

Creating a Better Future Through *Monozukuri*



# CSR Report 2022

Corporate Social Responsibility Report

# CSR at the Central Glass Group

The Central Glass Group defines CSR as achieving our Corporate Philosophy.

The Corporate Philosophy consists of the Basic Philosophy and the Basic Policies which define the specific directions for achieving the Basic Philosophy. We have established the Central Glass Group's Code of Conduct in order to sincerely practice corporate activities based in our Corporate Philosophy.

## 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 the basic stance of integrity and sincerity, including R&D, quality oriented manufacturing, and sales. In Japanese, the term *Monozukuri* can be broken down into mono (thing) and tsukuru (make). The combination of these terms means “making things”, or “manufacturing” in the context of the Central Glass Group. We chose *Monozukuri* to represent the activities of the Group because the term encompasses not only the meaning of “manufacturing” but also the pride and dedication required to produce quality products that contribute to society.

## 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.

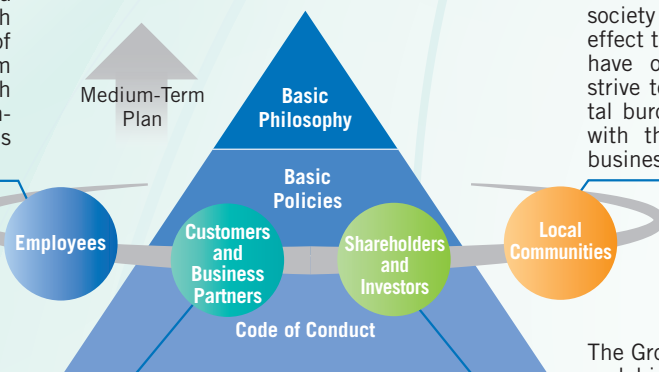
## Code of Conduct

1. Be responsible for one's own actions and engage in corporate activities with integrity and sincerity.
2. Place our highest priority on the quality and safety of our products and continue to meet customer needs.
3. Continuously pursue and refine one's sense for original ideas and technologies.
4. Support the realization of a society where everyone can live in comfort and good health, and contribute to the protection of the global environment.
5. Proactively learn about different cultures and customs and create products desired by people around the world.
6. Respect the diversity of every individual and embrace the challenges of the future.

## CSR System at the Central Glass Group

The Group focuses on the idea that *Monozukuri* starts with *Hitozukuri* as the foundation of our corporate growth, and we aim to create workplaces in which every employee is able to demonstrate their capabilities and skills to the utmost.

The Group carries out quality control initiatives that always place customer satisfaction first, so that we can provide reliable products and services to our customers. With our business partners, we work to build fair, equitable, and positive relationships of trust.



The Central Glass Group will fulfill our corporate social responsibilities through continual improvement efforts utilizing the Plan, Do, Check and Act (PDCA) cycle for every activity based on the CSR system outlined below.

The Group contributes to the realization of a sustainable society while recognizing the effect that our business activities have on the environment. We strive to reduce our environmental burden and grow in harmony with the regions where we do business.

The Group strives to realize rapid and highly transparent information disclosure. Through our financial results, briefings, and publications, we are working to prioritize communication with all shareholders and investors.

## Corporate Philosophy of the Central Glass Group

At the core of the Central Glass Group's Corporate Philosophy is *Monozukuri*, which has been at the heart of our corporate activities since our founding. It refers to all the business activities in which the Central Glass Group engages with the basic stance of integrity and sincerity, including R&D, manufacturing, and sales. We believe that *Monozukuri* is also the foundation for all of our further progress in the future. Our Basic Policies are a more specific statement of the direction in which the Group should move in order to realize our Basic Philosophy.

While this Corporate Philosophy represents the “thoughts” of the Central Glass Group that should be conveyed to our stakeholders, we also see it as the starting point for the future corporate activities of the Group, and we believe that it will enhance our sense of unity as a Group and strengthen the Group's capabilities.

To ensure that each and every employee shares the Central Glass Group's Corporate Philosophy, Japanese, English and Chinese language versions of portable cards are distributed to Central Glass employees and employees of major domestic and overseas affiliate companies.

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## Editorial Policy

This CSR Report 2022 aims to provide comprehensive and easily understandable information about our engagement with all Central Glass stakeholders from our customers, business partners, and investors to employees and members of local communities.

## Reference Guidelines

- ISO 26000 (Guidance on social responsibility)
- Responsible Care Code of the Japan Responsible Care Council (JRCC)
- Environmental Reporting Guidelines 2018 of the Ministry of the Environment

## Report Period

April 2021 to March 2022 (Some exceptions)  
(The period for information related to health and safety as well as social and environmental activities of overseas affiliates was from January to December 2021.)

## Scope of the Report

The scope of data was the Central Glass Group (the plants, research centers, and headquarters of Central Glass Co., Ltd. as well as its main domestic and overseas affiliates).

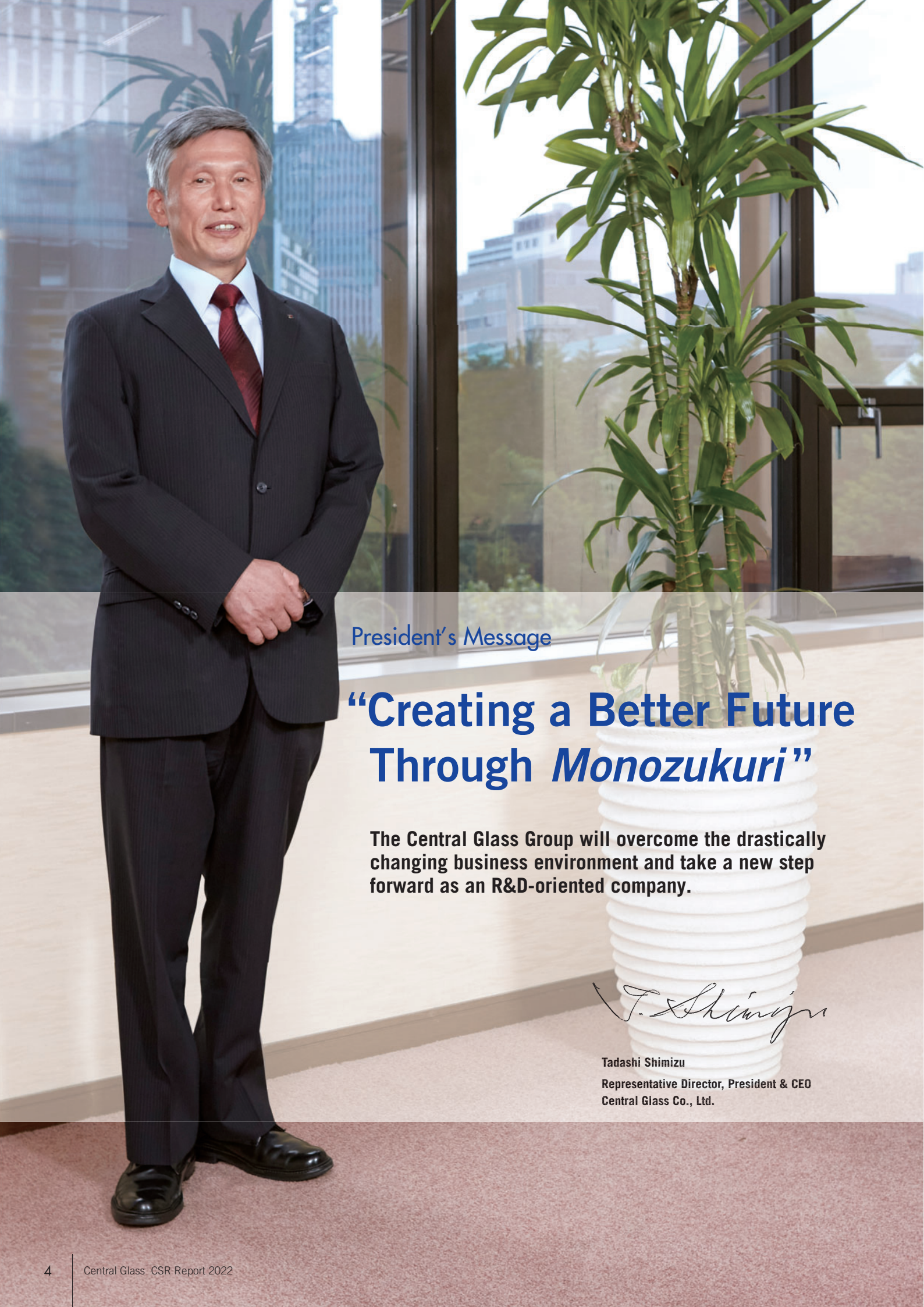
## Central Glass Group and the Sustainable Development Goals

The Sustainable Development Goals (SDGs) are international objectives to be achieved by 2030 that were adopted at the United Nations Summit held in September 2015. These objectives consist of 17 goals with 169 targets to achieve a sustainable world.

The Central Glass Group works toward the targets set out by the SDGs through various business activities with the aim of contributing to society and the sustainable growth of the Group.







President's Message

# “Creating a Better Future Through *Monozukuri*”

**The Central Glass Group will overcome the drastically changing business environment and take a new step forward as an R&D-oriented company.**

Tadashi Shimizu  
Representative Director, President & CEO  
Central Glass Co., Ltd.

## Contributing to the Establishment of a Truly Prosperous Society Through *Monozukuri*

Under the Basic Philosophy of “Creating a Better Future Through *Monozukuri*,” the Central Glass Group has been engaging in various businesses to contribute to realizing a truly prosperous society through *Monozukuri*. I believe that to achieve a truly prosperous society, the ability of a company to adapt to every change in society as well as to the needs of consumers in particular is required, and is constantly being evaluated by society.

The business environment surrounding Central Glass Co., Ltd. (the “Company”) is changing day by day from moment to moment. Currently, COVID-19 has had a major impact on our social life and just as we are finally beginning to see signs of breaking out from its influence, a shortage of semiconductors is causing restrictions on production activities. The crisis in Ukraine and lockdowns in Shanghai have also triggered a global energy price surge, logistical disruptions and shortages of goods, a complex combination of which is causing an unprecedented wave of inflation. In the midst of such drastic changes, I believe that it is my responsibility as the head of the Company to indicate how we should develop our business and where we should steer our management.

## A Big Decision to Downsize and Restructure the Glass Business

For a long time, we have aimed for growth through two businesses, the Glass business and the Chemicals business. However, while businesses in Chemicals have grown to become new core businesses and the Group's mainstay businesses have been significantly shifting toward a focus on Chemicals, the Glass business has continued to stagnate. As the recovery of the Glass business did not progress and the Company's performance deteriorated, a major and unprecedented change in the business environment occurred and eliminated the option of taking a wait-and-see approach.

As such, we had to make a big decision to ensure that we could continue to be a company of sustainable growth: the decision to overhaul the Glass business. We decided to withdraw from the underperforming overseas glass business and make drastic structural improvements to the remaining domestic business in order to return it to profitability by reducing the size of our operation. We intend to take a new step forward as an R&D-oriented corporate group by concentrating our management resources on business fields where further growth is expected, such as electronic materials for semiconductors and electrolytes for lithium-ion batteries.

## Solving Climate Change and Other Environmental Issues with Technology

These structural reforms are being carried out firmly based on our philosophy. As I mentioned at the beginning, we need to be agile and responsive to the changes of the times and determine what society truly requires to achieve a truly prosperous society. Digital transformation (DX) has attracted interest in the business world, and a concept called green transformation (GX) is now beginning to spread in Japan as well. GX is an initiative to realize a sustainable society by reforming the entire economic and social system with the power of advanced technology to address various issues such as environmental issues like climate change.

Our basic policy of concentrating management resources on electronic materials for semiconductors, which are indispensable for improving energy efficiency, and on electrolytes for lithium-ion batteries, which are essential for the electrification of vehicles, is one important initiative to achieve our long-term vision to transform ourselves into an R&D-oriented company that meets the environmental needs of society. It is also in line with the new social movement GX.

As we confront the global issue of climate change with the power of advanced technology, we believe that the Company can contribute with products that have a low Global Warming Potential (GWP). For example, until recently, foaming agents used at construction sites and solvents used to clean machine parts had GWPs that were nearly 1,000 times that of CO<sub>2</sub> and were used in large quantities. We developed products with GWPs of less than 1 relative to CO<sub>2</sub> more than 10 years ago and introduced them to the market as alternatives. In the early days, society as a whole was less environmentally conscious than today, and we struggled with low sales volumes. Since GX began being discussed, however, sales have increased, and the products have now become an important pillar of our business. Given that further advancement of environmental technologies will be required in the future, we will focus on the development of various products with low GWPs. In keeping with our Basic Philosophy, “Creating a Better Future Through *Monozukuri*,” we will help realize a sustainable society by actively developing new products with new value that cannot be developed by just anyone and offering our products as replacements in fields where products with high GWPs are still used.

I believe that the key to future business success in the Glass business will also be the improvement of technology with the environment as a central concept. For example, glass windows in old houses used only one pane of glass, whereas today's new houses have insulating glass with improved thermal insulation performance due to the





layer of air inside. With current demand for even greater energy savings, however, there is an accelerating trend to improve further on this insulation performance. Since there is a limit to what can be achieved with basic insulated glass, we can anticipate demand for insulating glass with greater heat insulation performance. Such improvements could be made by increasing the heat-shielding performance of the glass itself and by sealing a special gas between the glass panes that prevents heat transfer. Even as we consolidate our management resources, we will continue to invest in R&D, not to pursue expansion of business scale, but to ensure the future success of our Glass business by creating products possessing the dramatically improved environmental performance needed by society.

### A Commitment to Social Contribution Since our Founding

While serving as the mayor of Ube City in Yamaguchi Prefecture, our founder, Nobuyoshi Kuniyoshi, established Ube Soda Industry Co., Ltd. 86 years ago out of a desire to continue doing his utmost in the service of his hometown after retiring from public office. He wanted to contribute to the development of the local community by starting a new business there.

In the industrial structure of the time, the soda industry was an important key industry of Japan, but no factories had yet been built in Ube City. By establishing a soda industry company in Ube City, he both contributed to

the local community as well as to the industry in Japan. That was the founding spirit of our company, and from then until now, we have continued to fulfill our mission of contributing to the local community and to society as a whole.

Our Corporate Philosophy expresses in words this commitment which has continued since our founding, and the first of the four Basic Policies that accompany the philosophy states, “Create new value through innovative technologies.” Based on the history through which we have journeyed, it is the “innovative technologies” part of the Basic Policies upon which we should place the greatest emphasis today. If asked about the future direction in which I would like to lead the Central Glass Group, I would say without hesitation that it must be toward contributing to society as a company with unique technologies. I believe this should be the basis of the Central Glass Group.

### Making Compliance an Integral Part of Our Corporate Culture

To be a sustainable company, we must be a company trusted by everyone. The Code of Conduct accompanying our Corporate Philosophy includes the requirement to “Be responsible for one's own actions and engage in corporate activities with integrity and sincerity.” In keeping with this, we have always aspired to be a compliance-conscious organization that adheres to laws, regulations, and social norms. In recent years, however, there have unfortunately been incidents that violated this spirit. In FY2021, a defect was found at one of our group companies due to inadequate quality control, resulting in the suspension of JIS standard certification. Although we have repeatedly made the importance of compliance known to our employees, it is truly regrettable that such an incident occurred. We believe it is of utmost importance to use this as an opportunity to address aspects of our corporate culture. We are asking all employees to act with integrity, implementing new guidelines established in response to this incident, and educating and raising awareness among employees in the Group. We are aiming to share awareness among all employees that following rules and manuals are part of our corporate culture so that we thoroughly prevent recurrence.

Against the reality of recent noncompliance incidents, we are risking falling behind in our efforts toward sustainable management, which has become an indispensable part of corporate operations in recent years. For this reason, we are determined to ensure compliance at all costs, especially at production sites.

### Strengthening Governance as a Prime Market Listed Company

Under the reorganization of the Tokyo Stock Exchange in April 2022, we transitioned to the new Prime Market section. The Prime Market section requires a higher standard of governance, and we are in compliance with all principles of the revised 2021 Corporate Governance Code. Going forward, we will further strengthen our governance and actively promote sustainability initiatives.

As a response to climate change in particular, we aim to set a long-term goal of becoming carbon neutral, reducing CO<sub>2</sub> emissions to effectively zero by 2050, and a short-term goal of reducing emissions by 40% from FY2013 levels by 2030.

As for the current situation, we believe that the possibility of achieving our short-term target has become extremely high due to the reduction in the number of domestic flat glass production lines, the most CO<sub>2</sub> emission-intensive facilities, from four to two as a result of the restructuring of the Glass business last year.

We will also focus on enhancing disclosure based on the Task Force on Climate-related Financial Disclosures (TCFD) and other frameworks, as well as focus on carbon capture and utilization among our research themes to contribute to the decarbonization of society as a whole. This will serve as one of the pathways through which we become an R&D-oriented company. Along with the development of products with smaller global warming potential, we will continue to take on the challenge of seeking out the possibilities of carbon capture and effective utilization by applying our technological capabilities to the fullest extent.

In terms of ensuring diversity in the core human resources of the Company, we have set goals for increasing the ratio of female managers and are accelerating and strengthening our efforts to further improve this ratio by raising awareness of work styles and enhancing systems related to childbirth and childcare.

We newly established the Sustainability Committee in FY2021 to further strengthen our sustainable management. In order to deepen sustainable management throughout the Group, the Committee is chaired by an Executive Officer and its members consist of the heads of major business sites who are located at the headquarters, and it is positioned as an advisory body on overall sustainability activities in the Group. The Committee is responsible for sharing information across the companies based on a multifaceted vision and values, analyzing and reviewing information gathered from each department and reporting the results to the Board of Directors, and advising on the direction that the Company should take in the future.

Moving forward, we will continue to provide information that we would like to communicate to our stakeholders, and we also intend to actively provide information that our stakeholders desire from us.

### To Our Stakeholders

In the past few years, Central Glass and the Group have struggled to adapt to major changes in the business environment. We have made a big decision to restructure the Glass business and accelerate investment in growth areas. We believe this will allow us to focus more of our management resources on businesses that we expect to grow for a long time to come. In particular, we believe that the market for environmental measures and other fields that contribute to the sustainability of society will continue to grow on a global scale, along with the recognition and penetration of GX and the SDGs.

The Group will move forward as an R&D-oriented company toward the emergence of a decarbonized society and aim to sustainably develop both the Group's financial and non-financial activities. We look forward to the ongoing understanding and support from all of our stakeholders as we move into the future.



# Business Outline of the Central Glass Group (As of March 31, 2022)

## Major Products of Each Segment

Business Segment	Product Category	Major Products
Glass Business	Architectural Glass	Float glass, figured glass, wired glass, heat reflective glass, fabricated glass (tempered glass, heat-resistant tempered glass, laminated glass, insulating glass units, security glass, and disaster prevention laminated safety glass), mirrors, anti-fog mirrors, and decorated glass
	Automotive Fabricated Glass	IR-cut glass, UV-cut glass, glass antennas, privacy glass, module glass, acoustic glass, defogging glass, head-up display glass, and other various safety glasses
	Glass Fiber	Continuous glass fiber, glass wool

Business Segment	Product Category	Major Products
Chemicals Business	Basic Chemicals	Hydrofluoroolefin, polyaluminum chloride, gypsum, and hydrofluoric acid
	Fine Chemicals	Active ingredients and intermediates for pharmaceuticals and agrochemicals, fluorine organic/inorganic compounds, high purity fluorine gases for semiconductors, and electrolytes for lithium-ion batteries
	Fertilizers	Coated fertilizer, NPK compound fertilizer, NK fertilizer, ammonium chloride, and organic chemical fertilizer

## Europe

Company Name	Location	Main Business Operations
<b>Glass</b>		
Carlex Glass Luxembourg, S.A.	Luxembourg	Manufacture and sale of fabricated automotive glass
<b>Chemicals</b>		
Central Glass Germany GmbH	Germany	GMP contract manufacturing of active pharmaceutical ingredients
Central Glass Europe Limited	UK	Investigation and information services
Apollo Scientific Limited	UK	Manufacture and sale of fluorinated chemicals
Central Glass Czech s.r.o.	Czech Republic	Manufacture and sale of electrolytes for lithium-ion batteries



## Asia

Company Name	Location	Main Business Operations
<b>Glass</b>		
Taiwan Central Glass Co., Ltd.	Taiwan	Manufacture and sale of processed glass for electronic materials
Saint-Gobain Central Sekurit (Qingdao) Co., Ltd.	China	Manufacture and sale of fabricated automotive glass
<b>Chemicals</b>		
Giga Gas & Electronic Materials Company	Taiwan	Sale of special gases for information and electronic industries, and chemical products
Giga Gas & Electronic Materials Company Singapore	Singapore	Sale of special gases for information and electronic industries, and chemical products
Giga Gas & Electronic Materials Trading (Shanghai) Co., Ltd.	China	Sale of special gases for information and electronic industries, and chemical products
Zhejiang Central Glass Chemspec Company Ltd.	China	Manufacture and sale of electrolytes for lithium-ion batteries and fluorinated chemicals
Central Glass Trading (Shanghai) Co., Ltd.	China	Wholesale and import/export of glass products, chemical products, chemical fertilizers, glass fiber, and other products
Jiangxi Tinci Central advanced materials Co., Ltd.	China	Manufacture and sale of raw material for electrolytes for lithium-ion batteries
Zhejiang Britech Central Glass Co., Ltd.	China	Manufacture and sale of special gases for semiconductors
JCEL Co., Ltd.	South Korea	Manufacture and sale of and technical service for electrolytes for lithium-ion batteries
Central Glass Korea Co., Ltd.	South Korea	Wholesale and import/export of glass products, chemical products, chemical fertilizers, glass fiber, and other products
Central Glass Company India Private Limited	India	Wholesale and import/export of glass products, chemical products, chemical fertilizers, glass fiber, and other products
Japan Vietnam Fertilizer Company	Vietnam	Manufacture and sale of chemical fertilizers

## Japan

Company Name	Location	Main Business Operations
<b>Glass</b>		
Central Glass Sales Co., Ltd.	Tokyo	Construction, wholesale, sale, and installation of architectural and residential glass
Central Glass Engineering Co., Ltd.	Tokyo	Contracted work and construction of architectural glass
Bishu Silica Sand Co., Ltd.	Aichi	Refinement of silica sand and gravel
Mie Glass Industry Co., Ltd.	Mie	Manufacture and sale of secondary fabricated products of flat glass
Central Glass Plant Services Co., Ltd.	Mie	Cutting and secondary processing of flat glass, maintenance of manufacturing facilities, manufacture and repair of machines and equipment, and manufacture and sale of crates and pallets
Central Saint-Gobain Co., Ltd.	Tokyo	Purchase, sale, import and export of fabricated automotive glass and other glass products
Central Glass Module Co., Ltd.	Tochigi	Manufacture, processing, and sale of automotive parts, etc.
Japan Tempered & Laminated Glass Co., Ltd.	Gifu	Manufacture of fabricated automotive glass and processed architectural glass
Central Glass Fiber Co., Ltd.	Mie	Manufacture, sale, and processing of continuous glass fiber, glass wool, and related products
Sowa Transportation and Warehouse Co., Ltd.	Osaka	Warehousing and freight transport services
Central Insulation Co., Ltd.	Aichi	Manufacture and processing of glass wool products
<b>Chemicals</b>		
Central Chemical Co., Ltd.	Tokyo	Manufacture, processing, and sale of coated fertilizer, ammonium chloride, chemical fertilizers and other related products
Tosho Central Co., Ltd.	Tokyo	Sale of merchandise, insurance agent business, freight-hauling business, and packaging and loading
Central Engineering Co., Ltd.	Yamaguchi	Design and construction of various plants, manufacture and repair of machines and equipment
Ube Analytical Center Co., Ltd.	Yamaguchi	Analysis services for various chemical products, fertilizers, etc.
Ube Yoshino Gypsum Co., Ltd.	Yamaguchi	Manufacture of gypsum plaster

## The Americas

Company Name	Location	Main Business Operations
<b>Glass</b>		
Carlex Glass America, LLC*	US	Manufacture of float glass and manufacture and sale of fabricated automotive glass
<b>Chemicals</b>		
SynQuest Laboratories, Inc.	US	Manufacture, processing and sale of fluorinated chemical products
Central Glass International, Inc.	US	Investigation and information services, sale of goods



\* The shares of Carlex Glass America, LLC and Carlex Glass Luxembourg, S.A. were transferred in May 2022.

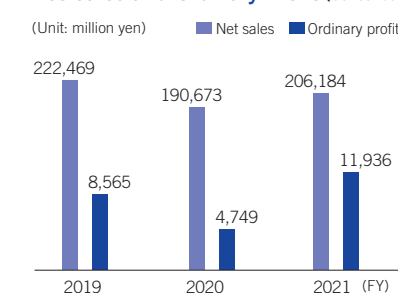
## Corporate Outline

Company Name	Central Glass Co., Ltd.
Established	October 10, 1936
Number of Employees	1,630 (5,420 consolidated)
Capital	18,168.28 million yen
Listed Stock Exchange	Tokyo Stock Exchange

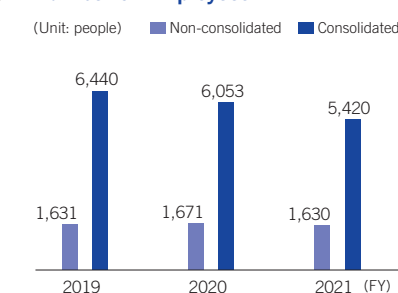
## Business Sites in Japan

Headquarters	Kowa-Hitotsubashi Bldg., 7-1 Kanda-Nishikicho 3-chome, Chiyoda-ku, Tokyo
Chemical Research Center	17-5 Nakadai 2-chome, Kawagoe City, Saitama Prefecture
Chemical Research Center (Ube)	5253 Okiube, Ube City, Yamaguchi Prefecture
Glass Research Center	1510 Okuchi-cho, Matsusaka City, Mie Prefecture
Ube Plant	5253 Okiube, Ube City, Yamaguchi Prefecture
Matsusaka Plant	1521-2 Okuchi-cho, Matsusaka City, Mie Prefecture
Kawasaki Plant	10-2 Ukishima-cho, Kawasaki-ku, Kawasaki City, Kanagawa Prefecture

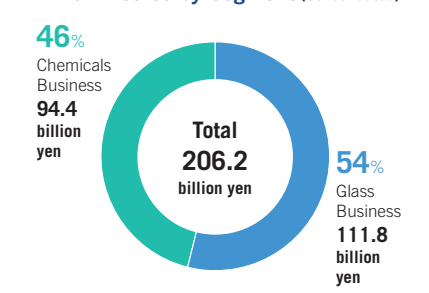
## Net Sales and Ordinary Profit (Consolidated)



## Number of Employees



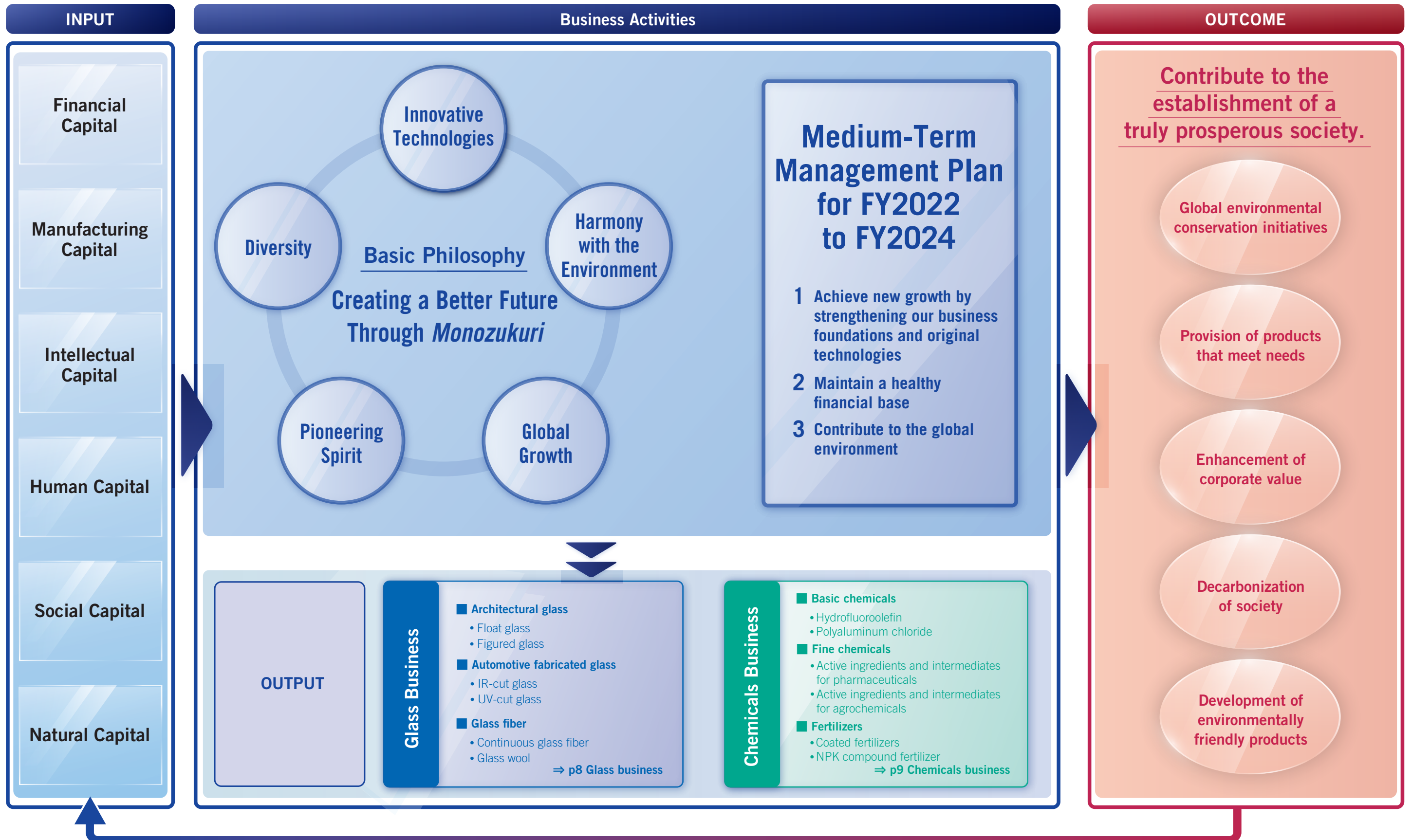
## FY2021 Sales by Segment (Consolidated)





# Central Glass Group Value Creation Process

We will achieve sustainable growth together with society by advancing initiatives to address various social issues such as responding to climate change, changing lifestyles, and promoting diversity.



# Achieve New Growth by Strengthening Our Business Foundations and Original Technologies

The Central Glass Group has established a Long-Term Vision of continuous growth by strengthening R&D as a driving force, and has formulated and announced its Medium-Term Management Plan as a new management guideline for FY2022 through FY2024.

## Long-Term Vision

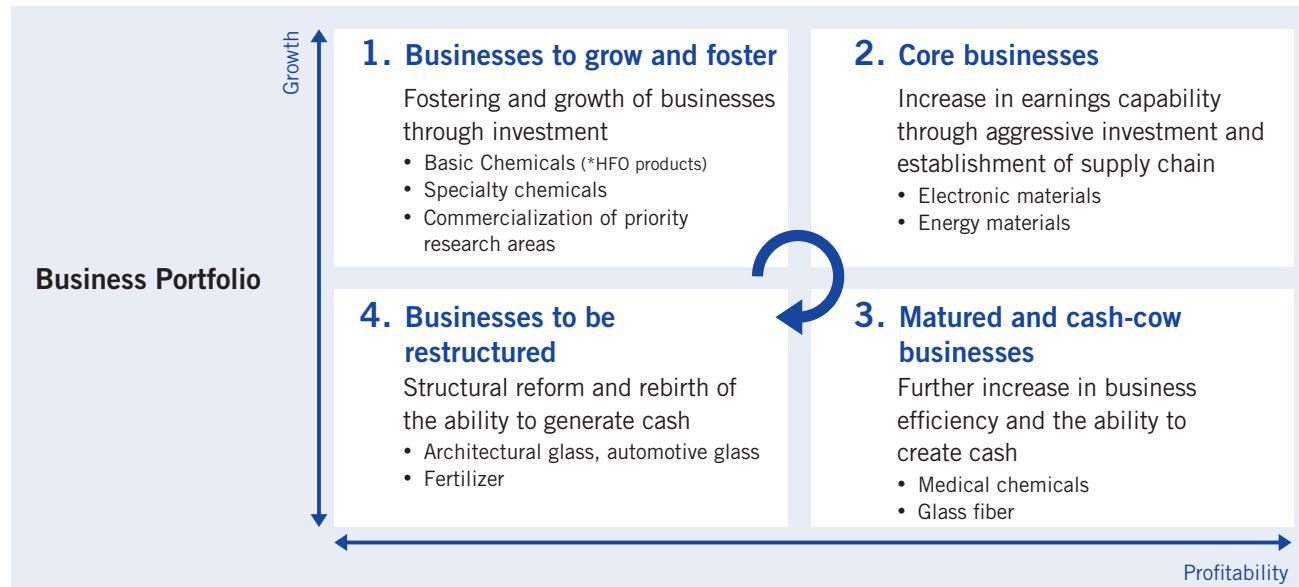
Continuously Growing Company Driven by New Technologies and New Products Created through R&D



**Establish a Profitable Business Model and Convert to a Highly Profitable Company**

## Basic Measures to Realize the Long-Term Vision

- Strengthen R&D as a growth driver
- Clarify roles of each business and optimize the business portfolio



\* HFO: Hydrofluoroolefin (Products that have low global warming potential (GWP) and comply with regulations on fluorocarbon)

## Basic Policies of Medium-Term Plan

### 1. Achieve new growth by strengthening our business foundations and original technologies

- Return to a growth path
  - Concentrate managerial resources to the businesses to be grown in order to accelerate establishment of profitable business models and business expansion to growth markets
  - In the Chemicals business, harvest the fruits of previous investments and continue further investment for the future
  - In the Glass business, complete the structural reform and evolve toward profitable business
  - In other business, further increase earning capability and maximize free cash flow
- Continue strengthening R&D to ensure future growth
- Provide stakeholders with reassurance and reliability by increasing all employees' quality awareness

### 2. Maintain a healthy financial base

- Distribute cash flows based on a well-balanced consideration of shareholder returns, investments, and financial discipline

### 3. Contribute to the global environment

- Reduce greenhouse gas emissions
- Provide products and technologies that contribute to reducing environmental burden

## Financial Goal (FY2024)

ROE goal in the Medium-Term Management Plan: Aim for achievement of 8% ROE

Indicator		FY2024 Target
Major item	Operating profit	14.0 billion yen
	Operating profit ratio	8%
Financial indicator	ROE	8%
Shareholder returns	Total return ratio	At least 30%
	Dividend on Equity (DOE)	2.4%

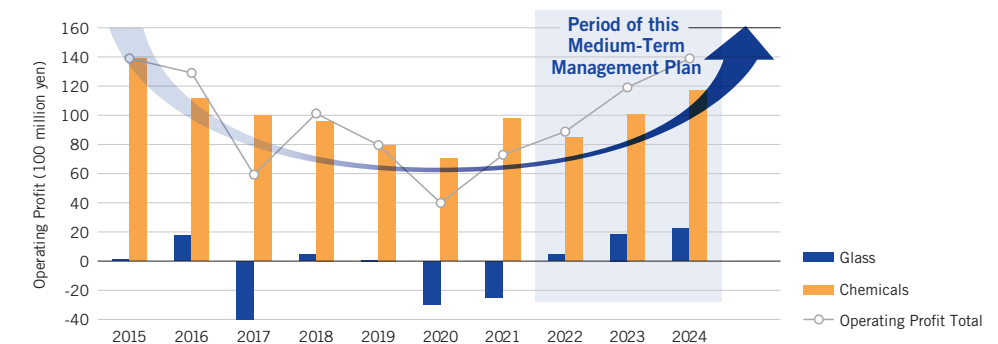
- Capital investments

**41.0** billion yen  
(3-year cumulative total)

- Cost for R&D

**24.0** billion yen  
(3-year cumulative total)

Trend in operating profit (by segment)



## Capital Policy

Seek a capital structure focusing on optimization of investment and funding with the aim of maximization of enterprise value

### Basic Policy for Capital Policy

Funding	Stably and systematically raise funds through a combination of appropriate methods, taking into account the balance between funding cost and continuity (risk)
Management (Investment)	Inject capital to selected sources generating profits exceeding funding cost and cash flow exceeding invested capital
Distribution	Distribute generated cash based on a well-balanced consideration of shareholder returns, investments and financial discipline

(Unit 100million yen)

		3-year cumulative total
Operating CF		480
Investment CF	Capital Investments	-410
	Sales of assets	170
	Total	-240
Free CF		240
Financial CF	Dividend	-100
	Funding/repayment	-40
	Acquisition of treasury shares	-100
	Total	-240

### Policy for Shareholder Returns

- Total Return Ratio: At least 30%
- DOE (Dividend on Equity Ratio) 2.4%
- Acquisition of treasury shares

- Fundamentally based on the dividend criterion DOE and the dividend amount based on total shareholder return ratio and adjusted as needed
- Allocate about 50% of funds raised by sales of shares in the FY 2022 plan to acquisition of treasury shares

### Major investments

- Chemicals

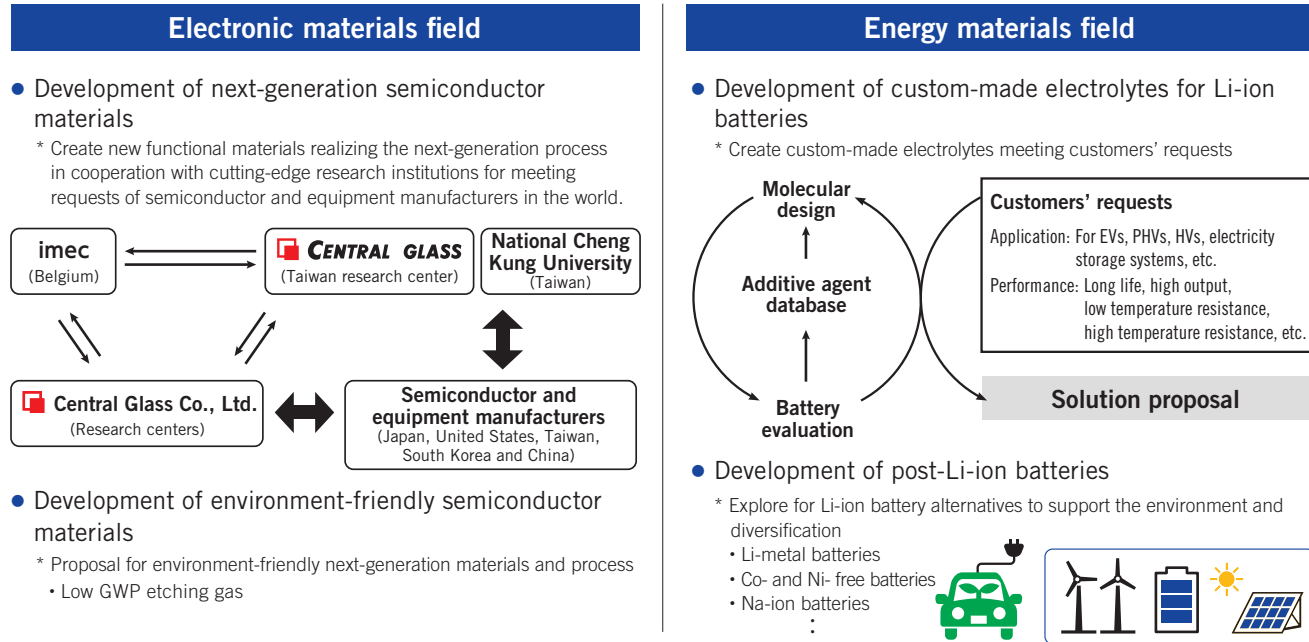
- Invest in commercialization of priority research areas (Power semiconductor materials: From research to mass production facility)
- Electronic materials: Construct new product facilities and increase capacity
- Energy materials: Secure the ability to purchase raw materials (Invest in supply chain), Expand manufacturing bases

- Glass

Invest mainly in maintenance and renewal within operating cash flow (Keep free cash flow positive)

## R&D Policy

- Focus areas: Electronic materials, energy materials, and priority areas of corporate research\*  
\* Corporate research refers to the long-term research exploring for new areas in foundation research.
- Aggressively inject R&D resources toward solution proposition for customer needs (such as potential needs, performance improvement and environmental burden reduction)
- Strengthen functional materials business by improving application development technologies (performance assessment and data science) (expansion of applications of our original compounds)

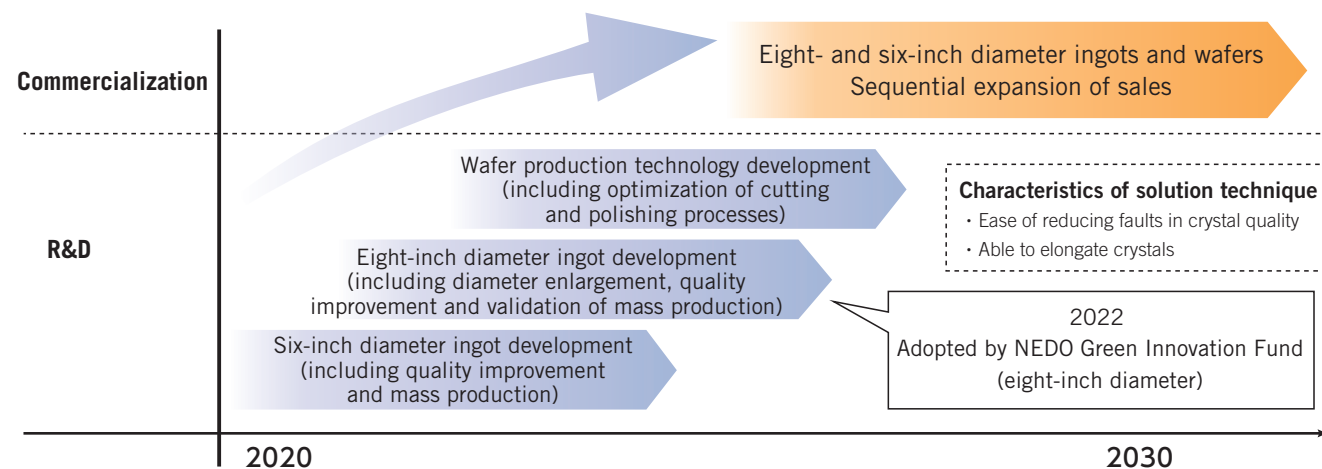


## Product Business Model Based on R&D "Commercialization of SiC"

Under our corporate research system where new areas are widely explored, we focus on next generation power semiconductor materials and SiC, which contribute to improvement in performance of rapidly popularizing EVs. We have advanced R&D of solution techniques with superior quality, and we are close to establishing mass production techniques for six-inch ingots. Eight-inch ingots were adopted by the NEDO Green Innovation Fund, and development was started. Also, for wafers, we are accelerating R&D towards commercialization.

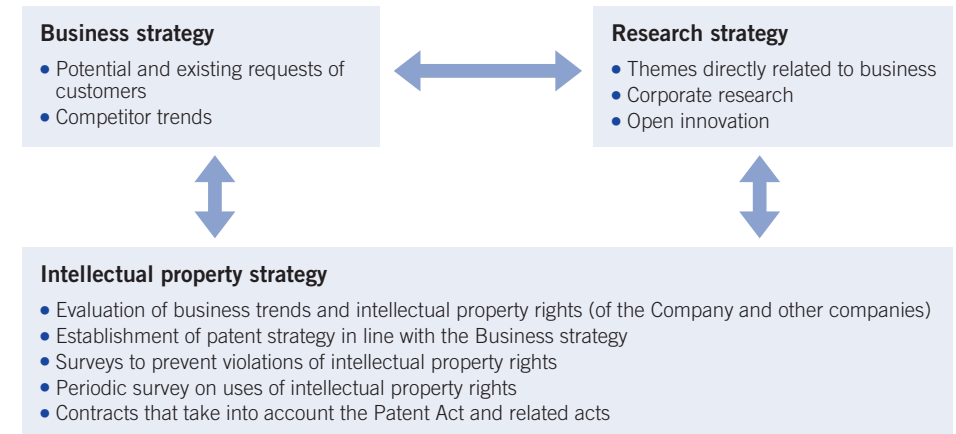
**Characteristics of SiC power semiconductors: Possible to significantly reduce the loss of energy at conversion of power**

## Can contribute to realization of a carbon-neutral society



## Intellectual Property Strategy

- Advance a three-pronged strategy along with business and research and maximize earnings
- Intellectual property department plays the role of creating and using intellectual property rights and respecting the intellectual property rights of other companies.
  - Intellectual property department contributes to present and future profits of the Company through intellectual property rights in cooperation with business and research departments.



## Measures toward the Global Environment Reduce greenhouse gas (GHG) emissions

### Challenge to realize net-zero GHG emissions in 2050

(Scope 1 + 2)

### Milestone reduction goal for GHG emissions in 2030 (vs. 2013)

**Our goal (our Group total volume): reduction goal of 40%**

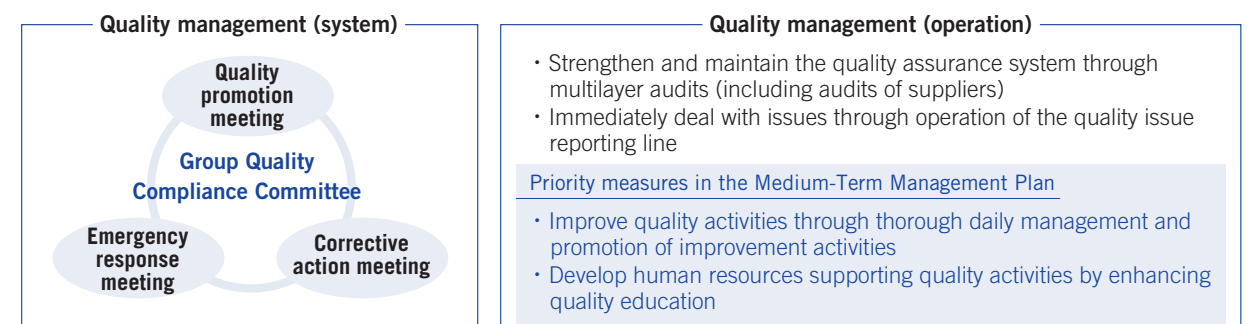
\* For automotive glass businesses in United States and Europe (agreed to be) transferred, all has been deducted after 2013, the criterion year for comparison.

2013	2030	2050
<p>GHG-reducing technologies in manufacturing processes</p> <ul style="list-style-type: none"> <li>• Fuel conversion (including LNG and total oxygen combustion)</li> <li>• Waste heat recovery</li> <li>• Production efficiency by effectively using by-products</li> </ul>	<p>GHG-reducing products on the market (outside the scope of emission reduction within the Company)</p> <ul style="list-style-type: none"> <li>• Architecture glass (heat insulation) and automotive weight-reducing thin laminated flat glass</li> <li>• Products with low global warming potential (including next-generation fluorinated cleaning agents)</li> <li>• Power semiconductor materials</li> </ul>	

## 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

### Permeation of quality culture







# Increasing Transparency and Fairness of Overall Management

The Central Glass Group has established a corporate governance structure to increase transparency and fairness of our overall management as well as to improve efficiency and speed. We carry out initiatives to raise all employees' awareness of compliance in order to practice sincere corporate activities.

## 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 corporate value and expand our revenue. This is our fundamental concept of corporate governance.

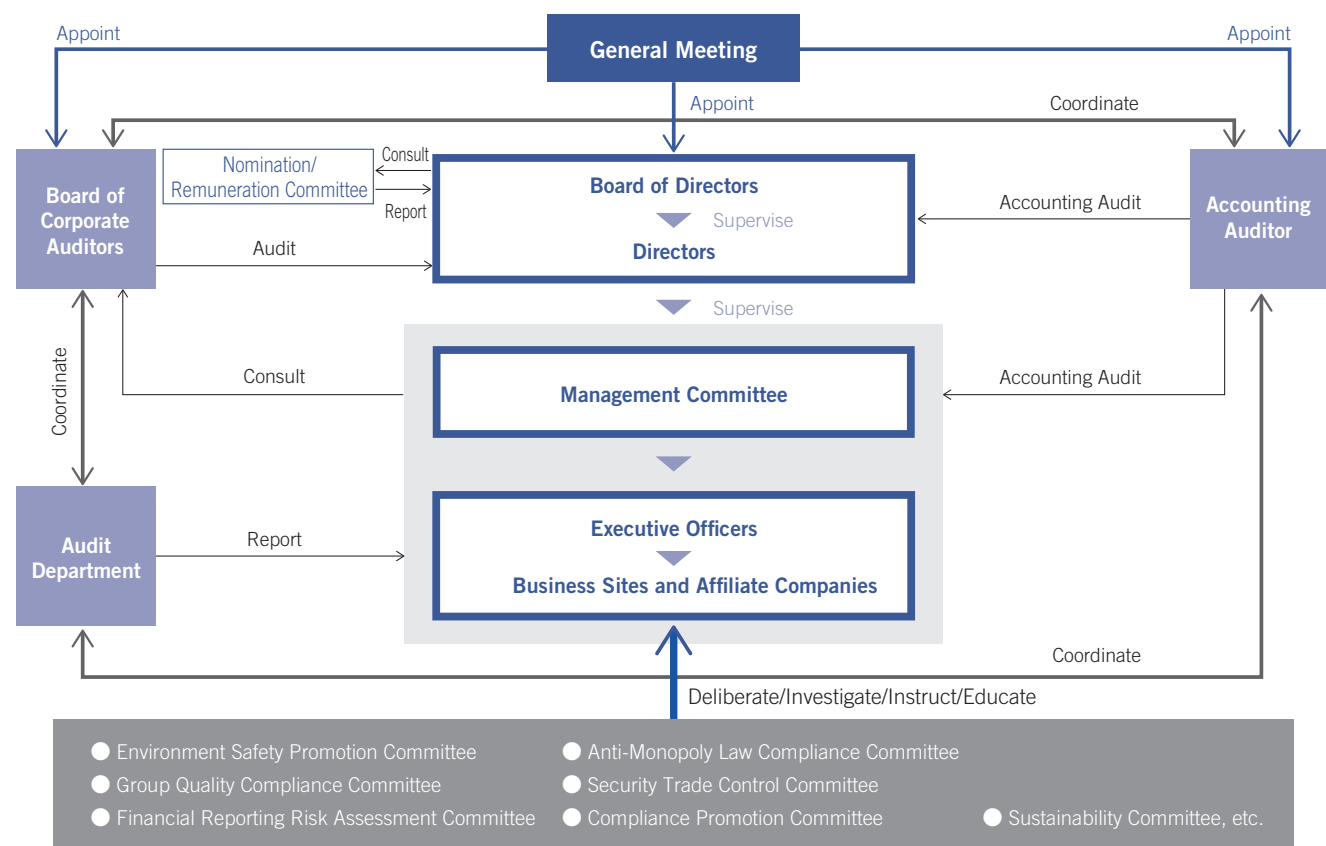
Based on this concept, we position our Board of Directors and Board of Corporate Auditors as the foundation of our corporate governance. In addition, we have adopted an executive officer system. By separating decision-making regarding important business matters, the supervision

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

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 the 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.

### Organizational Chart for Corporate Governance



## 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 Representative Director.

Outside Corporate Auditors and Outside Directors, who have 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 arbitrary board decisions.

## Management Committee

The Management Committee generally meets once a week, in line with the regulations governing its activities, to deliberate and resolve proposals to be put forward to the Board of Directors and other important issues affecting the execution of business.

## Board of Corporate Auditors

The Board of Corporate Auditors generally meets once a month 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 of the Group.

## Audit Department

The Central Glass Group has established the Audit Department at the headquarters for the purpose of managing internal control systems related to internal audits and financial reporting.

Internal audits are carried out to maintain the effectiveness and efficiency of group-wide operations, conserve resources, and manage compliance with laws and regulations as well as internal rules. Operating audits are also conducted to prevent 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. In FY2021, they conducted operating audits based on the annual plan. When counsel or advice about improvements was given through an audit, the Audit Department provided continual support until improvements were implemented.

They also raise awareness about the Central Glass Group Policy Initiative each year and evaluate the effectiveness of internal control at important sites from an independent standpoint to assure the reliability of financial reporting as part of management of the Group's internal control system for financial reporting.

In FY2021, they conducted assessments in line with this policy initiative and submitted an internal control report that described the effectiveness of the internal control

system for Group financial reporting as of March 31, 2022.

The Audit Department also convenes regularly and when necessary to cooperate with the Corporate Auditors. The mutual exchange of information and establishment of a cooperative framework drives the comprehensiveness and efficiency of audits.

## Environment Safety Promotion Committee

The Central Glass Group set up the Environment Safety Promotion Committee as an organization to promote group-wide environment, safety, and health activities throughout the entire life cycle from development to disposal of products based on the Guidelines for Environment, Safety, and Health.

In FY2021, as in FY2020, as a measure to prevent the spread of COVID-19, the committee held remote meetings with participants from many locations, and held a meeting in July with 131 participants, with the Environment Safety Promotion Committee as the main members. From the headquarters, the participants reported on priority issues related to group-wide environmental and safety activities and the reduction of greenhouse gas emissions, the results of activities for the Environment Policy, Safety and Health Management Policy, and environmental and safety issues for FY2020, as well as the priority action plans for FY2021 based on each of the above policies. The manufacturing departments as well as the research and development departments each reported their FY2020 activity results and FY2021 activity plans.

Lively discussions were held based on the sharing of information on basic policies, approaches, and specific initiatives, and the meeting closed with all participants reaffirming the need for continuous improvement.

### Committee Composition (As of April 1, 2022)

<b>Chairperson</b>	Executive Officer in charge of the Environment and Safety Department
<b>Vice-Chairpersons</b>	Executive Officer (Deputy) in charge of the Environment and Safety Department
<b>Committee Members</b>	General Managers of the Personnel Department, Glass Quality Assurance Department, Chemicals Technical Planning & Management Department, Chemicals Production Engineering Center, Chemicals Quality Assurance Department, Environment and Safety Department, Quality Assurance Division, Chemical Research Center, Glass Research Center, Plant Managers of Ube Plant, Matsusaka Plant, Kawasaki Plant; and the Site Manager of the Matsusaka Plant Sakai Manufacturing Site
<b>Observers</b>	Corporate Auditors



Environment Safety Promotion Committee

## Anti-Monopoly Law Compliance Committee

The Central Glass Group has established an Anti-Monopoly Law compliance system and set up the Anti-Monopoly Law Compliance Committee as an organization to promote adherence to the Anti-Monopoly Law.

In FY2021, while primarily conducting internal education in the sales division, the Anti-Monopoly Law Compliance Committee also verified whether any information was disclosed that may conflict with the Anti-Monopoly Law, examined the trends in detection of cartels, and surveyed subcontracting relations. Furthermore, the committee also provided education about the Anti-Monopoly Law and the Act Against Delay in Payment of Subcontract Proceeds, etc. to Subcontractors through outside instructors and engaged in activities to ensure compliance with the Anti-Monopoly Law.

### Committee Composition (As of April 1, 2022)

<b>Chairperson</b>	Executive Officer in charge of the Corporate Administration Department
<b>Committee Members</b>	General Managers of the Corporate Administration Department, Purchasing Department, Flat Glass Marketing & Sales Department, Automotive Glass Department, Glass Business Planning & Development Department, Chemicals Sales Department, Medi-chemicals Sales Department, Specialty Chemicals Sales Department, Energy Materials Sales Department, Chemicals Business Development Department, Chemicals Technical Planning & Management Department, Agri-Bio Business Promotion Department, and Glass Fiber Department
<b>Observers</b>	Corporate Auditors; General Manager of the Audit Department; Tosho Central Co., Ltd.; Central Chemical Co., Ltd.; Central Glass Fiber Co., Ltd.; and Central Saint-Gobain Co., Ltd.

## Group Quality Compliance Committee

The Group has established the Group Quality Compliance Committee as a Group-wide cross-organizational body to further strengthen the quality assurance system of the entire Central Glass Group, including product safety activities.

The Group Quality Compliance Committee promotes quality control activities through the meeting committee structure below.

(1) Quality promotion meeting	Promotes PDCA quality activities
(2) Emergency response meeting	Rapidly responds to any quality and product safety issues
(3) Corrective action meeting	Defines comprehensive measures to prevent any recurrence

The committee has also established the Segment Quality Assurance Meeting to promote quality assurance activities in each segment. The discussions in the Segment Quality Assurance Meeting are reported to the committee secretariat.

The quality promotion meeting held in FY2021 confirmed the progress of activities during FY2021 and shared the quality promotion activity direction for FY2022. It was attended by 82 participants, the majority of whom were Group Quality Compliance Committee members. Emergency response meetings and corrective action meetings were convened as necessary.

### Committee Composition (As of April 1, 2022)

<b>Chairperson</b>	Executive Officer in charge of the Quality Assurance Division
<b>Vice-Chairpersons</b>	General Manager of the Quality Assurance Division
<b>Committee Members</b>	General Managers of the Corporate Administration Department, Purchasing Department, Flat Glass Marketing & Sales Department, Automotive Glass Department, Glass Business Planning & Development Department, Glass Quality Assurance Department, Chemicals Sales Department, Medi-chemicals Sales Department, Specialty Chemicals Sales Department, Electronic Materials Sales Department, Energy Materials Sales Department, Chemicals Business Development Department, Chemicals Technical Planning & Management Department, Chemicals Production Engineering Center, Chemicals Quality Assurance Department, Agri-Bio Business Promotion Department, Glass Fiber Department, Chemical Research Center, Glass Research Center; Deputy General Manager of the Chemical Research Center; Plant Managers of the Ube Plant, Matsusaka Plant, Kawasaki Plant; Site Manager of Matsusaka Plant Sakai Manufacturing Site; and Presidents of affiliate companies (main affiliate companies)
<b>Observers</b>	Corporate Auditors

## Security Trade Control Committee

The Central Glass Group exports goods and provides technology in accordance with export and trade laws, such as the Foreign Exchange and Foreign Trade Control Act which regulates trade regarding supplying exports of cargo as well as providing technology to non-residents and to foreign countries, for the purpose of sustaining international peace and safety and preventing the stockpiling of weapons of mass destruction as well as conventional arms. We act under a basic policy to never breach such laws and have established the Security Trade Control Program to fully raise internal awareness about this policy as well as a Security Trade Control Committee to thoroughly implement this program.

In FY2021, the Security Control Committee fully raised awareness about compliance with laws and regulations by providing reports on the classification of exported products of the Glass Segment and Chemicals Segment; distributing information on major amendments to laws, regulations and policies; and sharing the results of internal audits.

### Committee Composition (As of April 1, 2022)

<b>Chairperson</b>	Representative Director
<b>Committee Members</b>	General Managers of the Glass Business Planning & Development Department, Chemicals Technical Planning & Management Department, Information & Computer System Department, Flat Glass Marketing & Sales Department, Automotive Glass Department, Chemicals Sales Department, Medi-chemicals Sales Department, Specialty Chemicals Sales Department, Electronic Materials Sales Department, Energy Materials Sales Department, Chemicals Business Development Department, Agri-Bio Business Promotion Department, Glass Fiber Department, Environment and Safety Department, Chemical Research Center, and Glass Research Center
<b>Outside Committee Members</b>	General Manager in charge of exports and imports at Tosho Central Co., Ltd.
<b>Observers</b>	Corporate Auditors and General Manager of the Audit Department

## Financial Reporting Risk Assessment Committee

The Central Glass Group evaluates and analyzes the influence of management decision-making and accounting records on financial reporting. We set up the Financial Reporting Risk Assessment Committee to ensure the reliability of financial reporting.

In FY2021, the committee provided guidance to avoid any potential financial reporting risks by evaluating and analyzing projects that might have such risks due to internal and external factors.

### Committee Composition (As of April 1, 2022)

<b>Chairperson</b>	Executive Officer in charge of the Finance & Accounting Department
<b>Committee Members</b>	Executive Officers in charge of the Corporate Administration Department, Audit Department; General Managers of the Finance & Accounting Department, Corporate Administration Department, and Audit Department
<b>Observers</b>	Corporate Auditors

## Compliance Promotion Committee

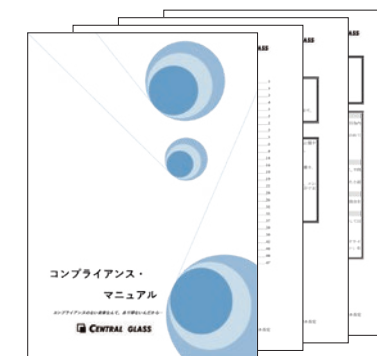
The Central Glass Group has established a Compliance Manual to promote compliance. We have also set up the Compliance Promotion Committee as an organization to assess and deliberate on matters related to compliance.

In FY2021, the external whistleblower contact was changed to improve the internal whistleblower system.

The Compliance Promotion Committee revised the Compliance Manual in light of amendments to laws, regulations, and internal rules and announced the changes to all employees.

### Committee Composition (As of April 1, 2022)

<b>Chairperson</b>	Executive Officer in charge of the Corporate Administration Department
<b>Committee Members</b>	General Managers of the Corporate Administration Department, Personnel Department, and Audit Department
<b>Observers</b>	Corporate Auditors



Compliance Manual

## Sustainability Committee

The Sustainability Committee was established in November 2021 to help improve management governance by analyzing and evaluating efforts to address issues related to sustainability.

Discussions during FY2021, the first year of its establishment, focused on the positioning and definition of sustainability in our business activities and the analysis and evaluation of its implementation. In the future, we will shift to a management cycle of compiling the evaluation results of sustainability initiatives and issues, reporting the results to the Board of Directors, and addressing open issues.

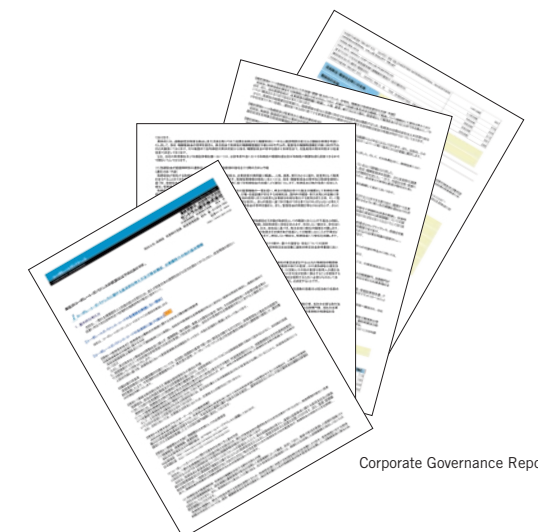
### Committee Composition (As of April 1, 2022)

<b>Chairperson</b>	Executive Officer in charge of the Corporate Administration Department
<b>Vice-Chairpersons</b>	Executive Officer in charge of the Environment and Safety Department
<b>Committee Members</b>	General Managers of the Corporate Administration Department, Environment and Safety Department, Personnel Department, Purchasing Department, Glass Business Planning & Development Department, Chemicals Business Development Department, Chemicals Technical Planning & Management Department, Agri-Bio Business Promotion Department, Glass Fiber Department, Quality Assurance Division, Intellectual Property Department, Glass Research Center, and Chemical Research Center

## Compliance with the Corporate Governance Code

Central Glass has established a governance system based on the Corporate Governance Code (CG Code) revised in June 2021 by the Tokyo Stock Exchange (TSE), through which we regularly submit and disclose a Corporate Governance Report describing our compliance activities to the TSE.

In the recent revision, a higher level of governance is required in line with the reorganization of market segments. As a company listed on the Prime Market, we have appropriately responded to the newly adopted CG Code by developing internal systems as necessary to implement the appropriate functions of the Board of Directors, ensure diversity in core human resources, and address issues related to sustainability.

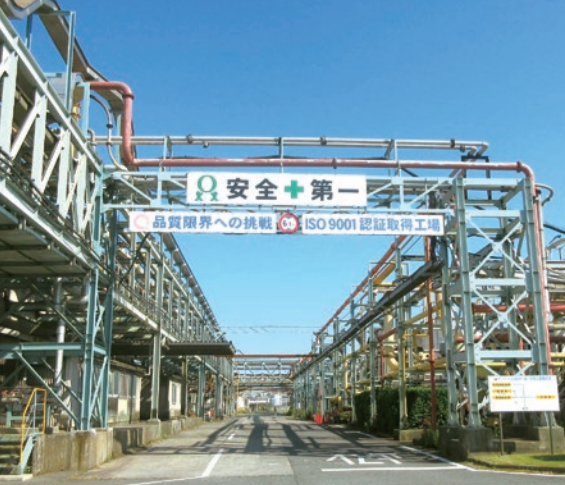


Corporate Governance Report



# 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.



## 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.

### Guidelines for Environment, Health and Safety

Enacted: October 30, 2020

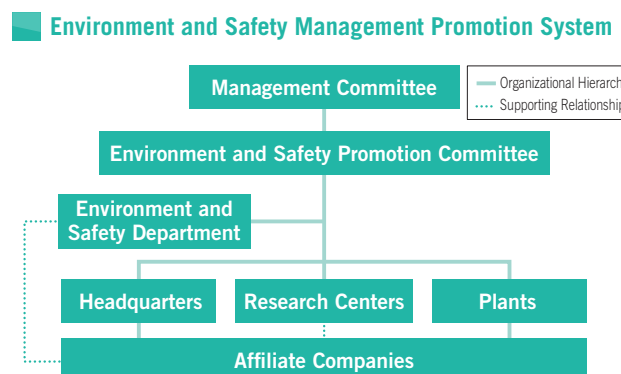
#### “Everything is for people and the global environment”

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 habits to protect one's own life, body, and health.
Distribution safety		Comprehensively promote safe logistics to protect employees, forwarding agents, pickup and delivery service providers, and the environment by managing the means of transportation, transportation status, and safety information, and make 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 established the Environment Safety Promotion Committee with the Environment and Safety Department acting as the secretariat to promote Group-wide environment and safety efforts. The headquarters, research centers, plants and affiliate companies incorporate matters unique to each business site into a specific activity plan and engage in environment and safety initiatives.



## FY2021 Targets and Performance Results

Issues	(Plan) FY2021 Targets	(Do) FY2021 Performance Results	(Check) Ratings	(Act) FY2022 Initiatives
Environment and safety management	Promote FY2021 Environment Policy. Promote Safety and Health Management Policy in 2021.	<ul style="list-style-type: none"> <li>Drafted annual policies and implemented activities at each business site in accordance with the FY2021 Environment Policy and Safety and Health Management Policy in 2021.</li> <li>Verified the progress of initiatives through environmental safety self-audits and on-site environment and safety audits.</li> <li>Conducted management-level reviews via the Environment Safety Promotion Committee.</li> <li>Revised the annual period for industrial safety management (changed period in Japan from January-December to April-March).</li> <li>Revised the basic education system.</li> </ul>	○	Promote FY2022 Environment Policy. Promote Safety and Health Management Policy in 2022.
Promotion of Environmental Protection <sup>1</sup>	Reduce CO <sub>2</sub> e emissions. Establish GHG emission reduction targets for FY2030 and take action to achieve the targets.  Reduce final disposed amount of industrial waste. Establish FY2025 targets for reduction of final disposed amount of industrial waste and take action to achieve the targets.	<ul style="list-style-type: none"> <li>FY2021 CO<sub>2</sub>e emissions: 421,000 tons (down 6.2% year on year) (35.4% reduction relative to FY2013).</li> <li>FY2030 reduction target: 40% reduction for Group-wide Scope 1, 2 relative to FY2013.</li> <li>Long-term target: Achieve carbon neutrality by 2050.</li> <li>Final disposed amount of industrial waste in FY2021: 8,300 tons (down 15% year on year).</li> <li>We considered setting targets based on industry association targets that incorporated changes to our business environment, but decided to put it on hold until the restructuring of the Glass business was completed.</li> </ul>	○	Carry out activities to achieve GHG emission reduction targets for FY2030.
Promotion of Safety and disaster prevention	Implement equipment safety measures and ensure operational safety.  Encourage the effective use of accident data.	<ul style="list-style-type: none"> <li>Thoroughly implemented statutory and voluntary inspections.</li> <li>Adopted and installed safety equipment.</li> <li>Prepared and thoroughly implemented comprehensive work standards and other documentation.</li> <li>Utilized the Security and Disaster Prevention Database and shared accident data and preventive recurrence measures with domestic affiliates.</li> </ul>	○	Implement equipment safety measures and ensure operational safety.  Encourage the effective use of the Security and Disaster Prevention Database.
Promotion of occupational health and safety <sup>2</sup>	Maintain and improve the workplace environment. Achieve zero-accident records.	<ul style="list-style-type: none"> <li>Implemented measures to prevent occupational accidents, utilizing information such as factor analyses of the White Paper of Occupational Accidents in FY2020.</li> <li>Instructed each business site to utilize safety and health activities to eradicate occupational accidents.</li> <li>Number of occupational accidents at domestic sites: 39 accidents (up 9 from the previous year).</li> <li>Frequency rate of days away from work (Central Glass): 0.31 (down 48% year on year) (Domestic group companies): 0.58 (down 51% year on year).</li> </ul>	△	Implement measures to prevent occupational accidents based on the White Paper of Occupational Accidents in FY2021.
Promotion of distribution safety	Prevent accidents during the transportation of chemical substances and minimize the damage in case of incidents.	<ul style="list-style-type: none"> <li>Issued Yellow Cards for chemical products, including chemical substances not legally mandated to require a card.</li> <li>Verified that Yellow Cards are properly used according to internal rules through an internal database, audits, and other measures.</li> </ul>	○	Review operational rules of Yellow Cards. Continue to prepare new Yellow Cards and revise existing Yellow Cards as necessary.
Promotion of chemical substances management	Reduce emissions of chemical substances into the environment. Continue compliance with relevant laws and regulations.  Identify asbestos use and storage and execute proper disposal.  Strictly manage machinery containing PCBs and conduct disposal according to laws and regulations.	<ul style="list-style-type: none"> <li>Investigated switching from raw materials containing Pollutant Release and Transfer Register (PRTR) substances to alternative products.</li> <li>Provided the necessary notifications in accordance with the Chemical Substances Control Law and Act on Assessment of Releases of Specified Chemical Substances in the Environment and the Promotion of Management Improvement (PRTR System) and other laws and regulations.</li> <li>Verified the level of compliance with relevant laws and regulations through voluntary audit reports and on-site environment and safety audits.</li> <li>Properly disposed of facilities containing asbestos at the time of decommissioning.</li> <li>Surveyed level of asbestos use, storage, and disposal in buildings and facilities.</li> <li>Verified the level of asbestos use and storage through voluntary audit reports and on-site environment and safety audits.</li> <li>Investigated for and strictly managed equipment containing PCBs.</li> <li>Systematically disposed of high- and low- concentration PCBs.</li> <li>Surveyed the level of storage and disposal of equipment containing PCBs each quarter.</li> <li>Verified the management status of equipment containing PCBs through voluntary audit reports and on-site environment and safety audits.</li> </ul>	○	Reduce emissions of chemical substances into the environment. Continue compliance with relevant laws and regulations.  Identify asbestos use and storage and continue to execute proper disposal.  Identify the use and storage of equipment containing PCBs and continue to execute proper disposal in accordance with laws and regulations.
Communication	Mitigate risks through SDS/GHS Labeling.  Participate in regional activities. Coexist with local communities.	<ul style="list-style-type: none"> <li>Issued SDS and GHS labeling for our chemical products, including substances not covered by laws and regulations.</li> <li>Obtained the latest SDS version for purchased raw materials.</li> <li>Conducted education and risk assessment using SDS.</li> <li>Contributed to community and social welfare activities.</li> <li>Engaged in dialogues with local communities (online meetings).</li> </ul>	○	Ensure issuance of SDS and GHS labeling for our chemical products. Continuously conduct risk assessment using SDS.  Continue to contribute to community and social welfare activities. Continue to hold dialogues with local communities.

Rating: ○: Achieved target △: Achieved most targets but not all ×: Additional measures required —: Not applicable

<sup>1</sup> In the Environmental Protection section in this table: CO<sub>2</sub>e emissions indicate the total amount of Central Glass Co., Ltd. emissions originating from energy, non-energy, 6 greenhouse gases, transportation (including Scope 3), and fluorocarbons. GHG emissions indicate the amount of greenhouse gas emissions for Scope 1 and 2 for the entire Central Glass Group.  
<sup>2</sup> The period used for occupational health and safety activities was originally from January to December, but was changed to April to March in 2021 to become consistent with the annual periods of other business activities. Figures differ from previous CSR reports because the number of accidents and the frequency rates of days away from work have been retroactively recalculated.

### 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.



## Environment and Safety Audits

The Central Glass Group conducts audits in a multi-layered structure, including self-audits by each business site and affiliate company as well as Environment and Safety Department audits for each business site and affiliate company to confirm the compliance and effectiveness of the management system and its activities concerning the environment and safety at each organizational level.

Self-audits are conducted internally once a year by each business site and affiliate company to verify compliance with environmental and occupational safety laws and regulations.

Two types of Environment and Safety Department audits are conducted annually: environment and safety on-site audits, in which an audit team from the Environment and Safety Department at the headquarters goes directly to the site to check on the state of environmental and safety management, and documentary audits, in which check sheets are used to check the status of management.

In each audit, we clarify issues and problems related to the management system, environmental conservation, safety and disaster prevention, occupational health and safety, logistics safety, chemical substance management, and communication activities in accordance with our Guidelines for Environment, Safety, and Health, and work on the necessary improvements. Particularly in the case of on-site audits, when they reveal matters requiring improvement, we look into the countermeasures taken and their effectiveness based on an investigation of the true causes of the issues to ensure that recurrence is prevented.

In FY2021, Environment and Safety Department audits were conducted in the form of documentary audits of 46 domestic business sites of the Central Glass Group, in addition to environment and safety on-site audits conducted at 10 of those business sites, based on which necessary improvements are being implemented.

As for our overseas affiliates, we conducted a survey on occupational accidents and environmental preservation at nine companies, and confirmed that there were no issues of note.

Our Group will continue to conduct environment and safety audits as well as various inspections to encourage continuous improvement of environment and safety activities at domestic and overseas business sites.

## 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 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 greenhouse gases, environmentally hazardous substances, and waste; as well as enhance recycling to build a recycling-oriented society.

### Material Balance (FY2021 Results)

#### INPUT

Total Amount of Materials Input: 1,022,000 tons		Total Amount of Water Resources Input: 16,903 million m <sup>3</sup>		Amount of Net Energy Input: 11,878 TJ	
Central Glass Co., Ltd.	Affiliate Companies	Central Glass Co., Ltd.	Affiliate Companies	Central Glass Co., Ltd.	Affiliate Companies
636,000 tons	386,000 tons	10,684 million m <sup>3</sup>	6,219 million m <sup>3</sup>	6,202 TJ	5,676 TJ



#### OUTPUT

Atmosphere		Water		Waste	
Total Emissions of Greenhouse Gases: 830,000 tons-CO <sub>2</sub> e		Total Amount of Discharged Water: 15,430 million m <sup>3</sup>		Total Amount of Waste Produced: 74,000 tons	
Central Glass Co., Ltd.	Affiliate Companies	Central Glass Co., Ltd.	Affiliate Companies	Central Glass Co., Ltd.	Affiliate Companies
445,000 tons-CO <sub>2</sub> e	385,000 tons-CO <sub>2</sub> e	10,497 million m <sup>3</sup>	4,933 million m <sup>3</sup>	20,000 tons	54,000 tons
Emissions of Air Pollutants: 4,517 tons		Discharge of Water Pollutants: 75 tons		Final Disposed Amount of Waste: 12,500 tons	
Central Glass Co., Ltd.	Affiliate Companies	Central Glass Co., Ltd.	Affiliate Companies	Central Glass Co., Ltd.	Affiliate Companies
3,326 tons	1,191 tons	64 tons	11 tons	8,300 tons	4,200 tons

#### Reporting range

- Central Glass Co., Ltd.: 3 plants, 1 manufacturing site, 3 research centers, the Chemicals Production Engineering Center, and the headquarters
- Domestic affiliates: 13 major affiliates
- Overseas affiliates: 8 major affiliates
- Total emissions of greenhouse gases: Includes energy origin, non-energy origin, six gases, fluorocarbons, and transport

Recycling Rate of Waste: 85%	
Central Glass Co., Ltd.	Affiliate Companies
75%	92%

## Reduction of Greenhouse Gas (GHG) Emissions

### Central Glass Group Medium- and Long-Term Targets

In response to the Japanese government's 2050 Carbon Neutral Declaration and revised 2030 GHG emissions reduction targets, we have set the following targets for the entire Group including overseas companies.

Reduce total Scope 1 and 2 GHG emissions for the entire Group by 40% from the FY2013 level by FY2030. Take on the challenge of achieving net-zero GHG emissions in 2050.

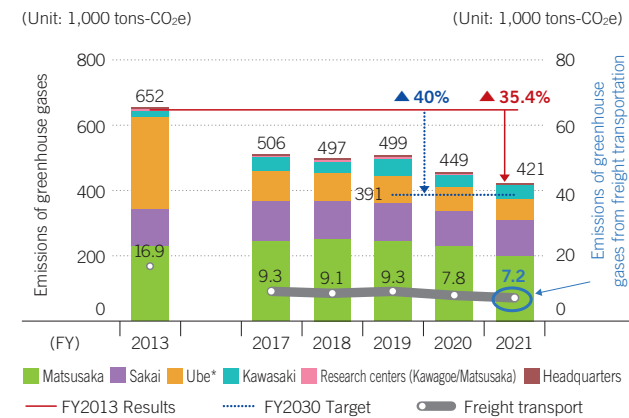
In addition to efforts to reduce greenhouse gas emissions through fuel conversion and other measures, we will step up research and development of products that can contribute to reducing environmental impact.

The Central Glass Group will continue efforts to reduce greenhouse gas emissions and environmental impact at domestic and overseas affiliates to help prevent global warming.

### Central Glass Co., Ltd.

In FY2021, we were able to reduce CO<sub>2</sub> equivalent emissions to 421,000 tons-CO<sub>2</sub>e (35.4% of the FY2013 level, and down 6.2% from the previous fiscal year) through structural reform of the Glass business and efficient operation of flat glass production furnaces.

### Changes in Greenhouse Gas Emissions (Central Glass Co., Ltd.)

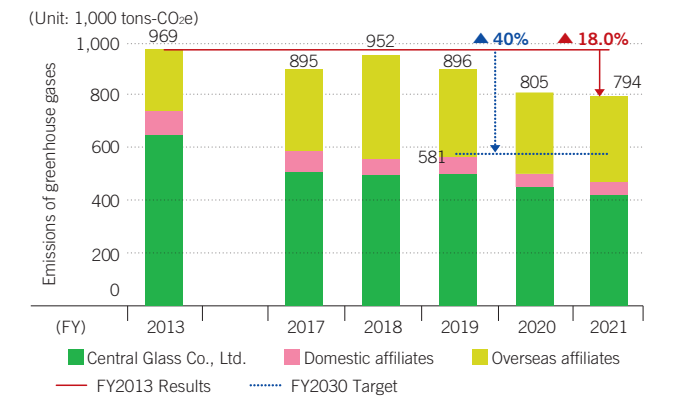


\* Ube Plant: Includes research center (Ube) and Chemicals Production Engineering Center  
 \* Note: Amount of emissions were calculated based on the Act on the Rational Use of Energy, but the scope has been changed to Scope 1 and 2 GHG emissions (energy and non-energy fields and six gases) based on the GHG Protocol from the current fiscal year. In addition, the emissions factor for calculating emissions related to electricity use in Japan has been changed to an adjusted value and may not match the values of past reporting and values in the Material Balance chart on page 22.

### Central Glass Group

In FY2021, both domestic and overseas affiliates managed to reduce CO<sub>2</sub>e emissions to 794,000 tons-CO<sub>2</sub>e (18.0% of the FY2013 level, down 1.3% from the previous fiscal year) as a result of structural reforms in the Glass business.

## Changes in Greenhouse Gas Emissions (Central Glass Group)



Reporting range  
 ● Central Glass Co., Ltd.: 3 plants, 1 manufacturing site, 3 research centers, the Chemicals Production Engineering Center, and the headquarters  
 ● Domestic affiliates: 15 major affiliates  
 ● Overseas affiliates: 8 major affiliates  
 Note: The scope of the Group's reporting and the coefficients used in the calculation of domestic emissions have been changed in accordance with the change in the Company's greenhouse gas emissions.

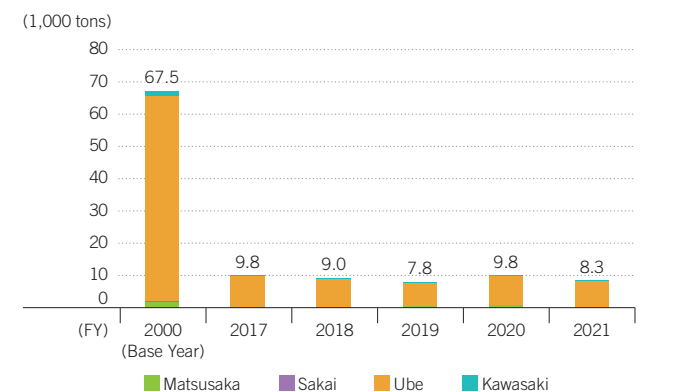
## Reduction of the Final Disposed Amount of Industrial Waste

### Central Glass Co., Ltd.

Central Glass Co., Ltd. strives to reduce industrial waste. In FY2021, we reached 8,300 tons (down 15% from the previous year) by implementing structural reforms in the Glass business, examining the operational efficiency of our flat glass production furnaces, and promoting recycling through comprehensive sorting of waste and reviewing of disposal contractors.

We have already achieved the 2025 targets set by our industry association, and we will continue to set targets higher than those set by our industry association so that we can achieve further reduction. In addition to reducing the final amounts of industrial waste of which we dispose, Central Glass will also work to control waste production, implement thorough sorting of waste, improve the recycling rate, and in particular carry out measures for waste plastic. We will actively pursue the 3Rs (Reduce, Reuse, Recycle) as well.

### Final Disposed Amount of Industrial Waste (Central Glass Co., Ltd.)





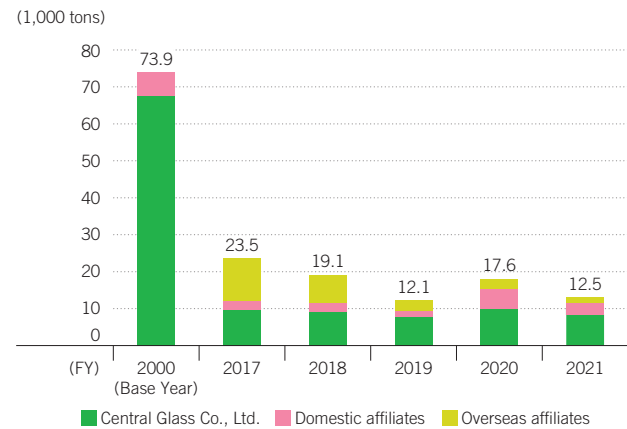
● Central Glass Group

The Group is always working to reduce the industrial waste output of both its domestic as well as its overseas affiliates.

In FY2021, the final disposal volume of industrial waste decreased at domestic and overseas affiliates, and the volume for the entire Central Glass Group was 12,500 tons (down 29% from the previous fiscal year).

We will continue our efforts to reduce the final disposal volume of industrial waste by reducing the amount of industrial waste generated by processes at both domestic and overseas affiliates as well as reducing emissions and promoting recycling through reduction of plastic use and thorough sorting of plastics.

■ Final Disposed Amount of Industrial Waste (Central Glass Group)



Reduction of Fluorocarbon Leakage from Industrial Air-conditioning Equipment and Refrigerators

Central Glass Co., Ltd. and our domestic affiliates strive to reduce leakage of fluorocarbons when using equipment through proper control of refrigerants, by means such as inspections of industrial air-conditioning equipment and refrigerators in accordance with the Act on Rational Use and Proper Management of Fluorocarbons.

In FY2021, simplified and regular inspections were conducted on 2,836 units at Central Glass Co., Ltd. and on a total of 1,200 units at domestic affiliates. As a result, leakage of 1,193 tons-CO<sub>2</sub>e by Central Glass Co., Ltd. was found and reported to the government in accordance with this law. The total leakage by domestic affiliates was 36 tons-CO<sub>2</sub>e.

We will continue doing our utmost to reduce emissions of fluorocarbons through measures that include identification and repair of leakage areas, equipment management, and control of the amounts of refrigerants.

Air and Water Pollutant Emissions

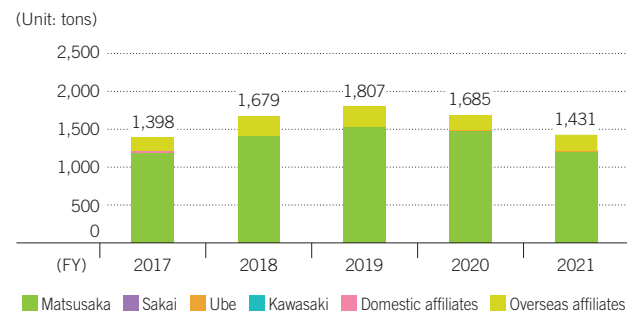
The Central Glass Group operates plants in compliance with the local emission standards for atmosphere, water quality, and other environmental indicators for each business site.

● Air Pollutant Emissions

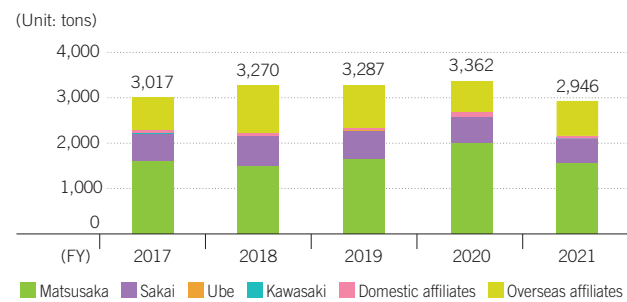
The Central Glass Group monitors the concentration and amount of sulfur oxides (SOx), nitrogen oxides (NOx), dust, and other air pollutants emitted in accordance with the Air Pollution Control Act, the laws and regulations of each country, and the emission standards of the regions where our facilities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

In FY2021, we were able to reduce emissions of air pollutants through structural reform of the Glass business and investigation of efficient flat glass production furnace operation. There were no cases in which legal limits or local emission standards were exceeded.

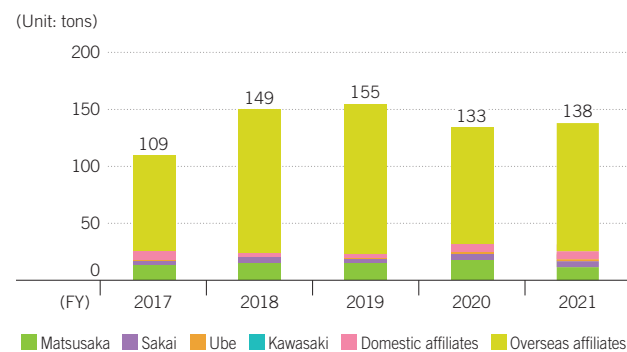
■ SOx Emissions



■ NOx Emissions



■ Ash Dust Emissions



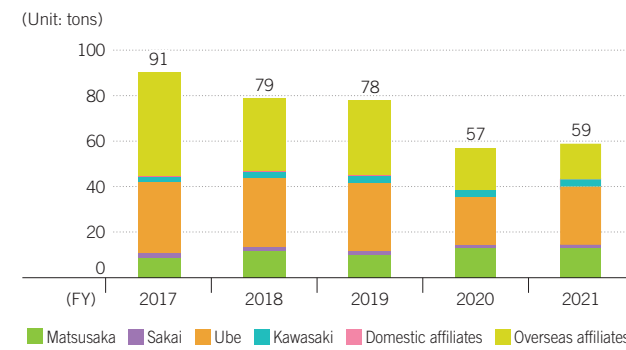
\* The data for overseas affiliates is collected according to the standards in each region and is shown only as reference.

● Water Pollutant Emissions

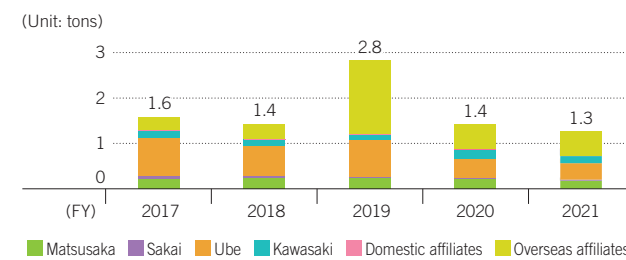
The Central Glass Group monitors the concentrations and amounts of water pollutant emissions including chemical oxygen demand (COD), total nitrogen discharge and total phosphorous discharge in accordance with the Water Pollution Prevention Act, the laws and regulations of each country, and the emission standards of the regions where our facilities are located. At each plant, for environmental conservation the necessary wastewater treatment facilities have been installed to remove pollutants, and process chemicals in the wastewater were recovered before discharge, so that there were no cases in which legal or regional emission standards were exceeded.

Reducing emissions of air and water pollutants is critical to the global environment and human health and safety, and we will continue to carry out appropriate management.

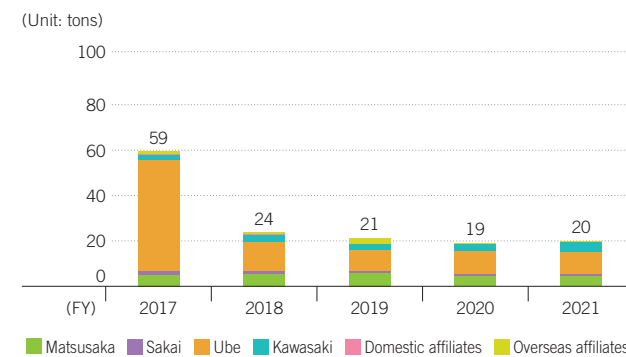
■ Chemical Oxygen Demand (COD)



■ Total Phosphorous Discharge



■ Total Nitrogen Discharge



\* The data for overseas affiliates is collected according to the standards in each region and is shown only as reference.

Industrial Health and Safety

As we aim to ensure safe workplaces, the Central Glass Group has formulated a management policy for health and safety, and conducts occupational health and safety activities at each business site in Japan and overseas.

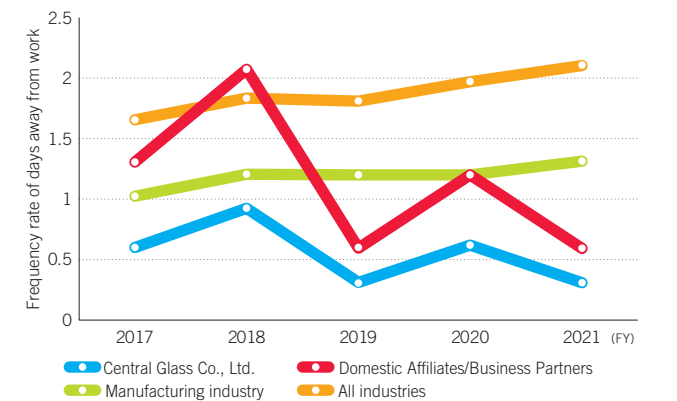
In FY2021, Central Glass Co., Ltd. and domestic affiliates and business partners suffered a total of 39 occupational accidents, of which 13 cases resulted in days away from work and 26 cases resulted in no lost time, year-on-year increases of 3 and 6 cases, respectively.

There is a tendency for a large number of occupational accidents to occur at domestic affiliates and business partners, and we are focusing on analyzing the true causes in order to prevent recurrence.

Action is being taken to eradicate occupational accidents at each work site, including those located overseas.

The Central Glass Group will continue to carry out industrial health and safety activities to ensure awareness of safety in all Group employees and eliminate occupational accidents.

■ Frequency rate of days away from work



Frequency rate of days away from work = (number of deaths or injuries resulting in lost work hours/total working hours) x 1,000,000 (The frequency rate of accidents that result in lost work hours per million working hours)

The frequency rates of days away from work for all industries and for the manufacturing industry are referenced from the Ministry of Health, Labour and Welfare's 2020 Survey on Industrial Accidents.

\* The period used for occupational health and safety activities at Central Glass and domestic affiliate companies and business partners was originally from January to December, but was changed to April to March in 2021 to become consistent with the annual periods of other business activities. Figures differ from previous CSR reports because the frequency rates of days away from work have been retroactively recalculated.

Security and Disaster Prevention

Safety is the highest priority in our corporate activities and the prevention of accidents and disasters is the foundation of corporate activities. Under the guidance of the authorities regarding the environment, security, and disaster prevention, Central Glass Co., Ltd. and domestic affiliates further built up our full-scale disaster prevention and security systems, prepared with a view to eradicating all accidents, whether fire, explosion, or chemical leak. In the last several years, however, we have seen an increase in accidents related to forklifts.

In FY2021, the Central Glass Group strived to prevent these accidents by increasing practical forklift training opportunities offered through manufacturers and intensifying hands-on training even at partner companies.

We also work to prevent accidents and disasters at each business site through efforts such as activities that are based on the Security and Accident Prevention Guidelines issued by the Japan Chemical Industry Association (JCIA) and through

the passing down of skills and know-how to our young employees by veteran engineers well-versed in their work.

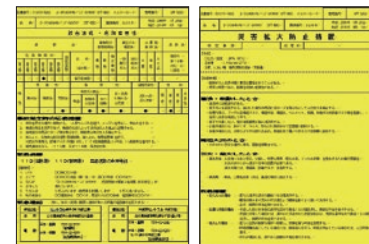
The Central Glass Group will continue to make every effort to ensure not only safe working environments for its employees but also safe and secure local communities. (Refer to Activities at Individual Plants (Security and Disaster Prevention Initiatives) on page 38 and 39.)

## Logistical Safety

In order to ensure prompt response in the event of an accident during transportation of high-pressure gas, poisonous or deleterious substances, or dangerous or flammable substances designated under the Fire Service Act, we issue an emergency contact card (Yellow Card)\* that briefly describes information such as contact information, emergency measures, and precautions. Drivers are requested to keep this card with them. Yellow Cards with emergency contact information are similarly provided even for transportation of small quantities that do not legally necessitate this measure, and also for chemical substances that are not covered by the law.

To further ensure logistical safety, labels with Guide Numbers and UN Numbers are attached to product containers, indicating the details of relevant first aid measures.

We will continue working to prevent accidents during the transportation of chemical substances and to prevent the spread of damage in the event of an accident.



Emergency Contact Card (Yellow Card)

\* The Emergency Contact Card (Yellow Card) is a card provided as preparation for potential accidents during the transportation of chemical substances, such as high-pressure gas or hazardous substances, that lists the dangers of the chemical substances in transport; procedures which should be taken by the transportation personnel, fire-fighters, and police in the event of an accident; and contact information.

## Promotion of the Management of Chemical Substances

### Amount of Chemical Substances Subject to the PRTR Law<sup>1</sup> Emitted, Discharged, or Transported

Central Glass Co., Ltd. and its domestic affiliates survey, collect and report on substances subject to PRTR notification in accordance with the PRTR Law and the PRTR System.

The number of substances subject to PRTR notification in FY2021 decreased from the previous year by one substance to a total of 61, due to increases or decreases in raw materials and production volume. (Refer to PRTR Data on page 27.)

Both emissions<sup>2</sup> (up 4.9% from the previous fiscal year) and transfers<sup>3</sup> (up 27.6% from the previous fiscal year) increased from the previous fiscal year due to an increase in certain raw materials as a result of changes in raw materials and products.

\*1 Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (Law concerning Pollutant Release and Transfer Register / PRTR)

\*2 Amount released into the atmosphere, public water, soil, and landfill.

\*3 Amount transferred to the sewage system, amount consigned to industrial waste disposal company (excludes shipments as products)

## Asbestos Management

Some of the materials used in buildings and production facilities at Central Glass Co., Ltd. and its domestic affiliates contain asbestos. We therefore identify the target locations where these materials are used, comply with the Industrial Safety and Health Act and other laws and regulations, and manage them appropriately. In addition, we properly dispose of the materials at the time of removal.

The Central Glass Group will also adhere to legal amendments related to the management of asbestos announced in FY2020 and planned for a staggered roll out through FY2023 and ensure their proper management now and into the future.

## Management of Instruments Containing PCB

Central Glass Co., Ltd. and its domestic affiliates ensure instruments such as transformers, stabilizers, and capacitors that contain polychlorinated biphenyl (PCB) comply with the Act on Special Measures Concerning Promotion of Proper Treatment of PCB Waste, Waste Management and Public Cleansing Act, and other laws and regulations. We dispose of such instruments through strict management following the set schedule of disposal.

In FY2021, in order to ensure that there were no oversights of equipment with an upcoming disposal date, we again conducted surveys of all equipment with high concentrations of PCBs. We also surveyed all equipment that could potentially contain low concentrations of PCBs, and drafted disposal plans.

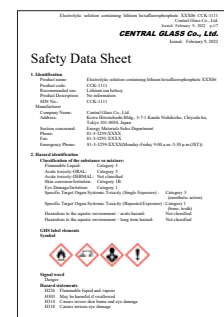
We will always adhere to laws and regulations and will properly manage systematic disposal of instruments containing PCBs.

## Safety Data Sheet (SDS)\* Maintenance

The Central Glass Group provides customers with SDSs based on the latest JIS standards in order to reduce risks in the handling of our products and samples for testing and research. When necessary, we provide customers with SDSs in English, Korean, Chinese, and other languages.

In FY2021, we revised the SDS format to comply with revisions to the Industrial Safety and Health Act and the PRTR Law, and have made the updated and compliant SDSs available.

We will continue to provide appropriate information through SDSs.



SDS English-language version

\* Data sheets that list information related to the hazardousness of chemical substances as well as information concerning the environment.

## PRTR Data (FY2021)

Business Site	Ordinance Designation No.	Substance Name	Emissions/Discharge			Year-on-Year Emissions	Transported
			Atmosphere	Water	Soil		
Ube Plant	16	2, 2'-Azobisisobutyronitrile	0	0	0	→	0
	33	Asbestos	0	0	0	→	40000
	41	3'-Isopropoxy-2-trifluoromethylbenzamide (also known as Flutolanil)	0	0	0	→	0
	71	Ferric chloride	0	0	0	→	0
	80	Xylene	1200	0	0	↗	3.4
	81	Quinoline	0	0	0	→	0
	94	Chloroethylene (also known as vinyl chloride)	0	0	0	→	0
	149	Carbon tetrachloride	0	0	0	→	17000
	213	N,N-Dimethylacetamide	0	0	0	→	120000
	232	N,N-Dimethylformamide	19	0	0	→	0
	243	Dioxins (Unit: mg-TEQ/year)	0.26	0.085	0	↘	0
	281	Trichloroethylene	1800	0	0	↗	0
	349	Phenol	31	26	0	↘	480
	374	Hydrogen fluoride and its water-soluble salts	550	0	0	↗	930
	411	Formaldehyde	0	0	0	→	0.3
	438	Methylnaphthalene	43	0	0	↘	0
Matsusaka Plant	132	Cobalt and cobalt compounds	0	0	0	→	0
	242	Selenium and selenium compounds	120	0	0	↗	0
	412	Manganese and Manganese compounds	75	0	0	↗	330
Matsusaka Plant Sakai Manufacturing Site	438	Methylnaphthalene	11	0	0	↘	0
	80	Xylene	87	0	0	↘	0
Kawasaki Plant	296	1,2,4-Trimethylbenzene	100	0	0	→	0
	80	Xylene	350	0	0	↗	0
	81	Quinoline	0	0	0	→	0
	94	Chloroethylene (also known as vinyl chloride)	2300	0.3	0	↗	0
	149	Carbon tetrachloride	260	2.3	0	↗	11000
	213	N,N-Dimethylacetamide	12	0	0	↗	71000
	243	Dioxins (Unit: mg-TEQ/year)	0.019	0.008	0	↘	0
	262	Tetrachloroethylene	0	0.3	0	↘	3300
	280	1,1,2-Trichloroethane	0	17	0	↗	1700
	281	Trichloroethylene	0	0.6	0	↗	1200
	300	Toluene	260	0	0	↗	1800
	374	Hydrogen fluoride and its water-soluble salts	0	0	0	→	66
	392	n-hexane	0	0	0	↘	7100
	Chemicals Production Engineering Center	13	Acetonitrile	0	0	0	→
374		Hydrogen fluoride and its water-soluble salts	0	0	0	→	1300
Chemical Research Center (Ube)	374	Hydrogen fluoride and its water-soluble salts	20	0	0	↗	0
Central Glass Plant Services Co., Ltd. Sakai Plant	412	Manganese and Manganese compounds	0	0	0	→	380
Central Glass Plant Services Co., Ltd. Central Japan (including Mirror Plant)	53	Ethyl benzene	6900	0	0	↗	2100
	80	Xylene	12000	0	0	→	2000
	82	Silver and its water-soluble compounds	0	0	0	→	63
	272	Water-soluble copper salts (excluding complex salts)	0	0	0	→	310
	296	1,2,4-Trimethylbenzene	2100	0	0	→	850
Mie Glass Industry Co., Ltd. Matsusaka Plant	300	Toluene	2100	0	0	↗	3500
	82	Silver and its water-soluble compounds	0	0	0	→	0
Central Glass Fiber Co., Ltd. Matsusaka Plant	87	Chromium and chromium(III) compounds	0	0	0	→	30
	53	Ethyl benzene	36000	0	0	↗	7000
	80	Xylene	26000	0	0	↗	21000
	232	N,N-Dimethylformamide	0	0	0	→	570
	296	1,2,4-Trimethylbenzene	8	0	0	↘	0
Central Glass Fiber Co., Ltd. Kasugai Plant	354	Di-n-butyl phthalate	0	0	0	→	540
	405	Boron compounds	1600	0	0	↗	4000
	411	Formaldehyde	0	0	0	→	0
	448	Methylenebis (4,1-phenylene) = Diisocyanate	0	0	0	→	0
Central Glass Fiber Co., Ltd. Kasugai Plant	277	Triethylamine	3900	0	0	↘	1000
	349	Phenol	210	0	0	↘	520
	405	Boron compounds	0	0	0	→	0
Central Chemical Co., Ltd.	411	Formaldehyde	840	0	0	↘	1300
	30	Linear alkylbenzene sulfonic acid and its salt	0	0	0	→	0
	412	Manganese and Manganese compounds	0	0	0	→	0
448	Methylenebis (4,1-phenylene) = Diisocyanate	0	0	0	→	920	

\* Quantities emitted, discharged, or transported are listed for Class I Designated Chemical Substances handled annually in amounts exceeding 1,000 kg (500 kg for Specific Class I Designated Chemical Substances). Amounts for dioxins are listed regardless of quantity.





# Providing Reliable Products and Services to Our Customers

The Central Glass Group will always work toward its goal of establishing a truly prosperous society through the spirit of *Monozukuri*. We will also emphasize quality control initiatives that place customer satisfaction first. In addition to complying with laws and regulations, our Group will take customer feedback sincerely in order to provide reliable products and services loved by customers.

## Quality Management

### Clause 2 of the Code of Conduct and the Quality Guidelines

#### • Code of Conduct and the Quality Guidelines

We have formulated the Quality Guidelines as a blueprint for executing our commitment to “Place our highest priority on the quality and safety of our products and continue to meet customer needs” as per the second clause of 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.

#### Quality Guidelines

	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, as well as encourage employees to enhance their awareness and abilities throughout the entire supply chain to keep developing the quality and safety of our products.
	Update and enforce policies and procedures	Comply with each policy and procedure and update them as needed.
	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 causes, in addition to taking necessary measures such as prompt information disclosure.

### Quality Management System

With an 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

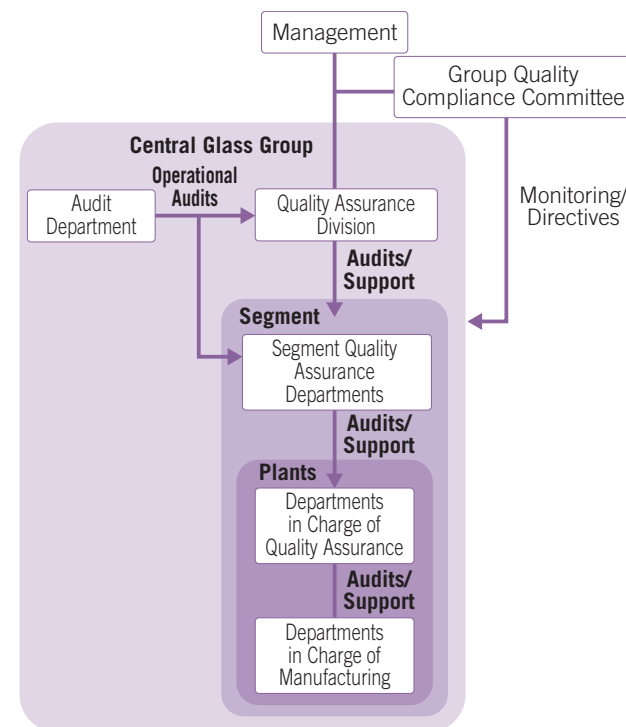
We have incorporated the concept of multilayered audits into internal audits. The Company implements a three-layered auditing system comprised of voluntary audits by quality assurance departments at the plants, audits of each plant by Glass or Chemicals Segment quality assurance departments, and audits of the segment quality assurance departments by the Quality Assurance Division.

#### • Reporting procedure for quality issues

We have established a reporting line to rapidly respond to quality issues by quickly receiving information on various quality issues that are discovered by customers or at manufacturing sites and reporting to the 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 cementing these systems and ensuring their operation, we have specified the following priority measures for implementation in our Medium-Term Management Plan for 2022 and beyond: “Improve quality activities through thorough daily management and promotion of improvement activities,” and “Develop human resources supporting quality activities by improving quality education.”

### Quality Management System



## Quality Audits

The Central Glass Group systematically conducts quality audits at all levels at its plants as well as at domestic and overseas affiliates.

### Auditing and Support Through the Segment Quality Assurance Departments

In FY2021, the Glass Quality Assurance Department and the Chemicals Quality Assurance Department conducted audits at 22 departments of 26 companies including the headquarters, plants, and affiliate companies (9 glass departments at 17 companies; 13 chemical departments at 9 companies) based on the annual plan. We provided assistance until any corrective actions or improvements requested during these audits were implemented.

We will continue to ensure that nothing is overlooked by expanding the multilayered audit system, and work to improve the level of quality initiatives at each business site.

### Auditing and Support by the Quality Assurance Division

The Quality Assurance Division executed audits of the Glass Quality Assurance Department and Chemicals Quality Assurance Department. We provided assistance until any corrective actions or improvements found during the audits were implemented.

## Quality and Product Safety Education

The Central Glass Group systematically conducts Career Development Education and *Monozukuri* Education as

human resource development. In the Career Development Education program, structured quality control education is conducted that consists of training for new employees, training for newly appointed assistant managers and training for newly appointed managers.

On April 16, 2021, 31 employees took part in training for new employees, centered upon the promotion system for quality initiatives. Every participant learned about the overall quality control initiatives at the Central Glass Group as well as gained basic knowledge on quality and its impact.

Training for newly appointed assistant managers was held on June 17, 2021 for 22 participants regarding quality and product safety laws and regulations and focused on understanding product safety in particular.

Total Quality Management (TQM) training for newly appointed managers was held on May 20, 2021 for 11 participants, with the goal of learning about TQM as well as the promotion system for quality initiatives.

The knowledge gained through these trainings as part of Career Development Education aids in Group quality initiatives that prioritize quality and safety.

In addition, a lecture on “TQM and Daily Management” was given by the Executive Officer in charge of quality to 82 people including the heads of business sites and departments on February 24, 2022 at the Quality Promotion Meeting for the purpose of clarifying TQM. We will further enhance quality education to develop human resources who will support quality activities, a key initiative of the Quality Medium-Term Plan.



Monozukuri Education

### Lectures on Quality

As part of company-wide quality education, on November 19, 2021, we invited outside instructor Noboru Maruyama (Director, Institute of ISO Management) to give a quality lecture titled, “The ‘Spirit’ of TQM and Its Application: TQM and Its Essence from an ISO Perspective.” Due to the COVID-19 pandemic this fiscal year, the lecture was held online (Zoom live event) for an audience of roughly 310 people.

## Groupwide QC Circle Conference

The Central Glass Group regularly holds a groupwide QC Circle Conference in November each year as a venue in which teams ("Circles") selected from each site present the results of their quality improvement activities. For the 38th groupwide QC Circle Conference in FY2021, the Headquarters, as well as the Kawasaki, Ube, Matsusaka, Sakai, and Luxembourg sites were connected online via Microsoft Teams as a COVID-19 preventative measure. Despite being held online for the first time, there was a lively Q&A session between the Circles and the judges and audience. Five Circles were awarded Gold Prizes and three were awarded Silver Prizes. Through the QC Circle Conference, we aim to achieve our corporate philosophy of "Creating a Better Future Through *Monozukuri*" while encouraging quality improvement through friendly competition on the results of activities based on various themes.

### 38th Groupwide QC Circle Conference

	Business Site	Circle Name
Gold Prize	Kawasaki Plant	Legend
	Ube Plant	Dorubako
	Central Chemical Co., Ltd.	FB
	Matsusaka Plant Sakai Manufacturing Site	SK-6
	Matsusaka Plant	Scrum
Silver Prize	Kawasaki Plant	Renewal
	Ube Plant	Attack
	Carlex Glass Luxembourg S.A.	COPQ



At the Kawasaki site



Matsusaka Plant Sakai Manufacturing Site Presentation by "SK6"

## Supplier Initiatives

We continually carry out quality initiatives with our business partners in order to provide reliable Central Glass brand products and services.

## Supplier Audits

Central Glass Co., Ltd. audits its suppliers including contractors as a measure to improve quality.

In FY2021, we audited 40 suppliers with their understanding and cooperation either on-site, online, or through submission of documents. We also provided assistance until any corrective actions or improvements requested during these audits were implemented.

## Conflict Mineral Surveys

Central Glass Co., Ltd. purchases materials from smelting companies certified through audits by the Responsible Minerals Initiative (RMI) in accordance with the U.S. Dodd-Frank Wall Street Reform and Consumer Protection Act (Section 1502) regarding the procurement of conflict minerals (tantalum, tin, tungsten and gold) to prevent any complicity in conflicts caused by armed groups or antisocial forces, human rights violations, or environmental destruction.

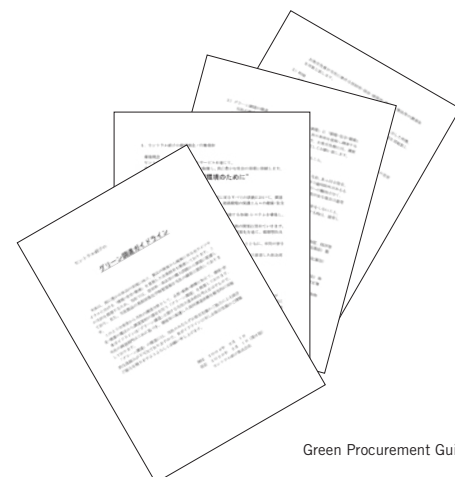
In FY2021, thanks to their understanding and cooperation, we regularly conducted surveys of all of our procurement partners handling conflict minerals and verified that they were certified under the RMI.

## Green Procurement Surveys

The Central Glass Group established Green Procurement Guidelines to comply with legal and regulatory requirements and prioritize procurement of raw materials and goods with a lower environmental impact.

In FY2021, we conducted a survey based on our Green Procurement Guidelines checking that procured materials do not contain chemical substances restricted by the law, and thanks to the understanding and cooperation of our business partners, we verified that there were no problems found in our procurement activities.

The Central Glass Group will continue to promote legal and regulatory compliance as well as activities to reduce the environmental impact throughout its entire supply chain.



Green Procurement Guidelines

## FY2021 Targets and Performance Results (Glass Segment)

[Broad policy] · Optimizing multi-layered audits (methods of validating effectiveness, etc.)  
· Promoting zero tolerance for silent changes (counterfeiting)

	Guidelines	(Plan) FY2021 Targets	(Do) FY2021 Performance Results	(Check) Ratings	(Act) FY2022 Initiatives
Prevent	Cultivate a culture of quality	Ensure strict compliance with legal, public and internal standards. (A)	<ul style="list-style-type: none"> <li>Supported checks for the existence of product standards and preparation of new product specifications (architectural glass).</li> <li>Confirmed certification (mark) conformity (automotive glass).</li> <li>Despite the downtrend in claims, some scattered claims occurred.</li> </ul>	△	Ensure strict compliance with legal, public and internal standards. (A)
	Perform continuous improvements	Strictly check whether all procedures follow operational standards.	<ul style="list-style-type: none"> <li>AEC (Matsusaka) observed work and shared its report with the concerned business sites.</li> </ul>	○	Strictly check whether all procedures follow operational standards.
	Update and enforce policies and procedures	Clarify and thoroughly implement internal rules. (B)	<ul style="list-style-type: none"> <li>Clarified and thoroughly implemented rules.</li> </ul>	○	Clarify and thoroughly implement rules. (A)
	Improve organizational structures	Reinforce the authority of quality-related departments (systems allowing such departments to say no). (B)	<ul style="list-style-type: none"> <li>Maintained the reinforced authority of quality-related departments.</li> </ul>	○	Reinforce the authority of quality-related departments (systems allowing such departments to say no).
Detect	Invest in human resources and facilities	Educate and train qualified staff.	<ul style="list-style-type: none"> <li>Created a comprehensive skill map.</li> <li>Implemented position-based education at the Matsusaka Plant.</li> </ul>	○	Educate and train qualified staff.
	Strengthen audit systems	Improve auditing procedures and develop and use auditing tools. (B)	<ul style="list-style-type: none"> <li>Delays occurred due to the COVID-19 pandemic and the prioritization of other operations.</li> </ul>	△	Strengthen multilayered audits. (A)
Respond	Streamline reporting systems	Comply with reporting guidelines and utilize databases for reporting.	<ul style="list-style-type: none"> <li>The Quality Issues Database was properly utilized for reporting.</li> </ul>	○	Comply with reporting guidelines and utilize databases for reporting.
	Respond to problems with corrective and preventive actions	Improve root cause analysis capabilities to prevent recurrence.	<ul style="list-style-type: none"> <li>Properly addressed any quality issues that arose.</li> </ul>	○	Improve root cause analysis capabilities to prevent recurrence. (B)

Rating: ○: Achieved target △: Achieved most targets but not all ×: Additional measures required —: Not applicable A: First priority B: Second priority

## FY2021 Targets and Performance Results (Chemicals Segment)

	Guidelines	(Plan) FY2021 Targets	(Do) FY2021 Performance Results	(Check) Ratings	(Act) FY2022 Initiatives
Prevent	Cultivate a culture of quality	<ul style="list-style-type: none"> <li>Heighten awareness about quality compliance.</li> <li>Thoroughly comply with laws and regulations as well as contractual terms and conditions.</li> </ul>	<ol style="list-style-type: none"> <li>In accordance with policy, each department worked on participating in quality lectures, complying with laws and regulations, checking specifications, etc.</li> <li>There were no problems in complying with public standards.</li> <li>There were several cases of minor inconsistencies between the contractual terms and the documents used in operations, which were rectified.</li> </ol>	△	Heighten awareness about quality compliance. Thoroughly comply with laws and regulations as well as contractual terms and conditions.
	Perform continuous improvements	<ul style="list-style-type: none"> <li>Identify risks and execute risk response according to each workplace.</li> <li>Reduce defects caused by outsourcing and procurement sources.</li> </ul>	<ol style="list-style-type: none"> <li>Each department clarified and addressed risks by establishing a quality assurance system for new products, establishing production technologies, strengthening supplier management, and thoroughly managing accounts receivable.</li> </ol>	○	Identify risks and execute risk response according to each workplace.
	Update and enforce policies and procedures	<ul style="list-style-type: none"> <li>Revise rules in accordance with amendments to laws and regulations as well as changes to contractual terms and conditions.</li> <li>Thoroughly implement QMS.</li> </ul>	<ol style="list-style-type: none"> <li>Complied with revisions to GMP ministerial ordinance, fertilizer testing methods, and contractual terms with no issue.</li> <li>Made efforts to revise company rules and regulations, and to make system documentation known. No problems with QMS operation.</li> </ol>	○	Review and revise rules in accordance with amendments to laws and regulations as well as with changes to contractual terms and conditions. Review and thoroughly implement QMS.
	Improve organizational structures	<ul style="list-style-type: none"> <li>Implement checks of quality management inspection operations by the quality assurance departments.</li> </ul>	<ol style="list-style-type: none"> <li>Quality assurance departments at Ube, Kawasaki, and the headquarters confirmed that there were no problems with the quality management inspection operations for product tests.</li> </ol>	○	Implement checks of quality management inspection operations by the quality assurance departments.
Detect	Invest in human resources and facilities	<ul style="list-style-type: none"> <li>Consider automation and renewal of equipment to reduce quality issues.</li> <li>Conduct training and strengthen measures to prevent human error.</li> </ul>	<ol style="list-style-type: none"> <li>In the progress of investigating the reduction of quality defects through modification of facilities.</li> <li>Held a human error review meeting at the Ube Plant. Each department worked to establish a double-checking system for business documents.</li> </ol>	○	Consider automation and renewal of equipment to reduce quality issues. Conduct training and strengthen measures to prevent human error.
	Strengthen audit systems	<ul style="list-style-type: none"> <li>Promote multilayer audits to prevent quality defects before they happen.</li> <li>Systematically audit suppliers.</li> </ul>	<ol style="list-style-type: none"> <li>Segment internal and multi-layered audits found zero deficiencies that could lead to quality defects or failures.</li> <li>Due to the COVID-19 pandemic, audits were conducted mainly in written format.</li> </ol>	○	Promote multilayer audits to prevent quality defects before they happen. Systematically audit suppliers.
Respond	Streamline reporting systems	<ul style="list-style-type: none"> <li>Properly implement a new system for reporting quality issues.</li> </ul>	<ul style="list-style-type: none"> <li>Periodically reviewed reports to confirm the appropriateness of the decision level and whether they were reported promptly. A system is in place to share them with relevant departments as needed.</li> </ul>	○	Properly implement a system for reporting quality issues (Add functions including allowing input of corrective actions).
	Respond to problems with corrective and preventive actions	<ul style="list-style-type: none"> <li>Conduct rapid and adequate response when quality issues arise.</li> </ul>	<ul style="list-style-type: none"> <li>Corrective measures for emergent quality issues were added to a checklist as preventive measures against recurrence. When quality problems occurred, the Quality Assurance Division led countermeasure meetings and handled customer response.</li> </ul>	○	Conduct rapid and adequate response when quality issues arise. Develop and implement effective recurrence prevention measures.

Rating: ○: Achieved target △: Achieved most targets but not all ×: Additional measures required —: Not applicable





Employees

# Monozukuri Is About Hitozukuri

Central Glass Co., Ltd. is a *Monozukuri* company that has continually provided superior products with higher added value in order to enrich people's lives. We focus on *Hitozukuri* (developing human resources) as the foundation of our corporate growth and strive to enhance our programs for human resource development with the aim of building an environment where each individual can demonstrate his or her capabilities and skills to the utmost.

## Promoting Work-Life Balance

Central Glass Co., Ltd. has built systems surpassing those mandated by law to support a better work-life balance for people raising children and caring for family members. From April 2022, in addition to establishing leave programs for fertility treatment and for gradual entry into daycare, a new "job return" system was established for re-employment of those who left the company for childcare, nursing care, or other reasons, and we have organized the systems to improve employee awareness of them and make them easier for employees to use.

The rate of male employees taking parental leave has been increasing year by year as we continue to promote its use. We will continue to enhance these systems and employees awareness of them so that they can work with peace of mind over the long term.

### Childcare and Nursing Care Programs

Program name	Description
Childbirth preparation leave*	Two days off per month for hospital visits, etc. during pregnancy.
Maternity leave	Legally mandated leave 6 weeks before childbirth and 8 weeks after childbirth.
Childbirth leave*	Three days off within one month before or after the expected delivery date.
Parental leave*	Legally mandated childcare leave for employees with children between the ages of zero to one year. It is possible to extend leave until one year and six months or until two years old. Up to five days of paid leave from the first day of leave. 30,000 yen is provided as a support grant for each month of leave.
Leave for gradual entry*	May be taken after parental leave ends during the gradual entry period into preschool.
Parental leave*	One day off per month for childcare until enrollment in primary school.
Nursing care leave for children	36 days off per year for nursing care for children until graduation from primary school. Employees can take leave in hour increments.
Shortened working hours during childcare*	Shortening of working hours by a maximum of two hours per day until graduation from primary school. Female employees can also shorten hours during pregnancy.
Staggered working hours during childcare	One-hour postponement of the start of the workday for staggered working hours until graduation from primary school.
Nursing care leave*	Total of 365 days of leave, which can be divided into up to three periods.
Time off for nursing care	Ten days off per year for nursing care and to attend to family members. Employees can take leave in hour increments.
Shortened working hours for nursing care	Shortening of working hours by one hour per day.
Job Return System*	Anyone who resigns due to pregnancy, childbirth, raising children, marriage, a spouse's work transfer, or caring for family is prioritized for re-employment for up to five years.
Fertility treatment leave*	May be used five times per month for hospital visits and rest associated with fertility treatment.

\* An asterisk indicates a program surpassing that mandated by law (the program itself, the length of time, etc.).

## Promotion of Diversity

Diversity refers to individuals with all their varied attributes. It is essential for increasing corporate value, achieving sustainable growth, and realizing our corporate philosophy. Central Glass Co., Ltd. has traditionally hired retirees and employed people with disabilities. In addition, the Company hires new graduates and mid-career workers regardless of gender, race, or nationality, and encourages them to make the most of their individual perspectives. In addition, in order to respond to changes in employees' lifestyles and career aspirations after they join the company, we have established systems related to evaluation, placement, compensation, childcare, nursing care, and illness, and are working to enable employees to demonstrate their abilities in accordance with their individual styles.

On the other hand, we recognize that there are issues in promoting diversity at the Company. For instance, we had not, as of the end of FY2021, achieved the legally mandated employment ratio for persons with disabilities, which was increased to 2.30% in March 2021. We will continue to employ and develop diverse human resources while furthering the cultivation of a company culture where each and every employee can work enthusiastically.

Item	FY2019	FY2020	FY2021
(1) Number of Employees (Female Employees)	1,631	1,671	1,630
(2) Number of new recruits (Female Employees)	74	91	40
(3) Ratio of female managers	2.04%	2.30%	2.00%
(4) Average age	36.4 years old	36.6 years old	37.3 years old
(5) Average years of continuous employment	14.9	15.1	15.8
(6) Number of Job Return System applicants (Number Employed)	5	5	7
(7) Number of non-Japanese employees	11	13	13
(8) Percentage of employees taking parental leave (Female) Percentage of employees taking parental leave (Male)	100%	100%	100%
(9) Number of employees on shortened or staggered working hours during childcare	34	38	44
(10) Number of employees taking nursing care leave	1	1	0
(11) Percentage of persons with disabilities	2.16%	2.17%	2.04%
(12) Number of people who are re-employed after retirement	179	164	131

\* (1) to (6): Non-consolidated, full-time employees only; (7) to (12): Includes temporarily dispatched employees.

## Towards Creating a Vibrant Company

Since FY2016, Central Glass Co., Ltd. has been implementing measures aimed at active participation of diverse human resources and improving the performance of our organization as a whole. FY2021 was the final year of the Second Action Plan to Promote Female Workplace Participation. We were able to steadily educate and inform employees about the introduction of new childcare-related systems and the implementation and consideration of systems related to flexible work styles for April 2022 and beyond. However, we were unable to achieve our numerical target ratio of female employees of 11%, although the

ratio increased to 10.6%, compared to 9.8% in FY2017.

In light of these circumstances as we formulated the Third Action Plan to be implemented from FY2022 to FY2025, we placed new emphasis on improving the ratio of female employees, setting target figures not only for the ratio of current female employees but also for the ratio of women among new hires.

By creating a corporate culture in which women can play more active roles, we aim to become a vibrant company in which each employee with diverse work styles and values can feel their own personal growth and have both the desire and the ability to continue working for years with us.

### Second Action Plan to Promote Female Workplace Participation

Action Plan	(Plan) FY2021 Targets	(Do) FY2021 Performance Results	(Check) Ratings	Action Plan Final Rating
Target 1: Increase the female employee ratio. (Numerical target: 11%)	Use positive outreach to recruit female candidates and take advantage of the (next generation) re-employment program.	Hired two women under the Job Return System (next-generation re-employment program). The ratio of female employees among new graduates hired: 10%.	△	× (10.6%)
Target 2: Raise awareness about work-style reforms.	(1) Promote changing working style to finish work within the designated working hours.	Investigate institutionalization of measures to facilitate flexible working hours and locations in anticipation of professional life after the COVID-19 pandemic.	○	○
	(2) Continue to implement Smart Day (days designated for leaving work on time), overtime applications and planned leave program.	Continued implementation. Smart Day was canceled due to staggered work hours. A recommended day for taking paid leave was set once a month. Average number of annual paid vacations and summer vacation days taken increased to 16.1 compared to 14.8 in FY2020.	○	○
	(3) Encourage managers, including line managers, to change their attitudes regarding working style.	Plan and implement training for managers about flexible work styles.	○	○
Target 3: Share child raising and nursing care information.	Better utilize the internal corporate bulletin board and continue to raise awareness. Investigate follow-up support for employees on parental leave.	Shifted to a digital approval system for some applications and updated the internal corporate bulletin board regarding raising children.	△	○

Rating: ○: Achieved target △: Achieved most targets but not all ×: Additional measures required —: Not applicable

### Third Action Plan to Promote Female Workplace Participation

Objectives	Targets (To be achieved by the end of FY2025)	Example measures
1. Increase the ratio of female managers	Female manager ratio: 4%	Career education for female employees, training to raise awareness of managers with female subordinates, etc.
2. Increase the ratio of female employees	Female employee ratio: 12% Target ratio of female hires from FY2022 onwards: 20% or more	Public relations and recruitment activities aimed at increasing the number of female job applicants, measures to retain female employees in shift work, etc.
3. Encourage male employees to take childcare leave	(1) Percentage of male employees taking childcare leave: 30% (2) Percentage of male employees taking childcare leave of 30 days or more: 50%	Raise awareness of childcare-related programs within the company, strengthen contact points, and provide education to make it easier for employees to obtain childcare benefits, etc.



### Kazuhide Sawada (Joined in 2013)

Chemicals Engineering & Technical Group, Engineering & Technical Department, Ube Plant

#### Voice of an employee taking parental leave

Since my wife and I both wanted to work, I took five months of parental leave and supported my wife's job search.

There was a precedent of several senior male coworkers at my workplace taking parental leave, and with the understanding of my colleagues, I think the application and handover of duties went smoothly. In addition, based on my senior colleague's recommendation, I had monthly meetings with my supervisor during my parental leave where I learned about

the situation at my workplace, allaying my concerns. After returning to work, I received support from those around me and was able to gradually get reacquainted with my former job. I am very grateful to everyone involved.

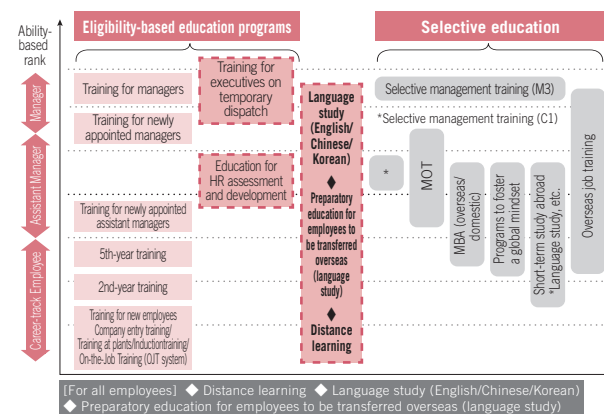
I had the invaluable experience of spending a lot of time with my child during their first year. I believe that it is now my turn to return the favor with those who take parental leave.



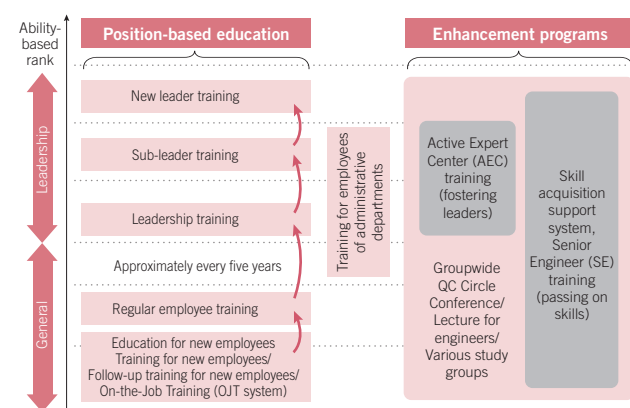
## Central Glass's Education System

The education that Central Glass Co., Ltd. provides to employees is broadly divided into "Career Development Education" and "Monozukuri Education." Career Development Education comprises new position training, management education, business skills development education, and professional development education. *Monozukuri* Education, meanwhile, consists of position-based education, AEC trainee education, and skill acquisition support education. Both of these educational systems enhance developmental opportunities by providing off-the-job training (Off-JT) for all employees according to their work experience and qualifications, as well as selective programs for those recommended according to their work performance and abilities.

### Career Development Education



### Monozukuri Education



## Language Study

Central Glass Co., Ltd. provides English, Chinese and Korean language study programs to improve the language skills of its employees as part of global human resource development.

We also provide an English Course to Develop Globally Minded Employees as an enhancement program, in which our employees are offered opportunities to join local on-site language schools or take intensive online lessons as a way to acquire more practical language abilities.

In FY2021, the English Course to Develop Globally

Minded Employees identified areas where students had difficulty in speaking, such as sentence structure, vocabulary, pronunciation and fluency, and offered tailored support to overcome these weaknesses. To encourage students to focus on achieving their own objectives, we asked each of them to submit a goal achievement sheet and report on their performance and successes at the end of each month. All three of the employees who took part clearly showed improvement in their English-speaking abilities in testing upon completion of the course.

New courses for employees with intermediate-level English were offered to cultivate study habits and improve TOEIC scores. Based on these courses, 7 out of 10 participants improved their TOEIC scores. We will continue to implement the courses in FY2022 to support improving the language skills of our employees.

The Short-term Study Abroad Program offers opportunities to our employees to attend foreign language schools for three to six months in order to develop their practical business skills in a foreign language and foster their global mindset. Unfortunately, we were unable to deploy any students via this study abroad program in FY2021 to prevent the spread of COVID-19. Central Glass Co., Ltd. plans to continue to offer this opportunity to candidates in the future while confirming the state of travel to other countries. In FY2022, we will also support our employees who will transfer overseas in becoming better at adapting to different cultures and values by sending them to outside training programs which nurture a global mindset.

## Develop candidates for managerial positions

Central Glass Co., Ltd. provides management education for young employees who qualify to participate in eligibility-based programs as well as for selected assistant managers and managers, for the purpose of fostering employees not only who are well versed in technology and management but also who can promote strategic research and technological development. The selective management education programs consist of education for assistant managers and managers where they are sent to outside business schools and an English proficiency program to develop global human resources. The selected management-level participants give presentations to senior management on the results of their language skill development, management issues and their initiatives.

In FY2021, as infectious disease prevention we continued to provide opportunities for human resource development through online training. Online training enabled participants to take the course from home or from overseas business sites, which also helped them improve their ICT (Information and Communication Technology) skills. We will continue to nurture human resources who will become candidates for management positions with the aim of continuously increasing corporate value.

## Compliance Education

The Central Glass Group believes that compliance is an essential part of fulfilling our social responsibility, and we conduct annual training to instill its importance.

We also offer interactive training sessions led by executive officers to raise awareness about compliance among junior and mid-career employees. Since FY2019, we have also been providing once-yearly e-learning on compliance to all employees, including those working at our affiliate companies, in our ongoing efforts to raise awareness about compliance throughout the entire Central Glass Group.

## Fostering On-site Leaders for a New Generation

The Central Glass Group has established Active Expert Centers (AECs) at each plant as educational institutions specializing in the transmission and development of tech-

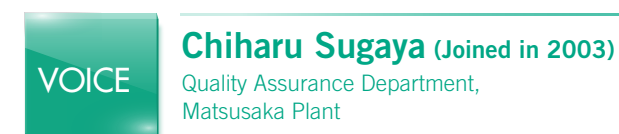
nology and skills. The AECs provide a full year of training to selected next-generation leadership candidates as AEC trainees. After receiving basic education, trainees actually visit the production floor to identify issues (themes) together with coordinators and staff from the trainees' original departments. Through repeated information gathering, analysis, and discussion, trainees consider and understand the essence of the themes and engage in practical problem-solving.

In FY2020 (October 2020 to September 2021), nine trainees selected from each plant participated in the AEC trainee education. In FY2021 (October 2021 to September 2022), six new employees selected as new trainees will continue this work to develop future on-site leaders.

### FY2021 Targets and Performance Results

Major Issues	(Plan) FY2021 Targets	(Do) FY2021 Performance Results	(Check) Ratings	(Act) FY2022 Initiatives
Cultivation of global human resources through Career Development Education	Improve systems to support language study.	• Improvement of employees' language skills through English, Chinese, and Korean language education.	○	• Continue to provide support for language study.
	Strengthen the management capabilities of managers.	• Partially suspended efforts due to the impact of the COVID-19 pandemic (MOT dispatch). • Assigned selected managers to external training (online). • Continued to strengthen management skills by training those promoted to senior management positions.	○	• Expand external training for selected managers. • Use e-learning to strengthen training and improve programs.
	Send trainees to overseas affiliates.	• Partially suspended efforts due to the impact of the COVID-19 pandemic.	—	• Continue human resource development to nurture employees with a global mindset.
Improvement of on-site capabilities through Monozukuri education	Continue to foster a new generation of leaders through Active Expert Center (AEC) trainee programs.	• Held basic education for 9 selected trainees and improved problem-solving skills through theme-based activities.	○	• Hold basic education for 6 select trainees and improve problem-solving skills through theme-based activities.
	Improve and implement position-based education programs.	• Implemented and reviewed position-based education programs.	○	• Continue position-based education programs.

Rating: ○: Achieved target △: Achieved most targets but not all ×: Additional measures required —: Not applicable



### Voice of participant in training for newly appointed managers

I participated in a training for newly appointed managers in May 2021, after taking maternity and parental leave between April 2020 and March 2021 and returning to work. Since the training was held online to prevent COVID-19 spread, I started my training with a negative feeling expecting that it would be difficult to receive the same level of quality as I could from face-to-face training, as well as concerns that three days of non-routine work would affect my childcare. But contrary to these expectations, my actual impression of the training was positive. The online training, which I participated in from my own private space, was relaxing because there were no eyes around me, but at the same time I felt the right amount of tension as if I was taking the course one-on-one. The three-day training was structured with two outside instructors and the managers of each department allocating a moderate amount of time for the programs including discussion, which allowed the participants to stay focused.

The managers of each department who served as in-house instructors provided precise training to ensure that we, the trainees, were fully aware of our new positions and roles, and

that we acquired the necessary skills and professional qualities. The education from a fellow company employee, which was different from that of outside instructors, was easier to grasp and raised my awareness as members of the same company working toward the same goal, despite our different ranks. Some of the instructors I had worked with since I joined the company, which made me even more enthusiastic.

The group discussions gave me an opportunity to confer with fellow employees who specialized in completely different fields. Different perspectives offered diverse opinions, and I was able to arrive at a solution that I never could have come up with on my own, no matter how many times I thought it through.

As for the impact on childcare, since I would not have been able to participate in overnight training as held in previous years, the online training made it possible to join in all three days with no big imposition. I felt the online discussion using chatting and screen sharing was an advantageous use of time as it allowed efficient opinion gathering and summarizing.

I realized that online training is one positive change that has come out of the COVID-19 pandemic.







# Coexisting with Local Communities

Coexisting with local communities is essential for a company to survive. The Central Glass Group strives to not only coexist but also grow together with local communities as a member of society through social contribution activities.

## Randoseru Gift with Memories Project

The Central Glass Labor Union (Matsusaka Branch) has established a committee to promote social contribution activities as part of its activities intended to give back to the local community. In FY2021, we participated in the “Randoseru Gift with Memories” Project, conducted by the Japanese Organization for International Cooperation in Family Planning (JOICFP), through our parent organization, the Mie Prefecture Council of Workers' Welfare (Rofukukyo).

Ongoing since 2004, the “Randoseru Gift with Memories” Project enables Japanese children to help Afghan children go to school by providing used school bags to them, especially to girls who are disadvantaged in terms of educational opportunities. The school bags have helped many go to school amid circumstances in which one in two Afghan girls is unable to attend school and many women are unable to read or write.

A total of 12 school bags were donated through the campaign. At a time when unrest in the world is cause for concern, we feel that helping each other across borders is an important and meaningful activity. The Labor Union will continue to actively engage in social contribution and volunteer activities.



Presentation Ceremony at the Mie Prefecture Council of Workers' Welfare

## Regular Cleanup of Harbor Roads

The Sakai Manufacturing Site and Central Glass Plant Services Co., Ltd. Sakai Plant, together with people from several other companies in the neighborhood, regularly clean the harbor roads in front of the manufacturing site used to transport cargo in accordance with the annual plan as an initiative based on the municipal law to promote the beautification of Sakai City—a city designated by government ordinance.

In FY2021, 20 to 30 people each from both companies took part in the cleanup activities that included pulling weeds and collecting trash on the sidewalks according to the annual plan for two cleanup efforts during the year.

The Osaka Bay Clean Campaign, which has regularly been organized by the Osaka Port and Harbor Bureau and other organizations, was canceled in FY2020 due to measures to prevent COVID-19 spread. Scheduled to resume in November of FY2021, the campaign was carried out by a total of 168 people from 27 administrative bodies and neighboring companies, including participants from our Sakai Manufacturing Site and Central Glass Plant Services Co., Ltd.



Regular Cleanup of Harbor Roads



The Osaka Bay Clean Campaign

## Road Gutter Cleanup in the Chikko District

The Matsusaka Plant cleans out the gutters along the roads in the Chikko District as one local contribution activity.

The Matsusaka Plant takes seriously the imposition caused by the scattering of its raw material debris. We therefore have taken the initiative in offering to lend a hand in cleaning the roadside gutters in the district.

This cleanup activity has been incorporated into the activities of the neighborhood association in the Chikko area adjacent to the Matsusaka Plant, and the Chikko neighborhood association has expressed its gratitude. This initiative also helps revitalize communication with the local residents.

Compared to before participating in this cleanup activity, there are more opportunities for people to approach and talk to us such as during clean-up patrols, and we are able to share information and listen to requests early on.

To prevent the spread of COVID-19 in FY2021, the Matsusaka Plant coordinated with the local Chikko neighborhood association to adjust the schedule to clean the roadside gutters.

We will continue to engage in local contribution activities with the aim of maintaining an environment where everyone can live with peace of mind as well as further facilitating communication with the local community.



Road Gutter Cleanup in the Chikko District

## 13th Regional Responsible Care Meeting in the Western District of Yamaguchi

Eight plants of seven chemical companies in the western Yamaguchi region, including our Ube Plant, have been engaging in dialogue with local residents once every two years. With no end to the COVID-19 pandemic yet in sight, each organization searched for a way to hold the 13th meeting, and as a result, we settled on holding the dialogue in a written format using a questionnaire.

The questionnaire was distributed to neighborhood associations prior to the event, asking for their opinions and questions that come up on a day-to-day basis. Individual responses were provided, allowing for sufficient exchange of opinions even in a written format.

We will continue to foster communication with local residents to build safe and secure business sites together with everyone in the community.

## Other Regional Activities

Plant Name	Activity Description
Ube Plant	<ul style="list-style-type: none"> <li>● Volunteer donations by employees to Ube City for the 100th anniversary of its founding</li> <li>● Cleanup activities for city and prefectural roads on our plant-wide 5S Day (once a month)</li> <li>● Cleanup activities around Lake Ono (once a year)</li> <li>● Forest maintenance activities to protect water resources (once a year)</li> <li>● Cleanup activities in Tokiwa Park (once a year)</li> <li>● Protection and cultivation of the grasslands at Akio-oshidai Quasi-National Park (once a year)</li> <li>● Cleaning of roads with road sweepers (every day)</li> <li>● Cleanup activities around Ube Higashi Port (once a year)</li> <li>● Participation in regional Responsible Care Meeting in the Ube District (once every two years)</li> </ul>
Kawasaki Plant	<ul style="list-style-type: none"> <li>● Regular cleanups of roads around the plant</li> <li>● Regular exchange of information concerning the environment and safety with neighboring plants in the Kawasaki Industrial Complex</li> <li>● Participation in Tokyo Bay General Survey for Water Environment (Analysis of and report on water quality in Tokyo Bay near the plant)</li> <li>● Participation in joint disaster drills with neighboring business sites in the Ukishima District</li> </ul>
Matsusaka Plant	<ul style="list-style-type: none"> <li>● Participation in the Matsusaka Street Cleanup activity organized by Matsusaka City (once monthly)</li> <li>● Participation in the Matsusaka City Environmental Partnership Conference and SDGs Conference</li> <li>● Blood drive by request of the Mie Red Cross Blood Donation Center (twice a year)</li> <li>● Participation in the Mie Prefecture Industrial Waste Management Promotion Council (Chaired by Central Glass Co., Ltd. in FY2021)</li> </ul>
Matsusaka Plant Sakai Manufacturing Site	<ul style="list-style-type: none"> <li>● Contribution of various funds raised to social welfare activities</li> <li>● Provision of support for a project conducted by the Osaka Port Cleanup Association in Sakai Semboku Port to ensure the safety of ships navigating through the port and protect the environment</li> <li>● Deployment of employees as needed to support rescue, fire suppression and first aid in case of a large-scale disaster as a member of the Sakai Disaster Response Committee</li> <li>● Blood drive at the Sakai Manufacturing Site</li> </ul>





# Ensuring Community Safety and Security

“Creating a Better Future Through *Monozukuri*”— Each plant of the Central Glass Group strives to achieve this goal by carrying out production activities in a way that ensures a stable product supply based on around-the-clock safety and disaster prevention systems. The Central Glass Group will contribute to the establishment of a truly prosperous society through its products while always considering the environment in each region and communicating with the local people.



## Ube Plant

**Address** 5253 Okiube, Ube City, Yamaguchi Prefecture  
**Number of Employees** 657 (as of March 31, 2022)  
**Major items produced** Fluorine products, other chemicals  
**Acquired certifications** ISO 14001 (December 2000)  
 ISO 9001 (December 1997)  
 ISO 45001 (April 2020)



Nighttime Mobilization and Comprehensive Disaster Prevention Drill (Ube Plant)



**Isamu Mori**  
 Plant Manager  
 Ube Plant

### Message from the Plant Manager

Ube Plant, established in 1936 and located in the coastal industrial region of Ube along the Seto Inland Sea, began with soda production and expanded to production of fertilizers and fine chemical products. Today, Ube Plant primarily manufactures fine chemicals containing organic and inorganic fluorine compounds from raw materials such as hydrofluoric acid. Its product lineup includes etching gas, general inhalational anesthetics, and blowing agents for building insulation foam, all of which enjoy top global market shares. In particular, all the cleaning gas products for semiconductor processes developed by Central Glass are environmentally friendly with zero Global Warming Potential (GWP). In addition, the GWP of our general inhalational anesthetics has been found to be extremely low compared to competing products. We also manufacture non-CFC fluorocarbon products with a next-generation low GWP. Through this type of manufacturing, our plant is actively striving for eco-friendly businesses.

As plant initiatives to reduce greenhouse gases, we optimize the operation conditions of each factory and adopt high-efficiency equipment. In FY2021 we achieved a 78.5% reduction in CO<sub>2</sub>e emissions compared to FY2013 by transitioning the fuel we use from heavy oil to city gas.

As waste reduction initiatives, we have installed equipment to recover the raw material fluorite from the liquid waste of manufacturing processes, and to incinerate some of the waste oil from each factory. These efforts work to recycle resources and reduce the final disposed amount of waste.

In April 2020, we completed transitioning our occupational safety management system from OHSAS18001 to ISO 45001. We will continue to maintain and improve a safe, secure, and healthy working environment.



Comprehensive Disaster Prevention Drill, Earthquake Simulation (Matsusaka Plant)

### Security and Disaster Prevention Activities

Each plant of Central Glass Co., Ltd. lays a foundation for around-the clock safety and disaster prevention systems with a slogan of “Safety First.”

We systematically conduct disaster prevention drills that anticipate earthquake-related leaks and fires, as well as tsunami evacuation drills together with everyone on the plant premises including people from affiliate or partner companies.

Our plants will continue to conduct these security and disaster prevention drills to ensure a safe and secure plant for the entire local community.



## Kawasaki Plant

**Address** 10-2 Ukishima-cho, Kawasaki-ku, Kawasaki City, Kanagawa Prefecture  
**Number of Employees** 232 (as of March 31, 2022)  
**Major items produced** Inorganic chemicals, organic chemicals  
**Acquired certifications** ISO 14001 (May 2007)  
 ISO 9001 (July 2001)



Joint Disaster Prevention Drill with Neighboring Business Sites in the Ukishima District (Kawasaki Plant)

Kawasaki Plant is continuing groundwater purification treatment as a result of contamination from a leak of 1,2-dichloroethane in 1982.



**Shigeru Suenaga**  
 Plant Manager  
 Kawasaki Plant

### Message from the Plant Manager

Kawasaki Plant mainly produces fine chemical products, such as our next-generation low GWP fluorine-based foam blowing agent HFO-1233zd (E); our next-generation fluorinated solvent HFO-1233zd (Z), which offers both excellent environmental performance and high cleaning performance; pharmaceutical intermediates; photoresist materials; and lithium-ion battery electrolytes.

We actively promote 3R (Reduce, Reuse, and Recycle) activities for the byproducts produced during the manufacturing processes of these products by reclaiming or recycling flammable waste oil and recycling sludge. Kawasaki Plant has reduced the amount of final waste disposal by more than 90% compared to FY2000. These environmental activities have been recognized by the city of Kawasaki, and Kawasaki Plant has been certified as a business site taking environmental action, as defined by the city's bylaws.

Kawasaki Plant is a business located in a petrochemical complex handling a wide range of hazardous materials that is stipulated as a special disaster prevention area. Therefore, we strive to prevent accident and disasters through security and disaster prevention activities, from specific disaster prevention drills at each business site to all-inclusive disaster prevention drills carried out with all related parties.

Considerations about the environment and safety will always be necessary. Kawasaki Plant will continue to strive in environmental and safety efforts in the future.



## Matsusaka Plant

**Address** 1521-2 Okuchi-cho, Matsusaka City, Mie Prefecture  
**Number of Employees** 297 (as of March 31, 2022)  
**Major items produced** Automotive safety glass  
 Architectural and automotive float glass  
 Architectural fabricated glass  
**Acquired certifications** ISO 14001 (April 2000)  
 ISO 9001 (November 2003)  
 IATF 16949 (June 2018)



Integrated Office Comprehensive Disaster Prevention Drill (Matsusaka Plant)

Matsusaka Plant is continuing groundwater purification treatment after discovering groundwater containing arsenic and lead in 2002 and groundwater containing fluorine in March 2020.



**Masaaki Kawase**  
 Plant Manager  
 Matsusaka Plant

### Message from the Plant Manager

Matsusaka Plant manufactures flat glass using the world's only duplex equipment capable of employing a consecutive double-sided polishing method. We also manufacture fabricated glass for automotive and architectural applications. Because the production of glass consumes large amounts of energy and resources, Matsusaka Plant has long been committed to environmental conservation activities. All employees, including those of our business partners, are informed of our environmental policy, and are working to achieve the environmental goals for our plant, departments, and individuals.

Matsusaka Plant regards energy conservation and the reduction of greenhouse gases to be critical medium- and long-term issues. To achieve carbon neutrality and the SDGs, we are making improvements by reducing loss, installing energy-saving equipment as part of major renovations, and improving operational techniques. Amidst the difficulty of disposal in Japan, we continually aim to reach higher levels of waste reduction, as well as make efforts to recover valuable commodities from waste, one example of which is recycling almost all the waste glass we produce. Matsusaka Plant has also installed equipment that processes wastewater and ensures concentrations far below the values set in local agreements to provide safety and security to the region.

Each of our employees is continually working to achieve growth and improvement, based on our philosophy, “Creating a Better Future Through *Monozukuri*.” We will continue to appreciate and contribute to local communities and work to make our plant safe and happy.

The Sakai Manufacturing Site suspended flat glass production in March 2022 as part of our efforts to restructure our glass business.



# 56th Theme: Interpathetic Spaces

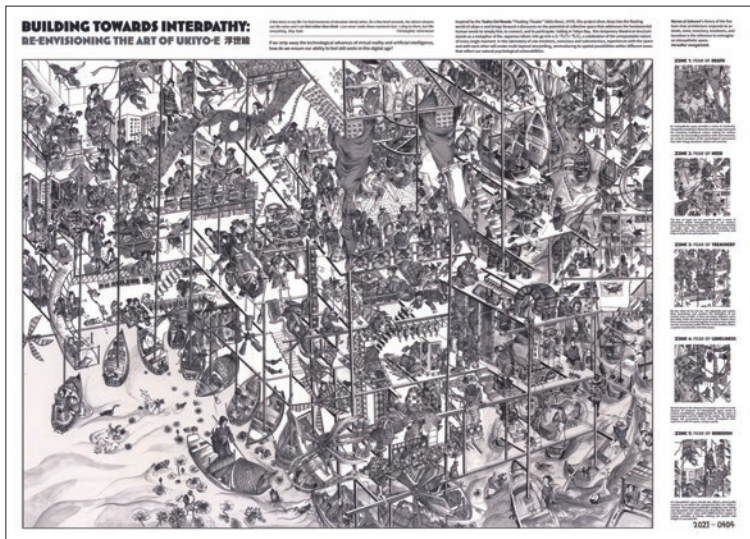
Central Glass Co., Ltd. has held the Central Glass International Architectural Design Competition since 1966. We invite renowned professors in the field of architecture in Japan as judges and also gather students interested in architecture and architects at the forefront of the field from Japan and overseas. In 2021, judges selected the grand prize winner from among a total of 268 entries, of which 67 were from abroad.

We live in a time in which we need to pursue economic efficiency and rationality while simultaneously preserving the natural environment and protecting historical and traditional cultures. As a company that promotes architectural culture, we believe that it is highly meaningful for us to provide occasions to contemplate a desirable society and environment through this competition.

56th First Place Winner  
**Ke Zhang** (Freelance, United States)

Project Title  
**BUILDING TOWARDS INTERPATHY:  
RE-ENVISIONING THE ART OF  
UKIYO-E**

Central Glass International Architectural  
Design Competition Judges



## Project Description

The fear of corona-virus has left the entire human race questioning ourselves, how should we address the fundamental human needs to simply feel, to connect, and to participate in a new era that is challenged by both the pandemic and the dominance of virtual reality & AI? I believe interpathy has always been the answer.

Floating in Tokyo Bay, this temporary structure is set to open every summer and celebrates *ichi-go ichi-e* — treasuring the unrepeatable nature of each moment.

It will introduce new spatial possibilities within 5 different zones reflecting our natural psychological vulnerabilities. In the first zone, encounters are reminded of the past collectively in the same space. In the second zone, we build trust and empathy among each other. In the third zone, visitors pray for inner peace under the feet of a gigantic Buddha. In the fourth zone, the spiritual dragon will accompany each visitor as our guide. The fifth zone celebrates unexpected moments in our daily life.

## Remote Judging

This time, as a countermeasure against COVID-19, judging was held remotely, moderated by Shinkenichiku-Sha Co., Ltd. The selection of the first and second place winners and honorable mentions was all streamed live online.



Chief Judge

**Hiroshi Naito**

Naito Architect & Associates



©The Courier

**Kengo Kuma**

Kengo Kuma & Associates



**Tadao Kamei**

Nikken Sekkei Ltd.



©Masakazu Yoshida

**Jun Aoki**

AS



**Goichi Kamochi**

Obayashi Corporation



**Yoshiharu Tsukamoto**

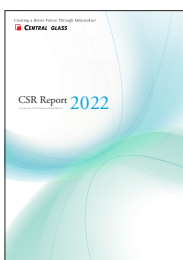
Atelier Bow-Wow



**Yoshitada Makihata**

Central Glass Co., Ltd.

Director, Executive Managing Officer



## Concept of the CSR Report 2022 Cover Page

The integration of glass and chemicals—core Central Glass businesses—gives way to new solutions. The birth and development of new businesses from the fusion of these different domains are illustrated visually with two colored arches blending into a new color. The color harmony and soft shapes also demonstrate the close relationship between Central Glass and society.