

Creating a Better Future Through *Monozukuri*



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# Integrated Report 2023

Central Glass Co., Ltd.

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### Basic Philosophy

# “Creating a Better Future Through *Monozukuri*\*”

The Central Glass Group will contribute to the establishment of a truly prosperous society through the spirit of *Monozukuri*.

\* *Monozukuri* refers to all the business activities in which the Central Glass Group engages with a basic stance of integrity and sincerity, including R&D, quality-oriented manufacturing, and sales.

### Basic Policies

- Create new value through innovative technologies.
- Strive toward harmony with the environment while contributing to the realization of a sustainable society.
- Endeavor to increase corporate value with global growth as our driving force.
- Aim to be a vibrant enterprise with a pioneering spirit and respect for diversity.

#### Code of Conduct

1. Take responsibility for one's own actions, and engage in honest corporate activities.
2. Place our highest priority on the quality and safety of our products and continue to meet our customers' needs.
3. Refine one's awareness, and constantly pursue original ideas and technologies.
4. Achieve the establishment of a society in which all people can live in comfort and good health, and protect the global environment.
5. Create products that satisfy customers all over the world by learning about different cultures and customs.
6. Respect the diversity of every individual, and never cease to embrace the challenges of the future.

## Concept of Our Initiatives Toward Sustainability Based on Corporate Philosophy

Based on the Basic Philosophy, the Central Glass Group has made efforts to solve environmental and social issues through the spirit of *Monozukuri*, and developed various businesses with the aim of contributing to the establishment of a truly prosperous society.

Believing that this Basic Philosophy is the very essence of what sustainability means, we will continue to tackle environmental and social issues more seriously than before, and take on challenges toward the realization of a sustainable society as an R&D-oriented type company.

Central Glass Co., Ltd. aims to improve enterprise value from a long-range viewpoint through business activities while taking the global environment, society and economy into consideration.

### Editorial Policy

We created the Integrated Report by integrating the CSR Report and the Annual Report from this year in order to convey our Group's medium- to long-term value creation in a more clarifying manner. This report consists primarily of materiality, our value creation process and financial information, in addition to our business outline, as well as information on E (Environment), S (Society) and G (Governance).

We will continue to work on the improvement of the content of the report so that it will serve as a useful communication tool for our stakeholders to understand our Group's activities.

### Report Period

This report covers the period from April 1, 2022 to March 31, 2023, including activities before and after the relevant period as necessary.

### Scope of the Report

The scope of the report basically includes Central Glass Co., Ltd. and all consolidated subsidiary companies.

### Notes Concerning Future Prospects

This report includes statements on expectations and prospects regarding strategies and achievements, and plans for the future.

Actual achievements can be different from these expectations and prospects due to various factors.

### [Reference Guidelines]

- The International Integrated Reporting Framework by the International Financial Reporting Standards (IFRS) Foundation
- The Guidance for Collaborative Value Creation 2.0 by the Ministry of Economy, Trade and Industry
- The following was referred to identify materiality: The Global Reporting Initiative (GRI) Standards

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# History of the Central Glass Group

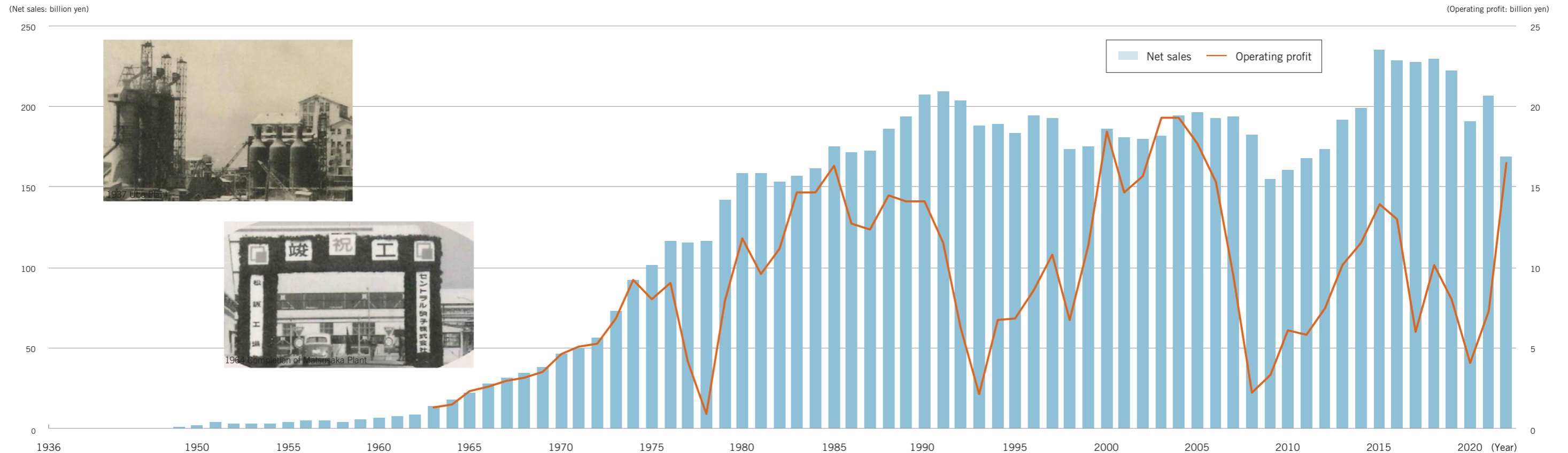
After starting with manufacturing of soda products, we launched the Fertilizers business, Glass business and Glass Fiber business, and since 1980s, we have further advanced our business into the field of fine chemicals, which is now our key area. While integrating our basic materials and technology to put out a wide variety of products into the world multidirectionally, we have adapted ourselves to the changing business environment, and flexibly worked on the transformation and re-structuring of our business portfolio such as by withdrawing from the soda business, our founding business. Moving forward, considering the needs of the times, we will contribute to solving social and environmental issues through business activities while utilizing our accumulated know-how.



Electronic Materials Research Center Taiwan



Fundamental Chemical Research Center and New-STEP Research Center



\* Results until 1982 are provided by the non-consolidated result, and those from 1983 by the consolidated result.

## Social Trends

World War II

High Economic Growth Period

First Oil Crisis

Second Oil Crisis

Plaza Accord

Bubble Collapse

Collapse of Lehman Brothers

COVID-19 Pandemic

### From 1936

Established as Ube Soda Industry Co., Ltd. in Ube City, Yamaguchi.

### 1936

Amid the increasing demand for the industrialization of chemical products in the country, Ube Soda Industry Co., Ltd., the predecessor of our Company, was established to start the soda business with regional development in mind. The company worked on the production of soda ash used as the raw materials of glass, soap and detergent, and organic-inorganic chemical products used as basic materials in various industries.

### From 1950

Launched the fertilizers and glass business and altered its corporate name.

### 1953

Launched the fertilizers business by using ammonium chloride generated as a result of the conversion of the soda ash manufacturing process.

### 1958

Launched the flat glass business using soda ash as a raw material. Constructed plants in Sakai City, Osaka, and Matsusaka City, Mie Prefecture.

### 1963

Altered its corporate name to Central Glass Co., Ltd.

### From 1970

Expanded the range of chemical products and launched glass fiber business.

### 1971

Launched the continuous glass fiber business.

### From 1974

Constructed a production plant for anhydrous hydrofluoric acid using a rotary kiln at Ube Plant and expanded the production of fluorinated chemical products and the hydrofluoric acid business.

### From 1980

Expanded into the fine chemicals business by utilizing its fluorination technology.

### From 1980

Aimed at the development and commercialization of products by giving added value to hydrofluoric acid amid the increased global attention on the functionality of fluorine compounds. Constructed a multi-plant, etc. for organic fluorine compounds successively at the Ube Plant, and completed the foundation of the fine chemicals business. Established a joint venture company for the automotive glass in the U.S.

### 1990

Started selling inhalation anesthesia using active pharmaceutical ingredients made by our Company. Greatly contributed to the enhancement of business performance.

### From 2000

Withdrawal of operations and growth in the chemicals business. Structural improvement of the Glass business.

### Chemicals Business

**Business that withdrew from its operation** 2003: PVC business  
2006: Caustic Soda business  
2018: Calcium Chloride and Soda Ash business

**Growing Business** Electronic materials for semiconductors, electrolytes for lithium-ion batteries, etc.

### Glass Business

**Structural Improvement** 2021: Abolished or merged domestic glass business bases.  
2022: Withdrew from the overseas glass business.  
2023: Integrated the Automotive and Architectural glass businesses and made an independent new company.



## To All of Our Stakeholders

Tadashi Shimizu  
Representative Director, Chairman



### Top Message

**We will address solutions of various social issues as an R&D-oriented company.**

Kazuhiko Maeda  
Representative Director, President & CEO

Central Glass, as our Corporate Philosophy shows, contributes to the establishment of a truly prosperous society through the spirit of *Monozukuri*. A truly prosperous society that I have in mind is not a society that only pursues near-term affluence and convenience, but a sustainable society that aims to solve various environmental and social issues, in addition to pursuing prosperity. Central Glass will further promote initiatives toward the sustainable society.

Currently, amid the pressing issue of global warming that cannot be procrastinated, we will contribute to solving the issue through the research and development of products to become solutions such as electrolytes for lithium-ion batteries and their commercialization.

Also, we have steadily advanced measures to reduce CO<sub>2</sub>

emissions from our Company itself. As part of the structural reform of the Glass business carried out two years ago, we reduced the number of furnaces by half, and decreased our CO<sub>2</sub> emissions significantly.

At the same time, through facing up to various issues that need to be addressed for society including one related to Diversity & Inclusion, we aim to realize a work environment with a good work-life balance in which all employees can work more comfortably.

Furthermore, while pursuing efficient and rational management, we have established a solid compliance structure to promote the enhancement of corporate governance.

Central Glass aims to make ourselves a sustainable company through these initiatives, and further improve our corporate value through contributing to society.

### Resolution at the Appointment of the New President and My Vision Toward a “Specialty Materials Company”

Central Glass was founded in 1936 as a chemical manufacturer to manufacture and sell soda products. Then, we began producing fertilizers based on ammonium chloride produced along with the soda products, and launched into the Glass business, using soda ash as a raw material, and then into the Glass Fiber business. Since the 1980s, we have expanded our business into the field of fine chemicals, our current core business, in which our fluorination technology is applied.

Recently, however, as the Glass business fell into stagnation due to change in its business environment, we took decisive actions including the transfer of our Automotive glass business in Europe and the United States and the

fundamental structural reform of our domestic architectural glass business, in an effort to restore profitability. In addition, after integrating our domestic Architectural glass and Automotive glass businesses, we made a fresh start as Central Glass Products Co., Ltd. in April 2023.

In June 2023, when the Company was standing at the turning point, I took the position of Representative Director and President. Feeling tense with the weighty responsibility of taking over the history up until the present, I have reaffirmed my determination to pave a way toward the future for the Company.

Central Glass, which has the Basic Philosophy of “Creating a Better Future Through *Monozukuri*,” aims to contribute to the establishment of a truly prosperous society through the spirit of *Monozukuri*. We have also clarified our intention of growing as an R&D-oriented company through the ongoing Medium-Term Management Plan (from FY2022 to FY2024).

After joining Central Glass as a researcher in the field of chemicals, I myself have built my career mainly in the sales and planning department. During that time, I have led the expansion of businesses related to electronic materials for semiconductors and electrolytes for electric vehicle (EV) batteries through launching new businesses in the field of fine chemicals and establishing overseas affiliates.

Regarding the future corporate management, I will continue to move forward with our businesses to realize our Corporate Philosophy with my long experience in *Monozukuri*. First of all, we will endeavor to further develop our business through enhancing our research and development, particularly by addressing the full-grown three core pillars of chemicals (anesthetic agents, semiconductor materials and electrolytes).

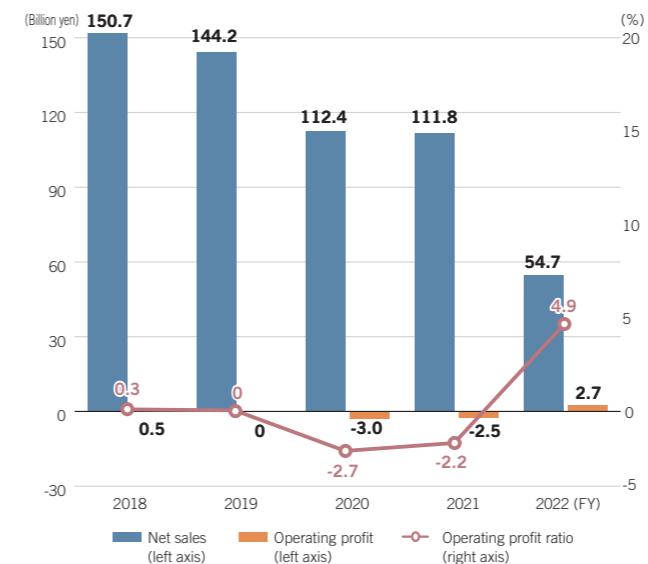
As our vision for the future, we should set a target of transforming the Company into a “Specialty Materials Company” by 2030 based on the idea of materials including glass. The role of the ongoing Medium-Term Management Plan is to build a solid foundation for the next Medium-Term Management Plan (from FY2025 to FY2027), which will serve as a step toward the realization of a Specialty Materials Company, and we are working with our utmost energy toward achieving the goal.

### Securing of a Profit Margin of 5% by the Glass Business for the First Time in 19 Years, and Steady Growth of the Chemicals Business

Looking back on the business environment of FY2022, we can see that there continued to be growing uncertainty about the world economy due to various factors including the soaring raw material and fuel prices due to the prolonged invasion of Ukraine by Russia and the effect of economic sanctions on Russia, concerns over U.S.-China conflict and the Taiwan issue, and the financial system instability caused by a tightening of monetary policy taken against the inflation pressure in European countries and the U.S. In Japan, the movement restrictions due to the COVID-19 pandemic were beginning to be relaxed and the economy started to show mild improvement with the recovery of economic activities and improvement in employment. On the other hand, the domestic economy still found itself in an unstable situation with a rapid depreciation of yen, soaring raw material and fuel prices, and a continuous increase in consumer prices.

Under such circumstances, the sales of the Glass business declined to half compared with the previous fiscal year because of the rearrangement of sales and production

### Glass Business



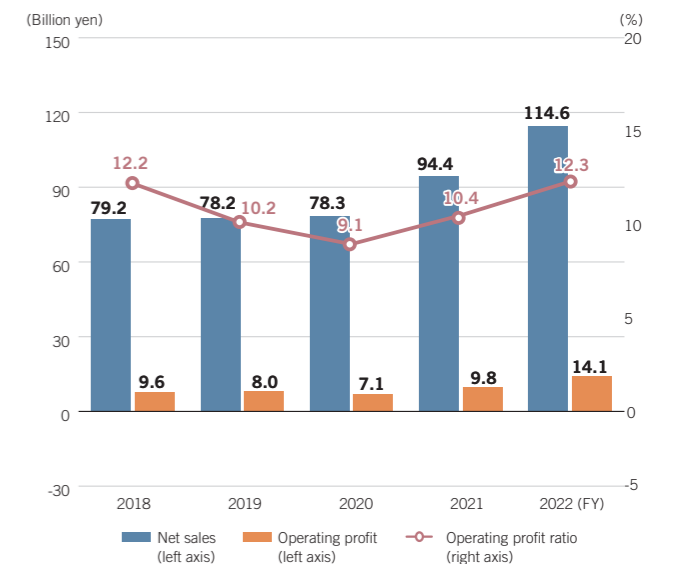
bases and the revision of product prices due to soaring raw material and fuel prices; however, the operating profit improved by 5.2 billion yen, resulting in securing an operating profit ratio of 5% for the first time in 19 years.

Regarding the Chemicals business, sales in the semiconductor market slowed down compared with those of the previous fiscal year, when electronic materials sold well, partly due to inventory adjustments by users, which resulted in a decrease in sales. On the other hand, the sales in the energy material business exceeded those in the previous fiscal year, thanks to the EV market growth followed by the rapid expansion of the sales of electrolytes for lithium-ion batteries. In the electrolyte market, where raw material prices and selling prices tend to fluctuate dramatically, the Central Glass Group has established production bases including joint venture companies in Japan, Asia and Europe to create a global supply chain, which enabled stable raw material procurement and in-house production of additives, key materials, leading to the securing of profits. In the field of applied material chemicals, we increased sales by expanding the sales of next-generation blowing agents, products made from hydrofluoroolefins (HFOs) as well as by revising prices of various products.

As a result, the sales of the Chemicals business greatly exceeded those of the previous fiscal year, with its operating profit reaching approximately 14 billion yen, with which the overall operating profit target for the final year (FY2024) of the Medium-Term Management Plan was almost achieved.

In terms of priority areas to be addressed in the future, in the Glass business, we will proceed with discussion and consideration on measures to continuously and stably secure the profit that turned positive by the structural reform as well as future investment policies on a company-wide basis. As for the Glass Fiber business, we will focus our efforts on securing profit by promoting a shift to high value-added products.

### Chemicals Business



Regarding the Chemicals business, as mentioned earlier, we will continue to grow the three core pillars of semiconductor materials, electrolytes for lithium-ion batteries, and fluorine-based general anesthetic Sevoflurane, in order to steadily make profits. As for the Fertilizers business, there are concerns about the environmental burden from coating agents used in a coated fertilizer, Cera-coatR, designed to contribute to the streamlining of agricultural work. In response to this, we will promote the research and development of environment-friendly materials and the commercialization of new fertilizers.

### Research and Development Efforts in the Fields Expected to Develop in the Future

We are promoting research and development of new products based on the recognition that the business fields that we can expect in the future are semiconductors, energy, and life sciences not just for our group but for Japan as a whole.

In the field of semiconductors, we are working on the commercialization of materials for next-generation power semiconductors, silicon carbide (SiC) wafers, contributing to the performance increase of rapidly spreading EVs. As SiC power semiconductors can significantly reduce energy loss that occurs at the time of power conversion, we are presently working on their development with a view to establishing a technology to mass produce 6-inch ingots using the solution growth method. As our program to develop 8-inch ingots, ones with a wider diameter, has been adopted as one of the Green Innovation Fund Projects of the New Energy and Industrial Technology Development Organization (NEDO), we will advance their development while making good use of a subsidy.

In the energy material field, we are working on research and development of sodium ion batteries. Since lithium for lithium-ion batteries, which are now the mainstream of batteries





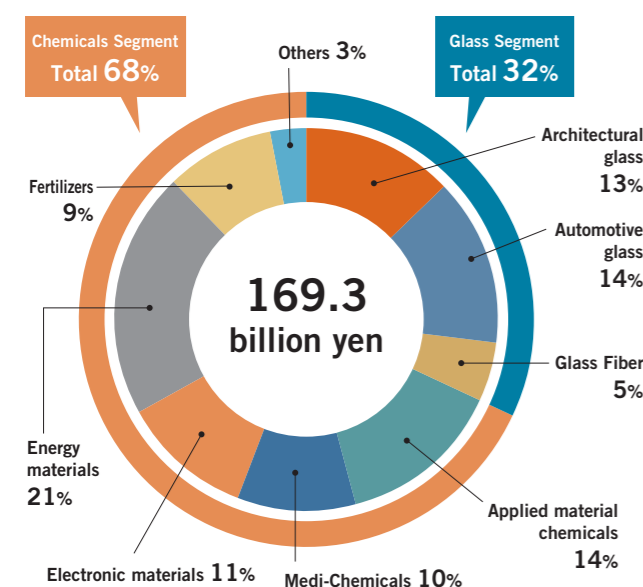
for EVs, is one of the rare metals, there is a concern that its supply conditions might become tight with the widespread of EVs. Accordingly, some companies are working toward the practical use of sodium ion batteries, low-cost ones using earth-abundant sodium, which can be used as a substitute for lithium. Having worked on the research and development of sodium ion batteries for years, we have patents related to materials for such batteries, and also have a plan to have our joint venture companies in China produce and supply sodium hexafluorophosphate serving as main material for electrolytes.

Moreover, regarding the life science business, we will reevaluate conventional pharmaceutical products, and will newly launch new business projects.

### Contributing to Solving Social Issues through Initiatives toward Sustainability and *Monozukuri*

Based on the Basic Philosophy of “Creating a Better Future

#### Consolidated Sales Composition Ratio



Through *Monozukuri*,” the Central Glass Group has developed various businesses with the aim of contributing to the establishment of a truly prosperous society, while making efforts to solve environmental and social issues through the spirit of *Monozukuri*. Believing that this is the very essence of what sustainability means, we will continue to tackle global environmental issues and various social issues seriously, and work on the realization of a sustainable society as an R&D-oriented company, aiming to improve our corporate value.

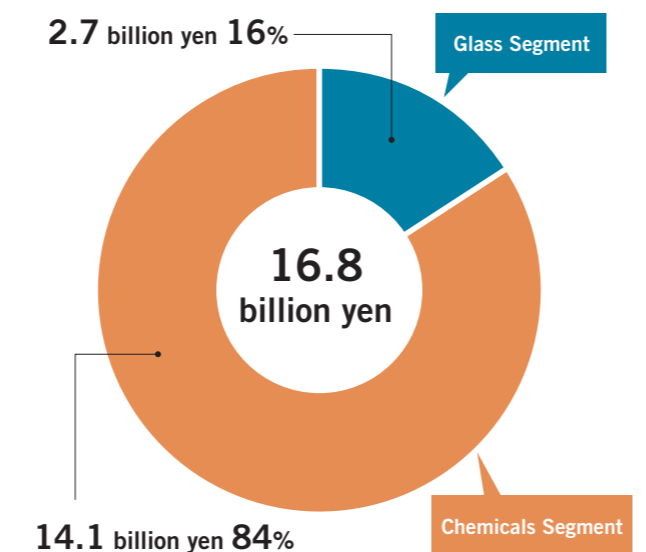
As a means of developing a structure to address sustainability, we established the Sustainability Committee, which comprehensively grasps, analyzes and evaluates measures and promotion activities for sustainability, and make a report and a recommendation to the Board of Directors as necessary.

In addition, after identifying materiality that emphasizes sustainability, we established priority issues for 11 items in three areas as well as KPIs for initiatives to tackle them, and then we positioned the provision and development of products that solve social issues as the most important initiatives among them. Considering that many of our businesses leverage the strength of fluorine chemistry, we will contribute to solving social issues by means of fluorine chemicals.

One of the examples is electrolyte for lithium-ion batteries. We also declare in our Basic Policies that we will provide products that are friendly to society and the environment to support various industries, such as by developing hydrofluoroolefin-based foaming agents and solvents whose global warming potential (GWP) is close to one, as well as by promoting a shift from existing high-performance semiconductors with high GWP to products with low GWP.

On the other hand, regarding our attitude toward human capital, we have a systematic educational program to support the growth and self-realization of individual employees

#### Consolidated Operating Profit



while making good use of our corporate culture characterized by “amenableness and earnestness” based on the human resources development policy. Our Career Creation Center takes a lead in promoting this program while updating the content of the general education, the *Monozukuri* education and the career development education every year. As a personnel strategy, with a slogan of “Securing of the Four Things (securing of acceptability, securing of a place to stay, securing of equity, and securing of fairness),” while providing the opportunities and environments, we will contribute to the creation of human resources and corporate culture that always brings smile to all group members’ faces, and promote psychological safety at work.

### Efforts to Improve Our Corporate Value for the Stakeholders

Central Glass has allocated a certain portion of the total investment for improvement in the profitability of existing businesses. However, now that the fundamental structural reform of the Glass business is almost done and we find ourselves in a situation that we can make profits, we

will clarify our intention to allocate investments to growth areas that will bring an improvement in our corporate value based on a solid growth strategy as well as to return the obtained profits to our stakeholders.

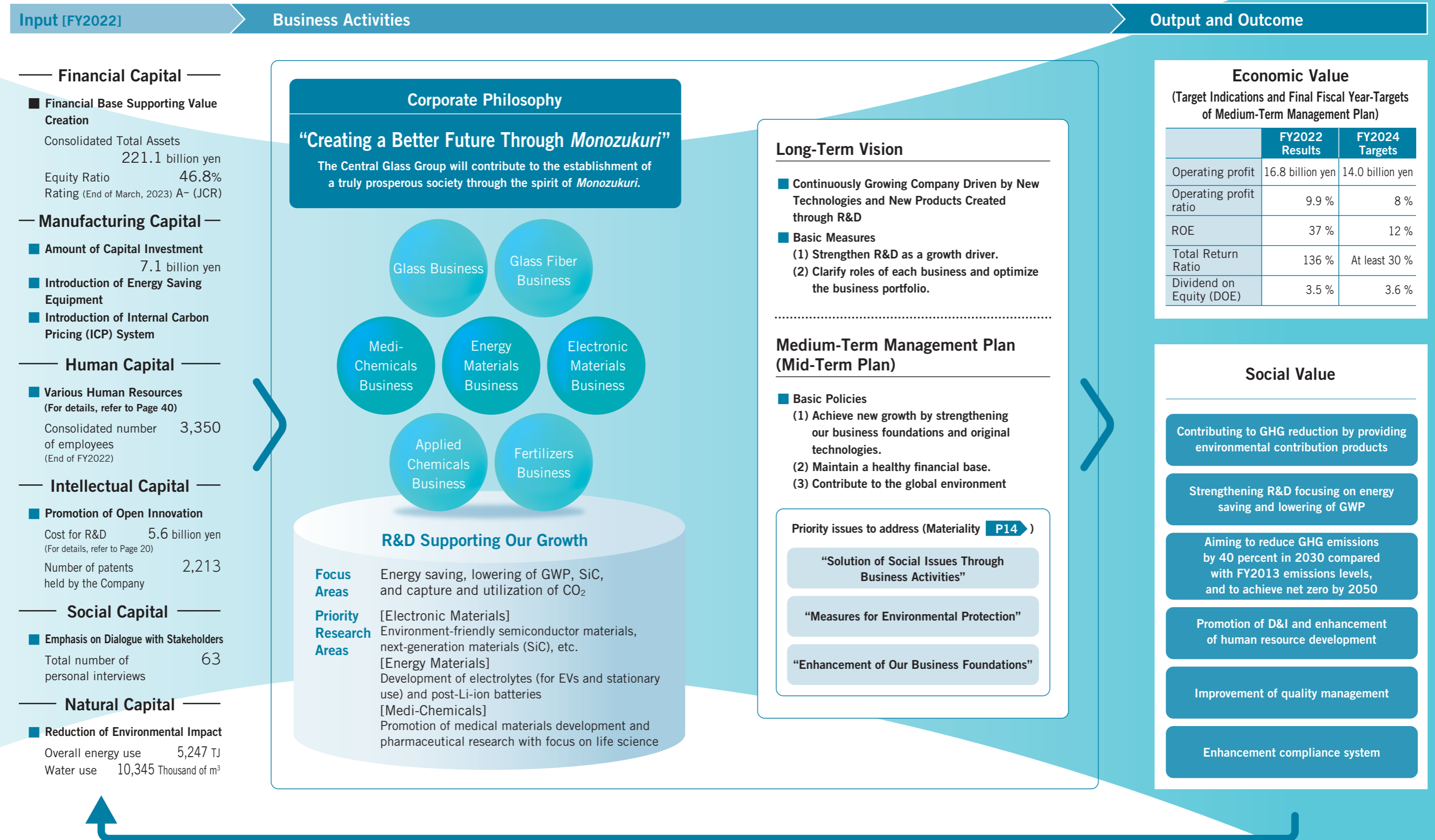
From my personal perspective, I find the present target of the total return ratio of 30% is somewhat low as a target of a company making profits with high-valued added businesses. We have maintained this level by restructuring our businesses while securing stable dividends; however, once making sure of reaching a situation that allows us to stably and continually make profits, we will pursue the idea of increasing the return ratio.

We would like to continue to make concerted efforts company-wide to go forward step-by-step as the newly born Central Glass Group under the key phrase of “Creation and Challenge.” Aiming at transforming ourselves into a “Specialty Materials Company” by 2030, we will unitedly apply ourselves to the accomplishment of the ongoing Medium-Term Management Plan, and lay groundwork for the next Medium-Term Management Plan.

We sincerely ask our stakeholders for continued support and would like you to look forward to the development of Central Glass Group.

# Central Glass Group Value Creation Process

We will contribute to the realization of a sustainable society through our business activities as an R&D-oriented company under the slogan of “Creation and Challenge”.



## Input [FY2022]

### Financial Capital

■ **Financial Base Supporting Value Creation**  
 Consolidated Total Assets 221.1 billion yen  
 Equity Ratio 46.8%  
 Rating (End of March, 2023) A- (JCR)

### Manufacturing Capital

■ **Amount of Capital Investment** 7.1 billion yen  
 ■ **Introduction of Energy Saving Equipment**  
 ■ **Introduction of Internal Carbon Pricing (ICP) System**

### Human Capital

■ **Various Human Resources** (For details, refer to Page 40)  
 Consolidated number of employees 3,350 (End of FY2022)

### Intellectual Capital

■ **Promotion of Open Innovation**  
 Cost for R&D 5.6 billion yen (For details, refer to Page 20)  
 Number of patents held by the Company 2,213

### Social Capital

■ **Emphasis on Dialogue with Stakeholders**  
 Total number of personal interviews 63

### Natural Capital

■ **Reduction of Environmental Impact**  
 Overall energy use 5,247 TJ  
 Water use 10,345 Thousand of m<sup>3</sup>

## Business Activities

**Corporate Philosophy**  
**“Creating a Better Future Through *Monozukuri*”**  
 The Central Glass Group will contribute to the establishment of a truly prosperous society through the spirit of *Monozukuri*.



**R&D Supporting Our Growth**

**Focus Areas** Energy saving, lowering of GWP, SiC, and capture and utilization of CO<sub>2</sub>

**Priority Research Areas**  
 [Electronic Materials] Environment-friendly semiconductor materials, next-generation materials (SiC), etc.  
 [Energy Materials] Development of electrolytes (for EVs and stationary use) and post-Li-ion batteries  
 [Medi-Chemicals] Promotion of medical materials development and pharmaceutical research with focus on life science

### Long-Term Vision

- **Continuously Growing Company Driven by New Technologies and New Products Created through R&D**
- **Basic Measures**
  - (1) Strengthen R&D as a growth driver.
  - (2) Clarify roles of each business and optimize the business portfolio.

### Medium-Term Management Plan (Mid-Term Plan)

- **Basic Policies**
  - (1) Achieve new growth by strengthening our business foundations and original technologies.
  - (2) Maintain a healthy financial base.
  - (3) Contribute to the global environment

#### Priority issues to address (Materiality P14)

- “Solution of Social Issues Through Business Activities”
- “Measures for Environmental Protection”
- “Enhancement of Our Business Foundations”

## Output and Outcome

### Economic Value

(Target Indications and Final Fiscal Year-Targets of Medium-Term Management Plan)

	FY2022 Results	FY2024 Targets
Operating profit	16.8 billion yen	14.0 billion yen
Operating profit ratio	9.9 %	8 %
ROE	37 %	12 %
Total Return Ratio	136 %	At least 30 %
Dividend on Equity (DOE)	3.5 %	3.6 %

### Social Value

- Contributing to GHG reduction by providing environmental contribution products
- Strengthening R&D focusing on energy saving and lowering of GWP
- Aiming to reduce GHG emissions by 40 percent in 2030 compared with FY2013 emissions levels, and to achieve net zero by 2050
- Promotion of D&I and enhancement of human resource development
- Improvement of quality management
- Enhancement compliance system

# Materiality

## Materiality

### (1) Materiality-Identifying Process

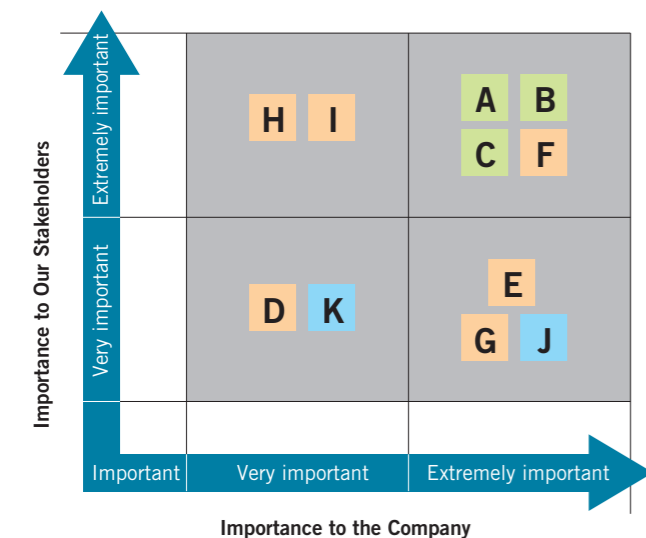
By taking the following process, we evaluate risks and opportunities in terms of both importance to our Company and importance to our stakeholders to identify Materiality and KPIs.

Step 1	Select candidate issues based on the international guidelines (GRI and ISO26000) and the investigation content from the Sustainability Committee while considering requests from society.
Step 2	Comprehensively evaluate such issues at the Sustainability Committee from the two viewpoints of importance to our Company and importance to our stakeholders, and formulate a tentative plan.
Step 3	Clarify their relationships with the management policies, the Midterm Plan, etc. and discuss them at the Board of Directors to identify priority issues.

### (2) Materiality Matrix

After taking this identifying process, we have identified on priority issues for eleven items in three areas as well as KPIs for initiatives to tackle them. In particular, considering relationships with the business, “**Solution of Social Issues Through Business Activities: Provision and Development of Products that Solve Social Issues**” is positioned as a top-priority issue.

#### Materiality Matrix



Fields	Materiality
I Solution of Social Issues Through Business Activities	[Environment] A. Provision and Development of Products that Solve Social Issues
II Measures for Environmental Protection	B. Measures for Climate Change C. Improvement of Energy Use Efficiency
III Enhancement of Business Foundations	[Society] D. Diversity & Inclusion E. Enhancement of Human Resource Development F. Improvement of Quality Management G. Promotion of Industrial Health and Safety, and Security and Disaster Prevention H. Enhancement of Supply Chain Management I. Respect for Human Rights
	[Governance] J. Enhancement of Compliance System K. Enhancement of Corporate Governance

## KPI

Fields	Materiality (ESG)	Initiatives/Key Performance Indicators (KPIs)	FY2022 Results	FY2023 Targets	FY2024 Targets (final fiscal year of medium-term)
I Solution of Social Issues Through Business Activities	[Environment] A. Provision and Development of Products that Solve Social Issues	Provision and expansion of environmental contribution products [Chemicals Business Department] (Total sales of low-GWP and energy-saving products)	78.5 billion yen	84.0 billion yen	100.0 billion yen
		Provision and expansion of environmental contribution products [Glass Business Department] Sales volume ratio of eco-glass and heat-insulation automotive glass compared with FY2021	98%	126%	156%
		Provision and expansion of coated fertilizers contributing to food issues [Fertilizers Business Department] (contributing to the expansion of yield amount and energy saving)	Provision and expansion of coated fertilizers contributing to food issues [Fertilizers Business Department] (contributing to the expansion of yield amount and energy saving)		
		Enhancement of R&D capability (Focus areas: Energy saving, lowering of GWP, SiC, capture and utilization of CO <sub>2</sub> , and PFAS response)	<ul style="list-style-type: none"> <li>Electronic materials area: Environment-friendly semiconductor materials and next-generation materials (SiC)</li> <li>Battery Materials: Electrolyte (EV and stationary) and Post-Li-ion battery development</li> <li>★ Promote medical materials development and pharmaceutical research with focus on life science as a next-growth area</li> </ul>		
II Measures for Environmental Protection	B. Measures for Climate Change Issues	Reduction of GHG Emissions (Scope 1 and 2)	33.2 ten thousand tons CO <sub>2</sub> (370 thousand tons CO <sub>2</sub> )*1	36.0 ten thousand tons CO <sub>2</sub>	35.0 ten thousand tons CO <sub>2</sub>
		*1 In FY2022, withdrawal from the automotive glass businesses in United States and Europe and the operational suspension of some of the domestic glass melting furnaces led to significant reduction. Short-term reduction goals for 2023 and 2024 were determined based on the emissions of FY2022 (370 thousand tons CO <sub>2</sub> ), which excluded special factors such as the large-scale periodic repair work conducted in the same year.			
		GHG avoided emissions by providing environmental contribution products*2	5.3 million tons CO <sub>2</sub>	6.0 million tons CO <sub>2</sub>	6.8 million tons CO <sub>2</sub>
		*2 Based on the CO <sub>2</sub> emissions reduced at the use stage of the final products that use our Company's environmental contribution products, the avoided emissions are estimated by using our Company's unique formula to calculate emissions to be reduced by a one-year use based on the sales volume of our Company.			
III Enhancement of Business Foundations	C. Resource utilization and the promotion of streamlining	Improvement of GHG emissions intensity (GHG emissions/Net sales)	2.0t CO <sub>2</sub> /million yen	2.1t CO <sub>2</sub> /million yen	1.8t CO <sub>2</sub> /million yen
		Reduction of Water Use (Improvement of water intake intensity per sales: Total water intake/Net sales)	61.1m <sup>3</sup> /million yen	61.1m <sup>3</sup> /million yen	55.6m <sup>3</sup> /million yen
		Reduction of the Final Disposed Amount of Industrial Waste	15.6 thousand tons	10.0 thousand tons	8.8 thousand tons
	[Society] D. Diversity & Inclusion	Improvement of female employee ratio in career-track employees	13%	14%	15%
		Improvement of ratio of male employees utilizing parental leave	39.7%	50%	55%
		Improvement of employment rate of persons with disabilities	2.18%	2.5%	2.6%
	E. Enhancement of Human Resource Development	Promotion of Diversity & Inclusion management education (encouragement for managers to attend lectures)	15% (cumulative attendance rate)	45%	60%
		Encouragement to take paid leave (including secondees)	67.5%	At least 80%	At least 80%
	F. Improvement of Quality Management	Expansion of opportunities for employee education (training time per person)	18 hours	22 hours	25 hours
		Improvement and enhancement of education for employees including those of our Group companies	Aim to improve the value of the Group's human capital by improving and supporting education for employees of our Group companies (domestic and overseas) to further develop their skills.		
Reduction of the number of complaints (year-to-year reduction rate)		24% reduction	Reduction of 25% or more	Reduction of 25% or more	Zero complaint
Maintenance/improvement of quality of audits implemented by contractors (year-round auditing executing rate)		83%	At least 90%	At least 90%	100%
G. Promotion of Industrial Health and Safety, and Security and Disaster Prevention	Improvement of quality education	Improve workers' proficiency level by providing group-wide quality education, enhancing the content of <i>Monozukuri</i> Education at production sites, and increasing the opportunities.			
	Promotion of industrial health and safety (number of accidents that require time off from work)	6	0	0	0
H. Enhancement of Supply Chain Management	Promotion of security and disaster prevention (number of serious accidents)	0	0	0	0
	Promotion of CSR procurement	Conduct investigation and evaluation concerning the CSR of business partners. Follow up the status of their CSR procurement as necessary. Conduct investigation and evaluation on 100% of the new business partners and increase investigation cover ratio.			
I. Respect for Human Rights	Enhancement of initiatives for respect for human rights	Actively conduct enlightenment activities in-house while further clarifying and disseminating our human rights policy.			
[Governance] J. Enhancement compliance system	Improvement/enhancement of compliance education	Continue and further improve internal education (frequency and areas to be covered)			
K. Enhancement of Corporate Governance	Improvement of evaluation on the effectiveness of the Board of Directors	Further improve its effectiveness through performing a self-assessment questionnaire survey (on a five-point scale). The result of FY2022 survey was 4.1. Disclose the issues identified through the survey and confirm how to respond to them to further enhance the governance of the Board of Directors.			

### [Background of the Top-Priority Issue and Its Concept]

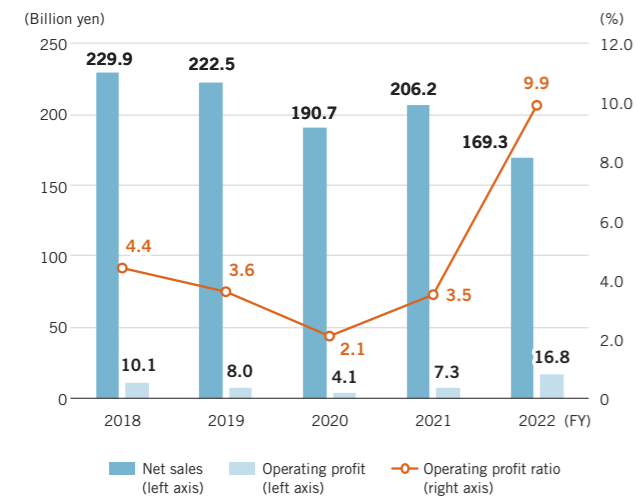
The realization of a decarbonized society is a global challenge that cannot be procrastinated, and there remains much room in which our Group can make contribution in terms of sales and development in important areas, such as the reduction of greenhouse gas (GHG) emissions, the electrification of vehicles, energy saving, etc. We also believe that taking such initiatives will create business opportunities and meet the expectations and needs of our stakeholders.



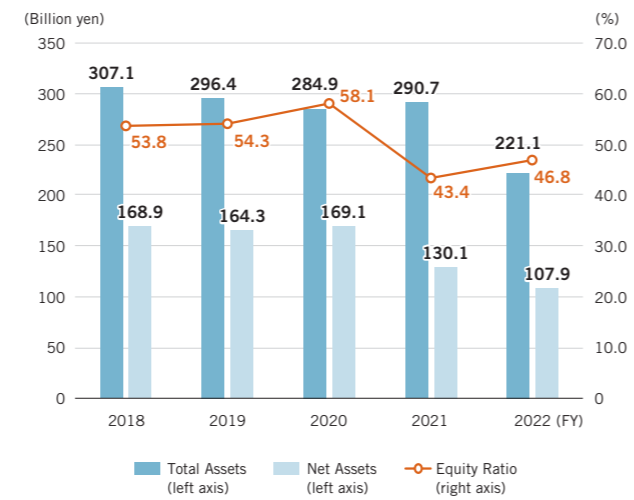
# Financial and Non-Financial Highlights

## Financial Highlights

### Net Sales/Operating Profit/Operating Profit Ratio

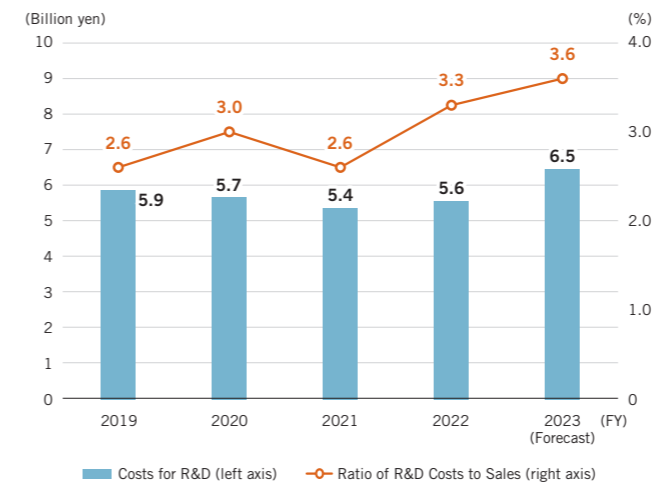


### Total Assets/Net Assets/Equity Ratio

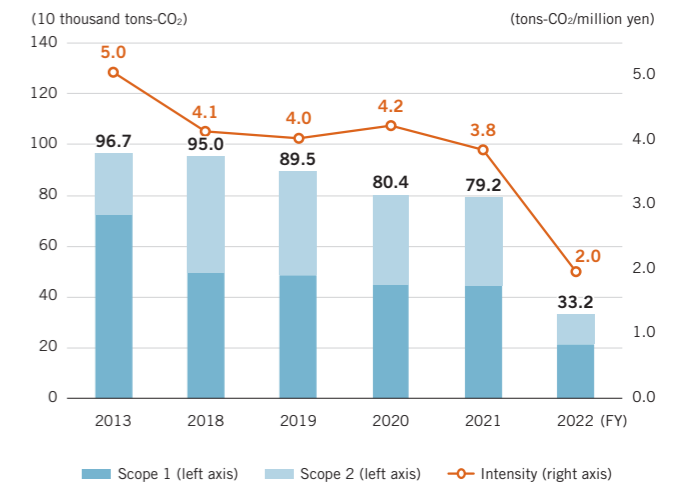


## Non-Financial Highlights

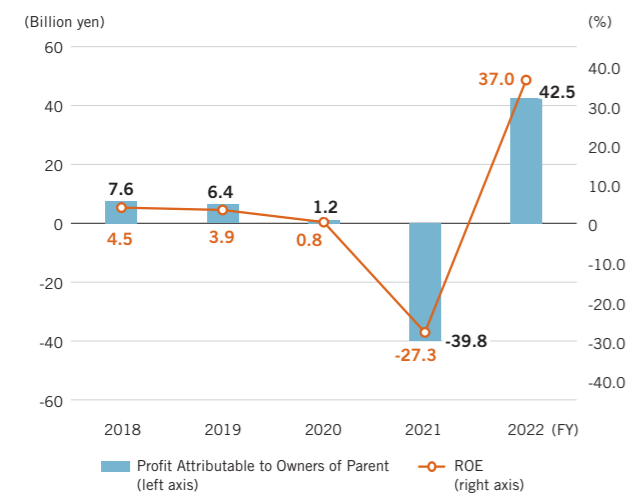
### Costs for R&D/Ratio of R&D Costs to Sales



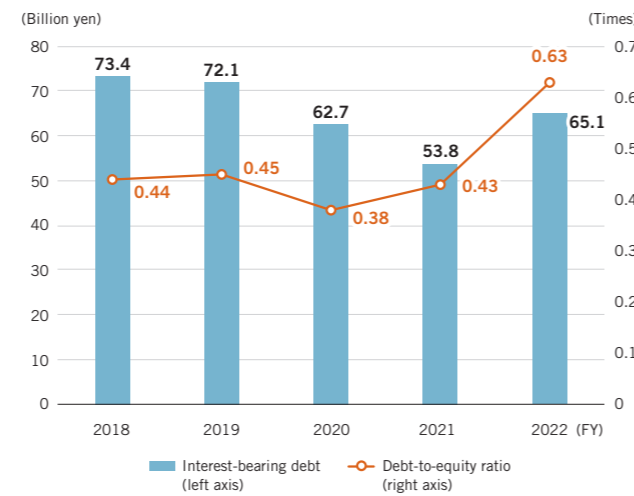
### GHG Emissions (Scope 1 and 2)



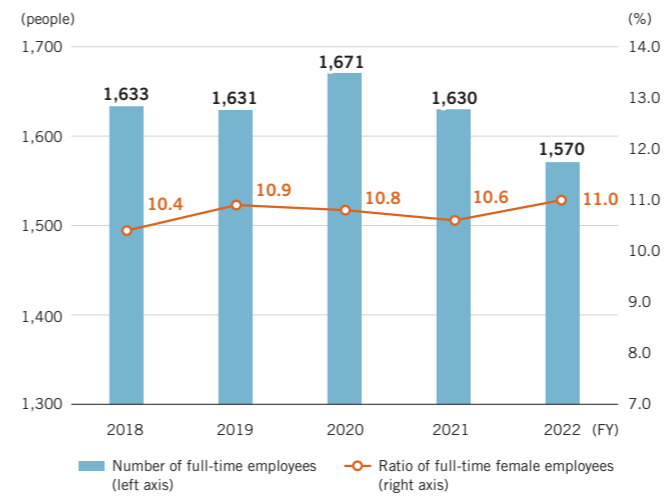
### Profit Attributable to Owners of Parent/Return on Equity (ROE)



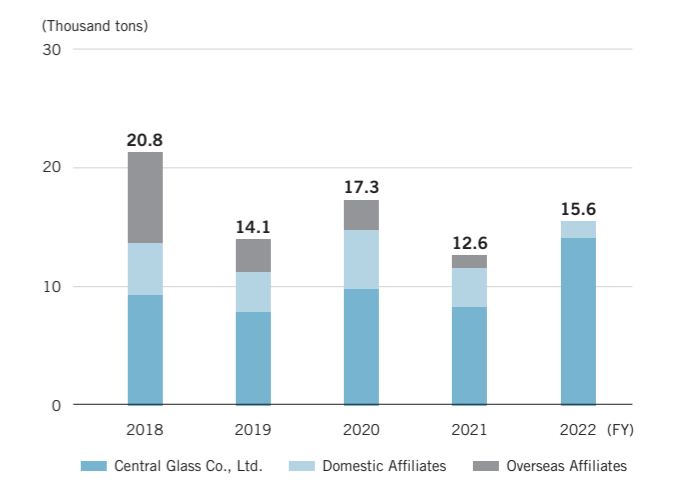
### Interest-Bearing Debt/Debt-to-Equity Ratio



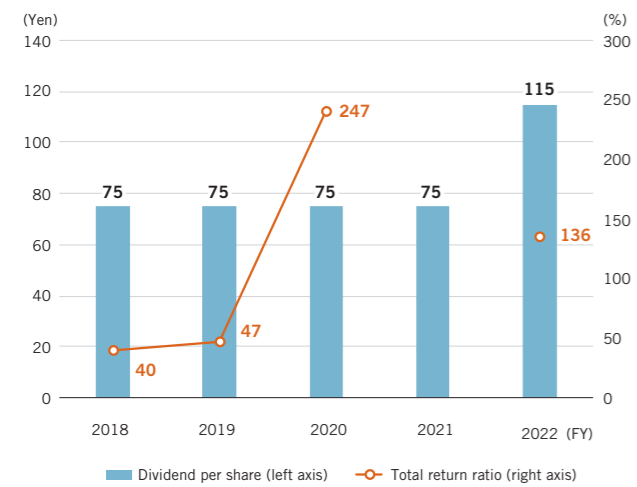
### Full-Time Employees/Ratio of Full-Time Female Employees



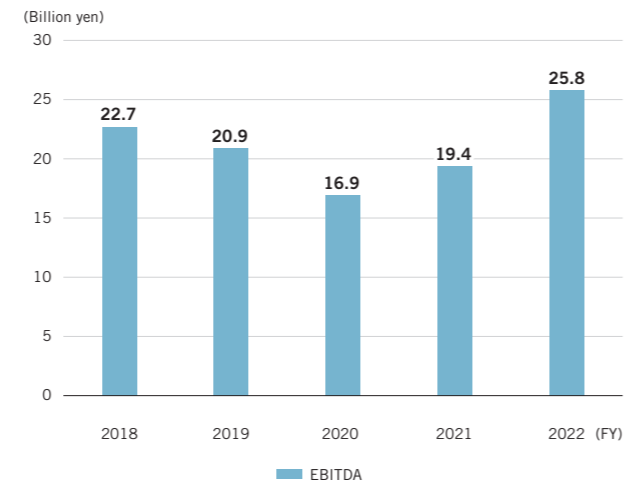
### Final Disposed Amount of Industrial Waste



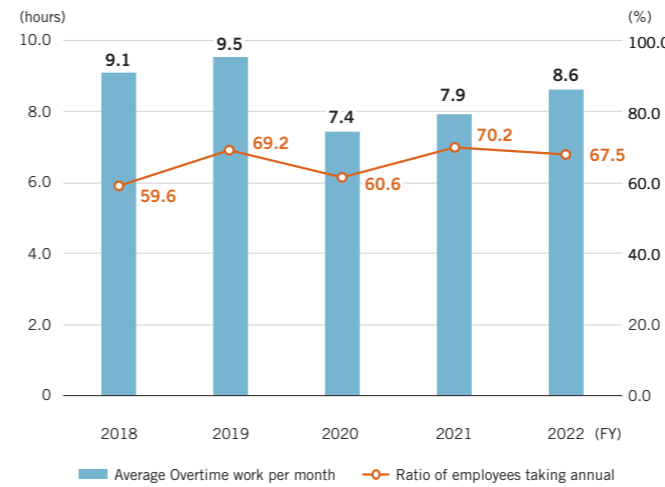
### Dividend per Share/Total Return Ratio



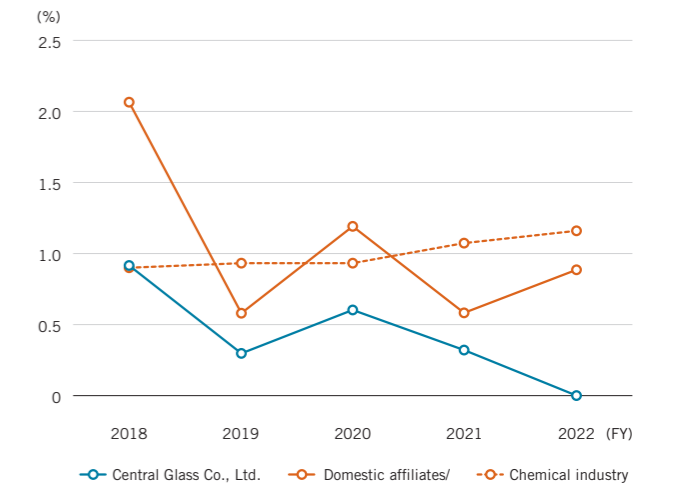
### EBITDA (Operating Profit + Depreciation)



### Average Overtime Work per Month/Ratio of Employees Taking Annual Paid Leave



### Lost-Time Incident Rate



\* In 2021, we posted a profit attributable to owners of parent, but conducted a distribution according to the stable dividend policy from a long-term perspective.

\* The number of casualties due to workplace accidents that result in lost work hours per million actual working hours

# 1 Initiatives to Address Climate Change Issues

## Challenge to the Reduction of GHG Emissions/Carbon Neutrality

Our Group declared its resolve to “take on the challenge of achieving net-zero GHG emissions in 2050” in May 2022, and has been vigorously promoting activities to steadily reduce GHG emissions (Scope 1 and 2) at the manufacturing stage.

We also direct our efforts to the development and sale of environmental contribution products contributing to the reduction of GHG emissions by the entire society with the objective of reducing GHG emissions during the entire product life cycle. In addition, to accelerate initiatives for emission reduction, we will introduce the internal carbon pricing (ICP) system in FY2023, and promote investment for the reduction of emissions by reflecting environmental value in investment decisions.

In the ICP system, we have set an internal carbon price of 10,000 yen /t-CO<sub>2</sub> based on projections of future carbon prices, and we use this price in two ways: to incentivize investors to invest in reducing carbon emissions, and to assess the financial impact.

Central Glass Group Medium- and Long-Term Targets for the Reduction of Greenhouse Gas (GHG) Emissions	
2030 years	➔ <b>40% reduction</b> from FY2013 level
2050 years	➔ <b>Taking on the Challenge of Achieving Net-Zero GHG emissions</b>

### • GHG Emission Reduction During the Entire Life Cycle

#### Products Contributing at Use Stage (Not Subject to the Reduction of Our Emissions)

- Battery electrolytes for EVs
- Low GWP products (next-generation fluorine-based blowing agents, etc.)
- Power semiconductor materials
- Architectural glass (high heat insulating and shielding performance)
- Automotive glass (automotive weight-reducing thin laminated flat glass)

#### Technology Contributing to GHG Reduction in Manufacturing Process

- Fuel conversion (LNG, total oxygen combustion, hydrogen, and ammonia, etc.)
- Heat source conversion
- Waste heat recovery
- Various kinds of renewable energy
- Improvement of resource efficiency by effective use of by-products

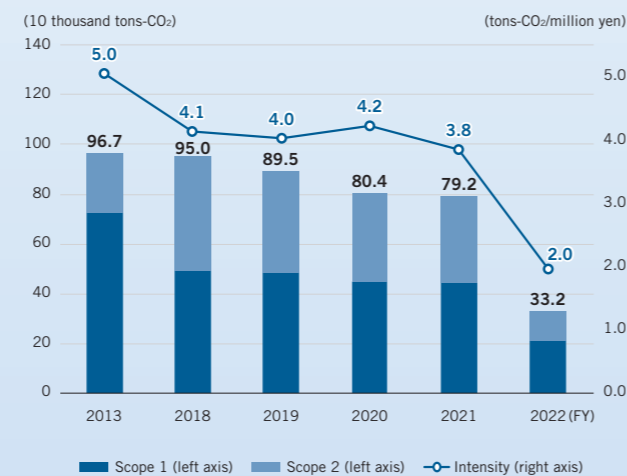
## Progress of Concrete Initiatives Toward Emission Reduction

As one of the concrete initiatives toward the reduction of GHG emissions, our Group is moving ahead with the introduction of the best available technology (hereafter referred to as BAT) step by step. In the glass fiber field, in FY 2022, we introduced the oxygen combustion technology that had been introduced for a glass wool furnace, for a furnace to produce continuous glass fiber as well to reduce CO<sub>2</sub> emissions derived from fuel usage. At the same time, we are proceeding with discussions on the introduction of electricity derived from renewable energy, which is included in the BAT technology, while effectively utilizing the ICP mechanism.

Moreover, in addition to the proactively introducing the BAT technology, we are promoting the development and introduction of innovative technologies including the one for the shift to non-fossil fuels.

In FY2022, we implemented withdrawal from the Automotive glass businesses in United States and Europe, and suspended the operation of some of the domestic glass furnaces, which led to reducing GHG emissions to 332 thousand tons-CO<sub>2</sub>. (58% reduction from the previous fiscal year)

### • GHG emissions (Scope 1 and 2)



Since this fiscal year, the data on GHG emissions have been changed to represent the total emissions amount from our Company and the consolidated companies (in the past: the area within the reach of operational control), and the historic data have also been changed in the same manner.

## Information Disclosure Based on TCFD Recommendations

### Governance

In our Group, the Management Committee, a decision-making body concerning execution of business operations, discusses how to address environmental issues including climate change issues and social challenges, and makes decisions. We have also established the Sustainability Committee with the aim of analyzing and evaluating the progress of initiatives for each issue in a cross-sectoral manner while discussing each policy to deal with such issues as necessary. The committee also reports findings to the Board of Directors and makes recommendations as needed. In response to the matters discussed by the Management Committee and the Sustainability Committee, and their recommendations, the Board of Directors discuss what initiatives our Group should take to address environmental challenges and supervise their progress.

### Strategy

We assume that risks and opportunities related to climate change will have the following impacts on our business.

	Risks	Opportunities
<b>Political Measures/Legal Restraints</b>	Increase in cost for energy and raw materials following the introduction of a carbon tax and the tightening of targets for the reduction of CO <sub>2</sub> emissions	Improvement of intensity by promoting the introduction of energy-saving technologies (cost reduction)
<b>Technologies</b>	Recovering of costs for technology development to develop technologies for decarbonization, etc	Expansion of revenue-generating opportunities by the development and sale of products contributing to decarbonization (low GWP products, products contributing to energy-saving, etc.)
<b>Market</b>	Sensitivity to consumption behavior/needs and timely response	
<b>Reputation</b>	Market valuation affected by a lack of appeal regarding the efforts made for decarbonization	Increase in market valuation by appealing to the market with energy-saving technologies and products contributing to decarbonization

### Introduction of Internal Carbon Pricing System

Our Group has introduced the internal carbon pricing (ICP) system since June 2023, as part of our efforts for achieving targets for the reduction of GHG emissions (Scope 1 and Scope 2). This system uses in-house carbon prices to visualize carbon cost, which can be utilized in decision-making for capital investment. Our Group will promote investment for the reduction of emissions in response to further increasing demands for the reduction of greenhouse gases in the future.

Reference: In-house carbon price (at the time of introduction) 10,000 yen/t-CO<sub>2</sub>

### Risk Management

Regarding risks involved with business operation, each department identifies risks and evaluate their impact and report them to management as needed. In addition, the Sustainability Committee shares business risks, opportunities and measures in a cross-sectoral manner, analyze and evaluate them as necessary and make reports and recommendations to the Board of Directors as needed.

Regarding GHG emissions (Scope 1 and Scope 2), in particular, we have operated the target management scheme for the reduction of GHG emissions relating to medium- to long-term targets since FY2023 toward achieving the 2030 targets and net-zero GHG emissions in 2050. In the operation of this scheme, as main measures, we estimate future emissions, evaluate the probability of achieving targets, formulate action plans for emission reduction and revise the plans as necessary, which we position as the key process in our Group's activities for the reduction of GHG emissions.

### Indicators and Targets

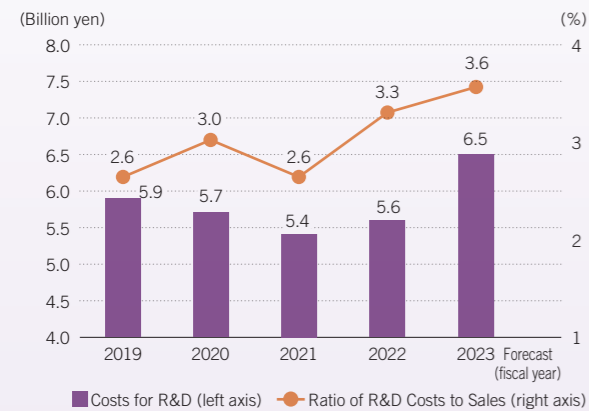
- Aim to achieve 40% reduction of GHG emissions (Scope 1 and Scope 2) for the entire Group including overseas affiliates from FY2013 level in FY2030.
- Aim to achieve net-zero GHG emissions in 2050.

# 2 Research and Development

In line with the Basic Philosophy of “Creating a Better Future Through *Monozukuri*,” we aim to be a company that continues to grow driven by new technologies and products emerging from research and development, accelerating a shift to R&D-oriented company. We are conducting R&D while showing deeper concern for comfortable daily life, the global environment, and health and safety than ever before.

Since July 2022, after clarifying the roles of the creation of basic technology, the efficient development of functional materials, and the role of corporate research respectively, we have newly promoted our R&D at the three research laboratories: the Fundamental Chemical Research Center<sup>1</sup>, the Applied Chemical Research Center, and the New-STEP Research Center.

### Costs for R&D/Ratio of R&D Costs to Sales



In the business department research, directing our efforts to the fields of electronic materials and energy materials, we have proactively worked on the promotion of collaborative research with major clients in Japan and overseas, and the reinforcement of the cooperation with research sites overseas, as well as on capital investment in equipment for analysis and evaluation, etc. with the aim of strengthening functional materials business. In February 2020, we established the Electronic Materials Research Center Taiwan (ERCT) at the National Cheng Kung University (Tainan City), as an R&D base for preceding process

### Electronic Materials Field

#### Liquid-Repellent Bank Material (CEBIJAR™ Series)

Toward the mass production of luminescent layers for next-generation displays, which need to be produced at low cost and enlarged urgently, an ink-jet method is coming under the spotlight as a new manufacturing technology. For the bank material to prevent interelement color mixture, it needs to have a liquid-repellent property against ink (illuminant solution) and a property resistant to a UV-ozone treatment, and we are advancing the development of liquid-repellent bank materials with these needed properties by adopting fluorine compounds originally developed by our Company.

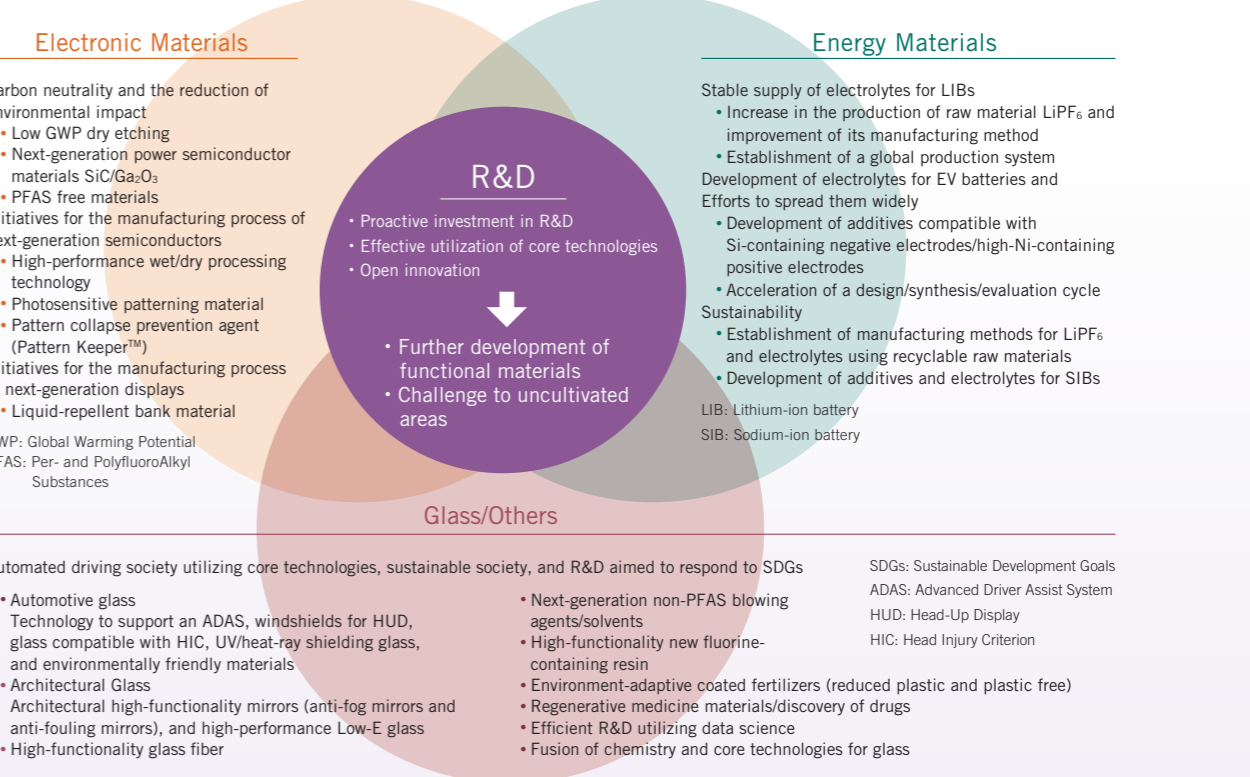
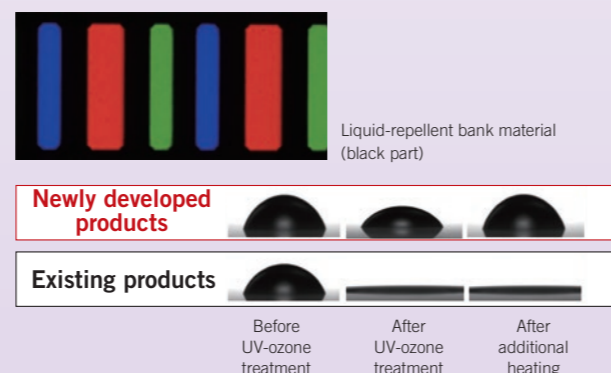
materials of leading-edge semiconductors and materials for next-generation displays, having been gathering information and developing new materials. Additionally, to efficiently advance R&D related to energy materials, we plan to build the Functional Materials Laboratory (provisional name) scheduled to be completed in the Applied Chemical Research Center in FY2024.

We view the following as our important targets, that is, the development of fine and complicated next-generation processing technology for semiconductor-processing materials, and the manufacturing study on SiC<sup>2</sup> serving as substrate material for the next-generation power semiconductors. In the development of electrolytes for lithium ion batteries (LIBs), we are considering the utilization of recyclable raw materials, in addition to developing original high-performance additives and constructing a global production system. In addition, we distribute our research resources to extend the range their application to other materials other than electrolytes as well as to the development of next-generation secondary batteries other than LIBs.

In the corporate research, by proactively utilizing open innovation with universities, etc., we are trying to expand our business portfolio to areas we have not cultivated yet. In particular, such areas include the life science field for the development of regenerative medicine materials and the discovery of drugs for an abnormal protein aggregation disorder, and the energy-saving and carbon-neutral field to utilize microparticulation technology cultivated in our Glass business. For the drug discovery research, we established Shonan Research Center in Shonan Health Innovation Park in May 2021, and began exploratory research. In addition, we have launched a research group in charge of data science in the New-STEP Research Center, working on initiatives contributing to the efficient R&D of functional materials.

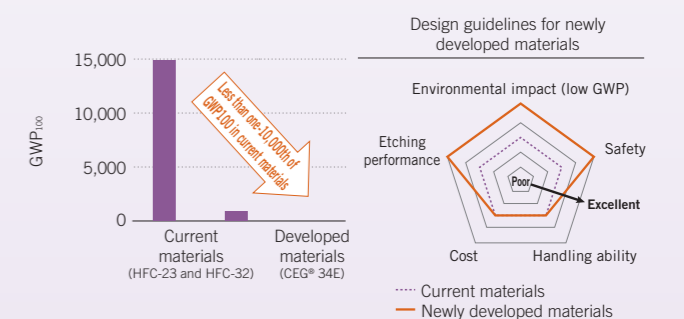
<sup>\*1</sup> Viewing R&D for the Glass business as a branch of chemistry, we will further integrate core technologies of glass and chemistry, while continuing to work on the R&D at Fundamental Chemical Research Center (Matsusaka).  
<sup>\*2</sup> After having a clear vision for the development of a technology to produce a 6-inch single crystal using a solution method capable of elongating a crystal while maintaining its high quality, in FY2022, we started to work on the program to develop an 8-inch single crystal after this program was adopted as one of the Green Innovation Fund Projects/Building the Next Generation Digital Infrastructure, open public programs by NEDO.

#### Resistance to UV-ozone treatment (behavior of contact angles (liquid-repellent property) at each manufacturing process)



### Low GWP Etching Gas (CEG® 34E)

We are requested by leading semiconductor manufacturers in the world to develop environment-friendly low-GWP etching materials. We are collaborating with leading semiconductor manufacturers to launch etching materials with extremely low GWP. In the future, we will provide next-generation etching materials that are conscious of the environment and safety as well as being highly efficient.



### Energy Materials Field

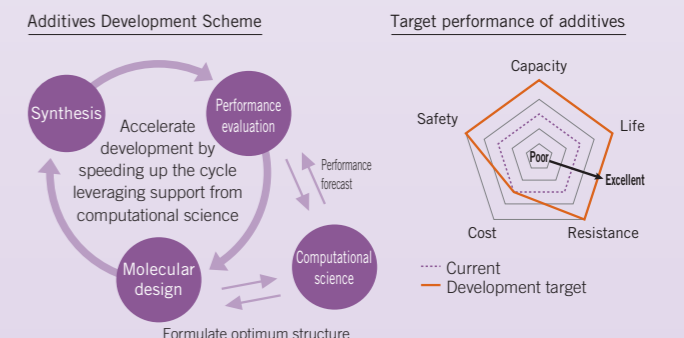
#### Stable Supply of LIB Electrolytes

With an increase in the ratio of EVs and the wide spread of batteries for stationary use, the production of LIBs is expected to expand. Amid this phase of rapid growth, to stably and globally supply electrolytes, a key material for LIBs, we are working on the production boost of LiPF<sub>6</sub> by a highly efficient manufacturing method (joint venture with another company) and the establishment of a further improved manufacturing method using recyclable raw materials. Through our electrolyte business, we will contribute to the realization of carbon neutrality.

#### Development of Electrolytes for EV Batteries

We have succeeded in developing our original additives that can improve battery performance (capacity, resistance and life), developing our electrolyte business by combining with the manufacturing method for competitive LiPF<sub>6</sub>. In the future, we will strive to improve the performance of LIBs

by accelerating the development of additives suitable for high-capacity Si-containing negative electrodes essential for EVs as well as for high-Ni-containing positive electrodes aimed at avoiding the use of Co. By utilizing the technology cultivated through the development of additives for LIBs, we will also direct our efforts to the development of additives and electrolytes for sodium ion batteries (SIBs), for which material resources are abundant.



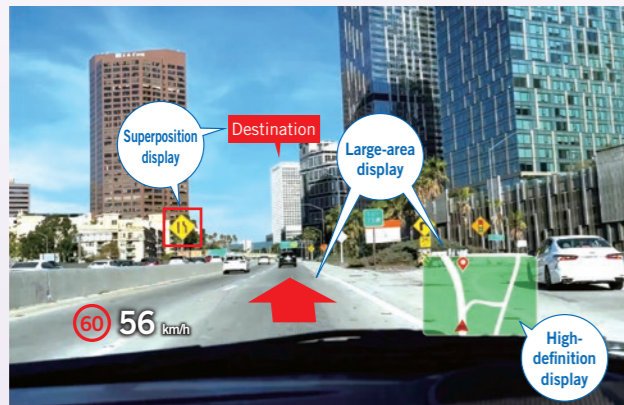
Glass Field

Applying our technologies for glass fabricating, optical control, surface control, etc. that we have cultivated over a long period of time as our core technologies, we are working on the development of new products for the automotive field and the architecture field.

Automotive Window Glass

For future autonomous driving cars, since it is necessary to pursue a higher level of safety and convenience, we will actively pursue the development of special windshields for next-generation vehicles equipped with a head-up display (HUD) and glass compatible with an advanced driver assist system (ADAS).

An HUD used for a next-generation vehicle (for illustrative purposes)



High-functionality Mirror

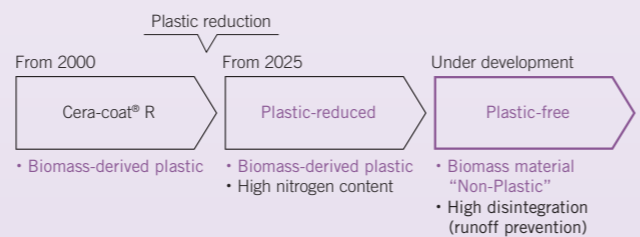
Boasting a top market share in the field of residential mirrors, we aim to launch anti-fouling and anti-fogging mirrors for bathroom vanities by leveraging our high surface-processing technology.

Difference in performance between a normal mirror and an anti-fouling/fogging mirror

Normal mirror	Anti-fouling/fogging mirror
<p>Occurrence of fogging (less than one minute)</p>	<p>No fogging</p>
<p>The mirror stained with an eyeliner</p>	
<p>After gently wiping up the stain</p> <p>Hardly removed</p>	<p>Easily removed</p>

Environment Adaptive Coated Fertilizer

Since plastic used as a coating material hardly decompose in a natural setting, we are working on the development of environment-friendly coating materials. We are also advancing the development of plastic-free products by using sustainable plastic-replacing materials, in addition to preparing for the launching of products with less plastic in which resin amount is reduced while slow-release feature is maintained.



Response to PFAS Regulations

As the European Chemicals Agency (ECHA) published the PFAS restriction proposal in February 2023, our Company will advance necessary measures in a responsible manner as a fluorine chemical manufacturer. In addition to setting an in-house cross-sectional project team to make

fair public comments on existing products, we will proceed urgently with shifting to chemical compounds and materials free from PFAS and the reviewing of research subjects related to PFAS.

Business Restructuring: Introduction to Our New Company Central Glass Products Co., Ltd.

Inheriting the Glass Business Department of Central Glass, We Made a Fresh Start in April 2023.



Minoru Irisawa  
President and Representative Director

Central Glass Products Co., Ltd. started to take a step in a new direction in FY2023.

Central Glass Group had worked on the structural improvement of our Glass business, but we made it independent from Central Glass Co., Ltd. this time in order to further enhance its business viability, and our Glass business has been operated by Central Glass Products. After obtaining a corporate status, we have become even more determined to develop a truly an independent business unit by carrying out our social responsibilities for stakeholders.

Until now, our business models for architectural glass and automotive glass have differed greatly, but we expect to see further convergence in the future, and create various synergies in both businesses through integrated management.

Our business operation has been smooth until now since its commencement. We will continue to place top priority on the continuation of the smooth business operation and the anchoring of the effects produced in the structural improvement that had been carried out until last year.

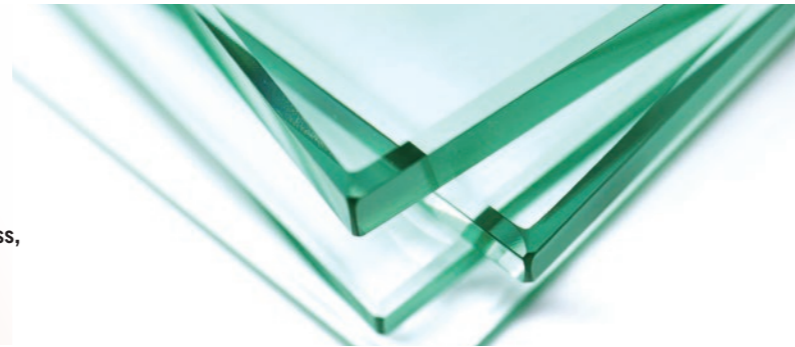
All employees of our company as well as those of the subsidiaries and the affiliates forming the Central Glass Group will make efforts to anticipate the possibility of medium- to long-term change of the social environment ahead of others with "Challenge" as our motto, with the aim of providing products, services and qualities meeting our customers' needs in a broad range.

Core Business	Opening Up the Future of Glass Evolving in Our Lives										
	<ul style="list-style-type: none"> <li>Architectural glass (eco-glass, disaster-prevention-safety-glass, tempered glass, mirrors, etc.)</li> <li>Automotive glass (windshields, door glass, rear windows, sunroof windows, etc.)</li> </ul>										
Management Policy	<ol style="list-style-type: none"> <li>Continue to take on a challenge for the future instead of sticking to a traditional model.</li> <li>Comply with laws and regulations based on the Corporate Philosophy of the Central Glass Group.</li> <li>Take on the challenge of realizing a sustainable society friendly to the global environment.</li> <li>Actively work on the creation of a workplace environment that allows employees to work with a peace of mind.</li> </ol> <p>We enhance the personnel system for developing human resources, and aim to establish a working environment that allows individual workers to give full play to their abilities and talents.</p>										
	Promoting Work-Life Balance	Promotion of Diversity	Toward Creating Vibrant Company								
Organizational Structure	<p><b>Central Glass Products Co., Ltd.</b></p> <p>Glass business-related affiliates</p> <table border="1"> <tr> <th colspan="2">Architectural glass-related</th> </tr> <tr> <td>Sales</td> <td>Manufacturing</td> </tr> <tr> <td>Central Glass Sales Co., Ltd.</td> <td>Central Glass Plant Services Co., Ltd.</td> </tr> <tr> <td>Central Glass Engineering Co., Ltd.</td> <td></td> </tr> </table>		Architectural glass-related		Sales	Manufacturing	Central Glass Sales Co., Ltd.	Central Glass Plant Services Co., Ltd.	Central Glass Engineering Co., Ltd.		<p>Sales Forecast for FY2023</p> <p>Net Sales 54.0 billion yen</p> <ul style="list-style-type: none"> <li>Automotive glass 29.0 billion yen</li> <li>Architectural glass 25.0 billion yen</li> </ul>
	Architectural glass-related										
Sales	Manufacturing										
Central Glass Sales Co., Ltd.	Central Glass Plant Services Co., Ltd.										
Central Glass Engineering Co., Ltd.											
<table border="1"> <tr> <th colspan="2">Automotive glass-related</th> </tr> <tr> <td>Sales</td> <td>Manufacturing</td> </tr> <tr> <td>Central Saint-Gobain Co., Ltd.</td> <td>Mie Glass Industry Co., Ltd.</td> </tr> <tr> <td></td> <td>Japan Tempered &amp; Laminated Glass Co., Ltd.</td> </tr> <tr> <td></td> <td>Central Glass Module Co., Ltd.</td> </tr> </table>		Automotive glass-related		Sales	Manufacturing	Central Saint-Gobain Co., Ltd.	Mie Glass Industry Co., Ltd.		Japan Tempered & Laminated Glass Co., Ltd.		Central Glass Module Co., Ltd.
Automotive glass-related											
Sales	Manufacturing										
Central Saint-Gobain Co., Ltd.	Mie Glass Industry Co., Ltd.										
	Japan Tempered & Laminated Glass Co., Ltd.										
	Central Glass Module Co., Ltd.										

# Glass Business

## [Central Glass Products Co., Ltd.]

- **Flagship Products and Core Business**
  - Architectural glass (eco-glass, disaster-prevention-safety-glass, tempered glass, mirrors, etc.)
  - Automotive glass (windshields, door glass, rear windows, sunroof windows, etc.)



Central Glass Products has worked on the operation of the Glass business since FY2023, holding other glass-related affiliates under its umbrella. We will boost the accuracy of financial condition analysis on a Glass business-consolidation basis, and aim to achieve our financial goal for the improvement of profit ratio and the creation of cash. In addition, we will enhance the cohesiveness of the organizations within the Group and the development of human resources, while maintaining a high level of quality and environmental management, and actively advance the improvement of our working environment with the aim of enhancing the sustainability of our business.

Minoru Irisawa Director, Senior Executive Managing Officer  
(Holding the additional post of President and Representative Director at Central Glass Products Co., Ltd.)

### SWOT Analysis

<p><b>S</b>trengths</p> <ul style="list-style-type: none"> <li>• Integrated production from flat glass manufacturing to automotive and architectural glass products</li> <li>• Developing new products and technologies based on a long-standing credibility with clients</li> <li>• Capable of providing value-added products making a high environmental contribution</li> </ul>	<p><b>W</b>eaknesses (and countermeasures for them)</p> <ul style="list-style-type: none"> <li>• Necessity of reducing GHG emissions and making a major capital investment in the replacement of facilities because of being an equipment industry</li> </ul>
<p><b>O</b>pportunities</p> <ul style="list-style-type: none"> <li>• Expanding demand for high value-added glass contributing to energy saving and the realization of carbon neutrality (eco-glass, heat-shield glass, UV/IR-cut glass, thin flat glass, etc.)</li> <li>• Responding to CASE in the Automotive glass business(automotive technology trends: connected, electric vehicles, etc.)</li> </ul>	<p><b>T</b>hreats (and countermeasures for them)</p> <ul style="list-style-type: none"> <li>• Reduction of GHG massively generated in the glass manufacturing process</li> <li>• Escalation of energy procurement costs</li> <li>• Decrease in automotive shipments and housing starts due to domestic population decrease</li> </ul>

### Business Policy of Medium-Term Management Plan

- Promote sales strategies emphasizing profitability
- Develop and sell products demanded by the market and environmental contribution products (eco-glass)
- Provide services that can earn high customer satisfaction (quality, prices and delivery time)
- Promote cash flow-oriented business operation
- Streamline the plan to produce glass furnaces by optimizing the entire plan
- Reinforce the management of quality, environment and supply chain
- Promote cost-cutting through business improvement utilizing information technology (IT) and digital transformation (DX)

### Business Strategy for FY2023

We find the market environment surrounding our company in a tough situation due to the delayed recovery of automotive shipments affected by the semiconductor shortage that has been continuing since the last fiscal year, as well as by the escalation of energy costs and the inflation occurring with the background of the global political instability including the situation in Ukraine. Under these circumstances, in FY2023, we will advance our business activities, giving the highest priority to the smooth operation of the business that has just started and the anchoring of the effects produced in the structural improvement that had been carried out until last year.

Also, we will make each department implement the re-examination and review of the existing issues for achieving its

financial goal in the Medium-Term Management Plan and identify new issues, encouraging all employees involved in the Glass business to have a common recognition that these should be worked on by all of them. In addition, we will aim to achieve this fiscal year's targets with emphasis on the strengthening of partnership between departments.

Regarding capital investments, we will work to make effective investment decisions by increasing the accuracy of estimating the amount of cash generated by the capital investments with the purpose of reducing fixed costs for business.

We will also systematically invest in employees by promoting human resource education and by improving their working environment for the future.

### ESG-Related Initiatives

In 2022, the Glass business achieved the 2030 GHG emissions reduction target established by the Central Glass Group. We also began switching part of the eclectic power purchased from electric power providers to CO<sub>2</sub>-free electricity in April 2023, continuing to promote the reduction of GHG emissions.



Eco-Glass



Automotive glass

# Glass Fiber Business

## [Central Glass Fiber Co., Ltd.]

- **Flagship Products and Core Business**
  - Continuous glass fiber products, and glass wool products



### Message from the Head of Business Site

Central Glass Fiber Co., Ltd. undertaking the Glass Fiber business is operating the two departments, one for continuous glass fiber business, and the other one for glass wool business. Supported by customers from various industries, we have been able to continue stable business operation for over 50 years by providing high value-added products meeting individual needs. We have not only worked on measures for energy saving such as by improving productivities, but also promoted measures for fuel conversion toward CO<sub>2</sub> reduction, and will aim to continue business operation contributing to society by aiming for the further advancement of manufacturing technology for the future, as well as by developing sustainable business activities such as the promotion of recycling.

Toshihiro Fujita General Manager, Glass Fiber Business Administration Department  
(Holding the additional post of President and Representative Director at Central Glass Fiber Co., Ltd.)

### SWOT Analysis

<p><b>S</b>trengths</p> <ul style="list-style-type: none"> <li>• Experience of delivering products to many key industries for automobiles, housing, electronic materials, infrastructure, etc.</li> <li>• Technologies and product qualities cultivated over a long period of time as a glass fiber manufacturer</li> </ul>	<p><b>W</b>eaknesses (and countermeasures for them)</p> <ul style="list-style-type: none"> <li>• Energy-intensive business structure</li> <li>• Business scale smaller compared to that of global leading manufacturers</li> <li>• Costs for regularly updating facilities including glass furnaces</li> </ul>
<p><b>O</b>pportunities</p> <ul style="list-style-type: none"> <li>• Diversification of customer needs due to various factors including the globalization</li> <li>• Expansion of the highly-functional resin market in the electronics parts sector</li> <li>• Increased demand for the lightening of automobiles and incombustible materials in their production following the trend of vehicle electrification</li> <li>• Enhancement of sound insulation performance of automotive glass with the purpose of responding to tightened pass-by noise regulations</li> </ul>	<p><b>T</b>hreats (and countermeasures for them)</p> <ul style="list-style-type: none"> <li>• Decrease in demand due to the stagnation of global economy</li> <li>• Downsizing of the Japanese economy and fading domestic demand due to factors including depopulation</li> <li>• Destabilization of the supply chain associated with changes in the world situation</li> <li>• Escalating costs for raw materials and fuels and physical distribution</li> </ul>

### Business Policy of Medium-Term Management Plan

#### Continuous Glass Fiber Business

- Cope with the complicated and rigorous business environment with various issues such as escalating raw material and fuel costs and geopolitical risks
- Strengthen the system to supply electronic materials and key products for the automotive field and develop new products

#### Glass Wool Business

- Continue to maintain the reliable system to deliver automotive products whose market is expected to recover from the stagnation during the COVID-19 pandemic
- Build a production system that can respond to escalating raw material and fuel costs and a labor shortage
- Work on the development of products with an eye on the spread of EVs, and the establishment of technologies that can contribute to the creation of a recycling-oriented society

### Business Strategy for FY2023

It is expected that the continuous glass fiber business will have to continue to cope with the severe business environment in which concern is growing over the escalation of raw material and fuel costs and geopolitical risks. Amid such circumstance, however, we will respond to market needs by strengthening the system to supply electronic materials and key products for the automotive field and developing new products.

The glass wool business is expecting to see demand increase in the automotive soundproof materials following the tightening of pass-by noise regulations. With this background, while focusing on the maintenance and expansion of this market share, we will direct our efforts to the development of new products in response to the spread of EVs as well as to the establishment of technology to produce recyclable products, with the aim of establishing a stable business operation system for the future.

### ESG-Related Initiatives

In addition to working on the enhancement of yield of glass fiber products and the promotion of energy saving, we have been advancing the shifting of fuels used in glass furnaces from heavy oil to LNG and LPG. We also work on the improvement of combustion efficiency (energy efficiency) by introducing oxygen combustion and electrodisolution as well as on the reduction of the amount of emission gas. We will proactively promote the 3Rs (Recycle, Reuse and Reduce), while advancing the introduction of melting technology contributing to the reduction of CO<sub>2</sub> emissions and the lowering of emission gas amount, and the improvement of energy efficiency in a phased manner.



Milled Fiber



Rubber Coated Glass Cord

# Applied Chemicals Business

■ **Flagship Products and Core Business**  
HFO products (blowing agents and solvents), fluorine-containing functional materials, and active ingredients for agrochemicals



## Message from the Head of Business Site

The Applied Chemicals Sales Department provides various products including blowing agents, solvents, functional materials and active ingredients for agrochemicals to a wide range of fields by leveraging its core (fluorine) technology. We produce earth-friendly blowing agents and solvents with an extremely low global warming potential (GWP) that do not harm the ozone layer. We will continue the manufacture and sales of products containing fluorine while appropriately responding to the regulations on the use of per- and polyfluoroalkyl substances (PFAS) proposed by the European Union recently. In the medium- and long-term, we will direct our efforts to the development of highly original products free from PFAS and fluorine, based on our core technology, and provide safe and environment-friendly products with the aim of promoting business expansion.

Masatomi Kanai General Manager of Applied Chemicals Sales Department

## SWOT Analysis

### Strengths

- Capable of implementing integrated manufacturing (fluorite → anhydrous hydrofluoric acid → fluorinated chemical products) in our domestic factory
- Provision of hydrofluoroolefin (HFO) products with an extremely low GWP

### Opportunities

- Expanding demand for Japanese products due to the supply chain disruption experienced during the COVID-19 pandemic, the increase in geopolitical risks, the U.S.-China trade friction, etc.
- Expanding demand for products with low GWP as countermeasures against global warming

### Weaknesses (and countermeasures for them)

- Dependence on China for fluorite, a major material (securing of stable domestic stock and expanding the use of fluorite not produced in China)

### Threats (and countermeasures for them)

- Negative image of fluorinated chemical products developed after the publication of the PFAS restriction proposal by ECHA (making efforts for the appropriate application of the PFAS restriction by requesting affiliated industry organizations and individual companies to submit their opinions, and accelerating the research and development of PFAS-free products)

## Business Policy of Medium-Term Management Plan

- Strengthen partnerships with Honeywell in the U.S. for the HFO-1233zd (E) business and maximize our sales force
- Acquire alternative demands for HFCs, HFEs and brominated solvents of CELEFIN 1233Z
- Accelerate the development of a new solvent that complements the performance of CELEFIN 1233Z
- Ensure stable supply of agricultural-related products and functional material products by the collaboration in manufacturing work between domestic factories and joint subsidiaries in China.

## Business Strategy for FY2023

Affected by the global situation, we find ourselves in the extremely severe business environment with raw material and fuel prices escalating. However, we will respond to market needs by cutting costs through increasing production efficiency as well as developing new products. To promote the blowing agents business, our core business, we will further deepen the partnership on HFO-1233zd (E) with Honeywell in the U.S. The supply chain disruption in recent years has led domestic users to re-evaluate the value of made-in-Japan

products, following which we will make sure to keep enough stock of products at our factories and enhance our service to directly deliver made-in-Japan HFO-1233zd (E) to domestic users. Competitive fluorinated chemical product manufacturers announced the discontinuation of the production of HFC solvents in August 2023 and that of HFE solvent in December 2025. In response, our solvent business will make vigorous efforts to acquire alternative demands. In response to the tightening of standard control concentration of brominated solvent starting in April 2024, there is a growing demand for alternative products, following which we will contribute to the improvement of work environment of cleaning sites by providing highly safe CELEFIN 1233Z.

## ESG-Related Initiatives

By widely providing hydrofluoroolefin (HFO) products with extremely low GWPs, we will contribute to solving world-wide global warming issues. HFO-1233zd (E) used as blowing agents has insulating properties that are superior to those of conventional blowing agents, being expected to exhibit energy-saving effects. CELEFIN 1233Z for a solvent-purpose is incombustible and achieves a high cleaning performance, responding to the social need to minimize the risk of fire at work-sites.

# Medi-Chemicals Business

■ **Flagship Products and Core Business**  
Chemicals for active pharmaceutical ingredients including those for inhalation anesthesia, intermediates, and pharmaceuticals



## Message from the Head of Business Site

We play a role in the development, research, manufacture and supply of pharmaceuticals necessary for protecting the lives and health of people, striving every day to contribute to the realization of truly prosperous lives of people. For example, the active pharmaceutical ingredient for inhalation anesthesia produced by leveraging our fluorination technology is one of the products achieving the Corporate Philosophy of the Central Glass Group, which is used in operation sites in Japan and overseas. We are proud of having always been providing the stable supply of the products ever since it was released in the 1990s.

Takeyasu Kawano General Manager of Medi-Chemicals Sales Department

## SWOT Analysis

### Strengths

- Production system that allows integrated production from major raw materials
- Quality assurance support backed up by highly developed analysis technology
- Manufacturing quality management system that continues to comply with the criteria required at FDA inspections, etc.
- Experience of conducting joint development with many pharmaceutical companies

### Opportunities

- Market expansion due to the aging of society in advanced countries and increase in medical standards in developing countries

### Weaknesses (and countermeasures for them)

- Since the existing products are made for specific pharmaceuticals or medical instruments, it is difficult to develop them for a new use within a short period (introduction of new products to the field of medical materials)
- The manufacturing bases exist only in Japan. (enhancement of supply chain)
- High development costs and low development success rate in the pharmaceuticals and medical device industry (promotion of open innovation)

### Threats (and countermeasures for them)

- Expanding usage of generics and curtailing of medical expenses (rationalization of production and DX)
- PFAS restriction (development of non-PFAS-structured products)

## Business Policy of Medium-Term Management Plan

### Expanding the Sales of Existing Products

While maintaining and expanding the sales in the existing market, we will aim to develop new demands by strengthening the cooperation with our customers, and acquire new customers.

### Creating New Business in the Medicine Area

Starting from searching for needs in actual medical settings, we will solve unsatisfied issues in medical through developing high-functionality products by utilizing our proprietary technologies, with the aim of contributing to the health of people.

### Improving Profitability Through the Collaboration with Overseas Bases

We will develop new products meeting regionally-specific requirements for products through collaboration among the functions of R&D in Japan, the U.S. and the UK to bring the products to each market with an optimum supply system.

## Business Strategy for FY2023

In recent years, due to increased world-wide competition with generic medicine and the influence from the COVID-19 pandemic, the shipment quantity of pharmaceutical products has remained at a low level. However, there have been signs of demand recovery following the relaxation of COVID-19-related regulations, and the shipment volume and value of the product lines including active pharmaceutical ingredients for inhalation

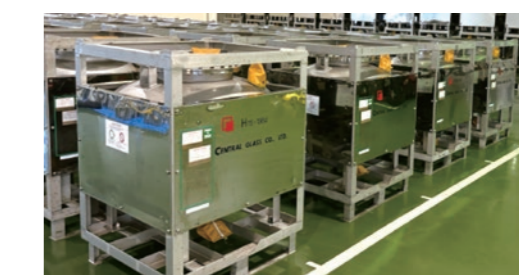
anesthesia that have been supplied since the 1990s increased in FY2022 compared with the previous fiscal year.

We will work on the following as our business strategy for FY2023.

- Sales expansion in the existing market and market penetration in countries where our products have never been sold
- Response to various environmental regulations
- Re-evaluation and enhancement of the supply chain
- Promotion of product development for new medical technology

## ESG-Related Initiatives

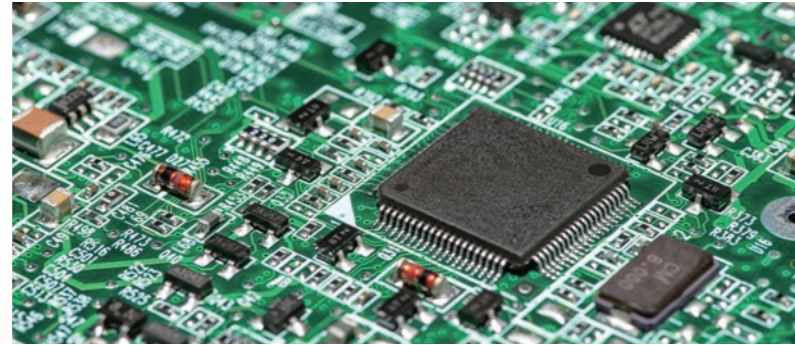
In one case, we shifted the means of transporting raw materials domestically from truck transport to the one by railway and ship, and in another case, we realized the collecting and recycling of waste liquid and waste raw materials through collaboration among the research, technical and manufacturing departments. We will continue to direct our efforts to such initiatives.



Containers Designed for Transporting Active Pharmaceutical Ingredients for Inhalation Anesthesia

# Electronic Materials Business

■ **Flagship Products and Core Business**  
The manufacture and sales of high purity gas for semiconductor processes, resist materials, pattern collapse inhibitors for semiconductor circuit patterns (hereinafter referred to as Pattern Keeper™)



## Message from the Head of Business Site

Due to the stagnation of demands for PCs and smartphones resulting from concerns about inflation and economic recession, in particular, memory-related leading companies have suffered a pro-longed production cutback, with the shipment volume of products for semiconductors remaining sluggish. On the other hand, from the second half of FY2023, the market for semiconductors for AI, represented by Chat GPT, is expected to recover and to make a leap forward from 2024. Also, due to a growing environmental demand from semiconductor manufacturers, our environmentally compatible products have come into the spotlight. We will contribute to the achievement of SDGs by proactively developing these products.

Tadayuki Kawashima General Manager of Electronic Materials Sales Department

## SWOT Analysis

### Strengths

- R&D-oriented company engaging in semiconductor gas business and semiconductor chemical solutions business
- Integrated manufacturing (fluorite → anhydrous hydrofluoric acid → fluorinated chemical products) in our domestic mother factory
- Early withdrawal from the NF3 business for high GWP products and shift toward new low GWP gases

### Opportunities

- Growing needs for environmental responses such as decarbonization by semiconductor manufacturers
- Accelerating adoption of new structures and materials aimed at the further densification and power-saving of semiconductors

### Weaknesses (and countermeasures for them)

There are not enough overseas development bases to respond to many of our overseas customers. As measures to respond to this, we are considering the deepening of collaborative research with imec in Belgium and establishing overseas development bases.

### Threats (and countermeasures for them)

The market environment is becoming increasingly uncertain due to U.S.–China decoupling and the Russian invasion of Ukraine. Countermeasures include the deepening of communication with each supply chain and hedging risks by increasing the number of sources.

## Business Policy of Medium-Term Management Plan

- Promote product commercialization by leveraging channels with manufacturers of semiconductors and semiconductor equipment
- Move ahead on proposals of alternative new materials responding to non-PFAS needs from customers and promote the development of their supply system
- Address the demand increase following the demand recovery for leading-edge semiconductor factories and the setting up of new factories

## Business Strategy for FY2023

We will proactively capture the market for leading-edge semiconductor materials for AI etc., the field with potential for future expansion, and aim to expand the share of materials for semiconductors, including memories, etc., which are in an adjustment phase. Furthermore, in addition to aiming at the commercialization of environmentally compatible products, such as non-PFAS products and low-GWP ones, we will actively take on the challenge of developing new products such as materials for the next-generation display capable of lowering power consumption and the next-generation materials for power semiconductors.

## ESG-Related Initiatives

Our business concept based on the Corporate Philosophy of “Creating a Better Future Through *Monozukuri*” includes leading society in the field of environmental business and making a social contribution, as well as creating new features. In addition to commercializing environmentally compatible products, toward the widespread of SiC power semiconductors that will contribute to the realization of a decarbonized society, we will accelerate the productization of high-quality and low-cost single crystal SiC substrates.



Major Business Bases in Taiwan

# Energy Materials Business

■ **Flagship Products and Core Business**  
Electrolytes for Lithium-Ion Batteries



## Message from the Head of Business Site

In the Paris Agreement adopted in 2015, the participant countries agreed to keep the rise in mean global temperature to well below 2 degrees, and preferably limit the increase to 1.5 degrees, thus, global efforts have been made to significantly reduce the greenhouse gas (GHG) emissions, especially those of CO<sub>2</sub> gas, that are the main cause of climate change. In the midst of that trend, the motor vehicle industry is accelerating a shift from gasoline-fueled vehicles to electric vehicles world-wide, and it is estimated that the sales share of electric vehicles exceeded 10% of the world vehicle market. Demand for electric vehicles is expected to greatly increase. Utilizing our fluorination technology, we manufacture and sell functional electrolytes for lithium-ion batteries used in electric vehicles, and we have earned a high reputation from lithium-ion battery manufacturers in Japan and overseas.

Keiji Sato General Manager of Energy Materials Sales Department

## SWOT Analysis

### Strengths

- The additives developed by our own effort can keep batteries from deteriorating even when they are used under severe environmental conditions or for a long period, proving to have effects of improving their life and heat resistance. At the same time, the additives can restrain the internal resistance of batteries and contribute to the improvement of their output and low-temperature characteristics.
- By establishing manufacturing bases for electrolytes in Japan, South Korea, China and Europe, we have built a global supply system to respond to a wide range of customer needs.
- We also possess a supply chain to stably and inexpensively supply various raw materials including LiPF<sub>6</sub>, the primary electrolyte, in Japan and overseas.

### Opportunities

- While various efforts have been made to cope with energy issues and reduce CO<sub>2</sub> emissions, demands for electric vehicles and large-sized storage batteries have significantly grown every year in a global scale.
- Western countries are showing a trend toward de-Sinicization, reducing their dependence on China.

### Weaknesses (and countermeasures for them)

- The producing/manufacturing areas for various raw materials including lithium resources, one of the main elements for electrolytes, are not evenly located, which causes large fluctuation in their supply volume and prices.
- We are promoting measures to mitigate their impacts above through reducing our dependence on raw material sources in China, increasing the number of such sources, and concluding long-term purchase agreements with suppliers, etc.

### Threats (and countermeasures for them)

- With a number of competitors manufacturing electrolytes existing in Asia including China, it is expected that cost-cutting and price competition will continue.
- Since there is a growing trend of manufacturing electrolytes locally in Europe and the U.S., not limited to manufacturing them domestically, it has become necessary to localize the manufacture of electrolytes.
- We will continue to closely observe the trend of customers' policies, subsidy policies in the U.S. and European countries, and, in particular, the trend of the Inflation Reduction Act (IRA) of the U.S.

## Business Policy of Medium-Term Management Plan

- Positioning the electrolyte business as our core business aiming at increase in profitability by aggressive investments, we will expand our manufacturing bases and improve our raw material procurement capabilities, including supply chain investment
- Aim to differentiate ourselves from our competitors and promote the enhancement of our technological competitiveness by the research and development of high-performance additives
- Through these efforts, we aim to further develop new customers and improve our global presence in the industry

## Business Strategy for FY2023

While continuing sales to the existing customers in Japan and overseas, we will enhance our research and development capability to examine new additives and electrolytes with a new composition meeting customers' needs in order to acquire new customers.

Regarding manufacturing, directing our efforts to address the U.S. market, we will consider locally manufacturing our products in North America, where our Group has no manufacturing bases. In addition,

regarding the procurement of raw materials, in the midst of the trend in which international efforts are being made for achieving SDGs and dependence on China is being reduced, we will develop our business to respond to global customer needs at an accelerating pace for the further enhancement and diversification of our supply chain.

At the same time, we will advance deliberation on our response to the battery material recycling business that other manufacturers started to be worked on in recent years, as well as on the business on next-generation secondary battery materials for sodium ion batteries, etc.

## ESG-Related Initiatives

Since electric vehicles powered by lithium-ion batteries do not emit CO<sub>2</sub> when activated, they contribute significantly to the prevention of global warming. Electrolytes are one of the major components of lithium-ion batteries, and it can be said those products themselves make a contribution to the reduction of CO<sub>2</sub> emissions. In addition, regarding the manufacturing of LiPF<sub>6</sub>, the major raw material of electrolytes, our affiliate companies are working on its manufacture and procurement at low cost in an energy-efficient manner by using our unique technology. Thus, we will continue striving to advance *Monozukuri* in an environmentally friendly manner.

# Fertilizers Business

## [Central Chemical Co., Ltd.]

■ **Flagship Products and Core Business**  
Coated fertilizer (Cera-coatR), NPK compound fertilizer, NK compound fertilizer, ammonium chloride, and mixed fertilizer



### Message from the Head of Business Site

Last year, the fertilizer industry was in its crucial stage severely affected by the supply stagnation of raw materials and their rapid price rise resulting from China's export control and the Russian invasion of Ukraine. Under such circumstances, Central Chemical Co., Ltd. has striven to provide a stable supply of fertilizers as one of the few manufacturers of high-analysis ammonium chloride compound fertilizers. In recent years, environmental issues including the issue of marine plastic litter have been drawing public attention, in which we have worked on the development of environment-friendly products tenaciously, such as environment adaptive controlled-release fertilizers and chemical fertilizers combined with untapped natural resources including livestock manure combustion ash and woody combustion ash.

Naokatsu Sakata General Manager of Agri Business Administration Department  
(Holding the additional post of President and Representative Director at Central Chemical Co., Ltd.)

### SWOT Analysis

#### Strengths

Since we have the product lines of controlled-release coated fertilizers that can control the dissolution of fertilizer components, by combining them with chemical fertilizers, we can provide a base fertilizer that goes well with regional particular crop growth and effective for only once single application, which can save the effort of additional fertilization.

#### Opportunities

We use vegetable oil for about a half of the coating material of a coated fertilizer, and have received biomass certification for all coated fertilizers.

#### Weaknesses (and countermeasures for them)

Not having a full lineup of products combined with chemically composed controlled-release fertilizer. Expanding the number of lineup of products by combining untapped natural resources.

#### Threats (and countermeasures for them)

From 2030, it will become necessary to make a shift to agriculture that does not rely on coated fertilizer using plastic. Accelerating the development of environment adaptive controlled-release fertilizer.

### Business Policy of Medium-Term Management Plan

- Develop coated fertilizers with thinned coating (Cera-coatRS) to reduce the discharge quantity of plastic. Aim to commercialize those coated fertilizers in 2024 after cultivation tests using wet-field rice
- Set up a development team utilizing domestic untapped natural resources in order to respond to Strategy for Sustainable Food Systems MIDORI. Accelerate the launch of resource-recycling fertilizers such as by utilizing woody combustion ash and expanding the product line of chemical fertilizers combined with chicken manure combustion ash
- Presently working on the development of environment adaptive controlled-release fertilizers by utilizing the existing facility to manufacture coated fertilizers and the dissolution adjustment technology. Work on early replacement of existing products (Cera-coatR)

### Business Strategy for FY2023

In FY2022, affected by geopolitical factors such as China's fertilizer export control and the Russian invasion of Ukraine, fertilizer prices soared to the point that the government had to take assistance measures. We found ourselves in the tough environment in which the reduction of chemical fertilizers was taken into action on the condition of assistance to farmers from the government. However, we were able to achieve a performance in the sale of Cera-coatR as high as that of the previous year by carrying out our business activities while proposing the preven-

tion of the outflow of coating shells to a river. On the other hand, regarding Cera-coat compound fertilizers, since the suppliers of ammonium chloride, the raw material of the fertilizers, exist only in China, we suffered a decrease in their sales directly affected by the export control.

The domestic agricultural environment from FY2023 is expected to be an even more severe one due to a decline in the number of farmers and graying population of the farmers. We are going to carry out our business activities with focus on the sales of Cera-coatR, a controlled-release coated fertilizer, that can contribute to saving agricultural labor. Cera-coatR is a product that uses vegetable oil for a half of its coating material, contributing to the realization of carbon neutrality. In addition, we will work on the development of Cera-coatRS, a coated fertilizer with thinned coating, to address the issue of marine plastic litter with an eye toward its commercialization in 2024. Moreover, we are advancing the development of environment adaptive controlled-release fertilizers, and making our utmost efforts to shift from Cera-coatR at an early stage. Besides these, we will proactively promote the development and sales of chemical fertilizers utilizing domestic untapped natural resources in order to contribute to solving issues concerning the environment and food.

### ESG-Related Initiatives

We have received biomass certification for Cera-coatR, our flagship product, and every time when a fertilizer bag is updated, we describe the ratio of plant oil used as a coating material.

We are also reducing our environmental impact by switching logistics from trucks to sea freight.

# Sustainability Management

## Fundamental Concept of Sustainability

In accordance with the Basic Philosophy of "Creating a Better Future Through *Monozukuri*," the Central Glass Group has made efforts to solve environmental and social issues through the spirit of *Monozukuri*, and developed various businesses with the aim of contributing to the establishment of a truly prosperous society.

Believing that this Basic Philosophy is the very essence of what sustainability means, we will continue to tackle environmental and social issues more seriously than before, and take on challenges toward the realization of a sustainable society as an R&D-oriented company.

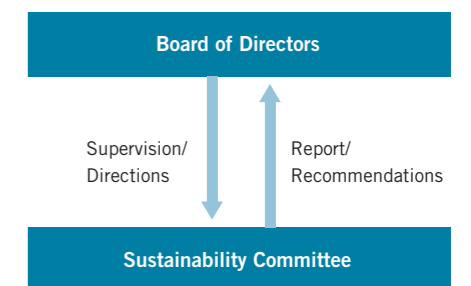
Central Glass Co., Ltd. aims to improve enterprise value from a long-range viewpoint through business activities while taking the global environment, society and economy into consideration.

## 1. Structure to Address Sustainability

As a means of promoting our Group's efforts to address sustainability, we have established the Sustainability Committee with the purpose of analyzing and evaluating measures and activities in a cross-sectoral manner, making a report and a recommendation to the Board of Directors as necessary, and further strengthening our efforts.

We will continue to strengthen and accelerate such efforts by proactively making recommendations on a strategy for business activities for the solution of environmental and social issues from the perspective of sustainability.

Time of Establishment	November 2021
Main Purposes	(1) Get overall grasp of activities to promote sustainability by the Group (2) Comprehensively analyze and examine efforts for sustainability (3) Make recommendations to the management toward solving social issues as necessary
Composition	Chairperson: Executive in charge of the Corporate Administration Department Vice-Chairperson: Executive in charge of the Environment and Safety Department Committee Members: Designated responsible persons of each department Secretariat: Corporate Administration Department and Environment and Safety Department
Meetings	Held as necessary (FY2021: twice, FY2022: three times)



## 2. Promotion of Sustainability Management

Considering the business environment surrounding our Group, based on the concept of sustainability, we will create economic and social value by identifying materiality that reflects our management philosophy, the Medium-Term Management Plan, expectations from our stakeholders, etc. as well as by working on the solution of these issues through business activities. As a means of promoting our efforts to address sustainability, we will set medium- to long-term initiatives and targets (KPIs), go ahead with them while following the PDCA cycle, and ensure their progress under the supervision of the Board of Directors.



# Corporate Governance

To realize sustainable growth and increase enterprise value, we will work on the further improvement and enhancement of our corporate governance to increase the transparency and fairness of our management.

## Corporate Governance

The Central Glass Group is continually increasing the transparency and fairness of our overall management, and strives to establish an efficient and rational organizational structure that can swiftly respond to changes in the business environment in order to further enhance our enterprise value and expand our revenue. This is our fundamental concept of corporate governance.

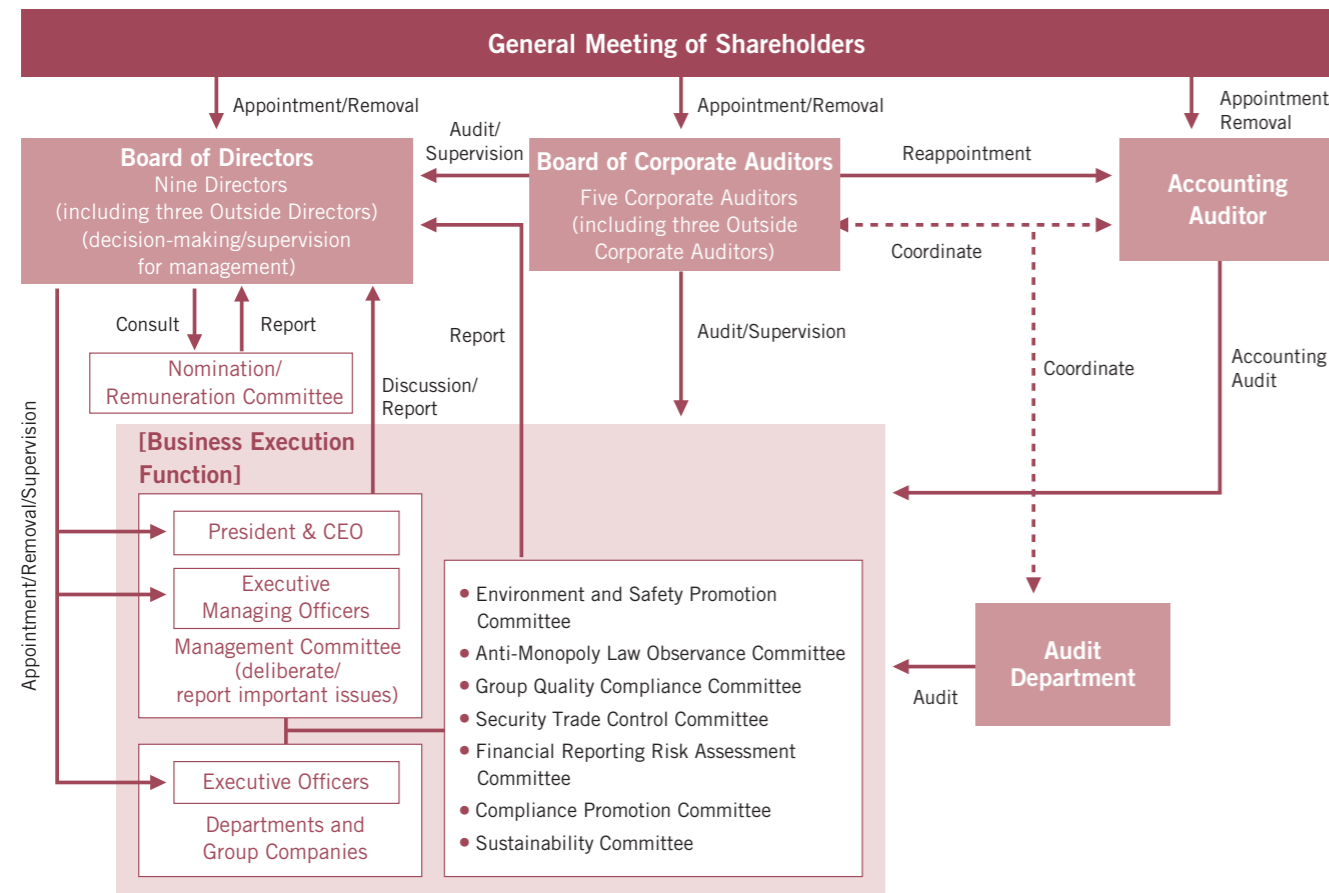
Based on the concept, Central Glass position our Board of Directors and Board of Corporate Auditors as the foundation of our corporate governance. In addition, we have adopted an executive officer system. By separating decision-making regarding important business matters, the supervision of business execution, and the actual execution

of business, we have slimmed down the Board of Directors to make management more efficient and prompter.

We have, in addition to an assigned Accounting Auditor in accordance with the Companies Act, an Audit Department for the purpose of internal auditing, which conducts audits of the full range of activities of Central Glass Co., Ltd. and our affiliates, and reports its findings to the Representative Director and Corporate Auditors.

The Corporate Auditors, the Accounting Auditor, and Audit Department staff exchange information and opinions, ensure coordination, and share problems to enhance and drive the efficiency of the auditing process.

### • Schematic Diagram of Corporate Structure



## Overall Corporate Governance Structure

### Board of Directors

As a rule, the Board of Directors meets once a month, or when necessary, to deliberate and resolve legal and important managerial issues in line with the regulations covering the Board of Directors, and supervises the execution of business by the Directors and Executive Officers including the President.

Outside Corporate Auditors and Outside Directors, who retain independence with no potential for a conflict of interest with ordinary shareholders, ensure fair decision making within the Board of Directors and take on the role of rejecting any arbitrary decisions.

### Board of Corporate Auditors

As a rule, the Board of Corporate Auditors meets once a month, or when necessary, to deliberate and resolve important auditing issues. Corporate Auditors also share information and frequently exchange opinions with each other. In addition, they meet periodically with the Representative Director to discuss important matters of auditing.

The Corporate Auditors attend important meetings such as those of the Board of Directors, and audit the performance of duties that are carried out by the Directors and Executive Officers, as well as the performance of duties of each department and affiliate companies.

### Audit Department

The Audit Department, which has been established for the purpose of managing internal control systems related to internal audits and financial reporting, conducts operating audits to maintain the effectiveness and efficiency of group-wide operations, conserves resources, and manages compliance with laws and regulations as well as internal rules, in addition to preventing dishonest practices. Through these audits, the Audit Department strives to sustain appropriate and efficient business operations by providing counsel and advice about improvements when necessary.

The Audit Department also convenes regularly and when necessary to cooperate with the Corporate Auditors, working on the improvement and streamlining of audit work.

### Nomination/Remuneration Committee

The Nomination/Remuneration Committee has been established as a voluntary advisory body to the Board of Directors in order to further enhance the corporate governance structure by strengthening the independence, objectivity, and accountability of the functions of the Board of Directors relating to matters such as the nomination and remuneration of Directors and Corporate Auditors. The committee is composed of at least three members, the majority of whom are Independent Outside Directors, and one or more of whom are Representative Directors. The chair is selected from among the Outside Directors.

### • Attendance Status of the Board of Directors in FY2022

Position Classification	Name	Attendance Status
Directors	Tadashi Shimizu	100% (19 times/19 times)
	Kazuhiko Maeda	100% (19 times/19 times)
	Toru Miyauchi	100% (19 times/19 times)
	Takashi Kume	100% (19 times/19 times)
	Minoru Irisawa	100% (19 times/19 times)
	Yoshitada Makihata	100% (19 times/19 times)
Outside Directors	Tetsuo Nishide	100% (19 times/19 times)
	Kimi Koinuma	100% (19 times/19 times)
	Masaya Kawata	89% (17 times/19 times)
Corporate Auditors	Takahiro Kondo	100% (3 times/3 times)
	Takao Tomioka	100% (19 times/19 times)
	Masanori Murata	100% (16 times/16 times)
Outside Corporate Auditors	Masaaki Hori	100% (19 times/19 times)
	Hiroyuki Kawai	100% (19 times/19 times)
	Toshihide Nishimura	100% (19 times/19 times)

Takahiro Kondo retired as of June 29, 2022, and Masanori Murata was assigned to be a Corporate Auditor as of the same date; therefore, the number of Board of Directors meetings to be attended is differs from those of other Directors and Corporate Auditors.

## Cross-Shareholdings

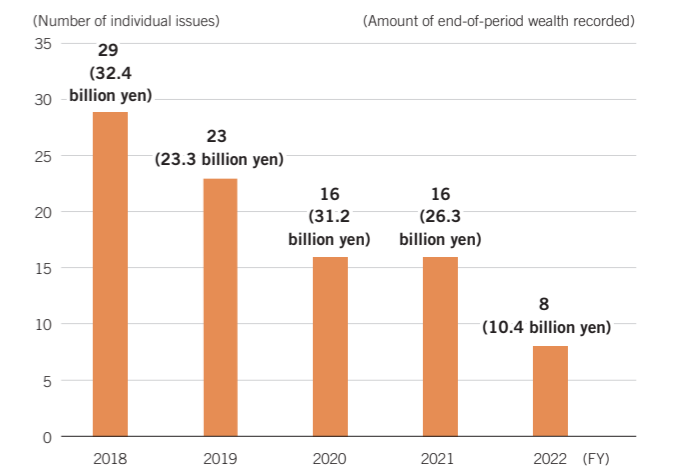
### Policy on the Reduction of Cross-Shareholdings

Our Company conducts an examination into the appropriateness of the purpose of cross-shareholdings listed shares as well as whether benefits and risks resulting from holding them worth the capital cost according to individual issues. We also consider selling of shares that do not contribute to the medium- to long-term improvement of our Company's enterprise value, promoting the reduction of cross-shareholdings.

However, comprehensively considering non-financial aspects such as management strategies and measures against risks from the perspective of the maintenance and strengthening of partnerships, transactional relationships and business relationship, we plan to hold listed shares that will contribute to the medium- to long-term improvement of our Company's enterprise value.

Based on the above policy, the Board of Directors conducts an examination on cross-shareholdings listed shares, and will continue to conduct a review regularly.

### • Changes of Cross-shareholdings Listed Shares



## Remuneration of Executives

### Policy for the Determination of the Remuneration of Executives

At the Board of Directors meeting held on May 11, 2023, we have adopted the resolution to revise the policy for the determination of content of remuneration, etc. that individual Directors are to receive. Before adopting the resolution at the said Board of Directors, we had consulted the Nomination/Remuneration Committee and received their report.

Regarding the determination of content of monetary remuneration of individual Directors, since the Nomination/Remuneration Committee entrusted by the Board of Directors determined the content of remuneration, etc. after deliberating related matters from various angles including consistency with the policy for the determination, the Board of Directors has decided that the content of individual remuneration is in line with the policy.

### Basic Policies

Remuneration for Board of Directors in our Company is designed to be a driving force to operate business leading to sustainable development and the improvement of medium- to long-term enterprise value by steadily carrying out management plans and business strategies. The policy for the determination of content of remuneration, etc. is determined by the Board of Directors with consideration for the responsibility of individual positions and their impact on management in the light of a report from the Nomination/Remuneration Committee. Specifically, the remuneration of Directors (excluding Outside Directors) consists of fixed compensation (money), performance-based compensation (money) and performance-based stock compensation\*, and the remuneration of Outside Directors consists only of fixed compensation with a view to ensuring the adequacy of their duty to supervise business execution.

Additionally, the remuneration of Corporate Auditors consists only of fixed compensation, which is determined with the cooperative consultation of Corporate Auditors.

\* Our Company introduced the performance-based stock compensation plan at the end of the Ordinary General Meeting of Shareholders in June, 2023.

### Background of the Introduction of the Performance-based Stock Compensation Plan

This plan was introduced with the aim of raising awareness to contribute to the medium- to long-term improvement of business performance and our enterprise value by further clarifying the interrelation between the remuneration of Directors, our Company's performance and its stock value as well as by Directors sharing benefits and risks due to stock price fluctuations with shareholders.

#### • Total Amount of Remuneration, etc. of Executives in FY2022

The table below includes one Corporate Auditor who retired from office by the end of FY2022.

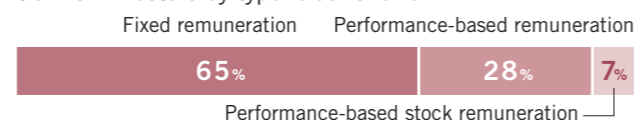
Executives Classification	Total Amount of Remuneration, etc. (million yen)	Total Amount of Remuneration, etc. by Type (million yen)		Number of Eligible Executives (person)
		Fixed remuneration	Performance-based remuneration	
Directors (Outside Directors included)	265 (31)	191 (31)	73 (-)	9 (3)
Corporate Auditors (Outside Corporate Auditors included)	59 (23)	59 (23)	- (-)	6 (3)
<b>Total</b>	<b>324</b>	<b>250</b>	<b>73</b>	<b>15</b>

By the introduction of the plan, the remuneration of our Directors came to consist of fixed compensation, performance-based remuneration and performance-based stock remuneration.

In addition, we have introduced a performance-based stock remuneration plan similar to this plan for Executive Officers who have entered into a commission contract with our Company.

### Ratio of Remuneration by Type

As a rough indication, the percentage of each remuneration for Directors by type is as follows.



\* In the case that the standard performance is achieved 100%.

## Appointment of Executives

### Policy and Procedure for the Appointment of Executives

It is our belief that a candidate for a Director's position nominated by the Board of Directors and an Executive Managing Officer appointed by the Board of Directors have to be a person who is acquainted with various issues in business management, and excellent in personality, knowledge and executive ability, being able to fulfill duties of a manager. In nominating a candidate for Director's position, the Board of Directors makes a recommendation based on a report from the Nomination/Remuneration Committee and the rules governing the Board of Directors, and the appointment of an Executive Managing Officer is made by the resolution of the Board of Directors based on a report from the Nomination/Remuneration Committee and the rules governing Executive Officers.

It is our belief that a candidate for a Corporate Auditor's position appointed by the Board of Directors has to be a person who can play a role as part of the supervisory function of the Company in cooperation with the Board of Directors, bear the responsibility of auditing the execution of duties by the Directors as an independent body having a mandate from stakeholder, and can always maintain a fair and unbiased stance and act on his/her belief, in addition to striving to maintain the independent position as a Corporate Auditor. In appointing a candidate for a Corporate Auditor's position, the Board of Directors shall receive the consent of the Board of Corporate Auditors based on a report from the Nomination/Remuneration Committee.

## Evaluation on the Effectiveness of the Board of Directors

In our Company, the Board of Directors, which takes the initiative in analyzing and evaluating itself, conducts a questionnaire to evaluate its effectiveness once a year as a means to improve the function of the Board of Directors.

The Board of Directors of the Company had all Board of Directors and Corporate Auditors conduct a self-evaluation through the questionnaires in March, 2023, and the Board of Directors analyzed and evaluated itself based on the obtained results, from the content of the answers, the Board of Directors was confirmed to be operating effectively on the whole.

Regarding the issue of the cooperation system between Outside Directors recognized in the analysis and evaluation of the previous fiscal year, after holding a meeting to exchange opinions between Outside Directors, the linkage between them was confirmed to have been improved. It was also confirmed that the quality of training for Executives had been improved as a result of providing various seminars and making various efforts such as by arranging lectures.

We will continue to make efforts to improve the functionality of the Board of Directors, with consideration for the results of the evaluation of its effectiveness and its efforts to address issues.

## Efforts to Enhance Corporate Governance

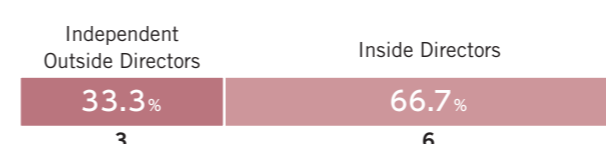
Month/Year	Matter to Be Addressed
June 2004	Introduction of the executive officer system
June 2005	Increase in the number of Corporate Auditors (four persons → five persons)
June 2006	Abolition of retirement benefits for Executives
June 2006	Change in the terms of Directors (two years → one year)
June 2009	Appointment of Outside Directors
June 2013	Increase in the number of Outside Directors (one person → two persons)
December 2015	Initiation of evaluation on the effectiveness of the Board of Directors
June 2018	Appointment of a female Outside Director
June 2018	Increase in the number of Outside Directors (two persons → three persons)
March 2019	Abolition of anti-takeover measures
March 2019	Establishment of the Nomination/Remuneration Committee
November 2021	Establishment of the Sustainability Committee
December 2021	Disclosure of skill matrix

## Diversity of Executives (Skill Matrix)

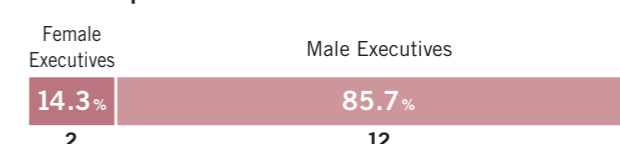
It is our belief that the Board of Directors should consist of persons who are acquainted with various issues in business management, and excellent in personality, knowledge and executive ability, being able to fulfill duties of managers in a balanced fashion. The combinations of skills, etc. possessed by Directors and Corporate Auditors are as follows.

Position Classification	Name	Knowledge/Experience/Capabilities						
		Management	Finance/Accounting	Law/Compliance	International affairs	Sustainability	Sales/Marketing	Technologies/R&D
Directors	Tadashi Shimizu	●	●	●	●			
	Kazuhiko Maeda	●		●	●	●	●	●
	Minoru Irisawa	●			●		●	
	Nobuyuki Tokunaga	●		●			●	●
	Akihiro Ishii	●				●		●
	Yoshinori Akamatsu	●			●	●	●	●
Outside Directors	Tetsuo Nishide	●			●	●		●
	Kimi Koinuma			●				
	Masaya Kawata	●	●		●			
Corporate Auditors	Takao Tomioka					●		●
	Masanori Murata		●	●				
Outside Corporate Auditors	Toshihide Nishimura	●	●					
	Toshifumi Mikayama	●			●			●
	Masako Goto		●					

#### • The Ratio of Independent Outside Directors among All Directors



#### • The Ratio of Female Executives among All Directors and Corporate Auditors



# Environment and Safety

The Central Glass Group will continue to work for the realization of a productive social environment through Responsible Care Initiative, while showing consideration to the global environment, human health and safety.

## Environment and Safety Management

The Central Glass Group has established the Guidelines for Environment, Safety, and Health based on the Corporate Philosophy and Code of Conduct. While not only appropriately complying with the law, we also promote management considering the environment and safety with the aim of carrying out corporate activities at a higher standard, meeting social demands, and creating a safe and comfortable working environment.

## Promotion of Environmental Protection

### Material Balance of the Central Glass Group

The Central Glass Group continues its efforts to reduce the environmental impact of production activities by carefully monitoring the amount of energy and resources used in our production activities as well as the environmental impact they generate. These efforts primarily focus on reducing emissions of greenhouse gases (hereinafter referred to as GHG) and discharge of environmentally hazardous substances into the air and water, as well as on recycling waste and reducing the final disposed amount. We will continue to monitor our resource consumption and amount of waste to further control generation, emissions and discharge of GHG, environmentally hazardous substances, and waste, as well as promote cyclic use to build a recycling-oriented society.

\* Since this fiscal year, the data posted under the heading "Promotion of Environmental Protection" have been changed to represent the total emissions amount from our Company and the consolidated companies (in the past: the area within the reach of operational control), and the historic data have also changed in the same manner.

### Material Balance (FY2022 Results)

#### INPUT

Total Amount of Materials Input		Total Amount of Water Resources Input		Total Amount of Energy Input	
Central Glass Co., Ltd.	Affiliate Companies	Central Glass Co., Ltd.	Affiliate Companies	Central Glass Co., Ltd.	Affiliate Companies
330 thousand tons	165 thousand tons	9.165 million m <sup>3</sup>	1.180 million m <sup>3</sup>	4,193TJ	1,054TJ



#### OUTPUT

Air		Water area		Disposal		Recycling Rate	
Central Glass Co., Ltd.	Affiliate Companies	Central Glass Co., Ltd.	Affiliate Companies	Central Glass Co., Ltd.	Affiliate Companies	Central Glass Co., Ltd.	Affiliate Companies
GHG Emissions <sup>1</sup> 332 thousand tons CO <sub>2</sub>		Total Amount of Discharged Water 9,371 million m <sup>3</sup>		Total Amount of Industrial Waste Emissions 37 thousand tons		Recycling Rate 72%	
273 thousand tons CO <sub>2</sub>	59 thousand tons CO <sub>2</sub>	9.167 million m <sup>3</sup>	0.204 million	28 thousand tons	9 thousand tons	70%	83%
Air Pollutants Emissions 2,413 tons		Water Pollutant Emissions 59.6 tons		Final Disposed Amount of Industrial Waste 15.6 thousand tons			
2,357 tons	56 tons	59.3 tons	0.3 tons	13.7 thousand tons	1.9 thousand tons		

<sup>1</sup> GHG emissions: Including energy and non-energy fields, six gases, and fluorocarbons

### Reduction of GHG Emissions

#### Medium- and Long-Term Targets

Reduce total Scope 1 and 2 GHG emissions for the entire Group by 40% from the FY2013 level by FY2030. Challenge to realize net-zero GHG emissions in 2050

#### GHG (Scope 1 and Scope 2) Emissions Result

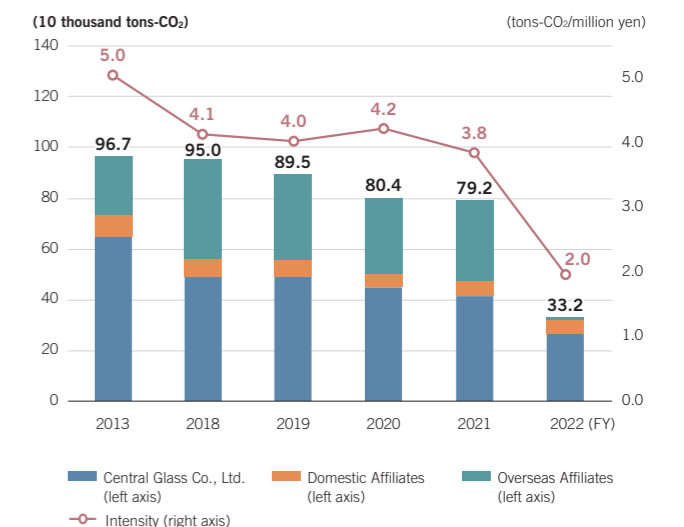
In FY2022, we withdrew from the automotive glass businesses in United States and Europe and suspended the operation of some of the domestic glass furnaces, which led to the reduction to 332 thousand tons-CO<sub>2</sub> (58% reduction from the previous fiscal year). We are planning to evaluate the feasibility of the 2030 targets after implementing a structural adjustment calculation of the amount of emission from the businesses that have already been sold.

We have included our policy to constantly reduce GHG emissions intensity in our Company's materiality (priority issues), and achieved a reduction to 2.0t-CO<sub>2</sub>/million yen (47% reduction from the previous fiscal year) in FY2022.

We will continue to work on the reduction of GHG emis-

sions and environmental impact throughout the Central Glass Group, including both at domestic and overseas affiliates in order to prevent global warming.

#### GHG emissions (Scope 1 and 2)



### Guidelines for Environment, Safety, and Health

Enacted: October 30, 2020

#### "Everything is for people and the global environment"

The Central Glass Group, as part of the Responsible Care Initiative, shall ensure environment, safety, and health compliance in all processes from development to manufacturing, logistics, use, final consumption, recycling, and disposal with the sincere cooperation of each and every employee. The Group shall announce the achievements and engage in dialogue and communication with society.

Management system	Compliance	Accurately understand and comply with the details of laws and regulations.
	Continuous improvements	Engage in activities based on rules such as regulations and standards and strive for continuous improvement.
	Prevention and risk treatment	Try to prevent problems from occurring and, if a problem should occur, make efforts to prevent a recurrence by analyzing the root cause appropriately.
Environmental protection		Confirm the conformity, validity, and efficacy of each requirement through regular audits and investigations and take appropriate action if necessary.
		Understand the influence that activities related to all processes from development to manufacturing, logistics, use, final consumption, recycling, and disposal have on the environment and promote the reduction of their environmental impact.
Process Safety and disaster prevention		Secure a working environment that enables employees to work safely and ensure the safety and security of the local community by making efforts to prevent accidents and disasters such as fire, explosions, and chemical spills.
Occupational health and safety		Endeavor to eliminate potential dangers in the working environment and promote activities that lead to the support and maintenance of mental and physical health, in addition to promoting activities to protect one's own life, body, and health.
Distribution safety		Comprehensively promote safe logistics to protect safety of employees, forwarding agents, pickup and delivery service providers, and the environment by managing the means of transportation, transportation status, and safety information, and making efforts to broadly communicate measures in the event of an accident.
Chemical substance management		Protect the safety of all operators, including our customers and the environment, by understanding the danger and toxicity of chemical substances and managing and handling them properly.
Communication		Announce the details of our activities and achievements and actively engage in dialogue with all stakeholders.

## Environment and Safety Management Promotion System

The Central Glass Group has established the Environment Safety Promotion Committee, and the Environment and Safety Department acting as its secretariat is promoting Group-wide environment and safety efforts. The head office, research centers, plants and affiliate companies incorporate items unique to each business site into a specific activity plan and engage in environment and safety initiatives.

### Environment and Safety Management Promotion System

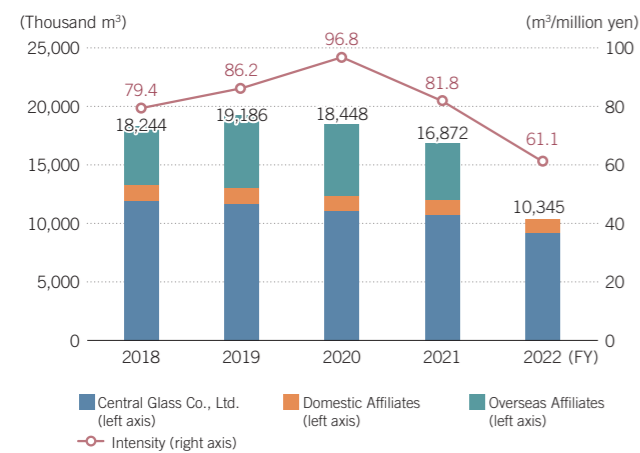


### Reduction of Water Use

In the Central Glass Group, water use decreased in FY2022 due to the non-operation and periodic repairs of the flat glass manufacturing lines, which led to a year-on-year decrease in water intake intensity per sales.

In FY2023, we are expecting to see a short-term increase in water intake due to an expected increase in water use following the reactivation of the flat glass manufacturing lines that underwent periodic repair; we will aim to decrease water intake intensity per sales in the medium to long term by proactively promoting the efficient use of water.

#### Water use

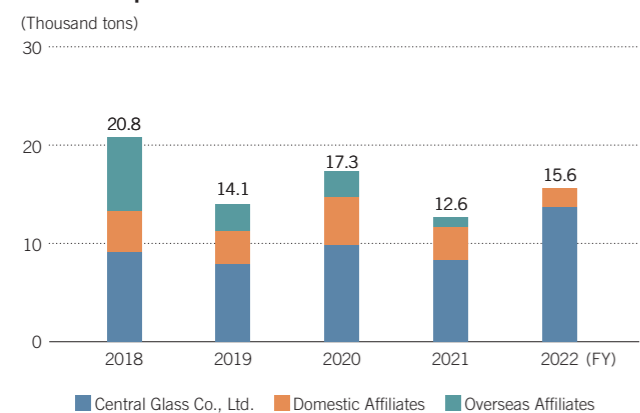


### Reduction of the Final Disposed Amount of Industrial Waste

The Central Glass Group strives to reduce industrial waste. In FY2022, the final disposed amount of industrial waste from our Company increased due to implementing the prior disposition of sludge. The final disposed amount of industrial waste from the domestic and overseas affiliates decreased; however, the one from our Group was 15,600 tons (23% increased from the previous fiscal year).

We will continue to work toward the reduction of final disposal amount through the promotion of emission reduction and recycling by reducing industrial waste generation and the use of plastics, as well as by implementing thorough sorting of waste.

#### Final Disposed Amount of Industrial Waste



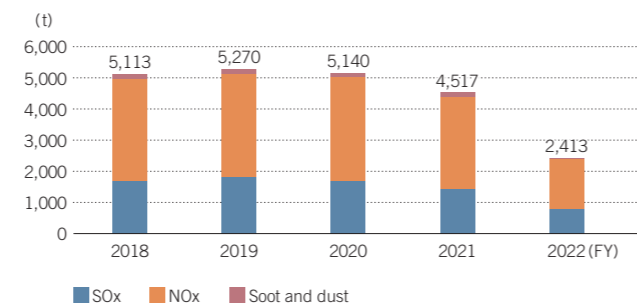
### Air and Water Pollutant Emissions

#### Air Pollutant Emissions

Our Group monitors the concentration and amount of sulfur oxides (SOx), nitrogen oxides (NOx), soot and dust, and other air pollutants emitted, in accordance with the Air Pollution Control Act, the laws and regulations of each country, and the emission standards of the regions where our facilities are located. Some plants have installed environmental protection equipment such as desulfurization equipment for SOx, catalytic adsorption equipment for NOx, and electrostatic precipitators for soot and dust to recover air pollutants before they can be discharged into the atmosphere.

In FY2022, we reduced emissions of air pollutants by structural reform of the Glass business and suspension of the flat glass manufacturing lines.

#### Air Pollutants Emissions

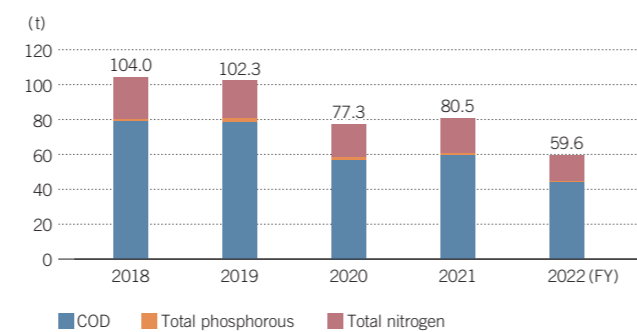


#### Water Pollutant Emissions

Our Group monitors the concentration and amount of water pollutant emissions, such as COD, total phosphorous discharge, and total nitrogen discharge, in accordance with the Water Pollution Control Act, the laws and regulations of each country, and the emission standards of the regions where our facilities are located. At each plant, the wastewater treatment facilities necessary for environmental conservation have been installed to remove pollutants and recollect active components in wastewater before discharge.

In FY2022, we reduced emissions of water pollutants by structural reform of the Glass business and suspension of the flat glass manufacturing lines.

#### Water Pollutant Emissions



Reducing emissions of air and water pollutants is an important challenge in regard to the global environment and human health and safety; therefore, we will continue to carry out appropriate management reliably.

### Promotion of Industrial Health and Safety, and Security and Disaster Prevention

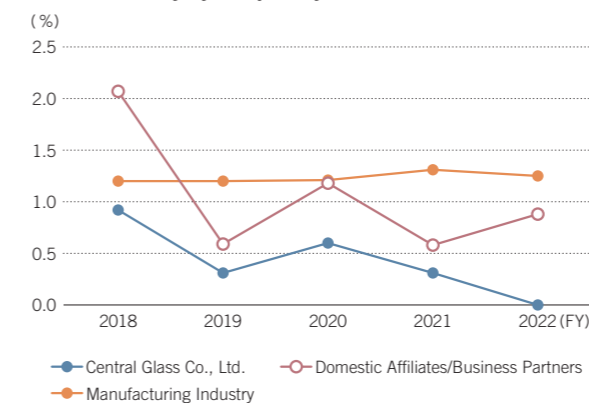
#### Promotion of Industrial Health and Safety

With the aim of ensuring the safety of workplaces, our Group has formulated the Safety and Health Management Policy, and conducts occupational health and safety activities at each business site in Japan and overseas.

In FY2022, our Company and domestic affiliates and business partners suffered a total of 27 occupational accidents, of which 6 cases were accidents that require time off from work and 21 cases were accidents not accompanied by lost worktime, with year-on-year decrease of 7 and 5 cases, respectively.

Our employees throughout the Group will continue to carry out activities to prevent work-related accidents and work on the promotion of industrial health and safety.

#### Lost time injury frequency rate



Lost time injury frequency rate: (number of deaths or injuries resulting in lost work hours/total working hours) x 1,000,000

#### Promotion of Security and Disaster Prevention

Our Group has been working on the development of disaster prevention and security systems with the aim of reducing to zero the number of accidents including fire and explosion accidents, chemical spills, etc. However, we have seen an increase in the number of forklift-related accidents involving property damage in the last few years.

In FY2022, we strove to prevent such accidents by making opportunities for discussions on causes and countermeasures based on these accident cases, and continuing to implement skill training courses of forklift operation offered by a forklift manufacturer, while intensifying hands-on training involving partner companies.

We will continue to make every effort to ensure not only safe working environments for our employees but also safe and secure local communities.

### Promotion of the Management of Chemical Substances

#### Amount of Chemical Substances Subject to the PRTR Law\*1 Emitted, Discharged, or Transported

Our Company and our domestic affiliates ascertain the emissions and transfers of substances subject to PRTR\*2 notification and report on them in accordance with the Pollutant Release and Transfer Register (PRTR) law and the PRTR system.

The number of substances subject to PRTR notification in FY2022 decreased from the previous year by seven substances to a total of 54, and their emissions\*3 increased by 15.6% from the previous fiscal year, while transfers\*4 decreased by 10.3% from the previous fiscal year due the promotion of recycling.

We will continue to promote initiatives for the reduction of the emissions and transfers of substances.

\*1 PRTR Law: Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.

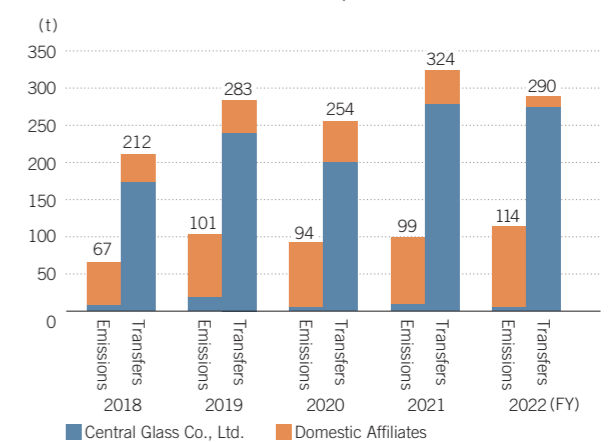
(The act with the purpose of promoting voluntary improvement of the management of chemical substances by business operators and preventing any impediments to the preservation of the environment)

\*2 PRTR: Pollutant Release and Transfer Register

\*3 Emissions: Amount released into the atmosphere, public water, soil, and amount landfilled

\*4 Transfers: Amount transferred to the sewage system, amount consigned to industrial waste disposal company (excludes shipments as products)

#### Emissions and Transfers of Substances Subject to the PRTR notification (Central Glass Co., Ltd./Domestic affiliates)



#### Promotion of the Self-Sustaining Management of Chemical Substances

Toward the self-sustaining management of chemical substances, our Group will make sure to convey information on products labels and safety data sheets SDS\*1 and expand the number of substances subject to risk assessments, responding to new regulations on chemical substances for proper use of protective equipment.

\*1 SDS (safety data sheet): A document that includes information on physical-chemical properties of the chemical product involved and its dangerous and hazardous properties, etc.

#### What Is Responsible Care (RC)?

Responsible Care is a set of voluntary activities to implement and improve environmental safety measures based on a public commitment to a management policy aimed at preserving the environment and ensuring safety and health in all product processes from development to manufacturing, logistics, use, final consumption, recycling, and disposal.

Based on the recognition that companies must not merely comply with laws and regulations but should also execute voluntary management in order to sustain the environment, safety, and health as well as fulfill their corporate social responsibilities, an optimal balance of legal compliance and voluntary industry (corporate) management has become essential.



# Human Resource Strategy and Development

It is each employee that is leading this R&D-oriented company aiming at the realization of a sustainable society as a driving force. With a view to achieving this goal, we are promoting psychological safety at work that will always bring 'SMILE' to all employees' (group members') faces through providing opportunities and environments that allow individual workers to give full play to their abilities and talents in accordance with a newly formulated personnel strategy.

## Personnel Strategy

In our Corporate Philosophy, we declare: "Creating a Better Future Through *Monozukuri*" The Central Glass Group will contribute to the establishment of a truly prosperous society through the spirit of *Monozukuri*," defining all corporate activities by our Group from research and development, manufacturing, sale and all operations supporting them to social contribution activities as *Monozukuri*.

We also have a long-term vision of becoming a continuously growing company driven by new technologies and new products created through R&D, aiming to optimize the business portfolio, establish a profitable business model and convert to a highly profitable company by strengthening R&D as our growth driver.

At the same time, to advance the Medium-Term Management Plan, we share technologies, solutions and qual-

ities expected by stakeholders as well as values and goals related to the global environment, promote the creation of ideas to meet such requirements and needs and take necessary measures. To that end, we find it essential for our Company itself to cultivate sensitivity and work on them with more flexible mindset (=diversity).

Thus, based on the recognition that it is a person that drives an R&D-oriented company forward, it is a person that provides values required by society, and, above all things, it is a person who supports *Monozukuri*, we will work on the recruitment, training, allocation and retaining of personnel.

Specifically, corporate culture in which each person (individual employee) is cherished will support *Monozukuri* (corporate activities) and create new value. With this in mind, we have established our personnel strategy based on the idea that both corporate culture and systems are also created by persons.

Personnel Strategy of the Central Glass Group ~Securing of the Four Things~	(1) Securing of acceptability: Recognizing individuality each other (2) Securing of a place to stay: Being able to realize the meaning of his/her own existence (3) Securing of equity: Being able to exchange candid opinions with each other and take on new challenges (4) Securing of fairness: Being able to maintain high motivation
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By taking advantage of our corporate culture characterized by amenableness and earnestness that has been cultivated and successively passed down in the company since its foundation, and providing the opportunities and such environments with a slogan of "Securing of the Four Things," we will contribute to the creation of corporate culture that always brings 'SMILE' to all employees' (group members') faces, and promote psychological safety at work. In addition, we will implement measures for employees' health

management and maintenance and their mental health, and work on the employees' health promotion from the perspective of improving their well-being and promoting sustainability.

Toward securing each of the four things, we will translate them into the form of concrete materiality and KPIs, and will firmly support the implementation of our management and business strategies as well as the realization of our Corporate Philosophy.

		Priority Issues and Main Measures
(1) Securing of Acceptability	Recognizing each other's individuality	Promotion of active participation of female employees, employees with foreign nationalities, employees with disabilities, or mid-career hires
		Encouragement for male employees to take parental leave
		Encouragement to take paid leave
(2) Securing of a Place to Stay	Being able to realize the meaning of his/her own existence	Promotion of active participation of employees in a professional position
		Increase in the ratio of female employees in managerial posts (manager/assistant manager)
		Reskilling of employees
(3) Securing of Equity	Being able to exchange candid opinions with each other and take on new challenges	Promotion of the use of Challenge System
		Inspection and revision of the flextime/working from home system
(4) Securing of Fairness	Being able to maintain high motivation	Implementation of employee training and job rotation
		Execution and utilization of engagement surveys

## Priority Issues and Main Measures

### ■ Promotion of the Active Participation of Female Employees ((1) Securing of acceptability, and (2) Securing of a place to stay)

Since our Company implemented the company split as of April 1, 2023, causing major changes in the number of employees and the composition of personnel, we have newly established KPIs. In accordance with the purpose of the Act on Promotion of Women's Participation and Advancement and the Act for Measures to Support the Development of the Next Generation, we will work to increase the ratio of female employees by expanding the opportunities and improving the working environment for them.

We will also take measures to change the attitude of not only female workers but also that of supervisors having female employees as subordinates toward the appointment of a female employee to a managerial position through providing training, with the aim of creating an atmosphere and an environment that will encourage everyone to reach out for a managerial position.

By increasing the ratio of female employees through these efforts, we will work on the development of an organization having a diverse range of perspectives and the vitalization of our corporate culture.

	FY2022 Results	FY2024 Targets
Ratio of Female Employees in Career-track Employees	13%	15%
Ratio of Women in Managers	2.5%	4%
Percentage of Male Employees Utilizing Parental Leave	39.7%	55%
Percentage of Male Employees Taking Parental Leave for 30 Days or Longer	38.0%	45%

### ■ Encouragement for Men to Take Parental Leave ((1) Securing of Acceptability)

Since it is common for men to take part in childcare nowadays, we encourage male employees to concentrate on raising their children. Specifically, when a male employee submits a notification on childbirth, a personnel department representative directly provides to the notifier himself sufficient information on the childbearing leave program including the acquisition of leave of 30 days or longer, responding to each case in a cordial manner. In particular, our childbearing leave program newly established in FY2022 stipulates the treatment surpassing that prescribed in laws and regulations regarding parental and nursing care leave in terms of wages.

In this way, by cultivating a culture that allows male employees to take childcare leave with no hesitation, we will aim to be a company in which regardless of gender, employees whose time is restricted by childcare, nursing care or other responsibilities can work with a peace of mind for a long time. With this background, we are taking various measures to improve our work environment such as by promoting the institutionalization of working from home.

### ■ Promotion of the Use of Challenge System ((3) Securing of Equity)

In 2021, our Company fundamentally revised the personnel system with the aim of (1) reinforcing its cooperation with business, (2) responding to diversifying human resources and ways of working, and (3) realizing equal and fair treatment. In the planning of a system, we introduced a job group system that divides workers into two groups: one job group in which workers acquainted with a specific specialized field carry out their duties in that specialized field by utilizing their knowledge, techniques and abundant experience, and the other job group in which workers develop an

operational policy of the organization based on a superior policy and promote the management of duties within their jurisdiction to achieve the policy. By utilizing this system, we will evaluate workers by job group and in a point-by-point and item-by-item manner, instead of evaluating them uniformly as in the past. The Challenge System allows workers in the job group mainly in charge of carrying out duties in specialized fields to make a shift to the other group mainly in charge of management work.

Since it is desirable for the Company to have employees who acquired sufficient knowledge and experience engage in management work, we will encourage employees to actively utilize this system.

### ■ Improvement of Engagement ((4) Securing of Fairness)

In the midst of growing importance of the human capital management in which viewing human resources as capital and maximizing their value lead to the medium- to long-term improvement of enterprise value, changes in the labor market (aging population and a declining birthrate, diversification of working styles, etc.) leads to the acceleration of the mobility of human resources.

Under these circumstances, our Company will identify the present engagement status and related factors by investigating actual status of the Company (Corporate Culture, an internal environment, and systems and measures available) from the employee viewpoint, clarify the issues involved and assign priorities to such issues and promote the implementation of necessary measures in an interactive manner, with the aim of improving the engagement of employees.

## column

### Employees with Foreign Citizenship Introduced in In-House Bulletin

As one example of diversity activities advanced by the Company, we had an online round-table talk with employees with a foreign citizenship playing active roles in our Company and introduced its content through the in-house bulletin. The contributors shared what they learned from this event with the following comments:

- I used to have an impression that they were using Japanese without having difficulties, but I found they have communication anxiety.
- Likes and dislikes vary from person to person even among people with the same nationality, which is true of Chinese.

After realizing these, there were voices from the contributors saying that they came to understand that accepting that some attributes need careful consideration as common sense and communicating with individuals with an open mind, which may sound contradictory to each other, are important in showing respect for the diversity of people regardless of their nationality.



Central Glass Co., Ltd. will, as a company that continues to provide excellent products with high added value, aims to increase the value of human capital across the Group by improving the education system and its personnel system, as well as by making group-wide efforts to further improve employees' skills.

### Basic Policies for Human Resource Development

Central Glass Co., Ltd., is viewing human resources as capital serving as a source of competitiveness, respects the diversity and independence of individual employees constituting the organization, and is working on the systematic cultivation of human resources and career development. We work for the growth of individuals and the improvement of organizational strength with the purpose of increasing the satisfaction of employees, Company's important capital, and enhance enterprise value through *Monozukuri* full of originality, contributing to the realization of a sustainable and prosperous society.

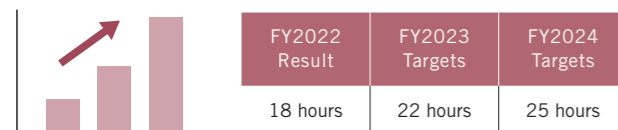
#### • Monozukuri Coupled with Human Resource Development Leading to a Better Future



### Materiality and KPIs

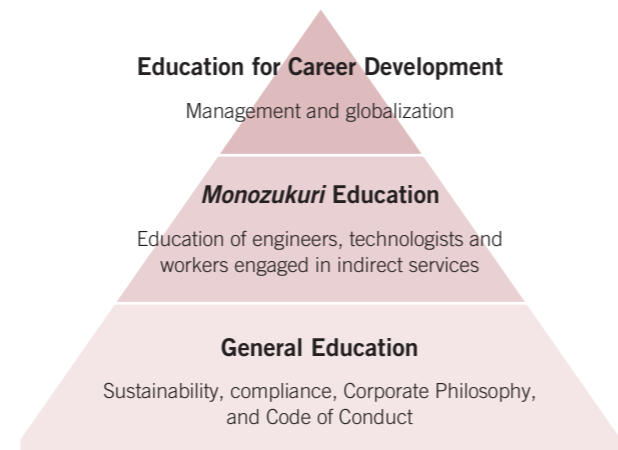
Based on the idea that *Monozukuri* is *Hitozukuri*, we will clarify the number of hours spent for educating each employee as a KPI, aiming to enhancing human resources constituting a part of important capital.

#### • Number of Hours Spent for Educating Each Employee



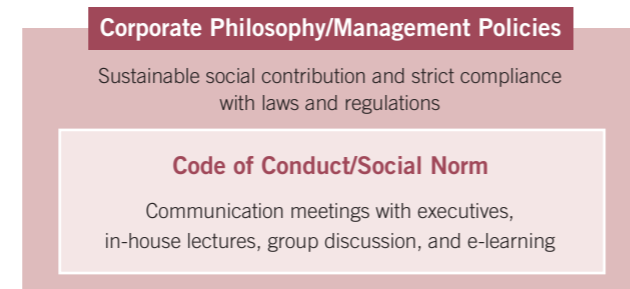
### Clarification of Vision of Desired Human Resources and Systematization of Education

The educational system of Central Glass Co., Ltd. has been established under the education philosophy of nurturing human resources with sincerity and well-rounded character, those having a strong sense of responsibility and ability to take action, and those who are free-minded having originality and creativity as producers, as well as human resources with true ability to lead others as an administrator and supervisor, and those who are rich in humanity having a long-term view as an international person, by leveraging our corporate culture characterized by amenableness and earnestness. Having established this educational system supported by the three pillars of the general education, the *Monozukuri* education and the career development education, we will aim to improve the solidarity and productivity of the organization, while supporting the growth and self-realization of individual employees.



### Toward Truly Contributing to Society

In the general education, we provide each employee with opportunities to deepen their understanding of our Corporate Philosophy and the Code of Conduct, and consider how they can contribute to the development of the Company and society as a person belonging to an organization for themselves. Since FY2019, in addition to the e-learning system that allows all employees of Central Glass Group including management personnel to conduct self-study, we have provided various opportunities such as communication meetings in which management team explains to young employees about the Corporate Philosophy and company policies, and introduce specific cases regarding response to compliance, as well as discussions to learn from cases of violations. Thus, we have provided a system that allows participants to learn from each other and raise their consciousness, contributing to the reform of our corporate culture.



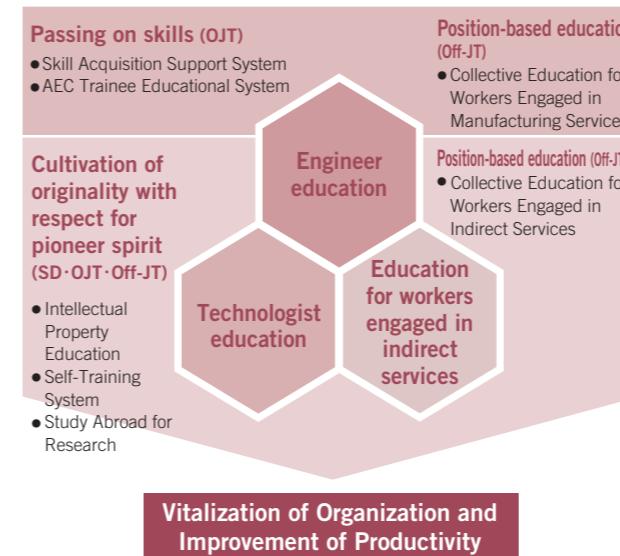
### Establishment and Securing of Our Original Technologies

In the *Monozukuri* education, we support the efforts of technologists, engineers, and workers engaged in indirect operations to raise their consciousness and acquire needed knowledge and skills according to their expected roles, with the aim of surviving global competition as a manufacturer.

Among them, the engineer education includes an educational system utilizing our Active Expert Center (AEC) established in FY2008 as a place to nurture candidates for leaders' positions in manufacturing departments through practical theme-based activities, such as by allowing trainees to concentrate on studying how to analyze and solve issues and think logically apart from their duties for one year. Until now, 171 persons have completed this program.

We have also established a skill-up support system in which an employee holding an original technology is appointed as a senior expert at each work-site to pass on specialized knowledge and skills.

#### • Promotion of *Hitozukuri* Supporting *Monozukuri* as an Continuously Growing Organization Driven by New Technologies and New Products Created through R&D



### Individual Growth and Organization Development

Education for Career Development consists of four types of educational systems, and it is designed to encourage the growth of individual employees and improve the organizational strength through on-the-job training (OJT), off-the-job training (Off-JT) and self-development (SD) support.

We provide young employees with eligibility-based educational opportunities which those recommended can participate in every three-to-five years, aiming to raise their consciousness, and help them confirm basic knowledge and acquire skills.

#### • Education for Career Development

Educational System	Outline
New position training	Change in the way of thinking and support for knowledge/skill acquisition according to a shift in positions and roles, such as entering company and promotion (eligibility-based programs)
Management education	Gradual career development and nurturing of candidates for managerial positions (eligibility-based and selection-based programs)
Business skills development education	Language study programs for global human resource development, support for acquiring various business skills as well as knowledge and skills intended for the enhancement of organizational productivity and the improvement of an ability to make improvements (selection-based programs, and self-development support)
Professional development education	Nurturing of highly professional personnel for various fields such as those related to legal work, intellectual property rights, environment and safety, and quality (eligibility-based and selective programs)

### Global Human Resource Development

For global human resource development, Central Glass Co., Ltd., which has been developing business in Asia and Europe and the United States while creating a supply chain, supports employees in acquiring skills in foreign languages such as English, Chinese, Korean, Czech, etc. and works on the development of young employees and supports them in the preparation for overseas assignment by providing an education system with various programs such as the MBA study abroad program to study at an overseas business school, preparation education for employees to be transferred overseas, and a courses to develop globally minded employees.

#### • Picture of Career Development



Mototsugu Ichinose  
Executive Officer, General Manager of the Personnel Department



Urara Oi  
General Manager of Career Creation Center

# Improvement of Product Quality

We will emphasize quality control initiatives that place customer satisfaction first. In addition to complying with laws and regulations, our Group takes customer feedback sincerely in order to provide reliable products and services loved by customers.

## Quality Guidelines

We have formulated Quality Guidelines as a guideline for executing our Code of Conduct based on the Central Glass Group Corporate Philosophy. The Quality Guidelines form a framework to Prevent, Detect, and Respond to quality issues, which are vital aspects of compliance.

Item	Description	
Prevent	Cultivate a culture of quality	Provide high quality and reliable products by ensuring compliance with laws and regulations, clients' requirements, and social responsibilities.
	Perform continuous improvements	Continuously implement quality improvement activities across the Group throughout the entire supply chain including outsourcing contractors to keep developing the quality and safety of our products.
	Update and enforce policies and procedures	Revise and abolish rules as appropriate and comply with rules.
	Improve organizational structures	Ensure the independence and authority of quality control and quality assurance departments so that they can fully exercise their respective duties.
	Invest in human resources and facilities	Invest appropriately in human resources and facilities that are essential to achieving our quality objectives.
Detect	Strengthen audit systems	Detect problems quickly through layered audits conducted by the plants, quality assurance departments, and audit departments.
	Streamline reporting systems	Clarify reporting procedures and reporting guidelines to ensure quick responses to quality issues.
Respond	Respond to problems with corrective and preventive actions.	Prevent recurrences of quality problems by identifying and analyzing the true causes appropriately, in addition to taking necessary measures such as prompt information disclosure in a timely manner.

## Quality Management System

With the aim of being an organization that offers reassurance and reliability to stakeholders by ensuring that we provide products and services meeting the needs of customers and society, we take action to promote quality activities under the following Quality Management System.

### Group Quality Compliance Committee

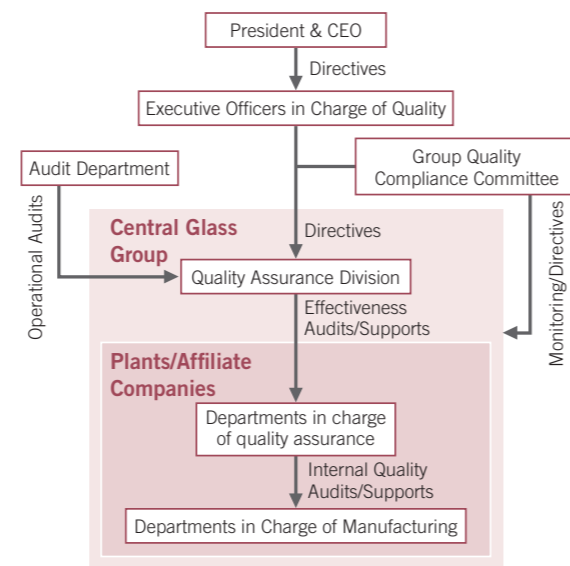
The Group Quality Compliance Committee serves as a cross-functional organization to further strengthen the quality management system of the entire Central Glass Group.

The committee holds three types of meetings: a Quality Promotion Meeting to improve quality activities based on the PDCA cycle, an Emergency Response Meeting to promptly address quality and product safety issues, and a Corrective Action Meeting to ensure that problems do not recur.

### Multilayered Audits

We incorporate the concept of multilayered audits into

internal audits. Specifically, the Company implements a three-layered auditing system comprised of internal quality audits initiated by quality assurance departments at the plants, effectiveness audits to confirm the effectiveness of internal quality audits of each plant conducted by the quality assurance department at the headquarter, and operational audits of the quality assurance department at the headquarters conducted by the Audit Department.



### Reporting Line for Quality Issues

We have established a reporting line to promptly respond to quality issues by quickly receiving information on various quality issues discovered by customers or at manufacturing sites and reporting to an appropriate department in charge. This reporting procedure also provides a system to quickly report serious quality issues to management in order to take emergency measures without any delay.

With the aim of making this Quality Management System established and ensuring its operation, we have advocated the following as priority measures for implementation in our Medium-Term Management Plan (Mid-Term Plan) for FY2022 to 2024, that is, "Strengthen quality activities through thorough daily management and vitalization of improvement activities," and "Develop human resources supporting quality activities by enhancing quality education," and we have put them into practice.

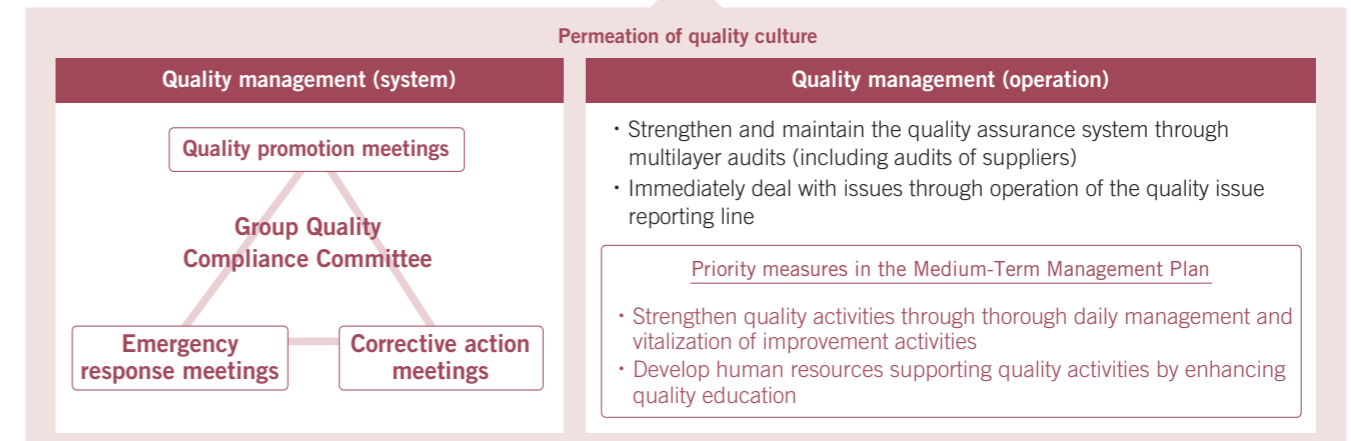
## Medium-Term Management Plan: Measures toward Improving Quality Awareness

### Objective

Aim to be an organization giving reassurance and reliability to stakeholders by ensuring provision of products and services meeting the needs of customers and society.

## Measures toward Improving Quality Awareness

Become an organization giving reassurance and reliability to stakeholders by ensuring provision of products and services meeting the needs of customers and society



### Measures

- Strengthen the quality management system of the entire Central Glass Group by operating the Group Quality Compliance Committee serving as a Group's cross-functional organization.
- Incorporate the concept of multilayered audits into internal audits to strive to maintain and strengthen the quality assurance system of the entire Group. Actively implement audits on our suppliers including contractors as a measure to improve quality.
- Properly operate the reporting line dedicated to the handling of quality issues to promptly respond to every quality issue. Quickly report serious quality issues to management in order for emergency measures to be taken without any delay.
- Strengthen quality activities at sites through the thorough daily management and vitalization of improvement activities.
- Enhance quality education for all divisions and positions to develop human resources supporting quality activities.

## Materiality

### Reduction of the Number of Complaints

We will address the improvement of quality and customer satisfaction by setting a year-to-year reduction rate concerning the number of complaints as a KPI with the target of reducing the number of complaints to half during the Mid-Term Plan period.

In FY2022, we took corrective actions regarding complaints related to quality issues and promptly confirmed their effect by properly operating the reporting line for handling quality issues, and implemented the PDCA cycle, which lead to a year-to-year reduction rate of 24%.

We will make similar efforts in FY2023, aiming to archive a target of 25% reduction.

### Maintenance/Improvement of Quality by Audits Implemented by Contractors

We will maintain and improve the quality of entire supply chain of the Central Glass Group by conducting external audits by our

high-quality contractors.

In FY2022, we achieved an audit-executing rate of 84% under the support of the contractors, aiming to maintain and improve the quality assurance system for outsourced products. In recent years, due to the COVID-19 pandemic, it has been difficult to conduct audits as planned; however, we have aimed to increase an audit-executing rate by conducting audits online or through submission of documents, in addition to auditing on-site. From FY2023 onward, we will conduct audits with a goal of achieving an executing rate of 90% or higher. We will also surely provide assistance until any corrective actions or improvements requested at the time of these audits are implemented, to further improve quality.

### Quality Education

We will develop human resources supporting quality activities by improving quality education.

### Position-based Education

We provide quality education from both aspects of the career development education and *Monozukuri* education according to the Central Glass Group's educational system in a planned manner. In Career Development Education, we provide new employees, career-track employees in their second year and fifth year, assistant managers, managers and executives temporary dispatched to our affiliate companies with quality education considered necessary at their respective positions systematically. In *Monozukuri* Education provided at production sites, we will increase the opportunities for employees to benefit from it while improving the content of the quality education.

### Lectures on Quality

As part of company-wide quality education, on November, 2022, we invited an outside instructor to give a quality lecture titled, "Strengthen Organizational Capability with TQM: Improving the Level of Daily Management and Improvement Activities." The event was held online for an audience of roughly 700 people. We will continue to hold lectures featuring subject that will raise company-wide quality awareness while aiming to increase the number of audiences in FY2023.

# Message from Outside Directors



Masaya Kawata

Tetsuo Nishide

Kimi Koinuma

Outside Director

## Kimi Koinuma

I have been serving as a lawyer since 1991, and was appointed as an Outside Director of the Company in 2018.

From my background as a lawyer, my role as an outside director is not only to perform a check function with respect to management and business execution from a legal perspective, but also to fulfill that role in areas such as compliance and governance, such as conflicts of interest.

These days, the idea that a company bears responsibility for society is more strongly emphasized than before. With the responsibility for society mentioned here coming to mean the one based on more comprehensive and universal values, since it is basic qualities of the legal profession to respect diverse values with a broad view and act based on universal values, I would like to proactively state my opinions to the Company from such perspectives.

In the first place, our Corporate Philosophy is "Creating a Better Future Through *Monozukuri*." Originally, our Company advocates the principle of exercising a beneficent influence on society and creating a better future, and I also would like to exert myself, even if in a humble way, so that each person involved in the Company including our employees can have a consciousness of and take pride in contributing to the creation of a better future through the Company.

Outside Director

## Masaya Kawata

The significance of an integrated report lies in that it allows us to integrally see financial and non-financial information, or economic and social values, and enhance our corporate value while sharing the scenario of a management strategy toward the sustainable improvement of corporate value with our stakeholders.

Regarding our engagement in the ESG, I think it is important for all executives and employees to work on their duties with a sense of ownership, and conduct dialogue with the market while disseminating convincing information to the market from global and future-oriented perspectives. Within the company, it is necessary to shape a flexible organizational climate securing excellent psychological safety that allows people to engage in candid communication interactively and multidirectionally. Regarding financial information, it is important to conduct management from the viewpoint of PL + BS + CF considering capital and asset efficiency including ROE and ROIC as well as sales and profit. Another important point is to regard the ESG (social value) not as cost increase but as necessary prior investment and link such value to a business opportunity (economic value) and integrate these values into the improvement of total corporate value. I believe it is of great importance to create such an innovative strategy.

We have a corporate culture in which we take above issues seriously. Therefore, I believe that one of the important roles of outside directors is to support accelerating those discussions more openly from the various perspectives.

Outside Director

## Tetsuo Nishide

As society is increasingly demanding companies more active for sustainability, the needs for products and technologies related to responding to climate change issues and promoting digitalization will expand significantly both domestically and internationally even considering by 2030 and 2035. The electrolytes for lithium-ion batteries and chemicals for semiconductor manufacturing processes that Central Glass has uniquely developed and produced are indispensable raw materials for leading-edge companies that manufacture batteries for electric vehicles and high-performance semiconductors to ensure their competitive advantage into the future. Although it is essential to constantly improve the performance and functionality of these product lines that produced and supplied by the Company through daily research and development activities, these product lines can be said to have characteristics that are less likely to subject to commoditization amid the ongoing quantitative expansion of demands.

Now that the structural reform of the glass business has settled for the time being, I believe making a structural shift toward R&D-oriented business portfolio centering around functional specialty chemicals will make this *Monozukuri* company meet the needs of society and user companies, and lead to high growth potential. I also believe that appropriately prioritizing resource allocation in this direction will be the driving force for sustainable development over the medium to long term.



# Director Introduction (As of end of June, 2023)



Back row from left: Yoshinori Akamatsu, Akihiro Ishii, Masaya Kawata, Kimi Koinuma, Takao Tomioka, Masanori Murata, and Masako Goto  
 Front row from left: Tetsuo Nishide, Minoru Irisawa, Tadashi Shimizu, Kazuhiko Maeda, Nobuyuki Tokunaga, Toshihide Nishimura, and Toshifumi Mikayama

## Tadashi Shimizu

Representative Director, Chairman

- April 1978 Joined the Company
- October 2005 General Manager of International Business Department
- October 2010 General Manager of Personnel Department
- June 2011 Executive Officer, General Manager of the Personnel Department
- June 2012 Director, Executive Managing Officer, General Manager of the Personnel Department
- June 2013 Director, Executive Managing Officer
- June 2015 Representative Director, Senior Executive Managing Officer, General Manager of International Business Department
- June 2016 Representative Director, Senior Executive Managing Officer
- June 2017 Representative Director, President & CEO
- June 2023 Representative Director, Chairman (current position)

## Kazuhiko Maeda

Representative Director, President & CEO

- April 1984 Joined the Company
- June 2006 General Manager of Chemicals Business Development Department
- October 2009 General Manager of Chemicals Business Development Department (Organization name in Japanese changed with English unchanged)
- October 2012 General Manager of Energy Materials Sales Department
- June 2014 Executive Officer, General Manager of Energy Materials Sales Department
- June 2015 Director, Executive Managing Officer
- June 2021 Representative Director, Senior Executive Managing Officer
- June 2022 Representative Director, Senior Executive Vice President
- June 2023 Representative Director, President & CEO (current position)

## Minoru Irisawa

Director, Senior Executive Managing Officer

- April 1983 Joined the Industrial Bank of Japan, Limited (currently Mizuho Bank, Ltd.)
- June 2012 Joined the Company
- June 2013 General Manager of Glass Fiber Department
- June 2015 Executive Officer, General Manager of Glass Fiber Department
- June 2016 Executive Officer, General Manager of International Business Department
- June 2018 Executive Managing Officer
- June 2020 Director, Executive Managing Officer
- April 2022 Director, Executive Managing Officer
- April 2023 Representative Director and President of Central Glass Products Co., Ltd.
- June 2023 Director, Executive Managing Officer, General Manager of the Glass Business Administration Department
- June 2023 Representative Director and President of Central Glass Products Co., Ltd.
- June 2023 Director, Senior Executive Managing Officer
- June 2023 Representative Director and President of Central Glass Products Co., Ltd. (current position)

## Nobuyuki Tokunaga

Director, Executive Managing Officer

- April 1986 Joined the Company
- June 2012 Plant Manager of Kawasaki Plant
- June 2014 Executive Officer, Plant Manager of Ube Plant
- June 2018 Executive Officer, General Manager of Chemicals Business Development Department
- February 2020 Executive Officer, General Manager of Quality Assurance Division
- June 2021 Executive Managing Officer, General Manager of Quality Assurance Division
- June 2022 Executive Managing Officer
- June 2023 Director, Executive Managing Officer (current position)

## Akihiro Ishii

Director, Executive Managing Officer

- April 1986 Joined the Company
- September 2016 General Manager of Chemical Research Center
- June 2019 Executive Officer, General Manager of Chemical Research Center
- June 2021 Executive Managing Officer, General Manager of Chemical Research Center
- July 2022 Executive Managing Officer
- June 2023 Director, Executive Managing Officer (current position)

## Yoshinori Akamatsu

Director, Executive Managing Officer

- April 1989 Joined the Company
- April 2021 General Manager of Chemicals Sales Department
- April 2022 Executive Officer, General Manager of Chemicals Sales Department
- June 2022 Executive Managing Officer, General Manager of Chemicals Sales Department
- October 2022 Executive Managing Officer
- June 2023 Director, Executive Managing Officer (current position)

## Takao Tomioka

Full-time Corporate Auditor

- June 1990 Joined the Company
- April 2014 General Manager of Intellectual Property Department
- June 2018 General Manager of Glass Quality Assurance Department
- June 2021 Full-time Corporate Auditor (current position)

## Masanori Murata

Full-time Corporate Auditor

- April 1988 Joined the Company
- June 2018 General Manager of Audit Department
- June 2022 Full-time Corporate Auditor of the Company (current position)

## Tetsuo Nishide

Outside Director

- April 1975 Joined Ministry of International Trade and Industry
- April 1999 Professor, Graduate School of Nara Institute of Science and Technology (concurrent position)
- July 2002 Director General, Chugoku Bureau of Economy Trade and Industry, Ministry of Economy, Trade and Industry
- June 2004 Executive Director of Vinyl Environmental Council
- April 2007 Specially Appointed Professor, Graduate School of Business Design at Rikkyo University
- July 2007 Director General of (Incorporated Association) Japan Chemical Industry Association
- April 2011 Director General of (General Incorporated Association) Japan Chemical Industry Association
- June 2016 Chairman of (General Incorporated Foundation) Japan Chemical Innovation and Inspection Institute
- June 2017 Director of the Company (current position)

## Kimi Koinuma

Outside Director

- April 1991 Registered as an attorney (Daini Tokyo Bar Association)
- April 1991 Joined Masuda and Ejiri Law Office (currently Asahi Law Office) (current position)
- July 2007 Partner of Masuda and Ejiri Law Office (current position)
- January 2016 Supervisory Officer of MORI TRUST Hotel REIT, Inc.
- June 2018 Director of the Company (current position)

## Masaya Kawata

Outside Director

- April 1975 Joined Nisshinbo Industries, Inc. (currently Nisshinbo Holdings Inc.)
- June 2006 Managing Officer, General Manager of Human Resources Division of Nisshinbo Industries, Inc.
- April 2007 Deputy General Manager of Accounting and Finance Division of Nisshinbo Industries, Inc. (concurrent position)
- June 2007 Director of Nisshinbo Industries, Inc.
- April 2008 Deputy Chief of Business Support Center of Nisshinbo Industries, Inc.
- April 2009 Representative Director, President of Nisshinbo Brake Inc.
- June 2010 Director, Executive Managing Officer of Nisshinbo Holdings Inc.
- June 2011 Deputy Chief of Corporate Strategy Center, and General Manager of Business Development Division of Nisshinbo Holdings Inc. (concurrent position)
- June 2012 Representative Director and President of Nisshinbo Chemical Inc.
- June 2012 Director, Senior Executive Managing Officer of Nisshinbo Holdings Inc.
- June 2012 Representative Director, President of Nisshinbo Mechatronics Inc.
- June 2013 Representative Director, President of Nisshinbo Holdings Inc.
- March 2019 Representative Director, Chairman of Nisshinbo Holdings Inc.
- June 2021 Director of the Company (current position)
- March 2022 Director, Chairman of Nisshinbo Holdings Inc.

## Toshihide Nishimura

Outside Corporate Auditor

- April 1979 Joined Onoda Cement Co., Ltd. (currently Taiheiyo Cement Corporation)
- April 2006 General Manager of Construction Materials Business Department of Taiheiyo Cement Corporation
- May 2009 General Manager of Accounting & Finance Department of Taiheiyo Cement Corporation
- April 2012 Executive Officer, General Manager of Related Business Department of Taiheiyo Cement Corporation
- April 2015 Executive Managing Officer of Taiheiyo Cement Corporation
- June 2015 Director, Executive Managing Officer of Taiheiyo Cement Corporation
- June 2016 Corporate Auditor of Nippon Concrete Industries Co., Ltd. (current position)
- April 2017 Director of Taiheiyo Cement Corporation
- June 2017 Full-time Corporate Auditor of Taiheiyo Cement Corporation
- June 2021 Corporate Auditor of the Company (current position)

## Toshifumi Mikayama

Outside Corporate Auditor

- April 1983 Joined Kirin Brewery Co., Ltd. (currently Kirin Holdings, Inc.)
- September 2002 Director of Pharmaceutical Research Laboratory, Pharmaceutical Division of Kirin Brewery Co., Ltd.
- March 2004 General Manager of Planning Division, Pharmaceutical Division of Kirin Brewery Co., Ltd.
- July 2007 Directors, Executive Officer, Head of Research Division of Kirin Pharma Company, Limited
- October 2008 Executive Officer, Head of Research Division of Kyowa HAKKO Kirin Co., Ltd. (currently Kyowa Kirin Co., Ltd.)
- April 2010 Executive Officer, General Manager of Corporate Strategy & Planning Department of Kyowa HAKKO Kirin Co., Ltd.
- March 2012 Executive Managing Officer, General Manager of Overseas Business Department of Kyowa HAKKO Kirin Co., Ltd.
- June 2014 Director, Executive Managing Officer, General Manager of Overseas Business Department of Kyowa HAKKO Kirin Co., Ltd.
- June 2018 Director, Senior Executive Managing Officer, Supervising Overseas Business of Kyowa HAKKO Kirin Co., Ltd.
- June 2021 Director, Executive Vice President Supervising Overseas Business Department of Kyowa Kirin Co., Ltd.
- June 2023 Chairman of Kato Memorial Bioscience Foundation (current position)
- June 2023 Corporate Auditor of the Company (current position)

## Masako Goto

Outside Corporate Auditor

- October 2000 Joined Showa Ota & Co. and Century Audit Corporation (currently Ernst & Young ShinNihon LLC)
- April 2004 Registered as a certified public accountant
- October 2007 Manager of Shin Nihon & Co.'s (currently Ernst & Young ShinNihon LLC)
- August 2017 Vice-Chairperson of Public Relations Committee of the Japanese Institute of Certified Public Accountants
- October 2017 Senior Manager of Shin Nihon & Co.'s (currently Ernst & Young ShinNihon LLC)
- June 2023 Representative of Masako Goto Certified Accountant Office (current position)
- June 2023 Corporate Auditor of the Company (current position)

Executive Officer (excluding those concurrently serving as Director)	Executive Managing Officer	Hidehisa Nanai, Shoichi Tsujioka, Isamu Mori and Tetsuo Kanai
	Executive Officer	Taizo Kawakita, Masaaki Kawase, Masahiro Seko, Shinichi Okamura, Shigeru Suenaga, Satoru Narizuka, Yuzuru Morino, Masato Nakashima and Mototsugu Ichinose

# Financial Summary

Unit: million yen

Key financial data for the past 10 years	FY2013	FY2014	FY2015	FY2016
Net sales	191,581	199,010	235,361	228,898
Glass	104,803	111,228	153,002	150,226
Chemicals	86,778	87,781	82,358	78,672
Operating profit	10,111	11,542	13,947	12,982
Glass	-60	-623	137	1,780
Chemicals	10,176	12,169	13,805	11,202
Ordinary income	11,715	14,321	14,615	15,091
Profit attributable to owner of parent	5,003	10,393	10,047	10,703

Total Assets	241,233	282,139	277,627	314,045
Net Assets	135,185	156,580	159,946	172,950
Cash and Deposits	20,557	19,676	19,372	31,342
Interest-bearing Debt	44,744	55,960	55,427	73,743

Capital Investment	8,770	12,348	20,346	24,903
Depreciation	8,919	9,287	10,675	10,578
Cost for R&D	5,417	5,780	5,613	5,496

Equity Ratio	55.3%	54.4%	56.3%	54.1%
D/E Ratio (times)	0.34	0.36	0.35	0.43
ROE	3.89%	7.22%	6.45%	6.54%
Net Assets per Share (yen)	3,188.82	3,688.81	3,804.85	4,156.13
Current Income per Share (yen)	119.58	248.42	242.00	261.02
Dividend per Share (yen)	8	9	10	11
Dividend Payout Ratio	33.4%	18.1%	20.7%	21.1%
Price-Earnings Ratio (PER) (times)	14.01	11.41	12.62	9.08
Price-Book Value Ratio (PBR) (times)	0.53	0.77	0.80	0.57

Cash Flow from Operating Activities	19,479	13,082	24,235	17,331
Cash Flow from Investment Activities	-10,645	-23,366	-20,883	-21,442
Cash flow from Financial Activities	-13,285	8,611	-3,629	15,463

FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
227,810	229,901	222,469	190,673	206,184	169,309
146,613	150,737	144,236	112,398	111,838	54,684
81,196	79,163	78,232	78,274	94,345	114,625
6,039	10,135	7,975	4,064	7,262	16,757
-3,958	487	24	-3,020	-2,515	2,662
9,998	9,648	7,951	7,084	9,778	14,095
6,327	11,169	8,565	4,749	11,936	19,637
2,980	7,577	6,418	1,230	-39,844	42,494

316,846	307,103	296,427	284,906	290,696	221,090
175,628	168,931	164,339	169,083	130,063	107,861
22,673	21,732	26,256	27,975	28,216	17,844
71,029	73,350	72,109	62,704	53,848	65,092

20,240	20,125	11,935	7,649	9,514	7,061
12,148	12,596	12,930	12,850	12,182	9,029
5,801	5,809	5,866	5,744	5,448	5,638

54.4%	53.8%	54.3%	58.1%	43.4%	46.8%
0.41	0.44	0.45	0.38	0.43	0.63
1.74%	4.49%	3.93%	0.75%	-27.32%	37.02%
4,255.09	4,083.74	3,978.44	4,091.41	3,115.69	4,176.04
73.45	187.23	158.59	30.40	-984.58	1,222.21
30	75	75	75	75	115
40.8%	40.1%	47.3%	246.7%	-	9.4%
33.74	12.98	11.87	77.50	-	2.40
0.58	0.60	0.47	0.58	0.67	0.70

16,351	12,650	17,226	17,918	14,872	16,599
-19,778	-14,336	-7,856	-3,737	-1,839	19,958
-5,128	291	-5,295	-13,121	-12,744	-47,039

\* Our Company implemented the consolidation of stocks to combine five common shares into one share as of October 1, 2017. Accordingly, figures per stock in the table above have been adjusted retroactively with the assumption that this stock consolidation had been implemented before October 1, 2017.

# Corporate Outline, Group Companies and Stock Information

## (As of end of March, 2023)

### Corporate Outline

**Corporate Name** Central Glass Co., Ltd.  
**Established** October 10, 1936  
**Head Office** Kowa-Hitotsubashi Bldg., 7-1 Kanda-Nishikicho 3-chome, Chiyoda-ku, Tokyo, 101-0054 Japan  
 (Registered Head Office: 5253 Okiube, Ube City, Yamaguchi)  
**Capital** 18,168 million yen

**Business Fields** [Glass Business] Architectural glass, automotive glass and glass fiber  
 [Chemicals Business] Applied chemicals, medi-chemicals, electronic materials, energy materials and fertilizers  
**Employees** Consolidated: 3,350 persons, non-consolidated: 1,570 persons  
**Net sales** Consolidated: 169.3 billion yen, non-consolidated: 95.4 billion yen

### Production Bases, R&D Bases and Main Affiliate Companies

**Production Bases** Ube Plant  
 Kawasaki Plant  
**Research Centers** Fundamental Chemical Research Center  
 Applied Chemical Research Center  
 New-STEP Research Center  
**R&D Bases** Electronic Materials Research Center  
 Taiwan  
 Shonan Research Center

**Affiliate Companies** [Glass Business]  
 Central Glass Products Co., Ltd.  
 Central Glass Sales Co., Ltd.  
 Central Glass Engineering Co., Ltd.  
 Central Glass Plant Services Co., Ltd.  
 Central Saint-Gobain Co., Ltd.  
 Mie Glass Industry Co., Ltd.  
 Japan Tempered & Laminated Glass Co., Ltd.  
 Central Glass Fiber Co., Ltd.

[Chemicals Business]  
 Central Chemical Co., Ltd.  
 Central Glass Czech s.r.o. (Czech)  
 Giga Gas & Electronic Materials Company (Taiwan)  
 JCEL Co., Ltd. (South Korea)  
 Zhejiang Central Glass Chemspec Company Ltd. (China)  
 Central Glass Trading (Shanghai) Co., Ltd. (China)  
 Tosho Central Co., Ltd.  
 Central Engineering Co., Ltd.



Ube Plant



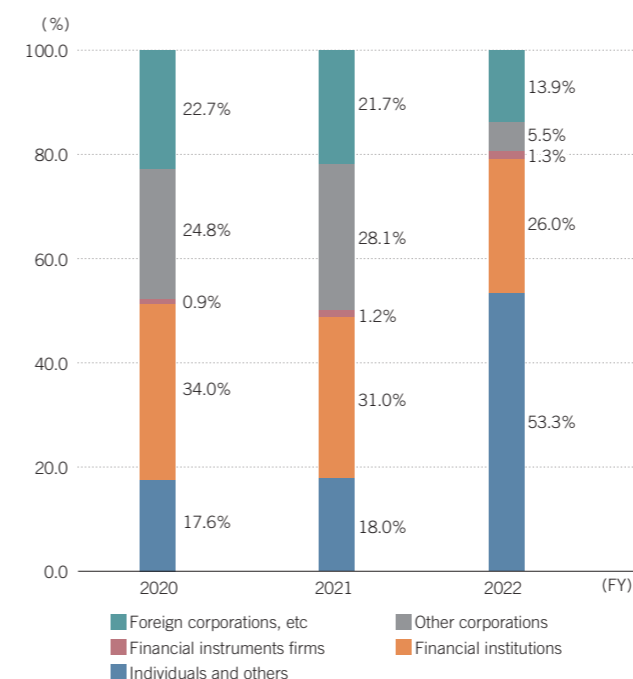
Applied Chemical Research Center and New-STEP Research Center (Ube)



Shonan Research Center (in Shonan Health Innovation Park)

### Stock Information

**Listed Stock Exchange** Tokyo Stock Exchange (Prime Market)  
**Total Number of Authorized Shares** 171,903,980 shares  
**Number of Shares Issued** 42,975,995 shares (including 18,164,057 treasury shares)  
**Number of Shareholders** 10,299 persons



### Principal Shareholders

Shareholder	Number of Shares Held (thousand shares)	Shareholding Ratio (%)*
The Master Trust Bank of Japan, Ltd. (Trust Account)	4,279	17.25
Custody Bank of Japan, Ltd. (Trust Account)	1,557	6.28
Mizuho Trust & Banking Co., Ltd. as trustee for Retirement Benefit Trust of Mizuho Bank, Ltd. (re-entrusted by Trust & Custody Services Bank, Ltd.) Custody Bank of Japan, Ltd.	1,228	4.95
DFA INTL SMALL CAPVALUE PORTFOLIO	663	2.67
The Yamaguchi Bank, Ltd.	640	2.58
Custody Bank of Japan, Ltd. (as trustee for Retirement Benefit Trust of Sumitomo Mitsui Trust Bank, Limited.)	629	2.54
CG Business Partner Shareholding Association	520	2.10
CG Cooperation Company Shareholding Association	517	2.09
The Master Trust Bank of Japan, Ltd. (as trustee for Retirement Benefit Trust of The Yamaguchi Bank, Ltd.)	447	1.80
Nippon Life Insurance Company	386	1.56

\* The shareholding ratio is calculated after deducting the number of treasury shares.

### Stock Price Transition



### Dividend and Dividend Payout Ratio

FY	Dividend (yen)	Dividend Payout Ratio (%)
2022	115	9.4
2021	75	-
2020	75	246.7
2019	75	47.3
2018	75	40.1
2017	30	40.8