



AGC Inc.

IR Day 2024 <Day 2> Chemicals

June 4, 2024

Event Summary

[Company Name]	AGC Inc.	
[Company ID]	5201-QCODE	
[Event Language]	JPN	
[Event Type]	Analyst Meeting	
[Event Name]	IR Day 2024 <Day 2>	
[Date]	June 4, 2024	
[Venue]	Webcast	
[Number of Speakers]	2	
	Tatsuo Momii	Senior Executive Officer, President of Chemicals Company
	Chikako Ogawa	General Manager of Corporate Communications & Investor Relations Division

Presentation

Ogawa: Mr. Momii, President of the Chemicals Company, will explain the business strategy of the chemicals business. Mr. Momii, please go ahead.

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Momii: My name is Momii of the Chemicals Company. Thank you for your participation today.

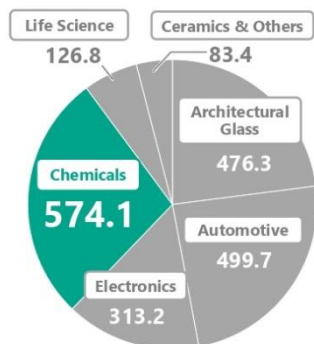
Today, I would like to explain the overview of our chemicals business and our business strategy as shown in the table of contents.

Business Scale of the Chemicals Business

- Composed of two sub-segments: Essential Chemicals and Performance Chemicals

2023 Net sales (Billion yen)

AGC Group 2,019.3 billion yen



Sub-segments and main business

Essential Chemicals (402.8 billion yen)

Business category	Major products	Main areas of demand
Chlor-alkali	Caustic soda, vinyl chloride resin etc.	<ul style="list-style-type: none"> Chemical fibers Paper/pulp Water pipes Electric wire Architecture etc.
Urethane	Polyols, polyurethane sealant materials etc.	<ul style="list-style-type: none"> Architecture Automotive Electronic equipment etc.

Performance Chemicals (166.9 billion yen)

Business category	Major products	Main areas of demand
Fluorochemicals*	Fluoropolymers, fluoropolymer films, fluorinated elastomers, fluoropolymer resin for coatings fluorinated gases and solvents, etc.	<ul style="list-style-type: none"> Transportation equipment Electronics Architecture Energy Aerospace Textiles/Paper Agriculture etc.
Specialty	Iodine and iodine-related products	<ul style="list-style-type: none"> Medical/Pharmaceutical Precision / Electrical equipment etc.

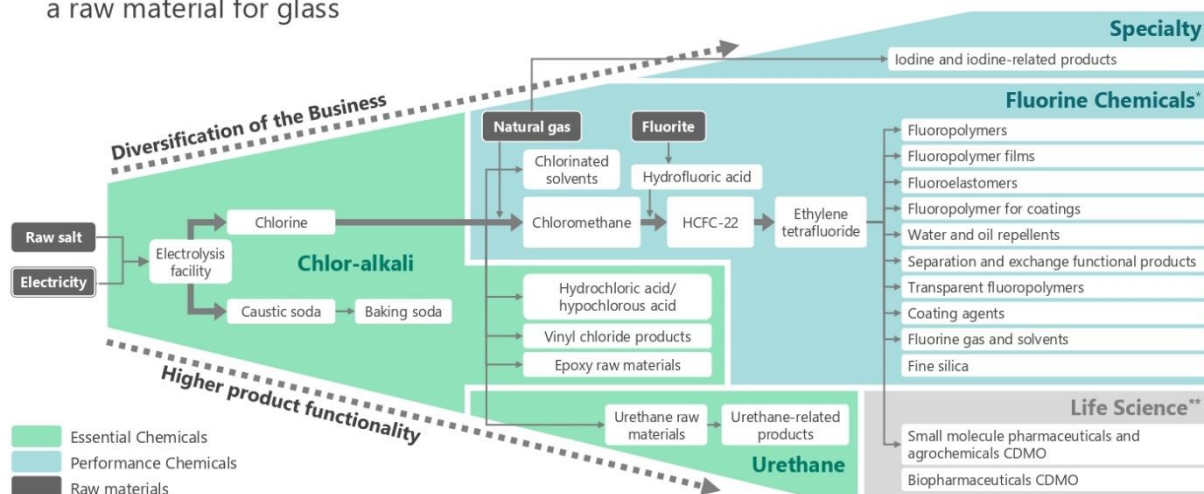
* Includes some products not made from fluorine

This is the business scale of the chemicals business.

In FY2023, sales amounted to JPY574.1 billion, or just under 30% of the AGC Group's total sales. Essential chemicals was JPY402.8 billion. Performance chemicals was JPY166.9 billion.

Product Flow in the Chemicals Business

- Unique chemical chain formed over the past 100 years, starting from production of soda ash, a raw material for glass



* Includes some products not made from fluorine ** Became a stand-alone segment after 2022

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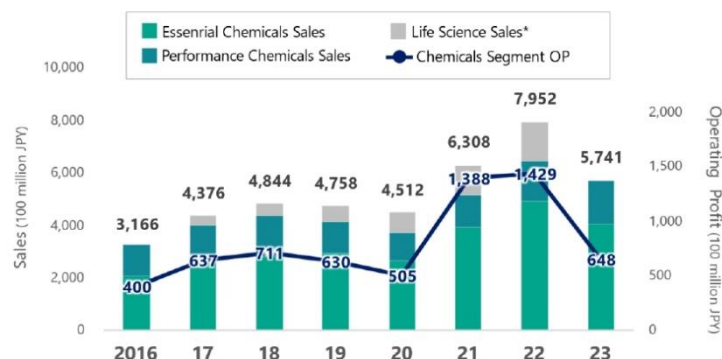
This is the product flow of the chemicals business.

Starting from the self-sufficiency of soda ash, which is a raw material of glass, this chemical chain has been formed over the subsequent approximately 100 years. With the electrolysis of salt water as the source of our business, we have developed our own chemical chain while diversifying our business and enhancing the functionality of our products.

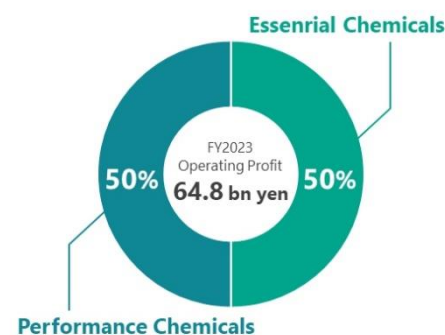
Chemicals Business Performance

- Although profits temporarily declined in FY2023 due to the slumping chlor-alkali market in Southeast Asia, both sub-segments steadily expanded their business scale through intensive investment.

Net sales and operating profit



FY2023 Breakdown of operating profit by sub-segment**



* Life Science is disclosed as a separate segment from 2023 ** Before common expense allocation

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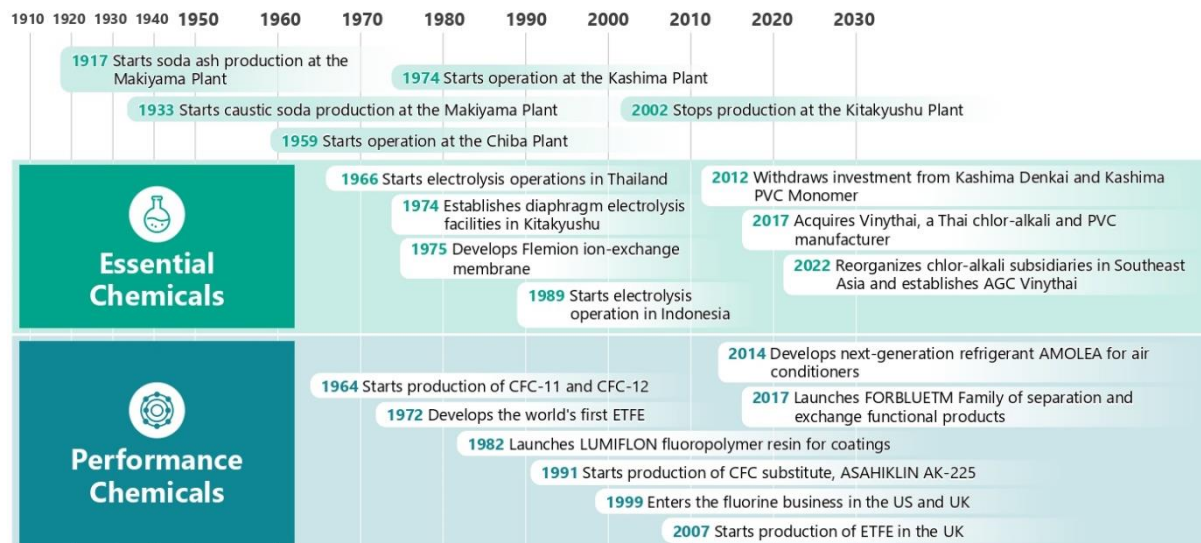
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This is the performance trend of the chemicals business.

Last year, 2023, ended with a decrease in profits after the boom in the chlor-alkali market that continued in 2021 and 2022. However, both the essential chemicals and performance chemicals segments have steadily expanded their business scale over the past decade.

The ratio of operating income between essential chemicals and performance chemicals was almost 50-50 last year.

History of the Chemicals Business



This is the history of the chemicals business.

Our chemicals business began in 1917 when we started production of soda ash, a raw material for glass, at our Kitakyushu Makiyama Plant.

Since then, essential chemicals has expanded its business axis in Southeast Asia, while performance chemicals has expanded its business by creating high-functional products one after another.

- Chlor-alkali products such as caustic soda, PVC, and epichlorohydrin hold the top shares in the growing Southeast Asia market
- Also expanding urethane-related products, such as polyols and modified silicone



* AGC estimate as of January 2024 (based on production capacity)

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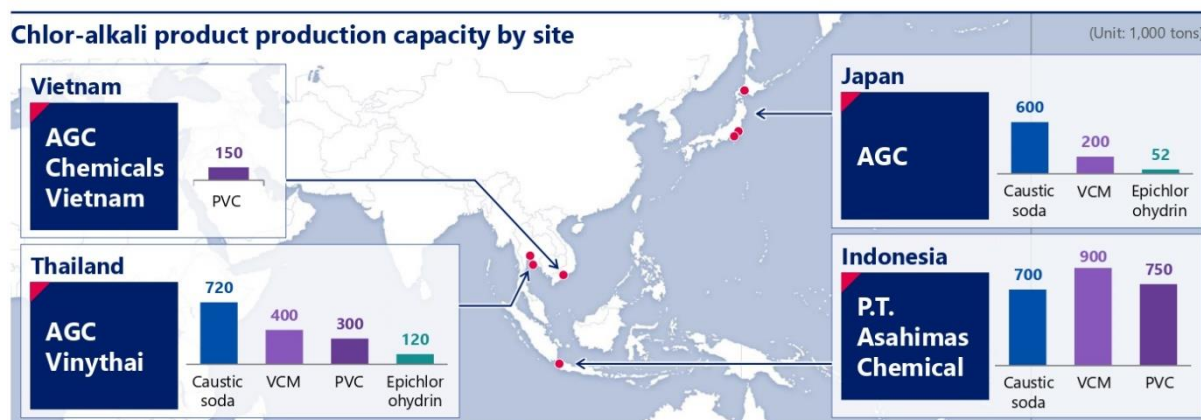
Now I will explain our business strategies for each sub-segment, essential chemicals and performance chemicals.

These are the main products of essential chemicals.

Chlor-alkali products, baking soda, and urethane-related products are the main products. In particular, we have the number one production capacity in Southeast Asia for caustic soda, PVC, and epichlorohydrin.

- Expanding business in Southeast Asia and Japan
- Expanding chlor-alkali business in the growing Southeast Asian market

Chlor-alkali product production capacity by site



Moving on to our regional development.

Essential chemicals operates in Japan and Asia. In particular, we are expanding our business by adopting a strategy of concentrating on the high-growth markets of Southeast Asia.

- Demand for caustic soda and PVC in Southeast Asia is growing at an average of about 4% a year
- Southeast Asia is projected to continue importing chlor-alkali products
- Large-scale projects for alumina, nickel, etc. are expected to boost demand for caustic soda
- Demand for PVC is expected to grow in tandem with GDP owing to infrastructure investment, etc.



* Source: S&P Global Market Intelligence

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This is the outlook for the supply/demand balance for major products in Southeast Asia.

Demand for caustic soda and for PVC in Southeast Asia is growing at an average annual rate of approximately 4% and is expected to continue to exceed the production capacity in the region, giving the region a so-called excess of imports. We expect this situation to continue for some time to come.

Therefore, in the essential chemicals business, we plan to grow the business by concentrating resources in Southeast Asia.



Vision

Contribute to the growth and development of the region by providing a stable supply of products to the growing Southeast Asian market

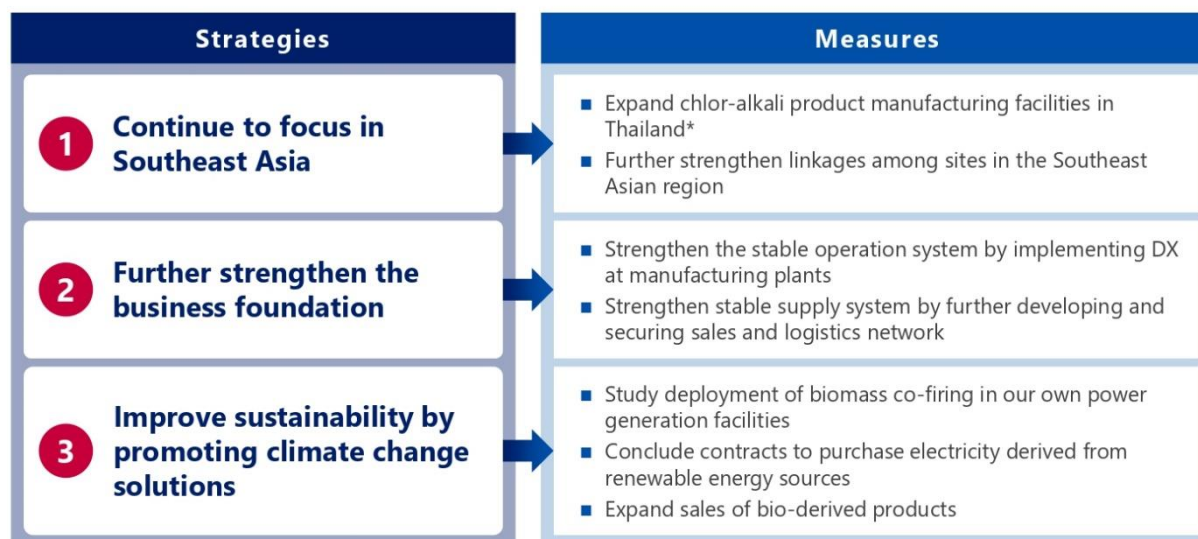


Strengths

- 1. High market share thanks to the largest production capacity in Southeast Asia**
- 2. Stable sales and supply capabilities through a solid sales and logistics network built over many years**
- 3. Stable production through advanced operational technology**

This slide shows our vision for the essential chemicals business and its strengths.

With the largest production capacity in Southeast Asia, a strong sales and distribution network backed by a long history, and stable production technology, we will continue to contribute to the region's growth and development via the growing Southeast Asian market. That is our aim.



* Related news release

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These are the strategies and measures we will take.

As part of our strategy to concentrate on Southeast Asia, we will complete the expansion of our chlor-alkali products manufacturing facilities in Thailand in 2025, next year. Based on the results, we will further strengthen cooperation among our three Southeast Asian bases.

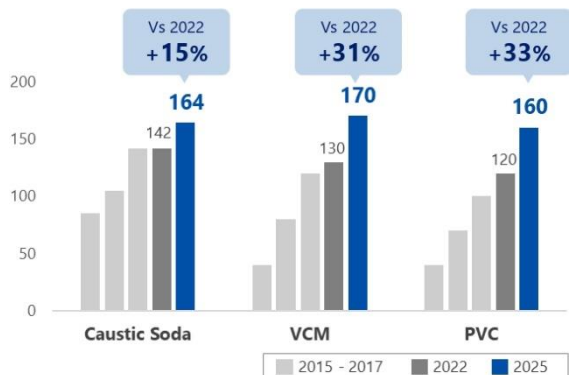
In addition, we will further strengthen our business base via digital transformation of our manufacturing plants and by further developing and securing our supply chain.

In terms of contributing to a sustainable society, we would like to take measures such as introducing biomass co-firing to our in-house power generation facilities in Indonesia and expanding sales of bio-based products.

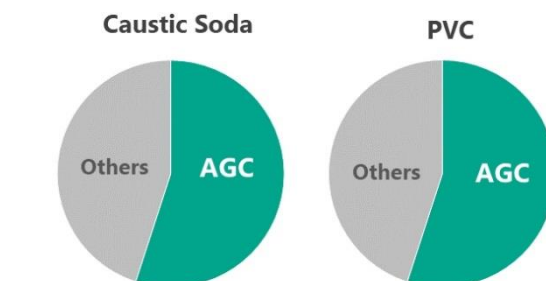
- The undergoing expansion of our plant in Thailand will further enhance AGC's position in Southeast Asia.

Chlor-alkali production capacity in Southeast Asia

(Unit: 10,000 tons)



Market share based on production capacity in Southeast Asia* (after expansion)




* Market share based on production capacity: Caustic soda does not include Australia/NZ in the region, PVC includes Australia/NZ in the region

This is the production capacity and market share of the essential chemicals business in Southeast Asia.

After the expansion of the chlor-alkali product manufacturing facilities in Thailand, the production capacity of each of caustic soda, vinyl chloride monomer, and vinyl chloride resin will all exceed 1.6 million tons. After the expansion, the share of caustic soda and vinyl chloride resin in terms of production capacity is expected to exceed 50%.

- Almost all the sales comes from Fluorinated products, many of which have top global market shares.
- Indispensable materials to realize a decarbonized and digital society

ETFE resin (Fluorinated resin) No. 1 Globally*  Main applications: Electric wires, tubes, lining and coating materials	ETFE film  Main applications: Releasing films for membrane structures and electronics	Fluorinated electrolyte polymer for fuel cells No. 1 Globally* 
Ion-exchange membrane for chlor-alkali electrolysis No. 1 Globally* 	Fluoropolymers for on-site coating No. 1 Globally* 	Fine silica  Main applications: Cosmetics, analytical equipment, electronic materials, coatings

* AGC estimates as of January 2024 (based on sales)

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From here, we move on to performance chemicals.

These are the main products of performance chemicals.

Performance chemicals consists mostly of fluorinated products, although some fine silica products are also included. Performance chemicals has many products that have the world's number one share in niche fields, such as fluorinated resin ETFE and fluorinated electrolyte polymer for fuel cells.

- About 60% of the demand is in the sectors of transportation equipment and architecture; where the products are mainly applied in electronics, automobiles, aircraft, etc.
- The remainder consists of diverse and specialized sectors



This shows our major demand sectors.

Performance chemicals' fluorinated products are in demand in diverse fields due to the unique characteristics of fluorine. The three fields of electronics, including semiconductors, transportation equipment, such as automobiles and aircraft, and construction account for approximately 60% of the total demand.



Vision

Contribute to the realization of a sustainable society and grow by further deepening and developing the technologies AGC has cultivated through addressing environmental and other social issues



Strengths

- 1. Global niche strategy aiming for No. 1 in specific markets with high profitability**
- 2. Global network of manufacturing, sales, and product development functions**
- 3. Ability to develop new products and technologies to meet the needs of cutting-edge fields**

This shows our vision for and the strengths of performance chemicals.

With our manufacturing, sales, and development functions operating on a global scale, we have the ability to quickly capture the most advanced needs of our customers. Our global-niche strategy of aiming for number one in specific markets is our strength, and we will grow our business while contributing to a sustainable society. Our goal is to realize this vision.

- As semiconductors become highly functional, the materials' specifications become more sophisticated. Growing demand for fluorinated products with special properties
- Developing new products and technologies to support even higher speed and capacity in telecommunications



* Graph created by AGC based on Gartner data. Gartner®, Semiconductors and Electronics Forecast Database, Worldwide, 3Q23 Update, Rajeev Rajput et al., 4 October 2023, Semiconductor Revenue by Electronic Equipment basis.
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** Related news release

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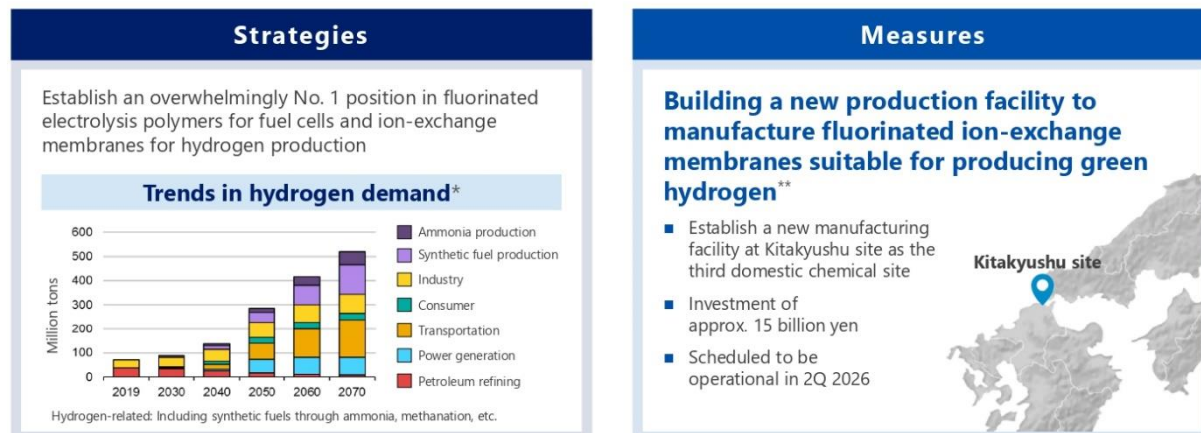
These are the strategies and measures we will take.

There are two areas that performance chemicals will focus on going forward. The first is the semiconductor field.

As semiconductors become more sophisticated, the specifications required for materials, such as heat resistance, chemical resistance, and electrical characteristics, are also becoming more sophisticated. Under such circumstances, the demand for fluorinated products with unique physical properties is expanding year by year.

In addition to expanding existing products, such as fluorinated resins and fluorinated rubbers used for semiconductor manufacturing equipment components, we plan to introduce new products with excellent electrical properties such as Fluon+, EA-2000, and fine silica for the upcoming high-speed, large-capacity communications.

- In anticipation of the coming hydrogen society, we will supply materials that demonstrate superior performance in the production of hydrogen producing water electrolysis devices and fuel cells that use hydrogen.



* Source: IEA Energy Technologies Perspectives 2020 ** Related news release

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The other field of focus is the hydrogen-related market.

The decision was made earlier this year to construct a new fluorinated ion-exchange membrane manufacturing facility at the Kitakyushu site. AGC plans to provide materials for the coming hydrogen-based society based on two pillars: ion-exchange membranes for water electrolysis devices for producing hydrogen, which is unique to AGC and that no other company can imitate, and electrolyte polymers for fuel cells that use hydrogen.

Performance Chemicals | Conceptual Image of Medium- to Long-term Earnings



- In addition to existing applications, we aim to capture cutting-edge needs and achieve sales of 300 billion yen or more by 2030

Performance Chemicals: Sales image

[Unit: 100 Million yen]

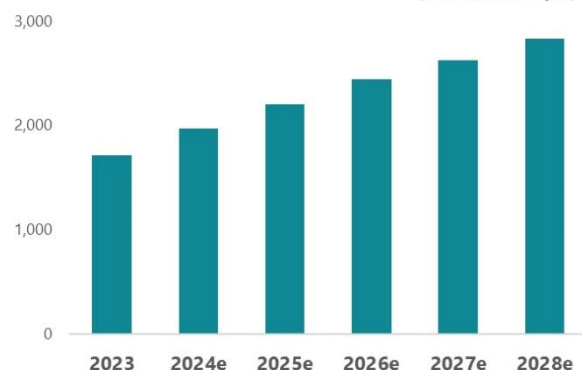
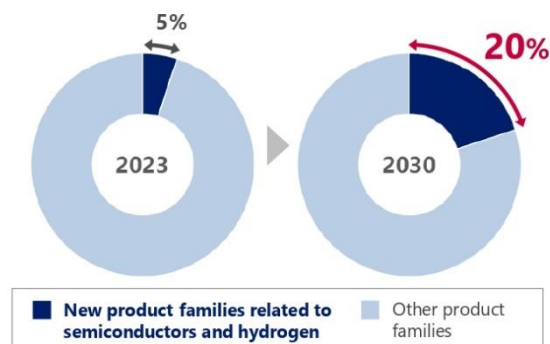


Image of sales ratio of new product families related to semiconductor and hydrogen



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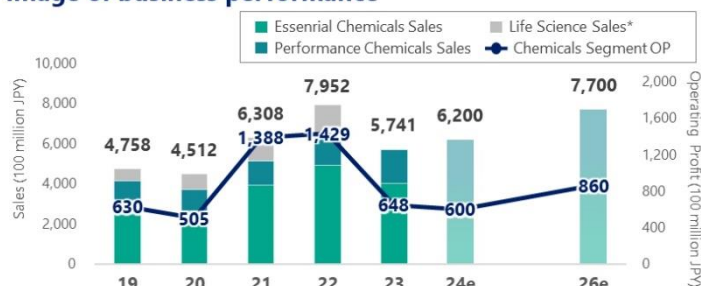
This is our image of the medium- to long-term performance of performance chemicals.

Currently, our focus field of semiconductors and hydrogen-related products account for about 5% of our sales, but we aim to increase this to 20% by 2030, with the goal of achieving sales on the scale of JPY300 billion by 2030.

Chemicals Segment Performance Targets

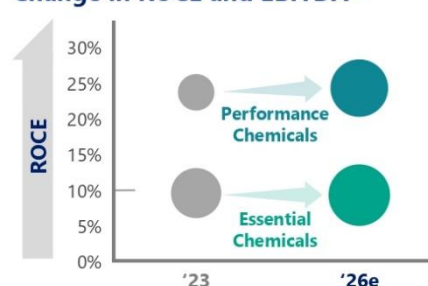
- Essential Chemicals will maintain its strategy to put focus in the growing market of Southeast Asia.
- Performance Chemicals will provide high-performance materials for electronics, including semiconductors, and environmental and energy fields. We will capture demand in global niche markets through the provision of further added value and business domain expansion.
- By 2026, realize operating income of 86 billion yen and maintain ROCE of about 10% in Essential Chemicals and more than 20% in Performance Chemicals

Image of business performance



* Life Science is disclosed as a separate segment from 2023 **Diameter of each circle : the size of EBITDA

Change in ROCE and EBITDA**



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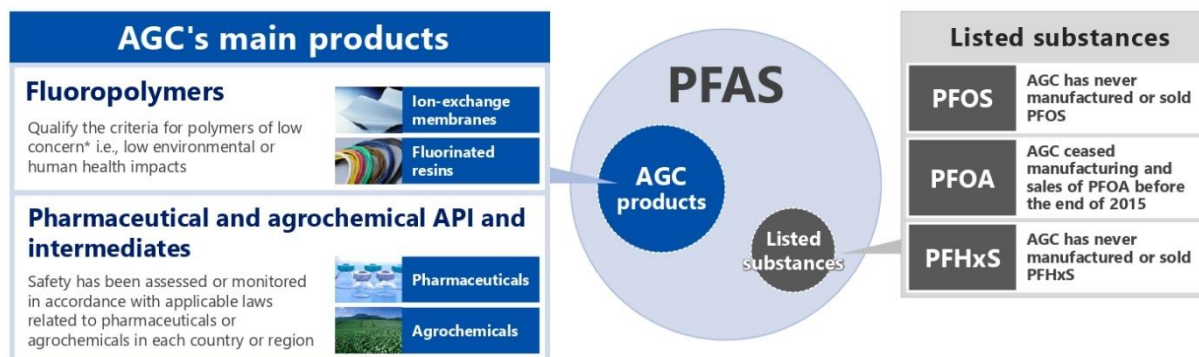
Next are the performance targets for Chemicals segment.

Essential chemicals will focus on Southeast Asia, while performance chemicals will find growth in the electronics, environment, and energy fields.

We expect operating income to be around JPY86 billion in 2026, while maintaining ROCE of around 10% for essential chemicals and more than 20% for performance chemicals.

PFAS and Regulations

- Of the PFAS (umbrella term for approximately 12,000 types of fluorine compounds), three substances are listed as Persistent Organic Pollutants under the Stockholm Convention, and AGC does not currently handle any of these listed substances.
- To fulfill its corporate social responsibility, AGC Group is working to minimize environmental impacts resulting from our business activities and contribute to resolving global environmental issues through our products, based on scientific evidence.



* B J Henry 2018 A Critical Review of the Application of Polymer of Low Concern and Regulatory Criteria to Fluoropolymers

Finally, I would like to briefly explain the current status of PFAS regulations, as they could be a very significant risk for the performance chemicals business.

First of all, draft PFAS regulations were released last February as a proposal for the European REACH regulation, but discussions are still ongoing, and the details of the regulations are not yet clear.

What AGC, which handles fluorinated products as its business, can say at this point is that almost all of our Performance Chemicals products are included in PFAS, which is a generic term for fluorine compounds, but that AGC has already completely eliminated or has no record of manufacturing and selling PFOS, PFOA, and PFHxS, which have already been designated as controlled substances under the law.

In order to fulfill its social responsibility, the AGC Group is committed to minimizing the environmental impact of its business activities and resolving environmental burdens.

Regulatory trends in Europe

- The expert committees of the European Chemicals Agency (ECHA) is currently reviewing the proposal of the universal PFAS restriction.
- The ECHA's review process is taking time due to the significant number of public comments received, and the timing of the second public consultation and the time frame for the subsequent regulatory process is currently unclear.
- AGC Group has submitted our public comments for the 1st public consultation.

Review process of the proposal of the universal PFAS regulation in Europe

- (1) After two rounds of public consultation by ECHA, the expert committee submits their final opinion
- (2) The European Commission prepares a draft regulation referring the final opinion submitted, and the REACH Committee, consisting of member states, deliberates on and adopts the draft.
- (3) The adopted legislation enters into force after being scrutinized by the European Parliament and Council



As for the latest development of the proposed PFAS regulations, ECHA has received more public comments than expected on the draft regulations, and it has taken some time to consider the proposed regulatory amendments. At this point, there is no clear timeline as to when we will move to the next step, which is the discussion phase at the European Commission.

This concludes my explanation.

Ogawa: Thank you very much, Mr. Momii.

[END]