites
- : Architectural processing glass sites

# Functions of the main products



**Our mission:**



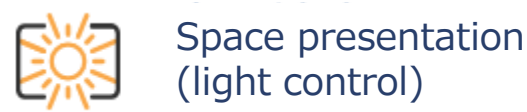
## “Glass for Quality Life”



We would like to enrich people’s lives, the world,  
and society through glass while believing in the  
ability of glass.



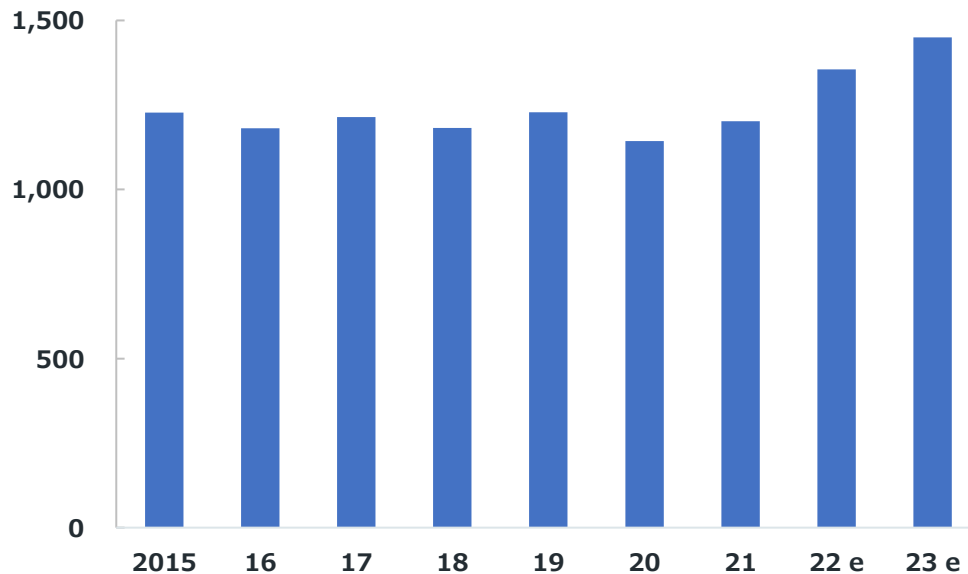
For a sustainable future for all people.



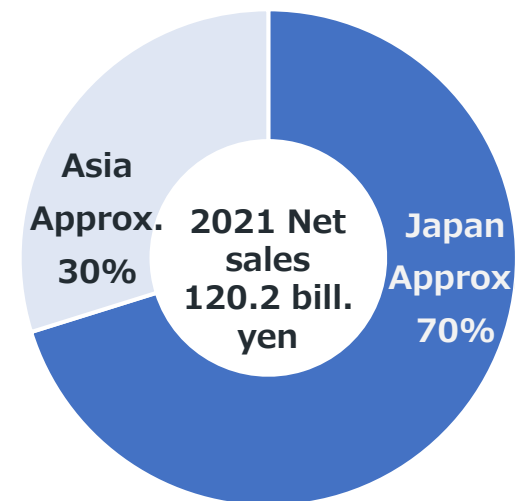
- The sales that once plunged in 2020 due to the coronavirus pandemic is expected to recover and grow toward 2023
- Japan and Asia account for about 70% and 30%, respectively, of the net sales

Net sales of architectural sheet glass  
(Asia including Japan)

(100 million yen)



Percentage of net sales of each region in  
the total net sales in 2021



- Business overview
- **Division policy**
- Medium-term business strategy



## Glass For Quality Life

We would like to enrich people's lives, the world, and society through glass while believing in the ability of glass.  
For a sustainable future for all people.

**Social values**

**Economic values**

### Social values

Contribution to the realization of a sustainable global environment

Contribution to the realization of a safe and healthy life

Contribution to the realization of safe and comfortable city infrastructures

Contribution to the maintenance of a healthy and safe society

Contribution to the creation of fair and safe workplaces

### Economic values

Stable ROCE **10%** or more

- Business overview
- Division policy
- **Medium-term business strategy**

## Operation

## Main issue

<b>Core business</b>	<b>Architectural glass</b>	<ul style="list-style-type: none"> <li>• Creation of cash in the core business</li> <li>• Growth thanks to new business and high-value-added products</li> <li>• Activities for SDGs issues including the climate change problem</li> </ul>
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## Break Down

<b>Core business</b>	<b>Architectural glass Japan</b>	<ul style="list-style-type: none"> <li>• Establish a stable revenue structure in the gradually contracting market</li> <li>• Development and sales expansion of high-value-added products such as energy-saving products, BIPV, and 5G-related products</li> <li>• Acceleration of the development of GHG reduction technology</li> </ul>
	<b>Architectural glass Asia</b>	<ul style="list-style-type: none"> <li>• Capitalize on the growth of the emerging market</li> <li>• Promote the shift to high-value-added products and establish a stable growing revenue structure</li> </ul>
	<b>Common in Asia including Japan</b>	<ul style="list-style-type: none"> <li>• Further reinforce the supply chain that supports the growth of the core business, stable supply ability, and presence in the market</li> <li>• Improve the asset efficiency, productivity and reduction of costs</li> </ul>

## **1. Robust supply chain based on trust established over a long period of time**

Covering the functions of the supply chain, including manufacturing, processing, sales, and installation

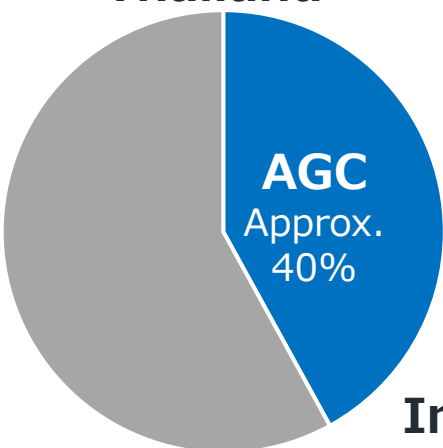
## **2. Leadership position in the product and process development ability in the world**

Product and process development ability of advanced glass represented by energy-saving glass product lines

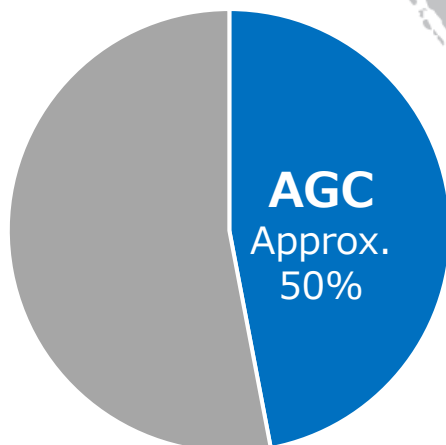
# 1. Diverse manufacturing base and robust supply chain

- Concentrate on regions where we can dominate the competition in growing market and keep our position as the market leader in such countries
- Have a wide range of sales coverage over Asian countries

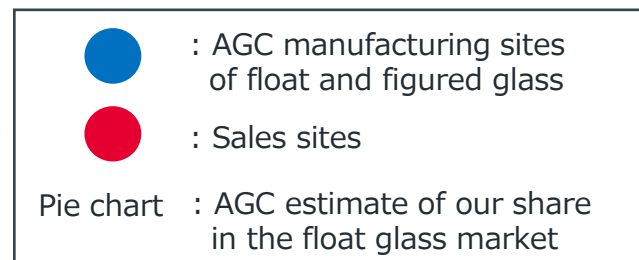
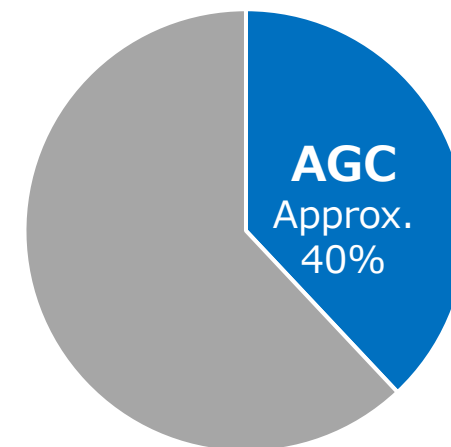
## Thailand



## Indonesia

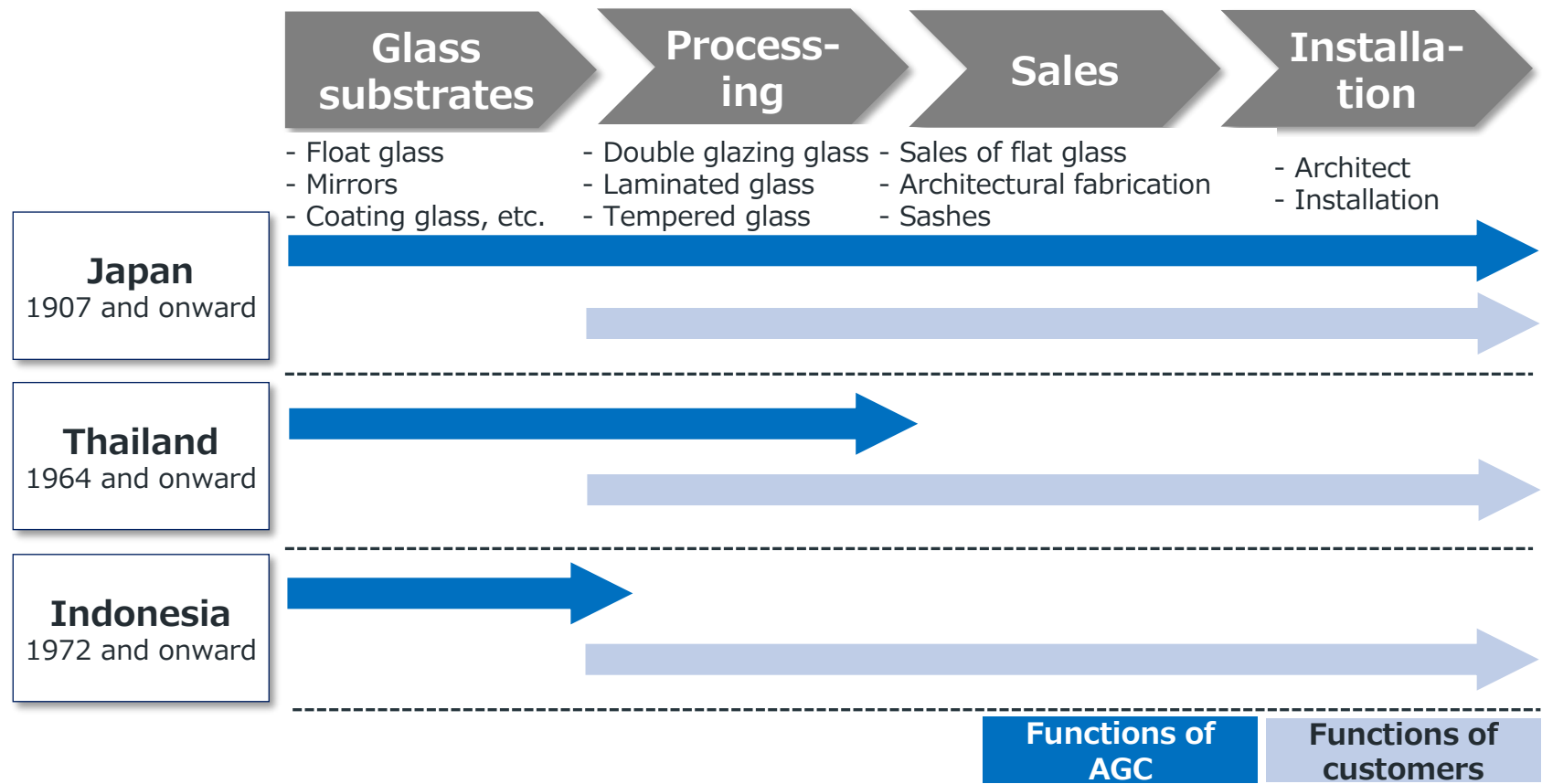


## Japan



# 1. Diverse manufacturing ability and robust supply chain

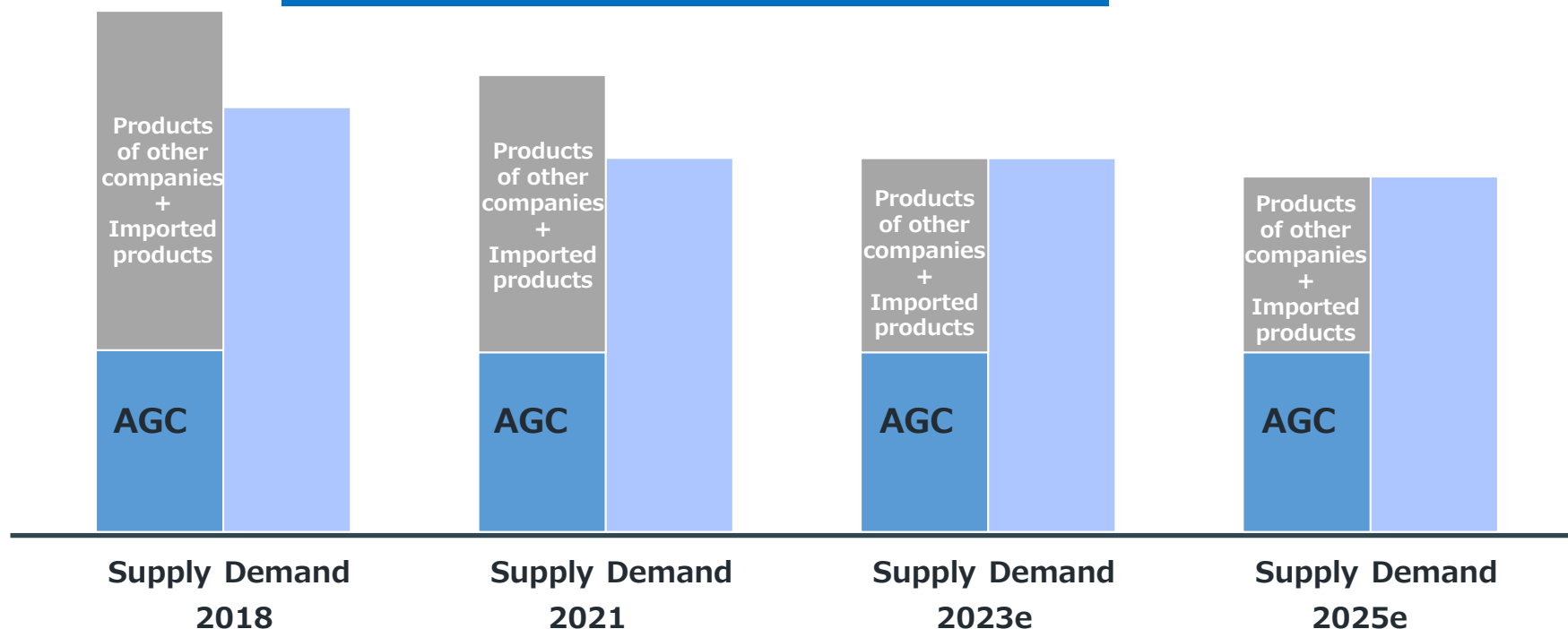
- Manufacturing capabilities in Japan, Thailand and Indonesia
- Have diverse manufacturing ability and technologies for glass substrates, coated glass, and processed glass
- Possess a robust supply chain together with customers from supply of glass substrates to installation of glass in accordance with the circumstances in each region



# Japan: Market structure

- Competitors partially ceased furnace operations in 2020 and 2022
- From 2023, the supply and demand balance in Japan is expected to improve significantly compared to past over-supply situation

## Supply and demand of float glass (AGC estimate)

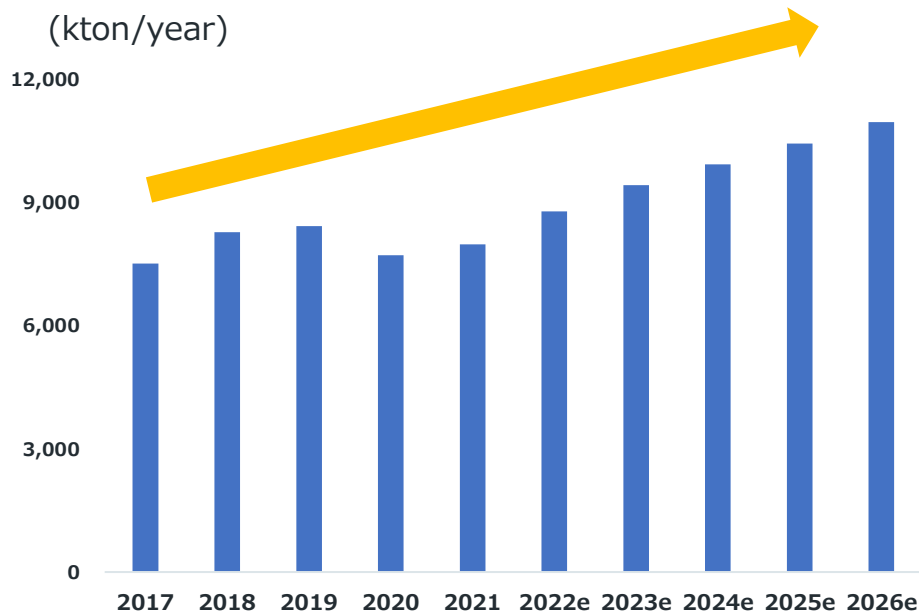


<b>Number of float furnaces*</b>	<b>4.3</b>	<b>3.3</b>	<b>2.3</b>	<b>2.3</b>
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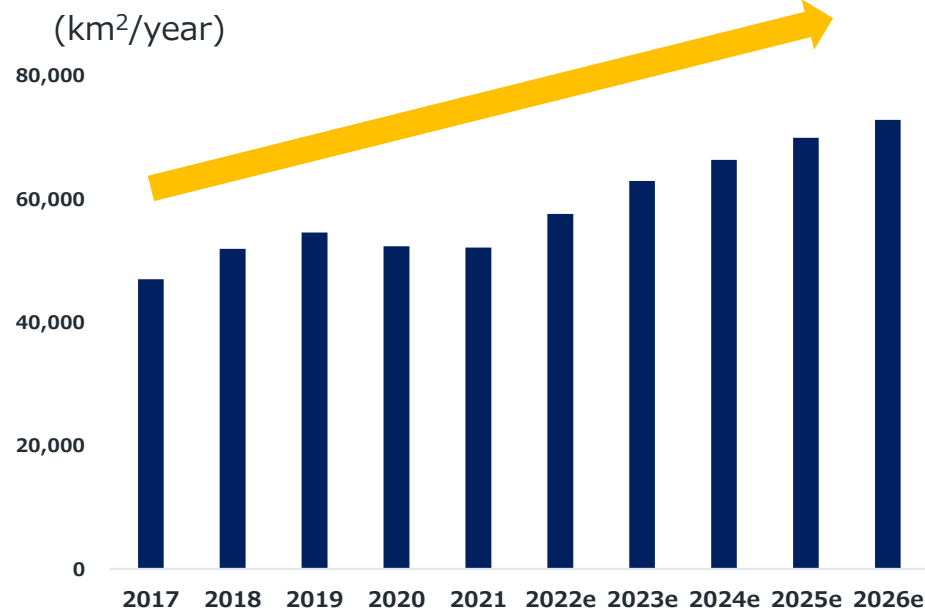
\*Number of float furnaces in Japan including other companies (AGC estimates)

- Capture the commodity demand that is expanding in the Asia/Oceania region\* as a base load
- Capture the expanding demand for high-value-added products and establish a stable growing revenue structure

Demand for float flat glass (AGC estimate)



Demand for coated glass (AGC estimate)





## **1. Robust supply chain based on trust established over a long period of time**

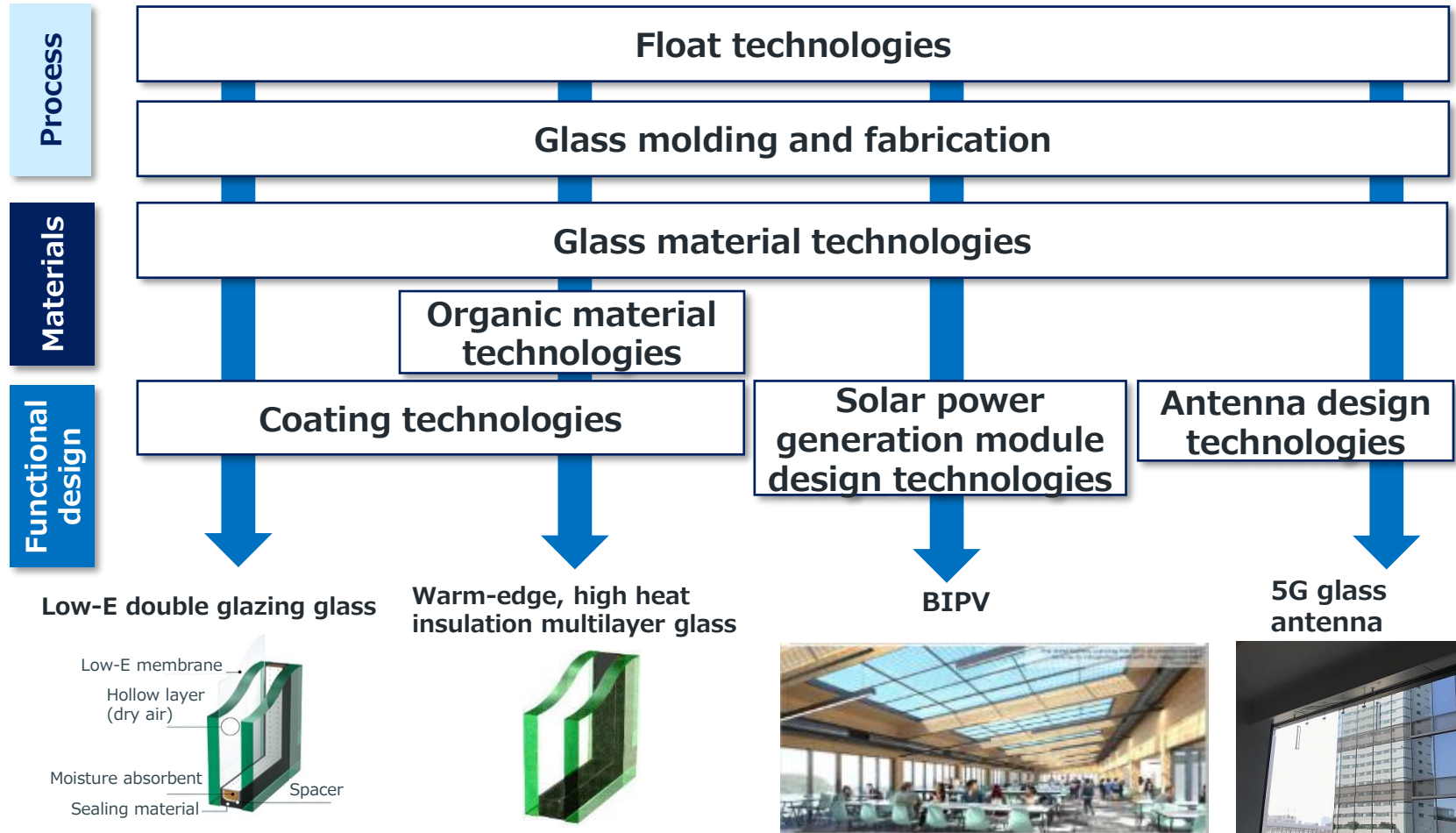
Covering the functions of the supply chain, including manufacturing, processing, sales, and installation

## **2. Leadership position in the product and process development ability in the world**

Product and process development ability of advanced glass represented by energy-saving glass product lines

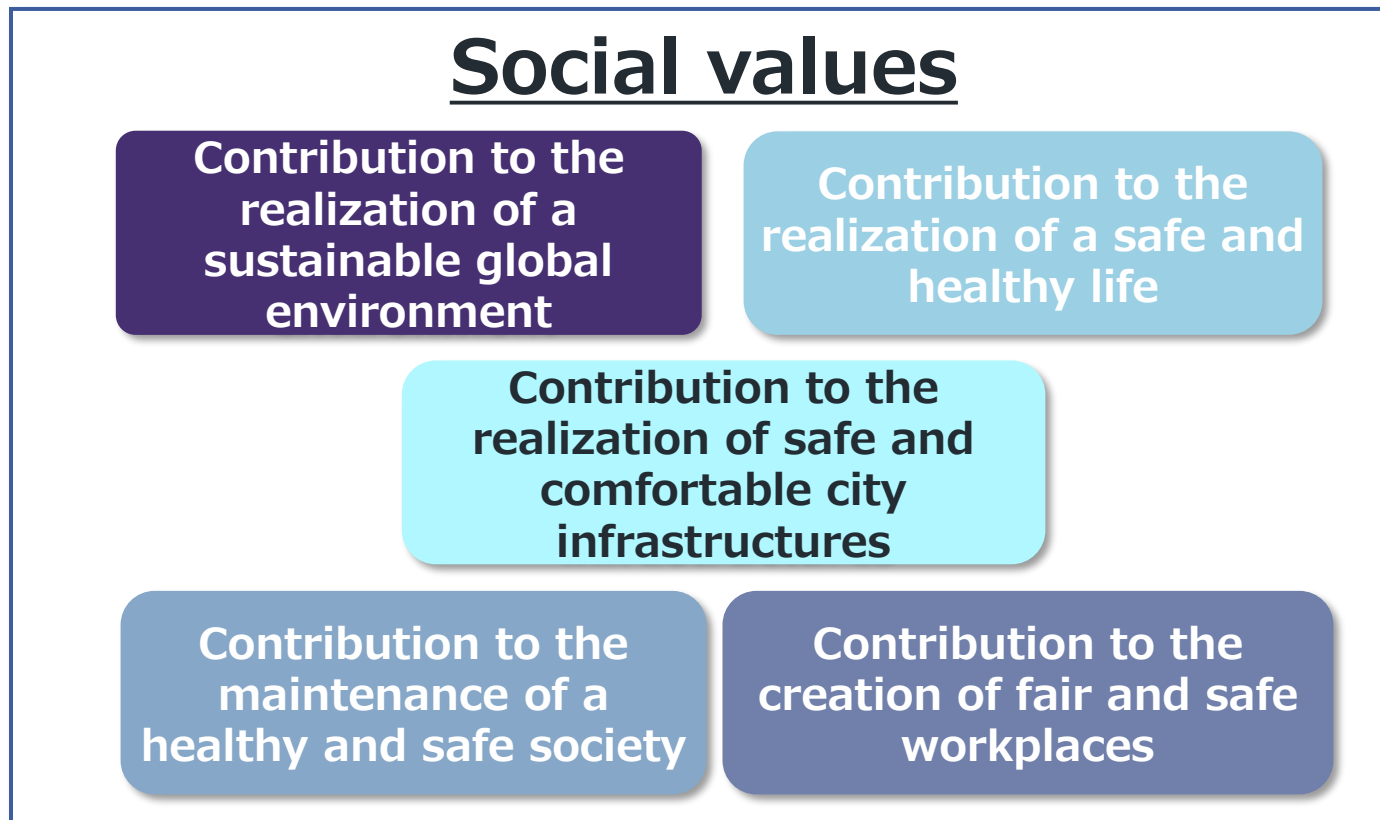
# 2. World leading product and process development ability (1)

- Develop advanced glass and new processes capitalizing on diverse human resources and development capability
- Develop new products differentiated from competitors with composite technologies of glass, electronics and chemicals



## 2. World leading product and process development ability (2)

- Greatly contribute to resolution of social issues such as realization of a low-carbon society and arrangement of social infrastructure with world-class technology and development ability

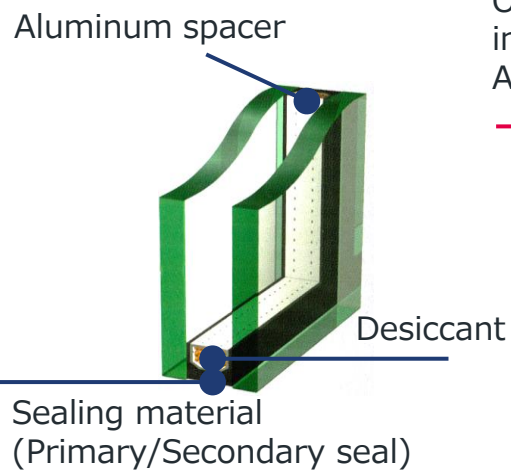


## Low-E double glazing glass



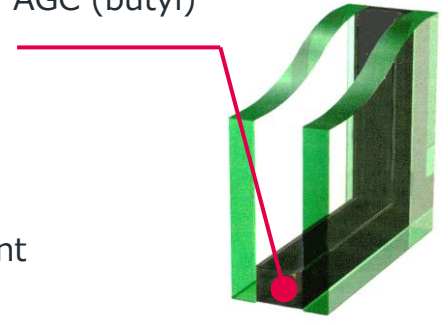
- About half of the heat entering and leaving housing does so through windows
- In Asia, Low-E double glazing glass is expected to grow at CAGR of 7% up to 2030
- In Japan, double glazing is adopted in about 80% of new houses and apartments
- Expand the sales with newly developed resin spacers to increase the revenue

Conventional products



Thermocline™

Only a sealing material independently developed by AGC (butyl)



### Thermocline™

- High-durability/long-life/high-heat-insulation double glazing using a material independently developed by AGC
- Integrated function of spacer, desiccant and seal materials with technologies of chemicals to make recycling easy
- Realized long-life products without sacrificing the performance of windows, contributing to longer product life

## BIPV

(Building Integrated Photovoltaics)

- Glass products that can generate electricity from sunlight with power generation cells sealed between glass panels
- By enabling energy-creating through windows, it helps to solve constraints of installation locations for solar panels
- It realizes both energy creation performance and design flexibility and contribute to the realization of a carbon-neutral society

Contribution to the realization of the sustainable global environment

Contribution to the realization of the safe and healthy life

Contribution to the realization of safe and comfortable city infrastructures

Contribution to the maintenance of the healthy and safe society

Contribution to the creation of the fair and safe workplaces



Global Zero Emission Research Center of AIST  
Entrance canopy



New Punggol Campus of Singapore  
Institute of Technology

## WAVEATTOCH™

Contribution to the realization of the sustainable global environment

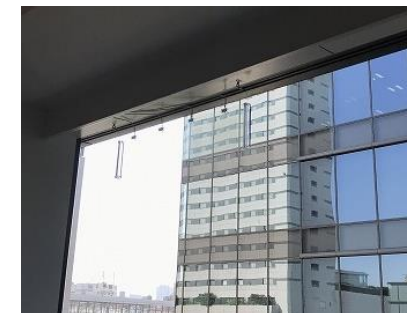
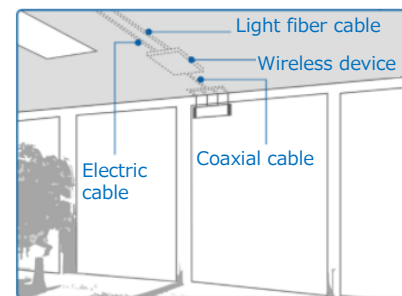
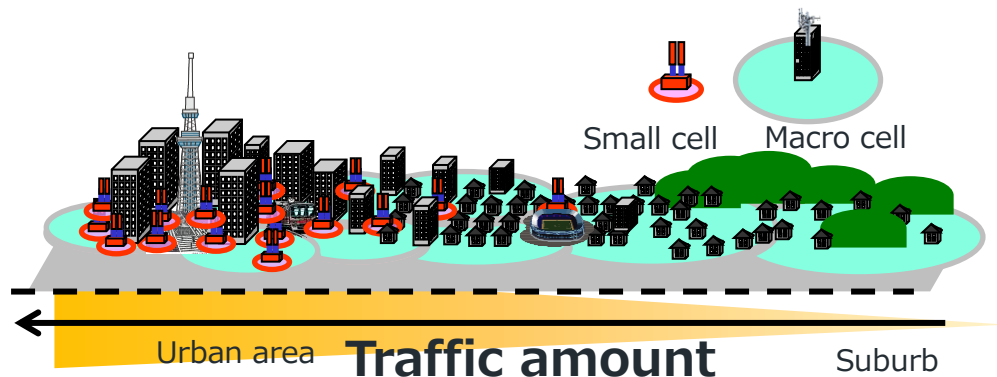
Contribution to the realization of the safe and healthy life

Contribution to the realization of safe and comfortable city infrastructures

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- Following the spread of high-speed and large-capacity 5G communication, securing locations for small-cell antennas in urban areas has become an issue
- AGC developed glass antennas that can be attached from the indoor side of existing window glass
- It is so transparent that it does not interfere with interior design and street landscape
- Building windows in prime downtown locations will be converted to antennas.



## Energy-saving glass manufacturing technology

- Develop and introduce world-leading energy-saving glass manufacturing technologies as a leader in the industry
- Promote cutting-edge production technology development such as carbon-free ammonia combustion toward carbon net zero

Contribution to the realization of the sustainable global environment

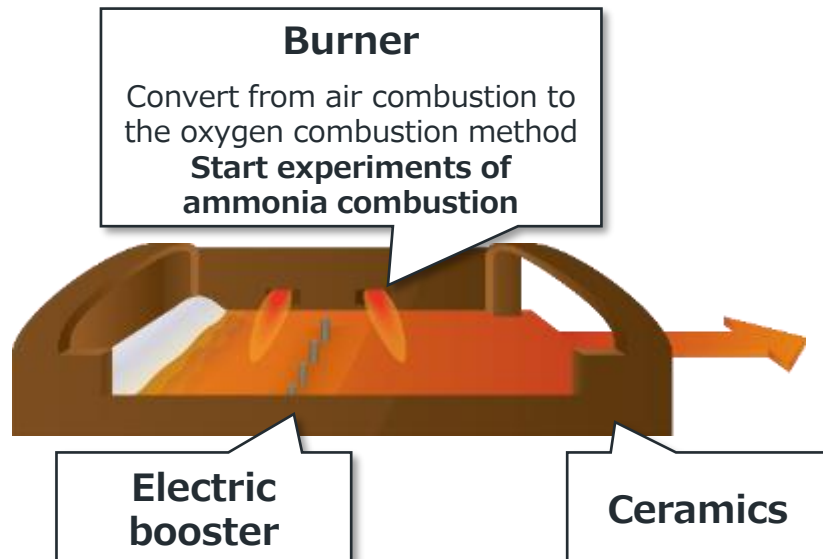
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### Energy-saving glass manufacturing technology



### Ammonia combustion technology development

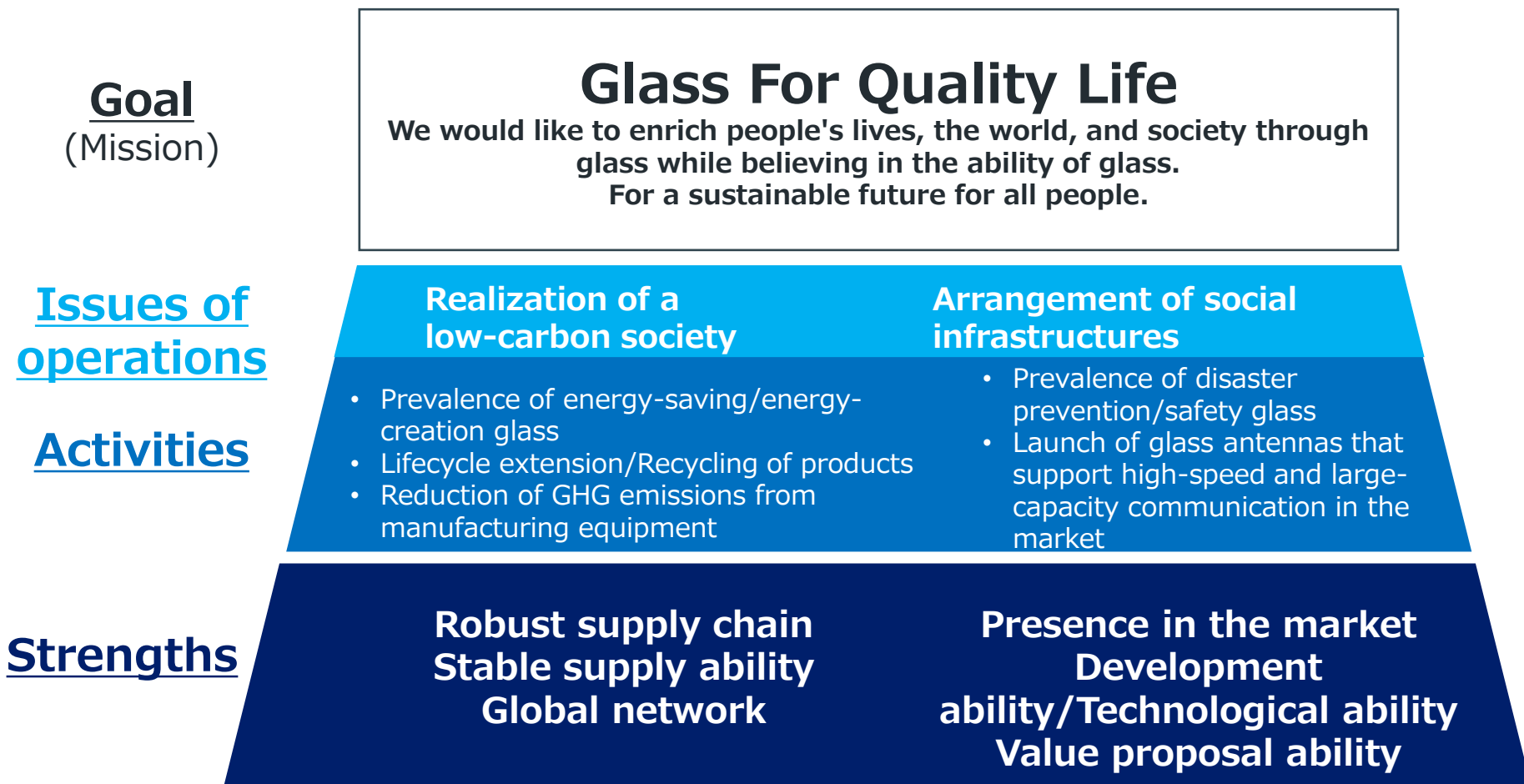
Combustion with natural gas and heavy oil  
=> Ammonia combustion

#### Ammonia

- Generates no CO<sub>2</sub> during combustion
- Ease of storage and transport
- Widely distributed

**Adopted as a NEDO\* commissioned project**  
**Aim at full-scale introduction in glass melting furnaces**

We aim to realize our mission, Glass For Quality Life, by making use of our strengths, recognizing social issues as business opportunities, and solving such issues through products and production/development activities.







Your Dreams, Our Challenge

**END**

**Precaution on predictions:**

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