



Nippon Electric Glass

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# INTEGRATED REPORT 2023

Nippon Electric Glass Co., Ltd.

For the year ended December 31, 2023

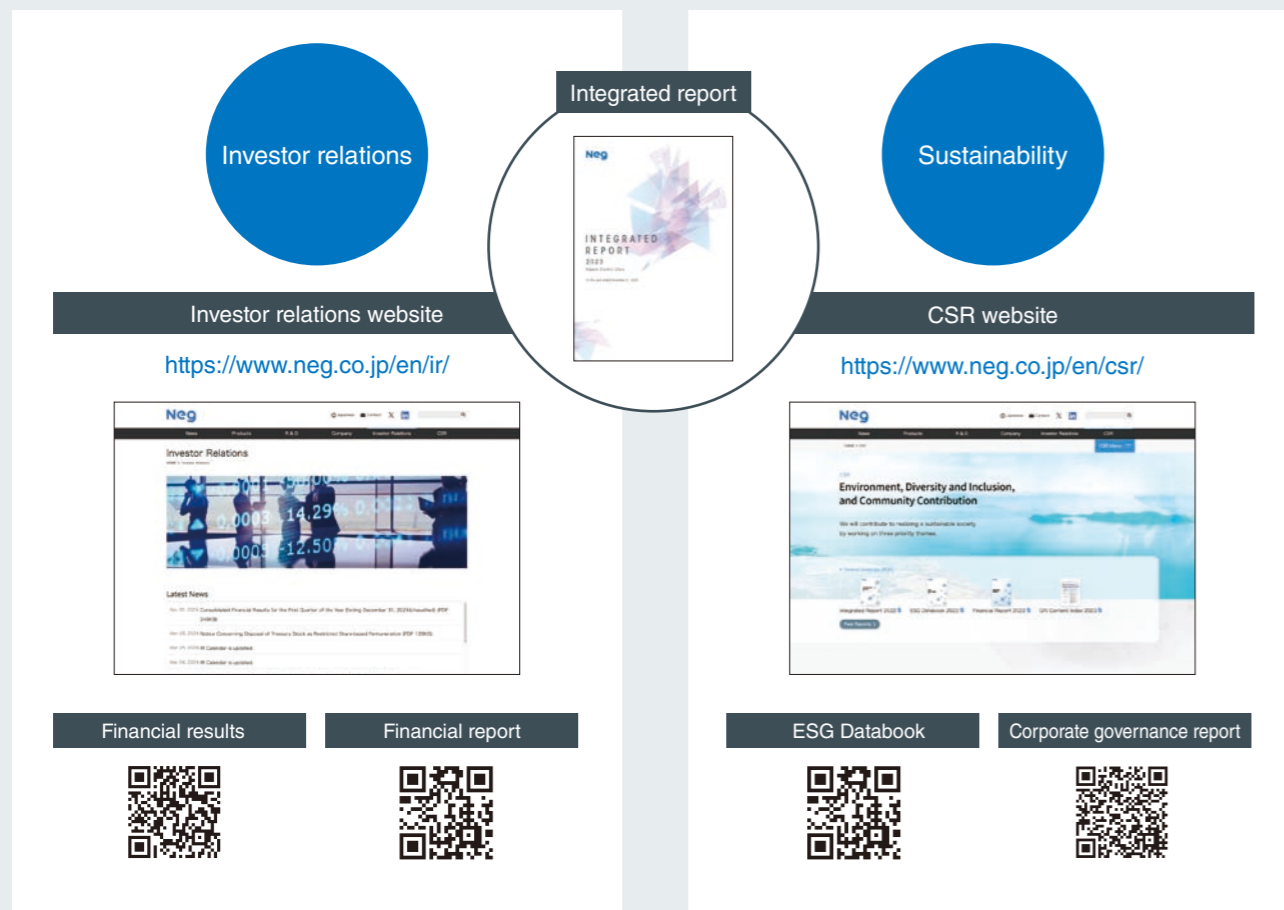


## Publication of Integrated Report 2023

Through this annual Integrated Report, Nippon Electric Glass has sought to communicate with its stakeholders and continuously improve its information disclosure.

Integrated Report 2023 aims to provide easy-to-understand financial and non-financial information in areas such as value creation processes, key strategies, and ESG, with a focus on our EGP2028 Medium-term Business Plan.

The purpose of this report is to convey activities for raising corporate value with the goal of being the world's leading manufacturer of special glass, in the process strengthening dialogue with all of our stakeholders.



### Editorial Policy

#### Organizations covered

The Nippon Electric Glass Group's 10 companies in Japan and 14 companies outside Japan are covered in this report. In cases where the coverage area of the data differs, we have indicated the appropriate coverage areas respectively. Note that Electric Glass Fiber NL, B.V. commenced bankruptcy proceedings on September 26, 2023 and has since been excluded from NEG's consolidated data.

#### Period of reporting

Fiscal 2023 (January 2023 to December 2023). Some qualitative information regarding fiscal 2024 has also been included in this report.

#### Publication, next scheduled publication

Issued in May 2024. Next scheduled issue in May 2025.

#### Editorial guidelines

IFRS International Integrated Reporting Framework, GRI Standards, and others.  
The GRI Content Index can be found at <https://www.neg.co.jp/en/csr/>

#### Disclosure policy

The Group Code of Conduct stipulates that our Group will disclose necessary corporate information in a timely and appropriate manner to enhance communication with concerned parties. Following this policy, we will continue to disclose important information related to our Group's activities to all stakeholders, including shareholders and investors, in a timely and appropriate manner.

#### Caution concerning forward-looking statements

Statements in this Integrated Report with respect to our Group's plans, outlooks, strategies, and other statements that are not historical facts, are forward-looking statements involving risks and uncertainties. Please be aware that actual results may differ significantly from these statements due to various factors.

### ESG Databook

For stakeholders who are particularly interested in learning about our ESG-related investment, we have compiled the ESG-related information from the Integrated Report 2023, the NEG website, and from elsewhere into our ESG Databook 2023.

Visit <https://www.neg.co.jp/en/csr/> to download the ESG Databook 2023.



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● Corporate Philosophy

At Nippon Electric Glass, our corporate philosophy is a reflection of our founding mission, a statement of our devotion to creating products infused with the very best of human civilization for the betterment of society.



**We strive to build a brighter future for the world by uncovering the unlimited possibilities of glass for more advanced creative manufacturing.**

Firmly rooted in the traditions of our founding mission, the NEG corporate philosophy plots a path for our quest for sustainable growth.

Thanks to material design, melting, forming, and processing technologies, glass can be infused with different properties for a broad range of functions.

We are dedicated to unlocking glass's potential to make life better and more comfortable for people and communities the world over.

**GLASS FOR FUTURE**



**The world's leading manufacturer of special glass**

Our goal is to become the world's leading manufacturer of special glass, with the best talent, the best technology, and the best creative manufacturing ability.

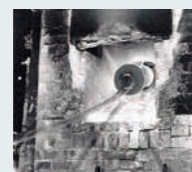
At the same time, we strive to run our company in a way that inspires pride among our workers and enables us to make a genuine contribution to the community.

The way we see it, creative manufacturing is achieved through state-of-the-art technological development, the highest quality standards, efficient production, and a steady supply of products, all underpinned by a fundamental dedication to environmental sustainability.



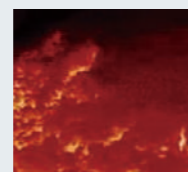
# History of Transformations and Advances

## Technological Advances



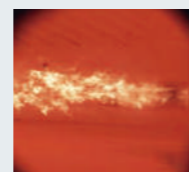
**1951**

Automated production of glass tubing using the Danner process



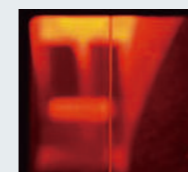
**1974**

All-electric melting furnaces with no fuel-derived CO<sub>2</sub> emissions brought online



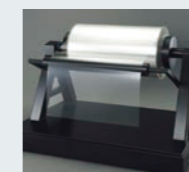
**1993**

Japan's first oxy-fuel firing furnaces brought online



**2000**

Production of LCD substrate glass by applying the overflow process



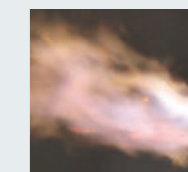
**2008**

Roll-to-roll process achieved for ultra-thin (50 μm) sheet glass



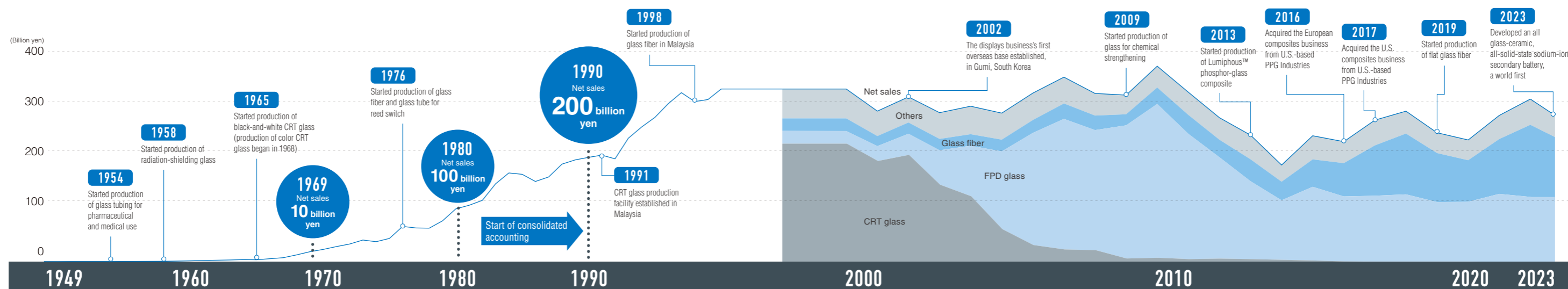
**2019**

Establishment of an innovative manufacturing process in LCD glass



**2022**

Establishment of hydrogen-combustion glass-melting technology



### Applying technologies to expand our business as a leading special glass manufacturer

We started out as a manufacturer of hand-blown glass for vacuum tubes for radios and after succeeding in automatic forming of tube glass, moved on to mass produce such products as glass tubes for fluorescent lighting. In 1965 we enlarged the scale of our business to include producing glass for CRTs. Businesses were launched around glass-ceramics, glass fiber, glass for electronic devices, and more.

### Promoting global business as overseas markets expand

In the 1990s we set up a global production and supply system to meet global demand for CRTs, and grew into one of the world's leading CRT glass manufacturers. As LCDs started to become prevalent in the latter half of the 1990s, we made strategic preparations to adapt to the changing marketplace.

### The end of the CRT and changeover to LCDs

To meet the rapid growth of the LCD market, in 2000 we started producing glass substrates for LCDs using an overflow process. Year by year we were able to produce larger, higher quality substrates to meet the demands for increasing complexity in the LCD market. Business also expanded in glass fiber for strengthening high-function plastics and glass tubing for pharmaceutical and medical use.

### Building a new axis for growth to become the world's leading manufacturer of special glass

We acquired production facilities in Europe and the United States from U.S.-based PPG Industries to expand our composites business. This business grew into a major business for the company alongside the displays business. We also released new products such as cover glass for smartphones and a phosphor-glass composite, and developed unique products such as glass ribbon and glass with a zero CTE (coefficient of thermal expansion).

## Sustainability Transitions

**1960**

Introduced a melting furnace with electric melting process

**1974**

All-electric melting furnaces with no fuel-derived CO<sub>2</sub> emissions brought online

**1993**

Japan's first oxy-fuel firing furnaces introduced, resulting in a reduction of CO<sub>2</sub> emissions and improvement of heat efficiency

**1998**

Recycling system for glass collected from used TVs became operational

**2000**

Implemented Environmental Business Plan

**2010**

Fuel conversion (complete discontinuance of use of heavy oil and switch to LPG/natural gas), resulting in huge reduction in CO<sub>2</sub> emissions

**2015**

Participated in visiting lectures sponsored by Otsu City (ongoing)

**2019**

Certified with top rating (three stars) as a company embracing Shiga Prefecture Biodiversity Initiative (renewed in 2022)

**2022**

Raised funds via green loan financing

**1971**

Established Notogawa Plant; introduced cutting-edge environmental equipment (eco-friendly model factory)

**1980**

One of the first six firms in Japan to establish a special-purpose subsidiary company to employ people with disabilities

**1994**

Electronic Products Group acquired ISO 9002 certification for three product classes including glass powder

**1999**

Acquired ISO 14001 certification for all plants in Japan

**2007**

Concluded a comprehensive university-industry collaboration agreement with the University of Shiga Prefecture (ongoing)

**2011**

Developed reprocessing of dust collected from furnace exhaust gas into raw material at a plant in Japan

**2018**

Purchased carbon offset credits (J-Credit) issued by a forestry association in Shiga Prefecture to contribute to local environmental conservation (ongoing)

**2021**

Endorsed the TCFD recommendations

**2023**

Established the CSR Committee

# Strengths of Nippon Electric Glass

Over the years, we have developed a wide range of glass technologies including material design and evaluation, melting, forming, and processing. These technologies are brought together in our production facilities, which are the foundation for the development of new applied technologies. It is through these technologies that we can create unique, high-function glass products.

## Manufacturing strength Creativity

### Creating new value with glass that takes a variety of forms and functions

Glass is an exceptional material that takes a variety of forms and functions based on how the chemical elements are combined or formulated. The texture and luster are its best attributes. Glass from our production line takes many forms and shapes and is used in a wide variety of fields.

**Variety of forms**

Tube Sphere Fiber  
Powder Molded Substrate  
Hybrid products

**Functions**

<b>Optical</b> Light absorption, wavelength conversion, optical thin film	<b>Electromagnetic</b> Insulation, dielectric, conductive film, magnetism
<b>Thermal</b> Heat resistance, fire prevention, low-temperature sealing	<b>Mechanical</b> High strength by chemical strengthening or crystallization
<b>Chemical</b> Acid resistance, alkali resistance, sustained release of chemicals	<b>Others</b> Gas barrier, plastic and cement reinforcement

## Manufacturing strength Technologies

### Meeting market needs for new products through collaboration between R&D and production departments

With a foundation of core technologies in areas such as basic research, design and development of materials and processes, and property evaluation, we combine technologies such as compounding and coating to further improve the function of glass as we develop and commercialize products.

**Core technologies**

- Material design and evaluation
- Process design and development

**Melting** Our melting technology and the design of our melting furnaces involve advanced and precise furnace operations—for example, controlling combustion and temperature while reducing environmental burdens. These technologies help us to produce high-quality glass.

**Forming** One thing that sets us apart from the competition is our wide range of forming technologies. These technologies enable us to achieve high dimensional accuracy and high productivity. We can use the most suitable forming method for each product and respond to the various needs of our customers.

**Processing** New functions and features are given to glass through a variety of working processes. These processes include reforming by heating and softening, crystallizing by firing, coating films, precision cutting and polishing, and compounding with crystals or organic substances.

**Commercialization research**

**Value-adding technologies**

- Precision forming and processing
- Ultra-thin substrate forming
- Hybrid technologies (use of thin film and laminating with other materials)
- Ultra-large substrate manufacturing
- Crystallization

## Manufacturing strength Human Resources and Organizational Structure

### Responding rapidly with solutions for customers through organizational and employee competence

Since our founding, we have prided ourselves as glass manufacturers on an ethos of no-nonsense dependability. There is very little distance between top management and floor supervisors, and over the years we have maintained an open-minded corporate culture that values transparency. This atmosphere empowers our employees and gives us organizational strength, bolstering the company in many ways and supporting its growth.

**Various human resource development programs**

Multi-faceted opportunities for skill improvement, plus on-the-job training

OJT + Level-specific training + Global human resource training + Skills training + Self-development programs that include acquiring industry certification

Developing personnel capable of world-class performance in every challenge

**Supporting seed technologies and responding to needs organizationally**

Research & Development Group  
Process Development & Engineering Group ↔ Business Group  
Corporate Strategy Division ↔ Marketing Division

Our well-coordinated system of development is facilitated by smooth information-sharing among the three groups and supported by the Corporate Strategy and Marketing Divisions

## Value creation utilizing our strengths

### Expanding the fields for our products to meet society's needs in a new era

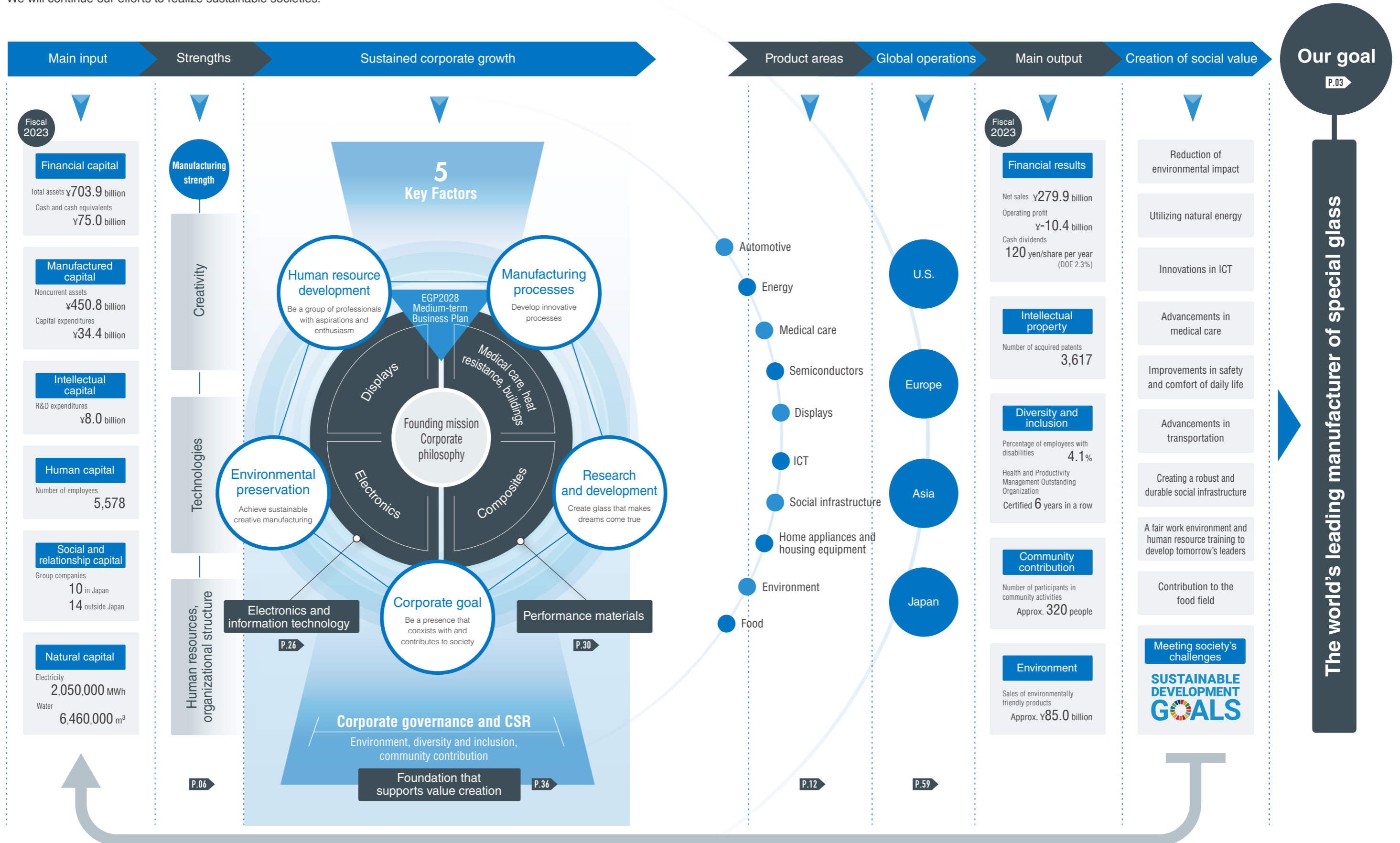
Since our founding in 1949, our efforts have been focused solely on improving glass technologies, developing and supplying the products that each age demands, and expanding the domains for our efforts. Our aim going forward is to contribute to a better world through the manufacturing of the highest quality glass to meet society's needs.

**Fields of application and markets**

- Automotive**
  - Lightweight materials
  - Lighting
  - Displays
  - Driving automation (cameras, sensors, etc.)
  - Electronic devices
- Energy**
  - Secondary batteries
  - Renewable-energy systems
- Medical care**
  - Advanced pharmaceutical containers
  - Advanced medical equipment and facilities
- Semiconductors**
  - Next-generation semiconductor materials (small, high definition, high performance)
  - Semiconductor manufacturing equipment
- Displays**
  - High-performance displays (high definition, thin and lightweight, flexible)
- ICT**
  - Optical communication devices (for next-generation high-speed communications)
- Social infrastructure**
  - High-function fire-rated equipment
  - High-performance structural materials (safe, durable, lightweight)
- Home appliances and housing equipment**
  - High-function home appliances, housing materials
  - Multifunction wall materials

# About Nippon Electric Glass | Value Creating Process

Utilizing six resources of capital for our business operations, we provide value to society through our innovative products. We will continue our efforts to realize sustainable societies.



# Value Chain

In each process of the value chain, we strive to increase the positive effects of our business activities and minimize the negative effects. We will continue to work hand-in-hand with our stakeholders in order to raise corporate value, solve society's problems, and achieve the SDGs.



# Products and Business Fields

Nippon Electric Glass makes special glass products that provide a range of solutions through the limitless possibilities of glass. These possibilities support society wherever you look, whether it's in the electronic devices all around us, or in automobiles, offices, hospitals, or infrastructure.

## Making our lives convenient and comfortable

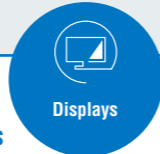
Glass supports our lifestyles in many ways: it's widely used as heat-resistant glass that resists sudden heat changes in home appliances and housing materials, and as glass fiber in roofs and flooring.



Home appliances and housing equipment

## Providing new value in image technologies

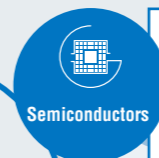
Image devices are becoming increasingly diverse in mobile and other fields. Our technological strength is behind advancements in displays that are becoming larger and higher resolution, and flexible.



Displays

## Supporting semiconductor production indispensable to industry

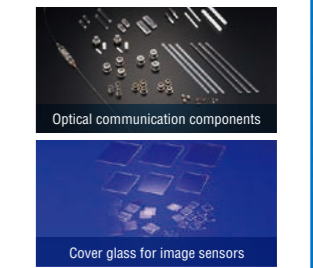
Whatever kind of electronic device—computers, home appliances, automobiles—they're used in, semiconductors are crucial to making our lives comfortable. Supporting the semiconductor field is our range of high-performance glass products.



Semiconductors

## Key devices behind ICT

Change in the ICT field is fast and revolutionary. With its superb properties, glass plays a vital role in the parts for optical and electronic devices that support advanced ICT.



ICT

## Supporting advancements in medical care

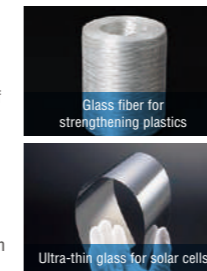
Glass contributes to advancements and greater safety in the medical field. It's used in glass tubing for pharmaceutical and medical use, and radiation-shielding glass protects medical personnel from radiation exposure.



Medical care

## Helping spread renewable energy

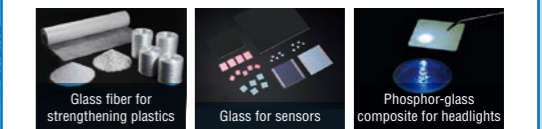
NEG contributes to the spread of renewable energy; for example, with glass fiber that strengthens wind turbine blades for wind power generation, and ultra-thin glass used to cover solar cells on artificial satellites.



Energy

## Contributing to automotive advancements

NEG's high-performance glass products provide solutions in the automotive sector, where improving the environmental performance of automobiles and developing driving-assistance systems are key challenges.



Automotive

## Providing safety and security for society

We provide ground-breaking products, such as fire-rated glass for preventing or lessening damage from disasters, and glass fiber for reinforcing concrete.



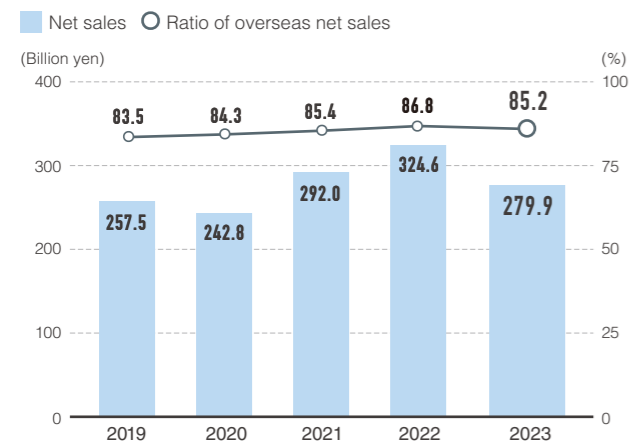
Social infrastructure



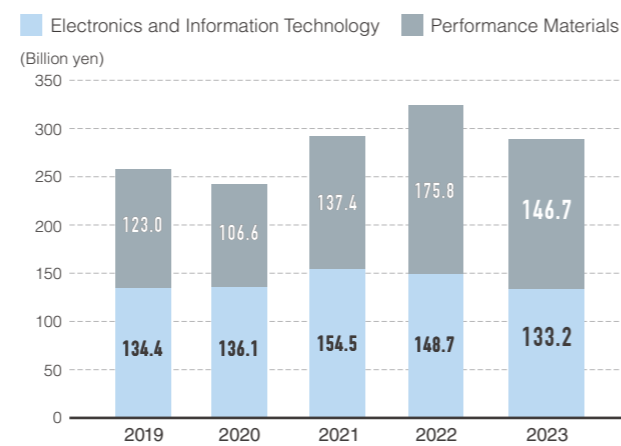
# Financial and Non-financial Highlights

## Financial Highlights (Consolidated)

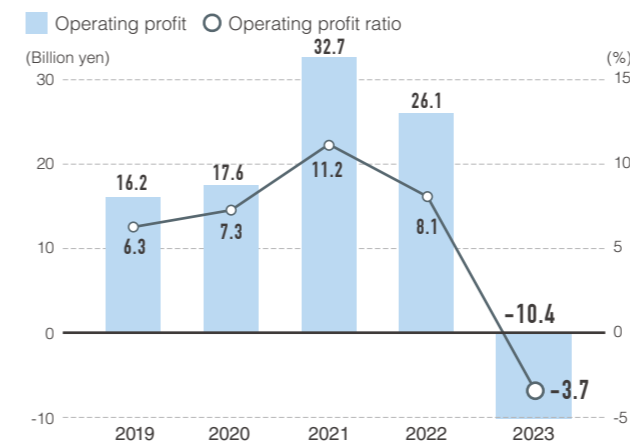
### Net Sales, Ratio of Overseas Net Sales



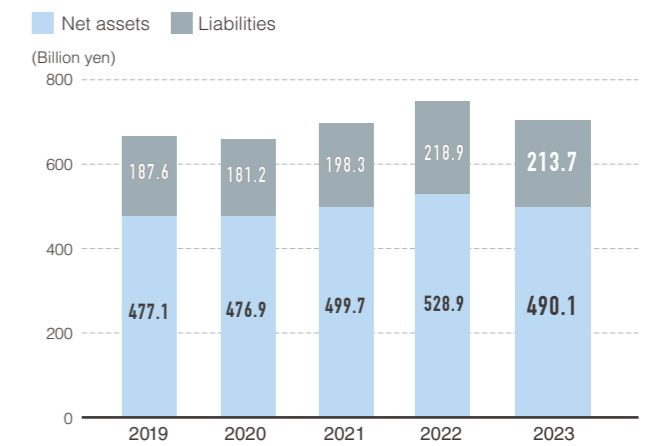
### Sales by Business Segment



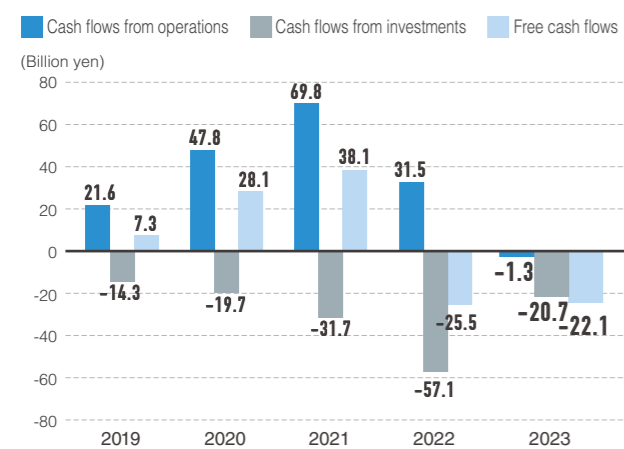
### Operating Profit, Operating Profit Ratio



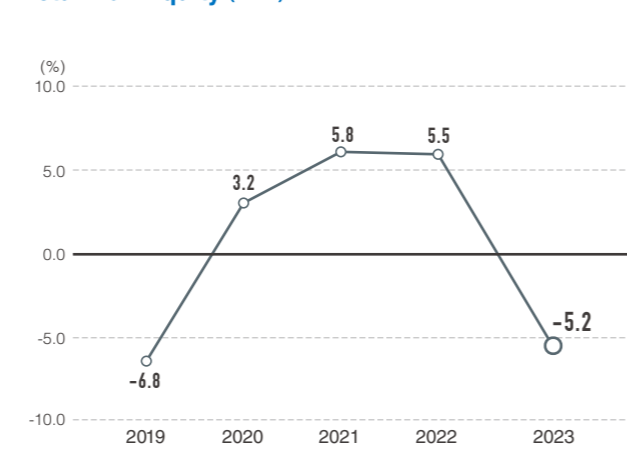
### Net Assets, Liabilities



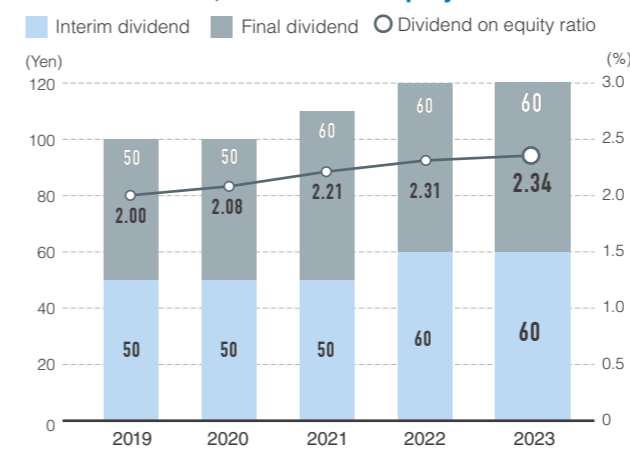
### Cash Flows



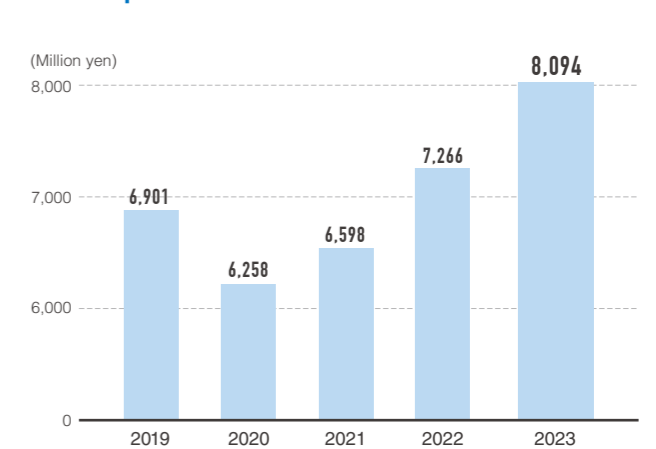
### Return on Equity (ROE)



### Cash Dividends, Dividend on Equity Ratio

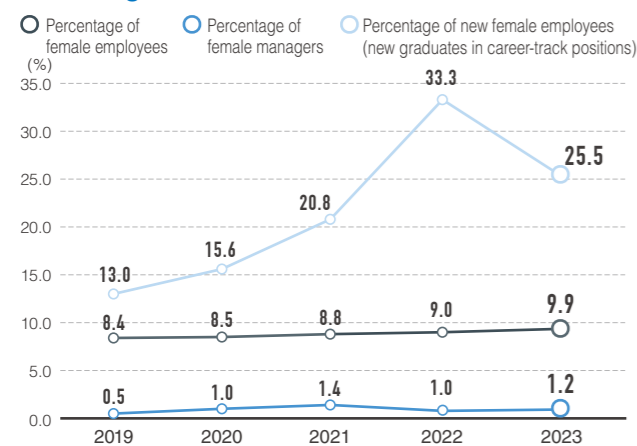


### R&D Expenditures

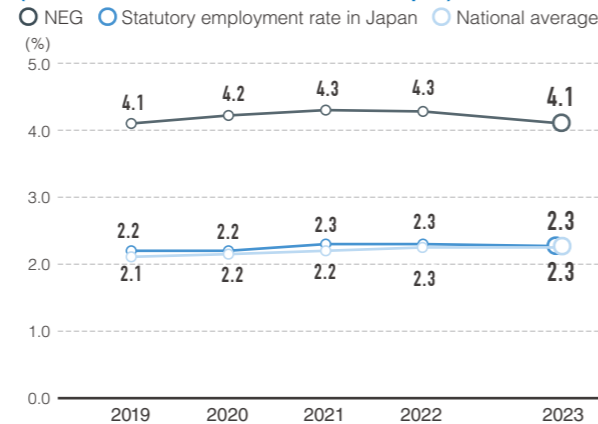


## Non-financial Highlights

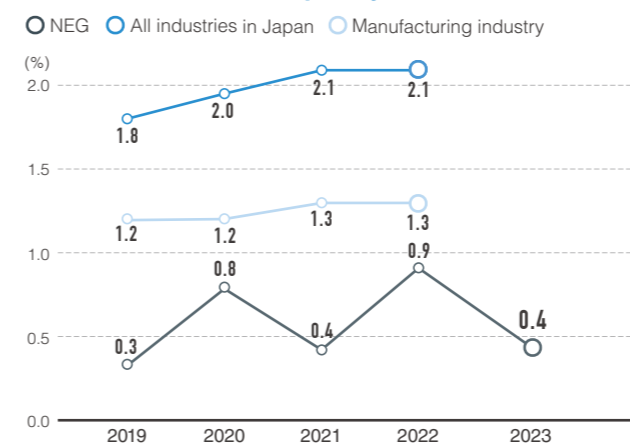
### Percentage of Women (employees, managers, recruits) (NEG)



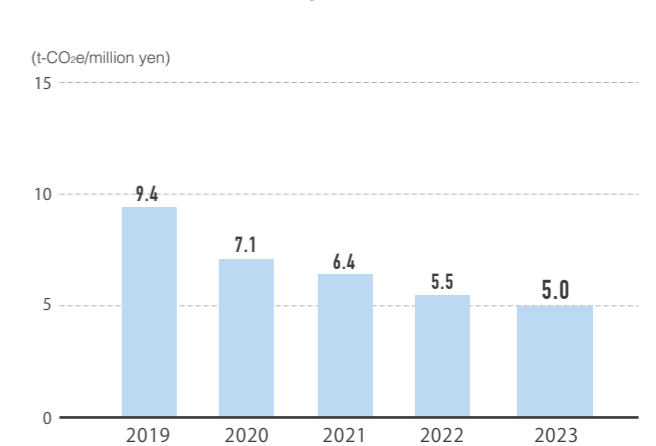
### Percentage of Employees with Disabilities (NEG and consolidated subsidiaries in Japan)



### Industrial Accident Frequency Rate (NEG)



### CO<sub>2</sub> Emissions Intensity (to consolidated sales)



# Message from the President

## New EGP2028 medium-term business plan for continuous growth and increased corporate value



President  
Akira Kishimoto

*A. Kishimoto*

### Reflecting on fiscal 2023—

#### Rebuilding core businesses and undertaking bold structural reforms

If I had to sum up fiscal 2023 in one word, it would be “turbulent.” Raw material and fuel prices remained high due to supply chain disruptions caused by Russia’s invasion of Ukraine, and these high prices, in turn, drove up the cost of everything else. Given this state of affairs, shipments of related NEG products declined due to lackluster demand, lowering capacity utilization rates and, with the rapid depreciation of the yen, leading to a significant increase in manufacturing costs. At the beginning of the fiscal year, we predicted a gradual recovery in market conditions starting around summer. However, the timing of recovery ended up being later than anticipated, and the full-year results were unprecedented, with negative operating profit, ordinary profit, and net income.

I will now discuss the situation for each of our businesses. First is the electronics and information technology segment. In the displays business, we pursued aggressive capital investment in China, a key market, from 2021 to 2022, when business was strong due to special demand during the COVID-19 pandemic. However, preemption of demand following the pandemic resulted in adjustments that saw supply and demand change completely, and both shipments and capacity utilization fell significantly. This was compounded by soaring raw material and fuel prices, which significantly drove up manufacturing costs, resulting in slumping business performance. The electronics business was also sluggish overall; however, shipments of semiconductor-related products expanded more than expected, which is a positive sign for the future. In the performance materials segment, medical care and heat resistance-related demand was sluggish, but, because we were able to expand sales of fire-rated glass, the buildings business experienced an increase in sales. For the composites business, factors such as the time required to eliminate excess inventory in the supply chain due to a lack of recovery in key automotive-related demand prolonged the difficult situation.

Given all of this, we implemented drastic structural reforms in our two main businesses, displays and composites, in order to effect a fundamental recovery in business performance. First, in the displays business, demand in the Korean market has shrunk due to a market shift to China, resulting in a rapid deterioration in profitability at our Korean subsidiaries. Thus, we closed down our processing company Nippon Electric Glass (Korea) Co., Ltd. and our melting/forming company Electric Glass (Korea) Co., Ltd. in the first half of fiscal 2023. In the composites business, we closed Electric Glass Fiber NL, B.V., a subsidiary in the Netherlands, in the second half of fiscal 2023, due to continued unprofitability caused by soaring energy prices, labor costs, and sluggish demand. Each of these closures was a tough decision that involved significant impairment losses and caused concern for all of our stakeholders. However, they were decisions made following thorough discussion about the production system for the NEG Group as a whole and getting us on the path to profitability.

Reflecting on the past year, if there is one thing that was left behind, it is development. When I assumed the position of president last year, I stated that I was resolved to promote development. All of our past presidents have had experience in our core businesses of displays and composites, but, as for myself, my primary involvement since joining NEG has been in electronics departments handling the development of glass applications. I recognize that the mission I have been tasked with is nothing less than the creation of a third and fourth business pillar alongside our existing core businesses.

However, development assumes that the existing businesses are solid. In fiscal 2023, because two of our main businesses were unstable, we were focused on their recovery and on reviewing our production system, including overseas production bases. Moving forward, I want to visit development sites as much as possible to interact with the younger engineers while providing active support for development work.

# Message from the President



## Fiscal 2024 outlook and new medium-term business plan EGP2028

Thanks to the structural reforms begun last year, as well as the progress made in improving productivity company-wide, we are finally in a position to generate profits. Based on this, we have set as our performance targets for fiscal 2024 net sales of 310 billion yen, operating profit of 16 billion yen, and an operating profit ratio of 5.2%.

In terms of business-specific outlook, the displays business has emerged from a year-and-a-half slump and things are finally starting to look up. Our production lines are currently operating at full capacity, and we expect the market to continue to steadily recover. The electronics business as a whole is beginning to show signs of recovery, and we expect semiconductor-related products to continue to be a key performance driver. As for the composites business, we think it will take a bit more time for the market to recover. In the medical care, heat resistance, and buildings business, we expect demand to be roughly the same as last year.

The business landscape facing NEG has changed dramatically over the past year, and the assumptions of our previous medium-term business plan, EGP2026, now deviate

significantly from initial expectations. Also, in light of recent, strong demands from the securities market regarding capital costs and stock prices, we have formulated a new medium-term business plan, EGP2028, which has fiscal 2028 as its final year and which adopts as its business targets net sales of 400 billion yen, operating profit of 50 billion yen, an operating profit ratio of 12.5%, and an ROE of 8%. The breakdown for net sales is 350 billion yen from existing businesses and an additional 50 billion yen from M&A and new businesses.

In terms of business strategy, for the displays business, we will horizontally deploy all-electric glass melting technology as well as work to expand sales in the Chinese market, focusing particularly on 10.5-generation size glass, and expand the use of value-added products such as ultra-thin glass and glass for chemical strengthening. In the composites business, we will first build a global production system that is optimized for the market and competitive environment, and we will seek to transform this business into one that can generate sustained profits as we actively invest in, and expand sales of, high-value-added products. In the electronics business, our aim is, by the final year of the plan, to achieve triple the sales of fiscal 2023 by expanding sales of semiconductor-related products for which demand is expected to grow, such as glass wafers for supporting

semiconductors and glass substrates for probe cards. We will also actively pursue the development of products for next-generation semiconductor packages, such as glass core substrates.

## Build up our track record via newly developed, promising products

With regard to newly developed products, we plan to commercialize our all-solid-state sodium-ion (Na) secondary batteries within fiscal 2024 and to achieve sales of 10 billion yen within the period set for EGP2028. Conventional lithium-ion secondary batteries utilize a liquid electrolyte, causing their performance to drop significantly in environments where the temperature drops below 0°C, but our all-solid-state sodium-ion secondary batteries have an extremely broad operating range of -40°C to +200°C and will not catch fire, even when subjected to deformation. We are pursuing development with a view to use in electronic equipment, stationary use in connection with solar power generation and, in the future, use within the automotive industry. Our first objective is to build a track record in fields where we can capitalize on the batteries' distinctive advantages of excellent safety and stability, a broad operating temperature range, and a high degree of design freedom. In addition, we are actively exploring new fields, such as far-infrared transmitting glass that can be used in sensing devices for self-driving cars and ultra-thin cover glass for satellite solar panels, which will contribute to the longevity and weight reduction of satellites.

## Continued advancement of environmental and human resource measures

One of the sustainability strategies that we are pursuing as part of EGP2028 is carbon neutrality, with the most important pillar of this strategy being transitioning from gas-fired furnaces to all-electric melting furnaces. All-electric melting furnaces heat molten glass through the direct application of electricity, making them extremely energy efficient as well as giving them the advantage of being environmentally friendly due to the fact that they do not emit CO<sub>2</sub> from combustion. We

are timing our transition to all-electric melting furnaces to coincide with our regular maintenance and repair schedule. In conjunction with other measures, our goal is to achieve a 36% reduction in CO<sub>2</sub> emissions by 2030 compared with 2018 and, by 2050, to achieve carbon neutrality.

Our human resource strategy is also a crucial component of our sustainability strategy. Manufacturing and development, both, ultimately come down to people. No matter how advanced AI becomes, I believe that human resources are what is most important, and we are increasing our investment in human capital. We provide new employees with thorough group training and on-site training over a period of approximately one year. We also focus on work-related training—such as global human resource training, skills training, and DX/data science training—that supports each individual's career development. At the same time, we are striving for workplace diversity by, for example, actively recruiting mid-career personnel, furthering the participation of women, and creating systems that enable diverse work styles.

Furthermore, we are committed to the cultivation of a highly engaged organization that is attractive to workers. We believe that an open corporate culture marked by mutual support, opinion sharing, and free and honest discussion is the foundation for realizing competitiveness. It is my responsibility to ensure we are a robustly vital company with a shared sense of values where each employee is motivated to make use of their talents to contribute to it.

## To our stakeholders

Through dialogue with our customers, business partners, shareholders, investors, and various other stakeholders since assuming the position of president, I am keenly aware of the great expectations that exist for myself.

As I said at the beginning, fiscal 2023 is the first year that we have recorded an operating loss since we went public, and this is a source of great concern for our stakeholders. Although the business environment remains unpredictable, we will overcome the adversities that we are facing, and, through the steady implementation of EGP2028, we will endeavor to put our slogan "Strong growth" into practice. In fiscal 2024, the start of EGP2028, we will pursue development as part of an even greater effort to establish our next business pillars. I ask for your continued support.

# EGP2028 Medium-term Business Plan

## Outline of the EGP2028 Medium-term Business Plan (2024–2028)

Slogan and basic policy

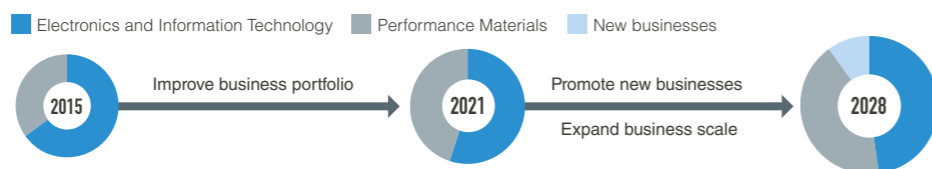
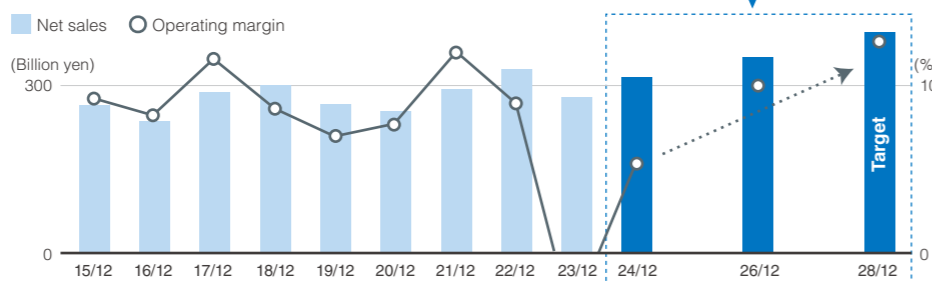
### “STRONG GROWTH”

We work to realize sustainable growth and corporate value enhancement by fortifying the revenue base of existing businesses and aggressively allocating resources to growth areas

Business targets  
(Year ended December 31, 2028)

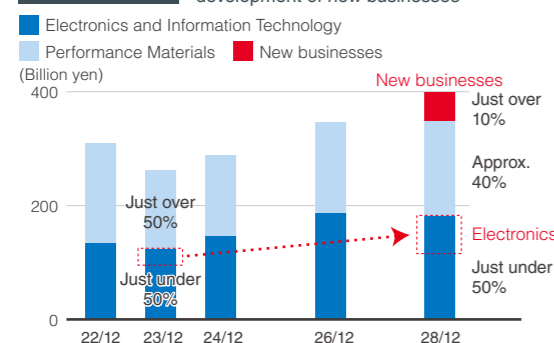
Net sales	Operating profit	Operating margin	ROE	Equity level
400 billion yen	50 billion yen	12.5 %	8 %	Approx. 400 billion yen

Positioning of EGP2028



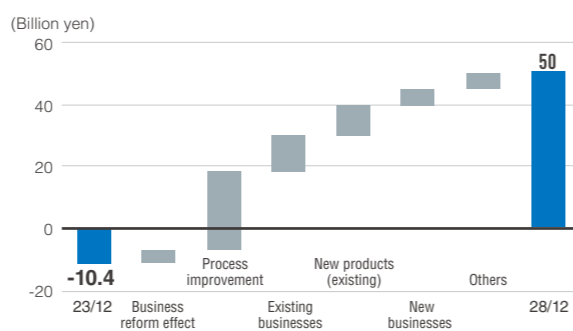
Net sales

Expansion of electronics business and development of new businesses



Operating profit

Improving profitability of existing businesses and increasing profits through new businesses



## 1 Business Strategy

### Reinforcement of existing businesses (Strengthen the earnings base by improving competitiveness)

- Develop high value-added products and strengthen commercialization
- Leverage all-electric melting technology to increase productivity and quality
- Build a strong business foundation (Efficient operation of resources, utilization of digital transformation, review of procurement, operational/manufacturing process reform, etc.)
- Thoroughly analyze business profitability to determine whether to invest in, downsize, or withdraw from businesses

### Procurement risks management

Respond to procurement risks by diversifying sourcing and distribution routes, and building strategic partnerships

### Expansion of strategic businesses (Expanding resources to growth fields)

- Leverage our strengths in special glass and allocate resources aggressively to business with promising growth opportunities to expand strategic businesses
- Expand device businesses that will increase the added value of glass products
- Bolster research and development resources focusing mainly on the fields of energy, medical care, environment, and food, and collaborate with universities, research institutes, startups, etc.
- Establish a budget for strategic investment (50 billion yen in 5 years) and actively undertake M&As, strategic alliances, business investments, etc.

## 2 Financial Strategy

### Reduction of cross-shareholdings

In consideration of changes in the business environment, we will evaluate the appropriateness of shareholdings both quantitatively based on cost of capital and qualitatively based on management strategies to further reduce cross-shareholdings and their proportion in consolidated net assets.

### Asset reduction

We will dispose of any non-core assets arising in the course of EGP2028, structural reform of businesses, etc., as appropriate in order to increase asset efficiency.

### B/S management and enhancement of shareholder returns

We will work to enhance shareholder returns while managing our balance sheet in consideration of financial stability and capital efficiency and securing earnings to prepare for future growth.

- Share repurchases: We will carry out share repurchases of 100 billion yen in total during the period from November 2023 to the end of December 2028 (five years).
- Continuous dividend expansion: Target DOE 3%: While maintaining stable dividends as the basic policy, enhance dividends based on performance, financial conditions, growth investment, etc. (Annual dividend for fiscal 2024 will be 130 yen, up 10 yen over the previous year)

## 3 Sustainability Strategy

### Promote carbon neutrality

We will pursue the development of all-electric melting technology and other technologies to contribute to the prevention of global warming while striving to achieve sustainable growth and corporate value enhancement.

- Electrification of all our processes
- Investing in and procuring renewable energy
- Developing technologies for hydrogen energy and other carbon-free energy sources

### Human resource strategy

We will expand investment in human resources who are expected to play pivotal roles in management while securing a work environment in which diverse individuals can fully demonstrate their abilities as appropriate in order to increase our competitiveness.

- Recruiting and training personnel with advanced knowledge and skills
- Encouraging diversity in our human resources hiring and promotions
- Creating comfortable and motivating workplaces

### Supply chain management

We will promote initiatives to fulfill our social responsibility with regard to the environment, biodiversity, and human rights throughout the supply chain and work to achieve sustained growth and corporate value enhancement.

# Message from the CFO



Aiming for 8% ROE through business performance restoration and balance sheet management focused on financial stability and return on capital

Director and Senior Vice President Mamoru Morii

## EGP2028 Medium-term Business Plan Financial Strategy

In the newly formulated EGP2028 Medium-term Business Plan, we have added ROE (return on equity) to our business targets for the sake of improving corporate value.

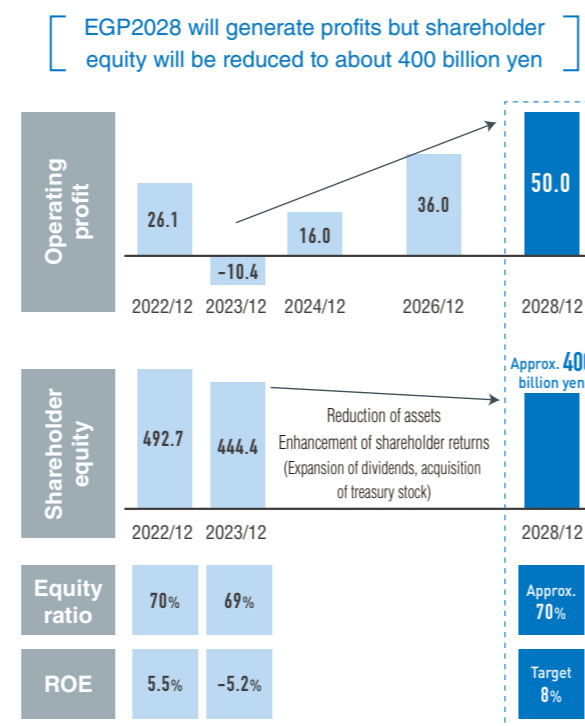
When we were developing EGP2028, we began by making sure there was a common understanding among the members of the Board of Directors about the stock market's evaluation of our company and our company's cost of shareholder equity (expected rate of return). Regarding our stock market valuation, our PBR (price-to-book ratio) for the past 10 years has remained below 1x. As for the cost of shareholder equity, although there are some variations depending on calculation method and assumptions, in our case it is approximately 7%. In order to improve corporate value in the future, it will be important to achieve ROE that exceeds this cost of shareholder equity and increase capital efficiency. Of course, the higher the ROE, the better, but we have set a value of 8% based on our current business performance and the desire to firstly build up our ability to clear the cost of shareholder equity.

At the same time, we discussed what the appropriate capital structure should be. The NEG Group's business tends to be significantly affected by changes in the economic environment because we have production bases around the world and are dependent on specific industries, such as electrical, electronic, and automotive. Given these circumstances, a certain level of equity capital is necessary to continue our operations in the glass business, an equipment industry. Our discussions incorporated outside

opinions and focused not only on capital efficiency but also financial stability.

These discussions served as the basis upon which the specifics of EGP2028 were formulated.

Over the five years of EGP2028, we plan to generate solid profits while reducing shareholder equity to about 400 billion yen through a reduction in assets and enhancement of shareholder returns.



## Cash Allocation

In order to provide shareholders with a deeper understanding, I want to make clear how we will allocate cash over the next five years.

Starting in fiscal 2024, we expect to generate solid profits over a five-year period and have an operating cash flow of 230 billion yen. In addition, we anticipate a cash inflow of 350 billion yen, including 120 billion yen of funds obtained through

business reforms and asset sales.

Using this capital, we plan to allocate a total of 210 billion yen to investments, including 50 billion yen in strategic investments and a total of 140 billion yen to shareholder returns. In order to increase corporate value, we intend to make efficient use of the cash generated while maintaining a balance between growth investments and shareholder returns.

[ Improve corporate value via allocation that maintains a balance between growth investment and shareholder returns ]

Source	Allocation
Operating cash flow <b>230 billion yen</b> [ Depreciation 130 billion yen ]	Investment (including strategic investment) <b>210 billion yen</b>
Business reform, asset reduction, etc. <b>120 billion yen</b>	Shareholder return (Dividends, share repurchase) <b>140 billion yen</b>

- Carbon neutrality (e.g., deployment of all-electric melting technology)
- Strategic business expansion
- Process automation, labor streamlining
- Regular maintenance and repair, etc.
- Dividends: Target DOE of 3%. Expand dividends based on performance, financial status, growth investment, and other relevant factors.
- Plan to repurchase shares totaling 100 billion yen between November 2023 and the end of December 2028 (about 5 years)

## Shareholder Return

With regard to shareholder return, our basic policy is to pursue financial stability and capital efficiency-focused balance sheet management and to enhance shareholder return while securing internal reserves for future growth.

First, in order to improve capital efficiency, we plan to repurchase shares totaling 100 billion yen over approximately five years between November 2023 and the end of December 2028. We have already repurchased approximately 20 billion yen of shares between November 2023 and February 2024. Moving forward, we will carry out repurchases based on a

variety of considerations, including business progress and cash obtained from structural reforms, asset reduction, and other efforts.

With regard to dividends, our previous target was DOE (dividend on equity ratio) of 2% or more, but we have raised this to 3%. While our basic policy is maintaining stable dividends, we will seek to increase dividends in light of business performance, financial status, growth investment, and other relevant factors.

[ Shareholder return policy ]

	Previously	During EGP2028
Approach	<ul style="list-style-type: none"> <li>Our basic policy is to continue paying stable dividends over the long term without being significantly affected by fluctuations in business performance. The dividend amount is determined by taking into account business performance, financial status, and other relevant factors.</li> <li>Implement flexible return measures</li> </ul>	<ul style="list-style-type: none"> <li>While our basic policy is to continue paying stable dividends over the long term without being significantly affected by fluctuations in business performance, we will pursue financial stability and capital efficiency-focused balance sheet management and enhance shareholder return while securing internal reserves for future growth.</li> </ul>
Dividends	<ul style="list-style-type: none"> <li>Stable dividends</li> <li>DOE of 2% or more</li> </ul>	<ul style="list-style-type: none"> <li>Ongoing expansion of dividends: Target DOE of 3%. While maintaining stable dividends as our basic policy, we will expand dividends based on business performance, financial status, growth investment, and other relevant factors.</li> </ul>
Repurchasing shares	<ul style="list-style-type: none"> <li>Flexible acquisition</li> </ul>	<ul style="list-style-type: none"> <li>In order to improve capital efficiency, we plan to repurchase shares totaling 100 billion yen over approximately five years between November 2023 and the end of December 2028.</li> </ul>

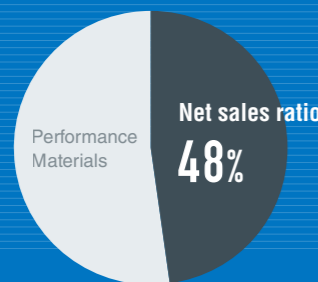
## To Our Stakeholders

By steadily carrying out the strategies of EGP2028 to achieve our business targets, we will raise corporate value and shareholder value. We will also strive to provide our stakeholders with proper information in a timely manner. In these and other

initiatives, we appreciate your understanding and support, and we ask that you look at NEG's growth from a medium-to-long-term perspective. We look forward to your ongoing participation in our partnership.

# Business Structure of Nippon Electric Glass

## Electronics and Information Technology



### Net sales



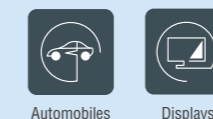
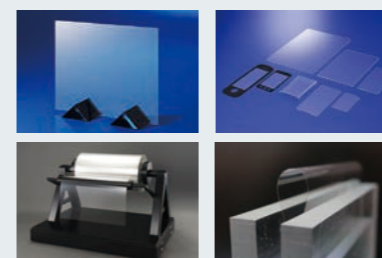
### Displays Business

#### Glass substrates

- Glass for LCDs
- Glass for OLED displays
- G-Leaf™ ultra-thin glass

#### Glass for chemical strengthening

- Dinorex™ glass for chemical strengthening
- Dinorex UTG™ ultra-thin glass

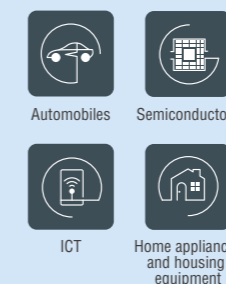
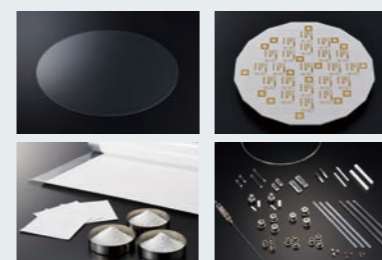


- Sales percentage: Just over 80% of Electronics and Information Technology
- Main customers: Display panel manufacturers
- Sales regions: China accounts for around 60%. The remaining regions are South Korea, Taiwan, and elsewhere.
- Features: Large, thin glass produced using the overflow process makes possible beautiful, high-definition images on large displays.

### Electronics Business

- Glass wafer for supporting semiconductors
- Glass substrate for probe cards
- LTCC products
- Functional glass powder

- Cover glass for image sensors
- Glass tubes for small electronic components
- Glass for optoelectronics



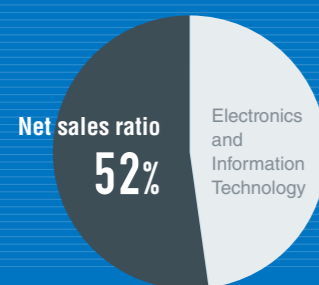
- Sales percentage: Just under 20% of Electronics and Information Technology
- Main customers: Electronic component manufacturers
- Sales percentage by market: Semiconductors: 30%; automobiles: just under 30%; ICT: 10%; home appliances and others: just over 30%
- Sales regions: Just over 50% in Japan, just over 40% overseas (mainly in Asia)
- Features: A wide variety of glass types with excellent properties and produced via high-precision processing supports the miniaturization of electronic components and ensures their high performance and reliability. We also supply processed products that offer greater ease of use.

## Businesses and Main Products

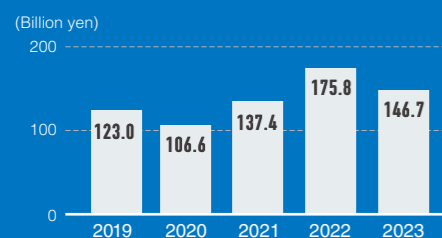
## Markets

## Features

## Performance Materials



### Net sales



### Composites Business

- Chopped strands for functional plastics reinforcement
- Wet chopped strands for building materials
- Roving for plastics reinforcement
- Chopped-strand mats for automobiles
- Alkali-resistant glass fiber for cement reinforcement



- Sales percentage: Approximately 80% of Performance Materials
- Main customers: Resin manufacturers, compound manufacturers, civil engineering and construction companies
- Sales percentage by market: Automobiles: just over 50%; energy: just under 10%; housing equipment: 10%; others (e.g., electronic equipment): 30%
- Sales regions: Just over 30% in Asia, just under 40% in North and South America, just over 30% in Europe
- Features: Binding agents applied to the surface of the glass fiber firmly bond the resin raw material with the glass fiber and add functions such as strength, rigidity, and heat resistance to expand the scope of use of resin.

### Medical Care, Heat Resistance, and Buildings Business

#### Medical care

- Glass tubing for pharmaceutical and medical use
- LX Premium radiation-shielding glass

#### Buildings

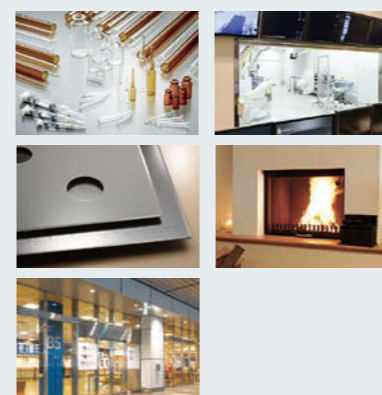
- FireLite™ fire-rated glass
- Glass blocks
- Neopariés™ glass-ceramic building materials

#### Heat resistance

- Neoceram super heat-resistant glass-ceramics
- StellaShine™ super heat-resistant glass-ceramics for cooking appliance top plates

#### Others

- Glass for lighting
- Glass making machinery



- Medical care business**  
 Glass tubing for pharmaceutical and medical use, which accounts for more than 80% of the medical care business, imparts high chemical durability to pharmaceutical containers, enabling stable transportation and storage of pharmaceuticals.
- Heat resistance business**  
 Glass-ceramics with excellent thermal shock resistance enhance the design and functionality of gas and IH cookers.
- Buildings business**  
 Glass building materials with a variety of functions, shapes, and colors enable safe and well-designed buildings.



Business Overview



Senior Vice President  
Group General Manager,  
Display Glass Group  
Takuo Horiuchi

**Aiming to further improve our competitiveness by expanding our innovative manufacturing process to all facilities and by strengthening our business foundation in major markets**

Glass for displays

We have the second largest market share in the world for glass used for displays in LCD and OLED TVs, PCs, smartphones, in-vehicle displays and wearable devices, among others. The main type is 0.4 to 0.5 mm in thickness and approximately 2,200 by 2,500 mm (8.5 generation) in size.

G-Leaf™ ultra-thin glass

This glass is as thin as 0.2 mm (200 μm) or less and can be bent like film. By taking advantage of its flexibility and lightness, this product is being put into practical use in electronic devices.

Dinorex™ glass for chemical strengthening

This product is used as cover glass for smartphones, tablets, in-vehicle displays, and other applications. It protects screens from scratches and impact. We also manufacture Dinorex UTG™ ultra-thin glass that can be used for foldable devices.

Strategies

- Enhance quality and reduce environmental impact by expanding our innovative manufacturing process to all facilities
- Increase production and sales in the Chinese market, focusing on 10.5-generation size glass, and expand market share
- Expand applications for ultra-thin glass and glass for chemical strengthening
- Promote the development of new products other than displays by applying our overflow forming technology to various other glass materials

Business Environment

Rising raw material and fuel prices due to Russia's invasion of Ukraine are causing global inflation and slowing down the economies of various countries. As a result, the display market has been faced with a difficult situation since the second half of fiscal 2022. Demand for glass temporarily recovered in the first half of fiscal 2023, but production adjustments by panel

manufacturers increased again in the third quarter. We expect to see a recovery in demand in the display market in fiscal 2024. Over the medium to long term, moderate growth is expected due to demand for larger displays and display replacement.

Review of the EGP2026 Medium-term Business Plan

With the display market shifting to China, we have been rebuilding our manufacturing and sales structure in order to strengthen our business base there. In China, we have set up processing, quality assurance, and sales bases in those regions where our customers are located. We have also established an integrated production system in Xiamen for 10.5-generation size glass, which handles all steps from melting and forming through to processing. In South Korea, the performance of our melting/forming

subsidiary was rapidly deteriorating due to a decline in demand, so we decided to liquidate the company and take other action to reduce production capacity in consideration of future demand forecasts and profitability.

Furthermore, we used the decline in facility capacity utilization rates due to shrinking demand as an opportunity to introduce innovative manufacturing process technologies at our production bases in Japan and China.

EGP2028 Medium-term Business Plan

During the five years of EGP2028, our most important task is to become more competitive than ever to increase our position in the market. To this end, we will pursue further expansion of our innovative manufacturing process to all facilities to improve quality, cost, and environmental responsiveness. Over the medium to long term, moderate market growth is expected due to demand for larger displays and display replacement. In particular,

we will expand production and sales of 10.5-generation size glass in the Chinese market, which is our main market, and increase our market share.

Meanwhile, by leveraging the superiority of our overflow technology, we will pursue product development for applications not only in the display field but also semiconductors, automobiles, energy, the environment, and more.

Our Strengths

Technology using the overflow forming process to manufacture large, high-quality glass

With the overflow forming process, we can produce thin and large flat glass sheets of high surface quality without the need for surface polishing since this manufacturing method avoids contact with both sides of the glass substrate. Currently, we have mass production technology for display glass capable of producing panels of all sizes up to the 10.5-generation (approx. 3,000 × 3,300 mm).

Innovative manufacturing process technologies that contribute to carbon neutrality

We will expand the innovative manufacturing process technologies that we have developed to all facilities, which will improve productivity, reduce energy consumption, and reduce CO<sub>2</sub> emissions. This way, we intend to enhance our competitiveness in terms of cost and quality, as well as to contribute to achieving carbon neutrality.

Cutting-edge, ultra-thin glass manufacturing technology

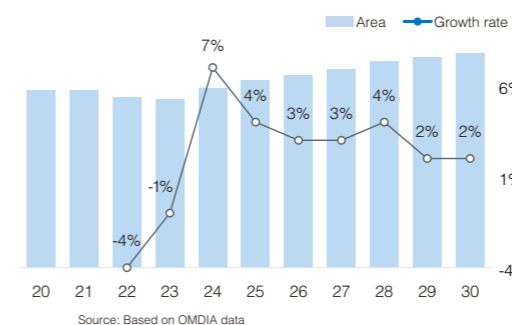
We manufacture G-Leaf™ ultra-thin glass with a maximum thickness of 0.2 mm (200 μm), which is flexible enough to be bent like film, and we are developing applications for flexible devices and other devices. By applying this ultra-thin glass technology, we have developed the Dinorex UTG™ glass for chemical strengthening with a thickness of 0.025 mm (25 μm), which is the thinnest glass in the world and which has been well received by our customers.

Organizational structure that facilitates rapid decision-making and technological development

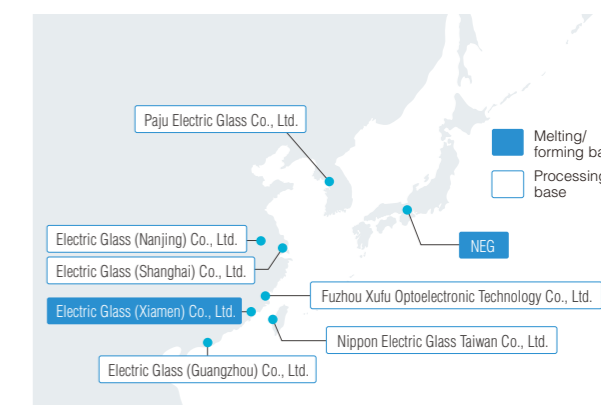
In addition to the global headquarters functions located in Japan, regional headquarters functions are located in China, our main market, to handle local sales and quality assurance. This organizational structure allows faster decision-making and technological development.

Outlook for Display Area Growth in Final Products

The post-pandemic outlook is one of stable growth



Global Bases





Senior Vice President  
Group General Manager,  
Electronic Products Group  
**Masahiro Kobayashi**

## Pursuing further business expansion through development and stronger marketing of high-value-added products in growth markets

### Business Overview

We do business in a variety of sectors, including home appliances, automobiles, semiconductors, and infrastructure.

We have glass wafers for supporting semiconductors and LTCC (low temperature co-fired ceramics) products, both of which are used in cutting-edge semiconductor processes, and glass powder used in various electronic components for purposes such as sealing, coating, and insulation. Our extensive product range also includes cover glass for image

sensors and Lumiphous™ phosphor-glass composite used in light-emitting devices.

Glass for optoelectronics is also used in data centers and optical communication networks, making it an indispensable product in an advanced information society.

### Strategies

Expand sales through product development and stronger marketing in such growth sectors as semiconductors, automobiles, and next-generation communications

- Use active investment in growth sectors to build a supply system
- Continue to find new customers through stronger marketing in mainly Europe and North America
- Strengthen development of products for next-generation semiconductor packages (e.g., glass core substrates)

### Business Environment

The rate of technological innovation for devices in the home appliance, automotive, and semiconductor sectors is fast and the product cycle is therefore shorter than it is for other businesses.

In fiscal 2023, demand in the semiconductor-related market as a whole declined, but the cutting-edge package and AI-related markets grew significantly and are expected to grow further in the future. Recovery of demand in the home appliance and automobile markets has been slow, but moderate growth is expected over the medium to long term.

With regard to glass for optoelectronics, factors such as declining

infrastructure investment in China and concerns about a weakening economy in Europe and the U.S. contributed to stagnation in the communications-related market. However, with the growing adoption of AI, the market for data center applications showed signs of improvement in the second half of the year. In the medium to long term, the amount of data processed worldwide is expected to continue increasing, and, thus, the market is expected to continue to expand. Furthermore, with demand for micro-optical components increasing in sectors outside of optical communications, growth is expected in the future.

### Our Strengths

#### ● Highly competitive due to an integrated development system

We have put in place an integrated system that encompasses everything from materials design to product and process development. This allows us to develop and commercialize products with superb properties faster than our competitors. We especially capitalize on this strength in the semiconductor-related market, where each customer requires customized product development with short delivery times.

#### ● Flexible production system and quality assurance system that can accommodate small-lot, high-mix production

Our production system and quality assurance system can handle glass melting and forming, processing, incorporating

high added value (including coating and compounding), and analysis. As a result, we are highly regarded by our customers for our quality and stable supply. We also specialize in low-volume, high-mix production and have established a flexible production system.

#### ● Strong, trust-based relationships and robust brand power, which have allowed us to secure high market share

We have built direct sales channels with our customers and incorporate their needs and issues into product development. By providing optimized products with short delivery times, we have been able to earn the trust of our customers.

### Review of the EGP2026 Medium-term Business Plan

We were able to move forward with rapid product development and a ramped-up production system for glass wafers for supporting semiconductors, which are a growth product. In addition, customer evaluation of glass substrates for probe cards used in semiconductor testing has made significant progress, and we are close to commercialization. In our manufacturing process, we undertook active investment in automation, which has helped to reduce costs and

increase capacity.

Thus far, our sales have been concentrated primarily in Asia, with market share expansion in Europe and North America proving to be a challenge. In order to find new customers in Europe and North America, we have sought to strengthen our marketing functions, such as by establishing a sales team in Europe. This has provided a certain degree of success, like improved awareness and an increase in inquiries.

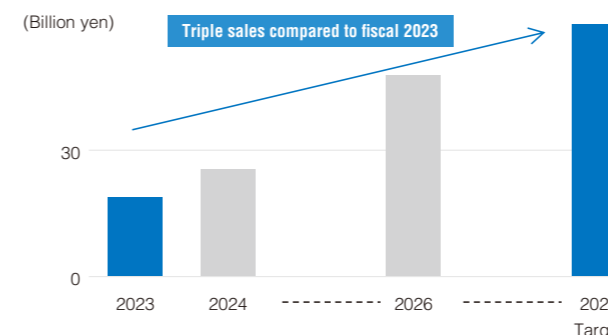
### EGP2028 Medium-term Business Plan

We will actively invest in products for the growth sectors of semiconductors, automobiles, and home appliances and will strengthen our supply system. In particular, demand for semiconductor-related products, such as glass wafers for supporting semiconductors, is increasing, and we will make sure to capture the strong demand for these products.

At the same time, we will pursue further business expansion

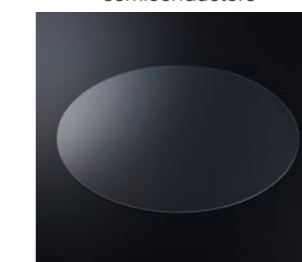
through stronger marketing, mainly in Europe and North America. With regard to product development, we will strengthen development of products for next-generation semiconductor packages (e.g., glass core substrates), as well as undertake initiatives such as joint development and building alliances with other companies. By combining our own technologies with those of other companies, we will develop innovative products that meet market needs.

### Electronics Business Net Sales



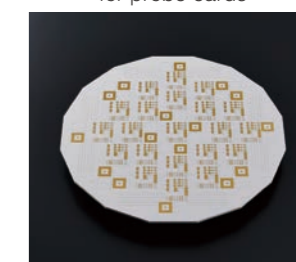
### Products for Use in the Semiconductor Sector

Glass wafer for supporting semiconductors



Glass substrate for use as a jig in cutting-edge semiconductor processes. Properties such as superb flatness and high strength are essential.

Glass substrate for probe cards



Substrate used in electrical testing apparatuses for semiconductor chips formed on silicon wafers.





Director and Senior Vice President  
Group General Manager,  
Glass Fiber Group  
**Tomonori Kano**

## Building a product mix and production system optimized for the market and competitive environment, and transforming our business into one that continuously generates profits

### Business Overview

Our glass fibers are used in a range of fields, including automobiles, energy, electrical and electronic devices, housing, and infrastructure. The contributions they make include reduced environmental impact and safer infrastructure.

#### E glass fiber

By combining E glass fibers with resin, fibers enhance the strength, rigidity, heat resistance, and other characteristics of resin molded products. E glass fiber is used in automobile parts, housing equipment, roofing, and flooring. The dimensional stability, electrical insulation, and other properties of glass fiber reinforced plastic help to evolve electrical and electronic components in terms of compactness, thinness, and other advantages.

#### High modulus glass fiber

High modulus glass fiber has a higher elastic modulus than E glass fiber and is thus suitable for applications requiring high strength and high rigidity, such as wind turbine blades for wind power generation.

#### ARG fiber

ARG fiber has excellent alkali resistance and can be mixed with cement products. Glass fiber reinforced concrete is used in such applications as the building of exterior walls and the production of complex and finely designed structures into which reinforcing bars cannot be inserted.

### Strategies

- Increase equipment effectiveness at our Malaysian plant and improve the competitiveness of our plants in Europe and the U.S.
- Introduce electric melting technology
- Actively invest in, and expand sales of, high-value-added products (flat glass fiber, high modulus glass fiber, etc.)

### Business Environment

In fiscal 2023, markets were sluggish, mainly for high-performance resin for automobile parts, due to disruptions in logistics caused by the pandemic and the Russian invasion of Ukraine. Although there were signs of recovery in the Japanese market, demand in the European and American markets was stagnant due to inflation and an economic downturn.

In the medium to long term, the global trend toward carbon

neutrality will drive efforts to lighten parts for greater fuel efficiency and energy savings and to develop parts for EVs. We believe this will increase demand for glass fiber for automobile parts applications. With regard to housing applications, such as roofing and flooring, we predict continued, stable demand in Europe and North America.

### Our Strengths

With a four-base global production and supply system (Japan, Malaysia, the U.S., Europe), we are able to rapidly develop and supply our products and services. In addition, we have earned praise and gained trust from our customers for the development of binding agents (surface treatment agents) and, as a result, we have secured a high market share. Binding agents are applied to the surfaces of glass fibers to form strong bonds between the glass fibers and resin.

In terms of manufacturing process technology, we have been increasing the percentage of electrical power

used for the melting process, thereby reducing CO<sub>2</sub> emissions for our products. For some of our products, we have been using all-electric melting technology for over 40 years, and we are currently expanding its use to other products. Also, our plants in Japan and Malaysia have been reusing all of the waste glass generated in the production process. Companies in our industry have typically disposed of waste glass in landfills, but we have led the industry with our introduction over 20 years ago of a production system committed to recycling.

### Review of the EGP2026 Medium-term Business Plan

We revised product prices in fiscal 2022 in response to increased raw material and fuel prices and logistics costs, and both net sales and profits were strong. However, in fiscal 2023, a decline in capacity utilization due to sluggish demand caused costs to increase, resulting in a significant deterioration in profits. In response to this situation, the NEG Group has worked to reform its business structure and strengthen its global production system, and, thereby, improve profitability. This has enabled us to lay the foundation for our new EGP2028 medium-term business plan.

### EGP2028 Medium-term Business Plan

Demand for glass fiber is expected to grow over the medium to long term.

In order to quickly turn the results of the structural reforms implemented under EGP2026 into profits, we will improve production efficiency at our Malaysian plant and introduce automated equipment at our European and American plants. Additionally, in order to achieve carbon neutrality, we are pursuing further increases

#### Initiatives at Each Base

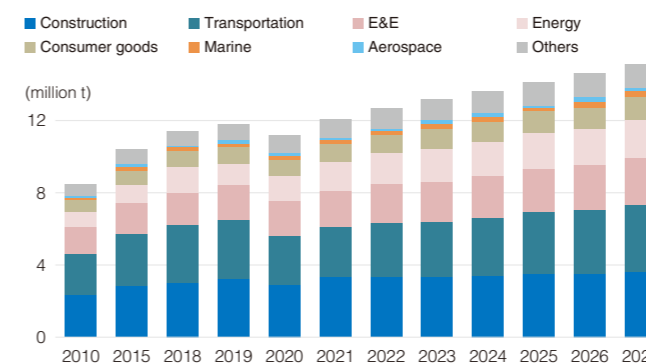
- **Malaysia:** Improve productivity by shutting down aging equipment and bringing into operation the latest, highly efficient equipment
- **US, UK:** Improve profitability by upgrading equipment and switching over to more profitable products
- **Japan:** Test next-generation melting technology, and pursue research and development of high-value-added products

in the percentage of electric power used for our melting furnaces as well as introducing all-electric melting. This will help us shift to highly efficient production, low energy consumption, and low CO<sub>2</sub> emissions, which will increase the appeal of our products as environmentally friendly products.

With regard to new products, we will expand sales of flat glass fibers and accelerate the development of high modulus glass fibers.

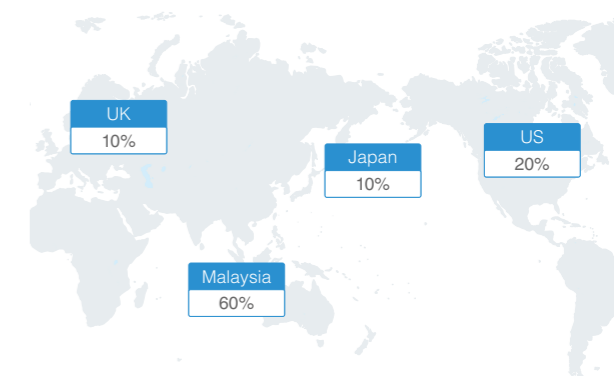
### Market Outlook for Composites by Application

The composites market is expected to grow in the medium to long term.



Source: Based on data from Lucintel, Estin & Co. analyses and estimates

### Global Production Bases (as a percentage of production capacity)



# Medical Care, Heat Resistance, and Buildings Business



Senior Vice President  
Group General Manager,  
Consumer Glass Products Group  
**Norio Nakamura**

## Strengthening our position in the market and improving our competitiveness through manufacturing process innovation and sales expansion of high-value-added products

### Business Overview

#### Glass for medical care

Borosilicate glass tubing has excellent acid and chemical resistance and high strength, and there is growing demand for it in ampules, vials, and other medical containers. LX Premium, with its exceptional radiation-shielding properties, is used in medical facilities to protect medical personnel from radiation exposure.

#### Heat-resistant glass

Thanks to its exceptional thermal shock resistance and mechanical strength, this glass is used in heater and fireplace windows, the top plates of cooking appliances, and other housing equipment.

#### Glass for building materials

Our glass for building materials comes in a variety of shapes and outstanding properties. They include fire-rated glass, which protects people by preventing the spread of fire, glass-ceramic building materials, which enliven spaces, and glass blocks. These materials have found use in a variety of settings, including housing, commercial facilities, and public facilities.

### Strategies

- Medical care business (glass tubing for pharmaceutical and medical use): Introduce all-electric glass melting to establish a high-quality, high-efficiency process. Expand sales and find new customers in global markets such as Europe, North America, and India.
- Heat resistance business: Expand sales and develop new applications for high-value-added products that capitalize on their excellent heat resistance and unique printing technology.
- Buildings business: Expand sales of FireLite™ fire-rated glass by promoting its safety and design.

### Business Environment

#### Glass for medical care

The market for glass tubing for pharmaceutical and medical use has been sluggish worldwide since the second half of fiscal 2022 due to a decline in demand for COVID-19 vaccine containers. However, as medical care continues to grow ever more sophisticated, we are expecting medium- to long-term growth in our high-grade glass tubing for pharmaceutical and medical use business. Moreover, the market for radiation-shielding glass is expected to continue to enjoy stable demand as medical care becomes more sophisticated and radiation equipment technology advances.

#### Heat-resistant glass

Wood-burning stove use demand, which had been expanding due to soaring fuel prices, has cycled back down, creating sluggish market conditions in fiscal 2023.

In our cooking appliance glass business, our transparent glass-ceramic top plates, which is one of our core products, has been steadily penetrating the European market.

#### Glass for building materials

Because our FireLite™ fire-rated glass is superior to competitor products (wire-reinforced glass and thermally tempered glass) in terms of fireproofing, heat resistance, and other properties, we are getting a growing number of inquiries from building projects that prioritize quality and safety.

### Review of the EGP2026 Medium-term Business Plan

In the medical care business, the rapid shrinking in demand caused us to respond with cost reductions achieved via such measures as operational optimization and equipment automation in Japan and Malaysia. Meanwhile, we have continued to reform our manufacturing processes to further improve our

competitiveness and reduce our environmental impact.

In the heat resistance business and buildings business, we worked to acquire new customers, which resulted in increasing adoption of our products, in spite of the fact that soaring prices for raw materials and fuel have been putting pressure on profits.

### EGP2028 Medium-term Business Plan

During the five-year period of EGP2028, we recognize that the most important task will be the rapid realization of manufacturing process reforms that will enable us to put in place a production and sales system for business expansion.

In our medical care business (glass tubing for pharmaceutical and medical use) we handle products that are important to supporting human health. Because we need to build a system that is sustainable from both a business and environmental perspective, we are moving forward with the introduction of all-electric glass melting technology. Development has been underway since fiscal 2023, and

mass production began in fiscal 2024. Moving forward, we will steadily expand the use of all-electric glass melting in Japan and overseas. We will also pursue sales expansion and new customer acquisition in Europe, North America, and India, which are promising markets. With regard to heat-resistant glass, we will expand sales of high-value-added products that capitalize on their excellent heat-resistant properties and unique printing technology and to develop new applications. For our glass for building materials, our aim is to have our products used in more building projects via marketing that emphasizes the safety and design of our FireLite™ fire-rated glass.

### Our Strengths

We remain committed to developing technologies related to glass materials, melting, and forming in order to develop a high-quality product line beyond the capabilities of our competitors.

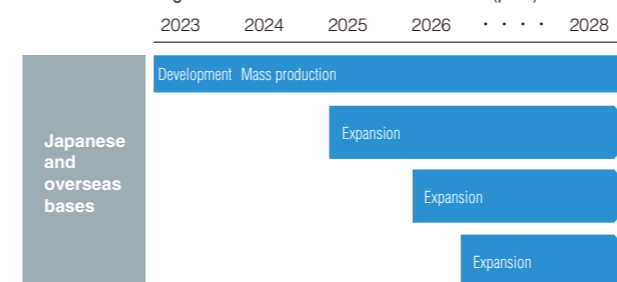
Our glass tubing for pharmaceutical and medical use exhibits world-class quality in terms of properties such as chemical durability, glass homogeneity, and forming accuracy. Our products have earned the trust of the pharmaceutical industry across Japan and around the world.

Meanwhile, our radiation-shielding glass offers excellent

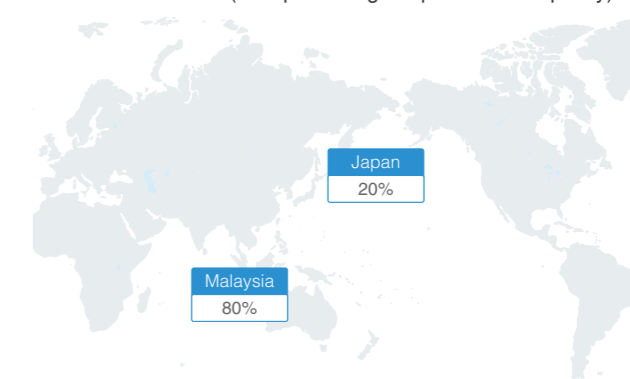
shielding, is available in larger sizes, and contributes to sophisticated medical care and improved safety.

In addition, we have numerous glass-ceramic products with extremely unique properties. These include glass that is particularly resistant to thermal shock and has a thermal expansion coefficient of almost zero, which means it will not break even when heated or rapidly cooled. This glass is being used in a wide range of applications, including cooking appliance top plates, stove windows, and fire protection.

### Introduction of All-electric Glass Melting Technology into the Production of Glass Tubing for Pharmaceutical and Medical Use (plan)



### Global Production Bases for Glass Tubing for Pharmaceutical and Medical Use (as a percentage of production capacity)



## Uncovering the Unlimited Possibilities of Glass

Glass is a unique material that can be customized into different shapes with a wide variety of functions by modifying its composition and altering the various forming and processing methods used. By combining our accumulated glass technologies with original ideas, we continue to deliver a variety of high-performance glass products matching contemporary needs.

### R&D Policy

We seek to speed up product development and commercialization by putting in place a well-coordinated system of development for materials, processes, and products. The results are then applied to our business strategy for medium- to long-term growth.

### R&D Organization

Our R&D and manufacturing departments work closely together. Also, in support of R&D activities, the Corporate Strategy Division handles medium- to long-term business strategy planning; the Marketing Division collects and analyzes information about markets, products and technologies, performs product and technology promotion, and disseminates information to secure customers; and the Intellectual Property Division is tasked with the research, rights acquisition, and utilization of intellectual property.

The Fundamental Technology Division, Research & Development Group, and Process Development & Engineering Group collaborate in conducting the NEG Group's research and development. The Fundamental Technology Division engages in glass-related basic research (glass structural analysis, strength, high-temperature melting, and others). The Research & Development Group and Process Development & Engineering Group design, develop, and evaluate the material and process characteristics based on a scientific approach.

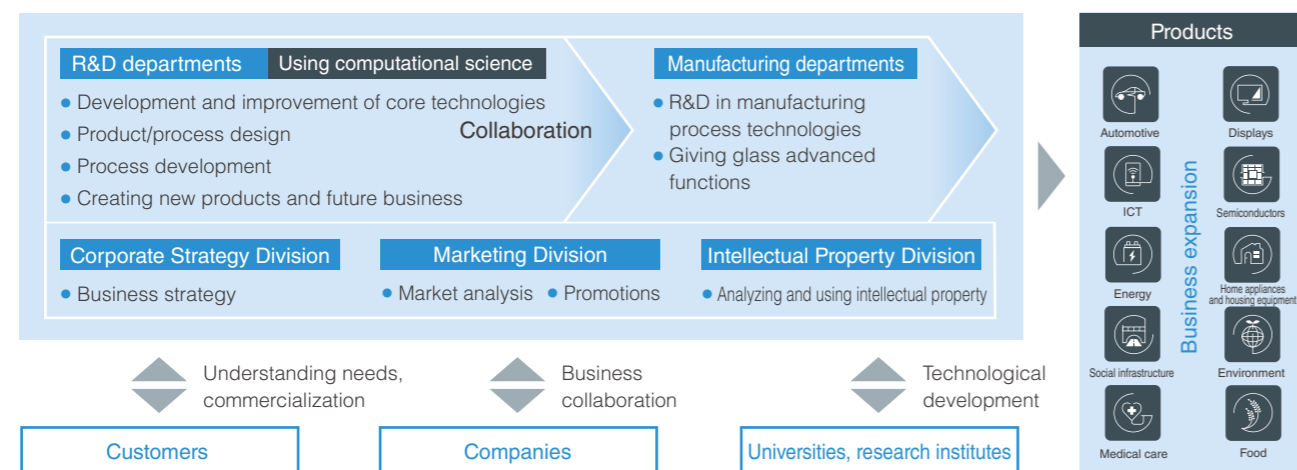
Under the EGP2028 Medium-term Business Plan our aim is to use research and development to drive the creation of future business. To this end we are expanding our resources, mainly in the fields of energy, medical care, environment, and food.

Further, using these core technologies as a foundation, we fully capitalize on the characteristics of glass to realize higher functionality, which we will then apply to the creation of new products that use next-generation glass to meet the needs of society and industry over the medium to long term.

Our manufacturing departments work closely with our R&D departments to come up with products and manufacturing process technologies that will facilitate growth and development in each business segment. Our main objectives are maintaining and improving manufacturing process technology, as well as utilizing that technology to improve the functionality of glass.

In addition to using computational science (including ICT and AI-driven data analysis) for these research and development activities, we work to strengthen development by pursuing co-creation in partnership with universities, research institutes, and companies in Japan and overseas possessing advanced expertise and technology in specific fields.

### R&D Organization Chart



### Intellectual Property Policy

We have established the following basic policy for intellectual property activities, including patent rights, utility model rights, design rights, and trademark rights.

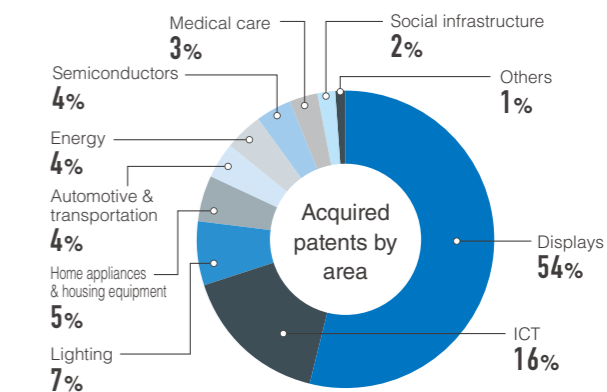
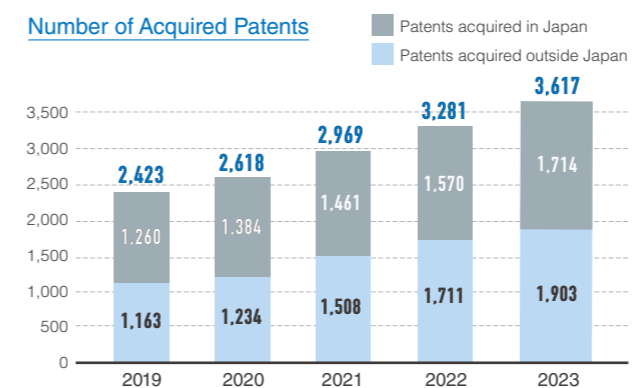
**Pursue the appropriate acquisition or protection of intellectual property rights for development results in glass materials, manufacturing methods, and products. Use them to secure business domains and to maintain and strengthen competitiveness in order to differentiate our technology from that of competitors, leveraging this relative superiority for the sake of the company's development.**

Our company philosophy is to "Strive to build a brighter future for the world by uncovering the unlimited possibilities of glass for more advanced creative manufacturing." In order to achieve this, we work daily to develop materials and products—as well as the various processes that underpin the advanced manufacturing involved in producing them—that will provide new functionality and value. These advanced technologies are important assets for our company and

must be appropriately protected.

By actively acquiring intellectual property rights, such as patents with strong restraining force, and by appropriately safeguarding and managing our know-how, we keep our competitors from imitating or catching up with us. We also formulate intellectual property strategies for each of our businesses, protecting our business domains while pursuing activities that maintain and strengthen our competitiveness.

### Number of Acquired Patents



### Intellectual Property Management System

The head office's Intellectual Property Division is primarily focused on facilitating the activities listed below.

- Intellectual property-related investigation, rights acquisition, and utilization
- Analysis of NEG's and others' intellectual property, and provision of information to management and business departments
- Intellectual property-related employee education
- Incentive system for employee inventions

### Intellectual Property Education

We run a variety of training programs, including group training for new employees and patent search and application training for young to mid-level employees, in order to foster an intellectual

property-oriented mindset focused on protecting our own intellectual property while respecting the intellectual property of others, thereby facilitating sound development and business activities.

### Rewarding Employee Inventions

We provide incentives for employee inventions and other proposals, which stimulate the acquisition of intellectual property rights, including patents, utility models and designs.

Furthermore, we reward employees for these acquired intellectual property rights according to the degree of contribution said rights make to the company.

# The Foundation of Value Creation (ESG) | CSR Foundation

We will contribute to realizing a sustainable society by working on three priority themes: the Environment, Diversity and Inclusion, and Community Contribution.

## The History and Themes of Our CSR Activities

Our work on pollution problems at our Fujisawa Plant (closed in 2015) in the early 1970s taught us to undertake environmental conservation as an issue crucial to the sustainability of our operations. A particular characteristic of glass manufacturers is the consumption of large amounts of energy and resources, and the emission of carbon dioxide. Accordingly, environmental conservation continues to be an issue of the utmost importance for our Group. At the same time, we have engaged in

contribution to the community mainly by assisting with the education of local human resources and through active involvement in employment of the disabled.

Based on this historical background, and in order to further advance our CSR activities, the Management Committee in which our top management participates has established a "way of thinking" that forms the foundation of these activities, which we have set forth in our CSR priority themes.

## Our Fundamental Way of Thinking Regarding CSR

CSR is a key area in our corporate activities and cannot exist separate from our Corporate Philosophy Structure. Accordingly, we carry out our CSR activities in accordance with the intention of our Corporate Philosophy Structure and, through the implementation of CSR activities, we aim to raise our corporate value and realize a sustainable society. We have established both of these approaches as our fundamental way of thinking in regard to CSR.

### Our Way of Thinking on CSR

We promote CSR with our Corporate Philosophy Structure as the basic principles. Through our CSR activities we will raise our corporate value and realize a sustainable society.

## Three Priority Themes

We have established the Environment, Diversity and Inclusion, and Community Contribution as the three priority themes (those with materiality) of our CSR. These themes have a strong association with the priority issues that we have focused on so far (environmental conservation, community contribution, employment of the disabled).

We have reconfirmed the background and importance of these three themes and have clarified the future direction for scaling up our initiatives on a broader scale. In addition, we will place emphasis on these themes, as we believe they are directly linked to the United Nations' Sustainable Development Goals (SDGs).

### Materiality Determination Process



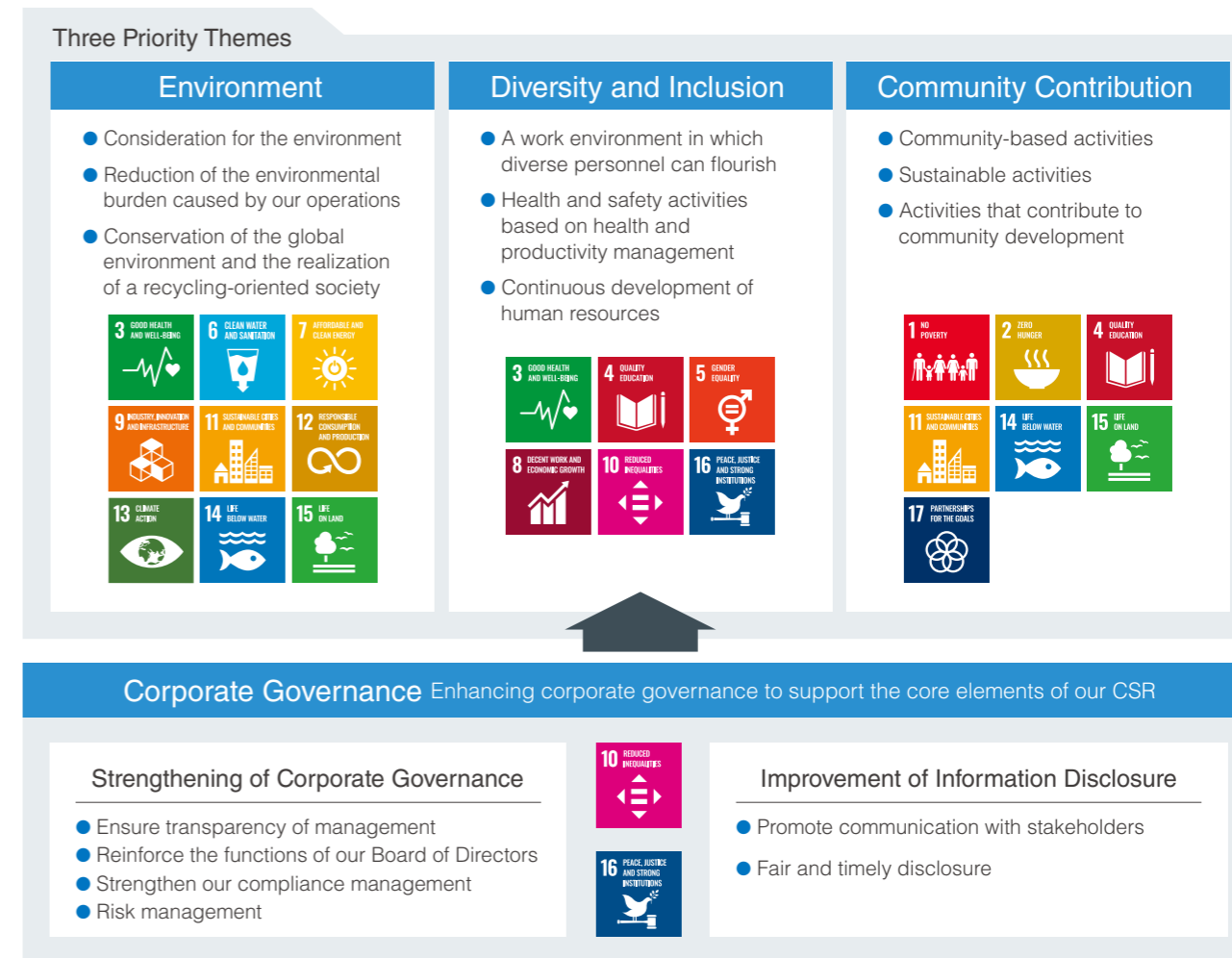
### Three Priority Themes Defined

Environment	Diversity and Inclusion	Community Contribution
Because environmental conservation is a duty for our operations, we advocate "consideration for the environment" and "efficient manufacturing processes lead to environment-friendly manufacturing." Furthermore, we maintain the attitude that it is unthinkable for our operational activities not to include environmental conservation activities.	The basis of our thinking on Diversity and Inclusion is that the integrated strength of personnel with diverse backgrounds and values—whether in terms of gender, age, nationality, or other—is the driving force behind corporate growth. Of course, employment of the disabled is also included in this theme. At the same time, we will do our utmost for all these employees by providing personnel training and maintaining a safe and healthy working environment for them.	A good relationship with the community is essential for sustainable business. Therefore, we believe it is important to engage with local communities to gain their trust and appreciation. We will continue to actively participate in local activities, and also provide support for the disadvantaged and for human resource development in the communities we serve.

## The Basic Policy of Our Priority Themes

In order to further clarify the direction of our CSR activities, we have determined a basic policy for each of our priority themes. Furthermore, we have identified corporate governance as the

foundation of the core elements of our CSR and are positioning and developing it within the framework of our CSR.



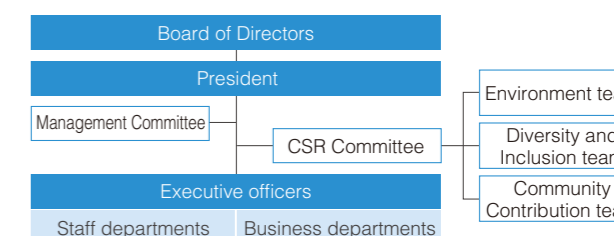
## CSR Committee

Companies today strive for sustainable growth through corporate activities that solve an increasing number of problems related to things like climate change, human capital, and human rights. They also face growing pressure from society at large to contribute to solving social problems and disclose information in their business. That is why in January 2023, we formed the CSR Committee, a cross-organizational body to comprehensively deliberate on CSR direction and activities and advise company management on these, mobilize CSR activities, and ensure that information is disclosed appropriately.

Centered on our three priority themes of Environment, Diversity and Inclusion, and Community Contribution, the CSR Committee takes on a wide range of sustainability issues such as ESG and the SDGs in

order to raise our corporate value and contribute to the sustainable development of society.

To ensure greater practicality in pursuing the three priority themes, the CSR Committee comprises a working team for each one.



# The Foundation of Value Creation (ESG) | Environment

With “consideration for the environment” as one of our key values, we will continue to manufacture products in an environmentally friendly way.

## Our Way of Thinking on Environmental Conservation

Environmental conservation is one of the top management priorities of a glass manufacturer that uses a large amount of resources and energy. We hold consideration for the environment as an important value and have always been conscious of environmental conservation through our operations. We firmly believe that having the world’s most efficient processes possible

is the key to achieving the world’s most environment-friendly manufacturing. In this regard, we are constantly striving to reduce our environmental footprint while taking on various challenges, including sustainable development and biodiversity conservation. We are also putting in place measures to achieve carbon neutrality, a key concern in light of ongoing global climate change.

### Environmental Charter

This charter is informed to all employees and affiliated companies, and is made available to parties outside the company at their request.

#### Environmental Principles

Preservation of the global environment is extremely important and indispensable for the prosperity of civilization and humanity in the 21st century.

Nippon Electric Glass, upholding its corporate philosophy of “To build a brighter future for the world by uncovering the unlimited possibilities of glass for more advanced creative manufacturing” and adhering to “Consideration for the environment” as one of its essential corporate values, strives to be and remain the world’s leading manufacturer of special glass by ensuring state-of-the-art technological development, the highest-quality standards, efficient production, and steady product supply. Nippon Electric Glass and its group companies are committed to contributing to the preservation of the global environment and the realization of a recycling-based society by adopting highly efficient and environmentally responsible processes.

#### Action Plan

1. We will honor and observe all environment-related laws and regulations and the environment-related agreements and conventions that we have signed, and establish and enforce our own and voluntary environmental restrictions.
2. We will endeavor to reduce our environmental impact in all aspects of our corporate activities and in all stages of the product life cycle, including procurement, manufacturing, transportation, sales, use, reuse, treatment, and disposal.
3. We will attain the world’s highest-level manufacturing to more effectively utilize natural resources and energy sources, thereby

contributing to the preservation of biodiversity and the reduction of greenhouse gas emissions.

4. We will strive to adapt our activities to the requirements of 21st-century society to prevent pollution, thereby optimizing our presence in society.
5. We will set environmental objectives and targets and attain them through optimization of our essential operations and environmental protection activities in which all employees participate. We will also continuously improve our environmental management system to enhance our environmental protection performance.

Established September 1, 1992  
Revised January 1, 2023 (8th edition)

## Environmental Management System

Our environmental management system is composed of an Environment Division, business departments (including manufacturing group companies inside and outside Japan), and staff departments—all working under the president and executive officer in charge of the environment.

### Environmental Management Meeting

This meeting is held every three months. The executive officer in charge of the environment chairs the meeting, which is attended by the president, senior presidents, general managers of our business departments, and representatives of our major group companies that carry out manufacturing. The meeting serves as a forum for deliberations related to groupwide environmental activities, covering our responses to climate change and many other environmental issues, along with the rollout of environmental conservation initiatives.

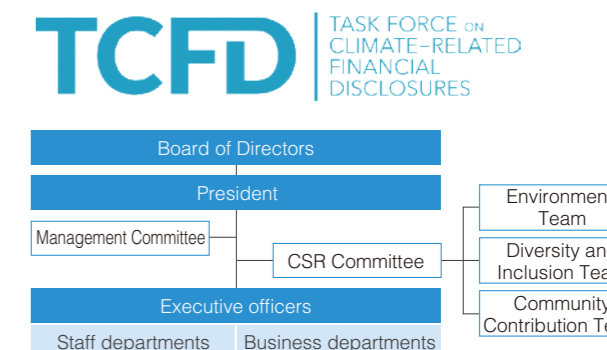


## Disclosures in Accordance with TCFD Recommendations

Consideration for the environment is one of our key values, and, with the belief that the world’s most efficient manufacturing leads to the world’s most environmentally friendly manufacturing, we have been working to save energy and reduce CO<sub>2</sub> emissions through improvements in our quality and yield. In November 2021, we declared our support for the Task Force on Climate-related Financial Disclosures (TCFD) to analyze risks and opportunities that climate change brings to our business, as well as to inform our stakeholders of financial impacts and our countermeasures.

### Governance and Risk Management

The figure on the right shows our governance structure for CSR, including for climate-related risks and opportunities.



The Board of Directors makes decisions on important management affairs of the NEG Group and supervises the execution of business affairs. Also, in management issues related to climate-related measures, the Board of Directors creates systems, formulates measures and targets on priority issues to be addressed and resolved, and evaluates and provides advice on measures executed by the president, who acts as the person responsible for business execution. Outside officers (four outside directors and two outside corporate auditors) participate in meetings of the Board of Directors.

The president executes measures based on the decisions and advice of the Board of Directors as the person responsible for business execution.

The Management Committee deliberates on our company’s important managerial affairs and draws up detailed action plans regarding the decisions made at the Board of Directors meetings.

The CSR Committee has been established to engage in comprehensive discussion about the direction and content of CSR activities, including climate-related measures, and to have flexibility in developing such activities. In addition, the committee addresses broad sustainability-related challenges, such as ESG and the SDGs, centered on our three priority themes for CSR (the environment, diversity and inclusion, and community contribution). The committee is chaired by an executive officer in charge of general affairs, is comprised of CSR-related department heads and other managers, and has a secretariat based in the General Affairs Division.

Furthermore, to increase the effectiveness of our initiatives for each of our priority themes, we have established three working teams to address major areas. The Environment Team handles climate change response and environmental preservation, while the Diversity and Inclusion Team handles human capital and human rights, and the Community Contribution Team handles educational support and

We will continue our analyses and work to improve information disclosure while steadily carrying out our carbon neutrality action plan.

For more information about our carbon neutrality action plan, refer to “Metrics and Targets; 2. Initiatives to Achieve Targets.”

similar matters.

The main activities of the CSR Committee are to develop CSR-related basic policies; establish priority themes; draft, discuss and promote measures to address priority themes; to design and discuss information disclosure policies and disclosure content; and to provide recommendations and reports to the Management Committee and Board of Directors as appropriate.

With regard to climate-related matters, based on the TCFD framework, the Environment Team of the CSR Committee conducts hearings with staff departments and business departments to identify and review climate-related risks and opportunities, and evaluates and reviews business impact based on scenario analysis. The division responsible for risks and opportunities promotes the carbon neutrality action plan, the key to the Group’s strategic resilience, while the Environment Team regularly verifies progress and makes reports to the CSR Committee. The CSR Committee drafts, discusses, and promotes the contents of the support provided to each division related to the reported items in question from the standpoint of sustainability promotion, in addition to drafting and discussing the policy for information disclosure and the contents of disclosure and providing recommendations and reports to the Management Committee and the Board of Directors as necessary.

Executive officers and relevant staff departments and business departments work via the carbon neutrality action plan and other efforts to mitigate climate-related risks and capitalize on climate-related opportunities.

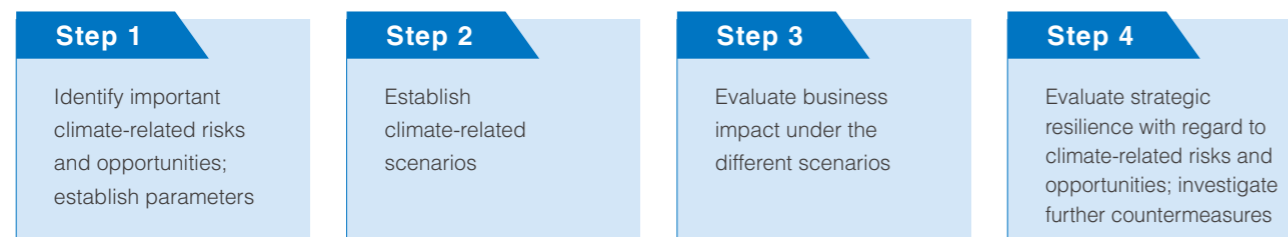
The climate-related risks and opportunities, as well as countermeasures, identified and evaluated by the CSR Committee are integrated in the periodic risk auditing conducted by the NEG Group in line with our basic policy on internal control. The division responsible for risks and opportunities promotes countermeasures.

● Strategies

1. Scenario Analysis

We have carried out the following scenario analysis in order to evaluate the business impacts under different scenarios, as well as to evaluate our strategic resilience with regard to climate-related risks and opportunities.

Analysis steps



Businesses targeted for analysis

All NEG Group businesses are targeted for analysis.

Established scenarios

Category	Scenario overview	Main reference scenarios
1.5°C/2°C scenario	This scenario involves the enactment of policies and regulations aimed at achieving a decarbonized society and which seek to keep global warming to within 1.5°C/2°C above the pre-industrial revolution global temperature. Compared with the 4°C scenario, the transition risks are high, but the physical risks can be kept low. Demand for products that contribute to the achievement of a decarbonized society will become high.	<ul style="list-style-type: none"> <li>• IEA World Energy Outlook 2023 Net-Zero Emissions by 2050 Scenario</li> <li>• IEA World Energy Outlook 2023 Announced Pledges Scenario</li> <li>• IEA World Energy Outlook 2019 Sustainable Development Scenario</li> <li>• IPCC RCP2.6</li> </ul>
4°C scenario	This scenario involves a future where the policies and regulations, which various countries have announced are fulfilled, but no new policies or regulations are introduced. Energy-derived CO <sub>2</sub> emissions continue to increase worldwide. Compared with the 1.5°C/2°C scenario, transition risks are low, but the physical risks will grow larger.	<ul style="list-style-type: none"> <li>• IEA World Energy Outlook 2023, 2019 Stated Policies Scenario</li> <li>• IPCC RCP8.5</li> </ul>

Evaluation timeline

The impact on the NEG Group's business by major climate-related risks and opportunities identified from scenario analysis was evaluated on a timeline focused on the year 2030.

2. Major Climate-related Risks and Opportunities Identified, Evaluation of Impact on Business, and Countermeasures

Type	Risks and opportunities	Impact on business	Countermeasures
<b>Transition risks</b>			
Policy and legal	Carbon pricing introduction and increase	Increase in manufacturing costs 1.5°C/2°C: 21 billion yen 4°C: 4 billion yen	Enactment of the carbon neutrality action plan
Technology	Investment in manufacturing facilities to reduce CO <sub>2</sub> emissions	Increase in depreciation costs Impact on business: Medium	
Reputation	Negative criticism of energy-intensive companies	Decreased sales*	
Market	Increase in energy prices	Increase in logistics costs Impact on business: 1.5°C/2°C: Medium; 4°C: High	Maintain good relationships with suppliers, pursue supplier development and diversification, switch to generic items
	Soaring glass raw material prices due to changes in the supply and demand structure for resources	Increase in procurement costs*	
<b>Physical risks</b>			
Acute	Negative impact on operations and logistics due to increased frequency of disasters, extreme weather, typhoons, and flooding	Decreased sales* Increase in facility repair costs*	Implement business continuity planning, carry out disaster prevention activities, disperse operations among different manufacturing bases
Chronic	Negative impact on operations due to drought		
<b>Opportunities</b>			
Resource efficiency	Reduced energy consumption and Scope 1 + Scope 2 CO <sub>2</sub> emissions as a result of highly efficient production (implementation of carbon neutrality action plan)	Reduction in manufacturing costs Impact on business: 1.5/2°C: High; 4°C: Medium	Enactment of the carbon neutrality action plan
Products	Increased demand for glass fiber for wind turbines due to increased construction of wind power generation facilities	Increased sales Impact on business: High	Promote R&D; pursue active sales to respond to new needs
	Increased demand for low-carbon products (thin sheet glass for FPDs), which contribute to reduced production and shipping costs in customer processes		
	Increased demand for glass fiber for strengthening functional plastics, which will be used to lighten automotive bodies and in battery casings as EVs become more widespread	Increased sales*	
Market	Increased demand for all-solid-state Na-ion batteries as they go to market and society transitions to becoming decarbonized		

Estimation of impact on business

Low: < 10 billion yen; Medium: ≥10 billion yen but < 30 billion yen; High: ≥ 30 billion yen

\*Due to a lack of data for calculating impact on business, qualitative descriptions are utilized.

3. Strategic Resilience

Following updates to the reference scenarios, we reviewed impacts on business. Although they increased due to soaring raw material and fuel costs caused by global inflation and other factors, we will

enhance our business resilience by incorporating new technologies and solutions from inside and outside the company and implementing the above actions, such as the carbon neutrality action plan.

## ● Metrics and Targets

Against a backdrop of the current, pressing and global need for climate change action, we continue to pursue sustainable manufacturing practices, as well as strive to precisely address climate change through the establishment, in February 2022, of CO<sub>2</sub> emissions reduction targets for 2030 (Scope 1 + Scope 2) accompanied by a commitment to carbon neutrality by 2050. To achieve this, we are undertaking ambitious measures, including introducing all-electric melting furnaces across our product lines, switching over to energy-efficient facilities, and investing in

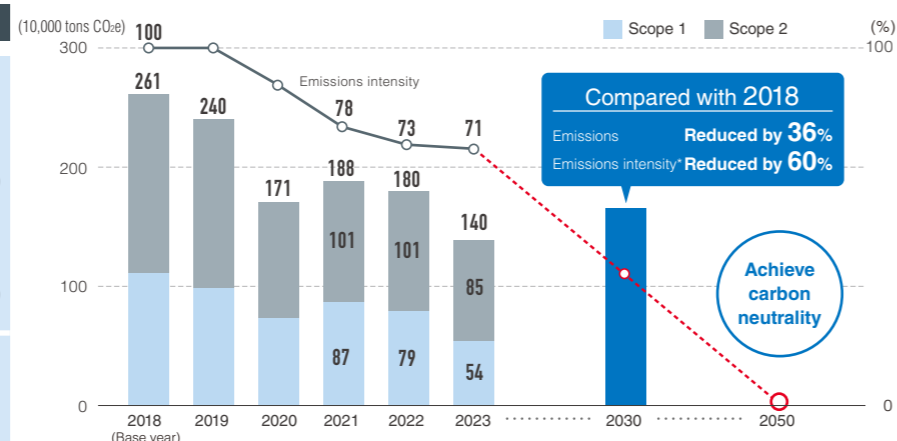
renewable energy. With regard to Scope 3, as well, we are working to improve our information disclosure during fiscal 2024, such as by creating a system for calculating emissions volume.

Due mainly to reduced manufacturing in the displays business and composites business, in fiscal 2023, CO<sub>2</sub> emissions (Scope 1 + 2) declined from the previous fiscal year. Meanwhile, as a result of pursuing improvement activities in our carbon neutrality action plan, CO<sub>2</sub> emissions intensity (Scope 1 + 2) also declined from the previous fiscal year.

### 1. CO<sub>2</sub> Emissions Reduction Targets

**By 2030**  
CO<sub>2</sub> emissions (Scope 1 + Scope 2)  
**Reduced by 36%** (compared with 2018)  
Emissions intensity\* (Scope 1 + Scope 2)  
\*Production weight ratio  
**Reduced by 60%** (compared with 2018)

**Achieve carbon neutrality by 2050**



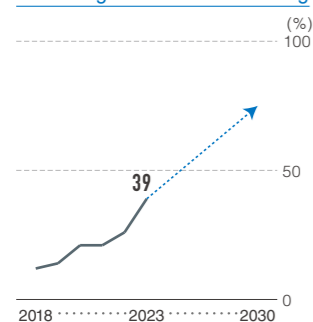
### 2. Initiatives to Achieve Targets

In order to achieve CO<sub>2</sub> emissions reduction targets, the NEG Group has created a carbon neutrality action plan, which involves a variety of initiatives, focusing primarily on those in the table at right. Through these, we will achieve our targets by 2030, after which we will pursue improvement activities that will make us carbon neutral by 2050.

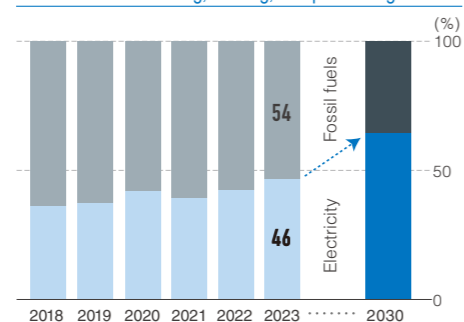
Category	Initiatives
Manufacturing process	<ul style="list-style-type: none"> <li>Promoting all-electric melting and improving melting efficiency</li> <li>Switching to energy-saving facilities</li> <li>Technological improvement and electrification for forming and processing facilities</li> <li>Operations automation and optimization</li> </ul>
Utility facilities	<ul style="list-style-type: none"> <li>Upgrading to high-efficiency facilities</li> <li>Facility optimization</li> <li>Operation optimization</li> </ul>
Technological development	<ul style="list-style-type: none"> <li>Combustion technology development for CO<sub>2</sub>-free fuel (hydrogen, etc.)</li> </ul>
Procurement	<ul style="list-style-type: none"> <li>Investment in and procurement of renewable energy</li> </ul>

### 3. Progress of Initiatives

#### Percentage of all-electric melting



#### Electrification for melting, forming, and processing facilities



#### Combustion technology development for CO<sub>2</sub>-free fuel (hydrogen, etc.)

We succeeded in melting glass with combustion technology using a hydrogen-oxygen burner. (April 19, 2022)

#### Investment in and procurement of renewable energy

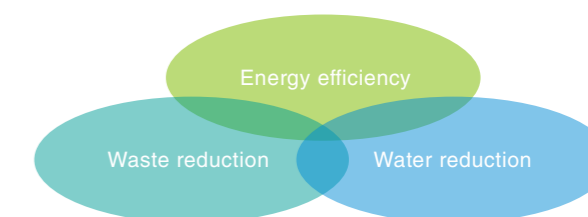
We started operation of a mega solar power system at the Shiga-Takatsuki Plant. (March 30, 2023)  
We signed our first VPPA (virtual power purchase agreement) for solar power. (December 11, 2023)

## ■ Environmental Business Plan

Our Environmental Business Plan is our own unique initiative that applies business management principles to environmental conservation. We believe activities that minimize environmental impact are key to achieving the world's most efficient manufacturing. Thus, we have been undertaking activities to reduce waste since 2001 and to reduce water consumption since 2003. And in 2021, we launched energy efficiency-related activities.

We are working to reduce environmental impact from waste and water through continuous reduction and recycling, using specific intensity as an indicator. For energy, we are pursuing activities that improve energy usage efficiency according to

efficiency improvement plans and targets that we establish, using energy intensity in glass manufacturing as an indicator. We will combine these activities with other efforts, like improving our electric power ratio, adopting new manufacturing processes such as hydrogen combustion, and introducing renewable energy, to help us achieve our CO<sub>2</sub> emissions reduction goals.



## ■ Initiatives to Protect the Global Environment

As part of our initiative to protect the global environment and contribute to sustainable systems, we take measures to conserve biodiversity while supplying and developing eco-friendly products that save energy and generate energy.

## News

### Nippon Electric Glass Signs Its First VPPA for Solar Power

NEG concluded a VPPA for the first time with a renewable energy power generator. A VPPA is a means for a consumer to virtually obtain only the environmental value of renewable electricity generated outside the consumer's premises. It is a new way to introduce renewable electricity that became possible in Japan in 2022. The CO<sub>2</sub> reduction effect from this agreement is expected to be approximately

770 t-CO<sub>2</sub> per year. We will continue to accelerate various initiatives as we work towards carbon neutrality.

Power plant sites: 5 locations in different areas of Mie Prefecture, including Matsusaka City  
Start of power generation: March 2024  
Contract period: 20 years

### Green Factory Certification

Our Chinese subsidiary, Electric Glass (Xiamen) Co., Ltd., has been certified as a Green Factory by the Chinese government, which designates it as a model factory that achieves reduced environmental impact while maintaining productivity. The Green Factory certification program was established by the Chinese government in 2015 in order to promote environmentally friendly manufacturing models. Electric Glass (Xiamen) has received provincial-level certification in recognition of its efforts to improve production efficiency and lower carbon in its energy consumption. Sustainable manufacturing is a goal that the NEG Group as a whole will continue to strive for.



# Diversity and Inclusion

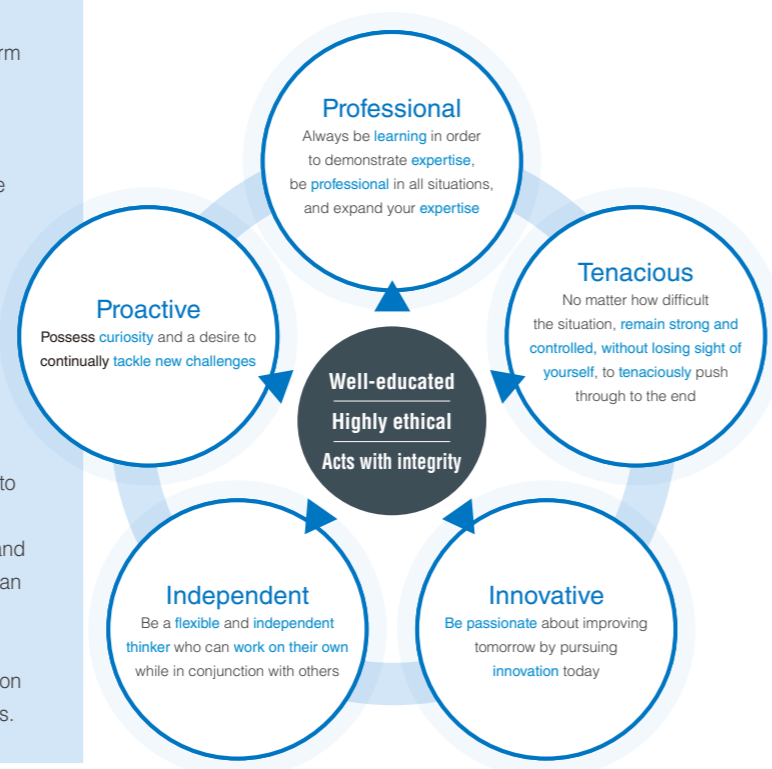
As a driver of long-term value creation, we work to ensure the diversity of our workforce and to create an environment where they can flourish.

## Our Way of Thinking on Human Resources

The glass business requires a lot of time and significant investment to develop materials and processes; hence, if you want to develop innovative products and achieve sustainable growth, you cannot simply chase short-term profit. We prioritize our human resources as drivers of long-term value creation and strive to create an environment where highly engaged employees with diverse values and a long-term perspective undertake challenging work.

In 2020, we set forth an ideal for our personnel that they would be persons capable of performing at a world-class level in all areas. In order to help them achieve this, we have established a variety of growth and development programs, including level-specific training, career education, and self-development programs. Also, in order to create a more employee-friendly environment, we are working to accommodate greater flexibility in work styles and to pursue measures for occupational health and safety and health and productivity management. In terms of human resource management, we are working in a variety of areas to improve employee motivation, such as by revising our skills and performance-based remuneration system and improving how we treat rehired employees.

### Essential Qualifications and Character



## Hiring a Diverse Workforce

As we believe that employees are the foundation of a company's growth, we hire a diverse range of human resources regardless of their gender, age, nationality, or other characteristics. As well, in addition to expanding the number of recent graduates hired, we also incorporate new recruiting methods and approaches. For example, we hire highly qualified, mid-career professionals and leverage our connections with researchers to recruit personnel. We also make use of referral recruitment when hiring employees locally. Even amidst accelerating job mobility, we are creating a wide

range of entry points, such as for previous NEG employees to be rehired, to help us in securing a diverse workforce.

We are also a proactive employer of people with disabilities. In 1980, we established a special-purpose subsidiary aimed at employing people with disabilities. We were among the first six companies in Japan to do so. Since then, we have sought to increase our employment rate for people with disabilities to 4.6%, far above the statutory requirement of 2.5%, and have hired people with disabilities as full-time employees. Moving forward, we will continue to employ people with disabilities.

## Human Resource Development

In order to attain our goal of becoming the world's leading manufacturer of special glass, we need to have personnel capable of performing at a world-class level in all areas. We help our employees to better themselves by offering them a range of study opportunities, such as on-the-job training,

level-specific training, global human resource training, skills training, and self-development programs that include acquiring industry certification. We will continue to provide our employees with further training, which will help them get to that next level.

## Efforts to Retain and Empower Employees

### Progress in Diverse Work Styles and Work Efficiency

We carry out a wide range of initiatives, including expanding work-style diversity to encompass telecommuting, flextime and the like, implementing five-day holidays and no-overtime days, supporting employees in balancing work with childcare and nursing care, and hosting work-style reform seminars. These efforts have enabled us to reduce overtime work and increase the taking of paid leave. Employees reap the rewards of these efforts in the form of human resource investments such as expanded job benefits and IT funding. We will continue to pursue improvements as we review and revise our efforts.

### Support for Raising the Next Generation and Women's Empowerment

In February 2019, we received Platinum Kurumin accreditation under the Act on Advancement of Measures to Support Raising Next-Generation Children in Japan and have continued providing such support in order to expand our employees' options for work styles conducive to childcare and nursing care. These efforts have helped achieve successes such as realizing an 86% rate (fiscal 2023) of male employees taking their childcare leave.

We are also working to foster more women in management and other leadership positions by hiring more of them for career-track jobs, and by holding gatherings where our female employees and female outside directors can share opinions on topics related to their empowerment.

### Active Participation of Senior Workers

As Japanese society ages and fewer children are being born, it is becoming imperative to utilize our senior workforce. We have raised wage levels for senior employees incrementally and put in place a system for rewarding them, which reflects the extent of their work and how well they carry out their duties. We wish to further utilize motivated and capable seniors and promote a smooth handoff to the younger generation.

### Empowering Employees with Roots in Other Countries

As the number of our non-Japanese employees increases, we are providing follow-up support to ensure their understanding of the company's policies, and supporting their smooth workplace communications through measures such as Japanese language classes and a mentoring system. In October 2019, we promoted the first foreign national employee to a position of manager, and have promoted more since then. In January 2023, we appointed a foreign national employee of an overseas subsidiary as an executive officer at the head office for the first time ever. Going forward, we will be putting energy into ensuring that workplace environments allow employees of many different backgrounds to participate in the workplace with vitality, building synergy through the mutual respect of each other's culture.

## Occupational Safety and Health; Health and Productivity Management

Every year, a company-wide conference of the committee on occupational safety and health is convened and attended by the president and the labor union head. Action policies and targets are set regarding health, safety, and productivity management at NEG. These are then approved by the Management Committee and disseminated across the company.

### Occupational Safety and Health

Our Principles of Activities state that we prioritize safety in all work by complying with all laws, regulations, and company rules concerning workplace health and safety. In addition, action policies for company-wide safety and health state that all NEG employees put safety first in everything they do. Members of NEG committees such as those on occupational safety and health and accident prevention take the lead in a wide range of safety and health activities, including creating a workplace conducive to working in safety and health, thoroughly understanding and implementing risk measures in all workplaces, and making continuous improvement through the PDCA cycle.

### Health and Productivity Activities

Our health and productivity management philosophy forms the basis for an action policy aimed at maintaining and improving the mental and physical health of each employee. This allows us to create a vibrant working environment that increases the creativity and productivity of the entire corporation. We have established key performance indicators (KPIs) for mental and physical health, and are rolling out activities, education, and other initiatives aimed at improving the health of employees in each area. In fiscal 2023, we launched the Health and Productivity Management Committee, which deliberates on health- and productivity-related initiatives and sets actions that all NEG regions should take to carry these out.



# Community Contribution

For its business to last, a company must strive for harmony with the local community and solutions to the issues that community faces. We aim to grow in unison with communities through activities such as supporting education and taking part in local events.

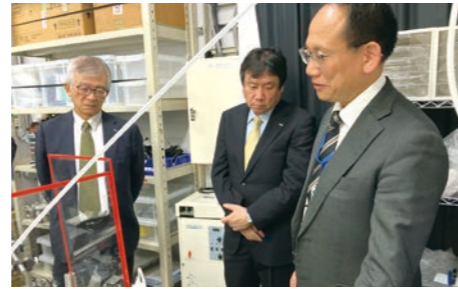
## Supporting the Younger Generation

Our educational support activities centered in Shiga Prefecture, where NEG is based, are aimed at getting youngsters interested in science. We also collaborate with universities to carry out glass-related research and to foster the researchers and engineers who will form the pillars for advancements in the glass industry.

### Academic-Industrial Collaboration

We concluded a comprehensive university-industry collaboration agreement with the University of Shiga Prefecture in 2007. Based on that agreement, we have been collaborating with the university on a variety of ongoing projects, which include the establishment of an endowment course, joint research and technological exchange on glass engineering, and supporting the development of tomorrow's leaders.

In 2023, we launched the NEG endowment course in the basic science of glass at Kyoto University. The course digs deep into basic research on glass with the aim of fostering the next generation of glass researchers and engineers.



NEG executives visit a lab in the NEG endowment course at Kyoto University

### Supporting Shiga Prefecture's Lake Biwa Floating School Program

Since 2019, we have been supporting education and self-development through an environmental studies program for children in Shiga Prefecture. In 2023, NEG agreed to renew the naming rights partnership contract with Shiga Prefecture in order to continue our support for another four years.



Signing ceremony to renew naming rights



The multi-purpose room, called the Neg Room, on the program's Uminoko learning ship

### Visiting Lessons

(Sponsorship of Otsu City Science Museum's "Innovation for the Future" classes for inventing, discovering, and making things)

To teach local elementary and junior high school students about glass applications and characteristics, NEG employees visit the Otsu City Science Museum to give hands-on lessons. There were 29 participants in this program in 2023.



Students try cutting glass in an "Innovation for the Future" class

### Participation in JST Support Program for Female Students in Choosing Science Courses

In conjunction with the University of Shiga Prefecture, in 2020 we started participating as a collaborating enterprise in the Support Program for Female Students in Choosing Science Courses, run by the Japan Science and Technology Agency (JST). There were 15 participants who visited NEG as part of the program in 2023.



Students visit NEG's showroom

### Welcoming Visitors to Our Plants and Showroom; Opening Our Facilities to the Local Community (Fiscal 2023)

- Visitors to our plants and showroom: Approx. 340
- Visitors to our facilities that are open to the public (green space, etc.): Approx. 80

## Coexistence with Local Communities

To strengthen our ties with local communities, we carry out volunteer activities such as cleaning and planting greenery, host various events to which we invite local residents, and carry out donation and support activities.

### Record of 2023 Activities (Inside and Outside Japan)

- Employees joining community activities: Approx. 320
- People visiting our summer festival and other events: Approx. 7,730
- People joining dialogue between the NEG Group and neighborhood councils: Approx. 100
- Donations of flower seedlings to local schools and neighborhood councils: Approx. 23,000 seedlings
- Donations of Omi rice to children's community kitchens and to children of foreign parents in Shiga Prefecture: 6 tons



The Shiga-Takatsuki Plant held its summer festival after a long hiatus



NEG took part in Kids Cafeteria Festival 2023, organized by Shiga Prefectural Council of Social Welfare



Omi rice from Shiga Prefecture was donated to children of foreign parents



Electric Glass (Xiamen) made a donation to a local children's care facility



Paju Electric Glass made a donation to a birthday party of a local senior citizens group



Electric Glass Fiber UK donated to Derian House Children's Hospice, and received a letter of thanks



## Roundtable Discussion of the Chairman and Outside Directors

**We hope to see the new structure deliver one-of-a-kind business and transform the corporate culture**



Chairman of the Board  
Motoharu Matsumoto

Outside Director  
Reiko Urade

Outside Director  
Yoshio Ito

Outside Director  
Hiroyuki Ito

### Transitioning to a new structure and evaluating business operations

**Matsumoto** I believe that there needs to be metabolism within organizations. I served as president for eight years but decided to step down in fiscal 2022, as a change in top management would send a very strong message that NEG is changing. I recommended Mr. Kishimoto as my successor, because I wanted him to capitalize on his career in the technical field to promote development. What are your thoughts on the past year?

**Y. Ito** After many discussions with the Nomination and Remuneration Advisory Committee, and after having spent a considerable amount of time interviewing Mr. Kishimoto, the thing that stood out to me first was that he is a very frank person. I also realized that Mr. Matsumoto chose Mr. Kishimoto as a leader who would pursue change, not stable business succession.

**Urade** Unless we establish new business pillars alongside displays and composites, NEG will not last. This is just what he is determined to do, as he is strongly aware of the need for change. Fiscal 2023 was his first year as president, and, given the global situation and the economy, I think it was a very difficult time to achieve

results. But my assessment is that we succeeded in proactively streamlining business and halting the decline in business performance.

**H. Ito** I also felt that President Kishimoto was able to handle difficult situations extremely well, exhibiting resilience and prudence. Additionally, all members of the management team fulfilled their responsibilities in their respective areas, giving me the sense that the transition to the new structure has been carried out well.

### Being conscious of cost of capital and share price

**Matsumoto** There was a request from the Tokyo Stock Exchange to improve the price-to-book (P/B) ratio, which is below 1.0. What do you think of NEG's response?

**H. Ito** As with all of the requests that have been made to date, such as the call to address climate change, this request was thoroughly discussed at board meetings, and NEG's response is reflected in the new EGP2028 medium-term business plan. Rather than saying that we should just do whatever will get the P/B ratio above 1.0, these discussions about P/B ratio and return on equity (ROE) were treated as opportunities to highlight

the direction of change, such as focusing on development. I think that's something commendable.

**Y. Ito** The goal set for ROE in EGP2028 is 8%. This will not be easy to achieve simply by expanding upon existing businesses. It will require a concerted effort to launch new businesses and increase profitability, which, to my mind, means investing more into R&D. Since the targets are still somewhat unclear, it's important that future board meetings be used to identify solutions.

**Urade** Stakeholders' evaluation of a company comes with an expectation that the share price and ROE will be high; hence I think actions such as the acquisition of treasury stock provided good short-term effect. However, for a manufacturing company like NEG, which requires large fixed assets, you cannot just rely on numbers alone, and I think that reasonable stakeholders pay close attention to this. A healthy path forward is for the share price and ROE to increase depending on how much profit the company will generate in the future, and I hope that this will continue to be the case.

**Matsumoto** There's a lot to discuss on this point, but in order for business to continue, we need good relationships not only with shareholders but also with employees,

customers, and business partners. I'd like to strike a balance and avoid discussions that focus on only one direction. The management team will continue discussing how to address this request in a way that contributes to business operations, taking into account NEG's current situation.

### Expectations for the new EGP2028 Medium-term Business Plan

**Matsumoto** EGP2026 was formulated based on the situation as it was during fiscal 2020 to 2021, but the world has changed dramatically since then, and manufacturing costs and international shipping costs have skyrocketed. Moreover, given the increasing geopolitical risks and other factors, which called for a completely different set of prerequisites and created the situation in fiscal 2023, EGP2026 had become a house of cards. As it became clear within the company that the business portfolio needed to be changed, there were calls by shareholders and the stock market for more efficient management. Thus, we were given another five-year period, and the plan was revised into the new EGP2028.



Motoharu Matsumoto

**Y. Ito** A major issue is that costs are rising in areas outside of NEG's control. While I think EGP2028 is a solution to that issue, I believe that the key is simply to develop business through the leveraging of NEG's great strength, which is its ability to develop superb products. We will utilize even small projects as a means of finding new customers and creating new business models. Ultimately, what NEG needs to do is to sow lots of seeds. I also think it's important to reconsider new products from the customer's perspective.

**Urade** In order to sustain the fundamental strength of the company, it's important to have a number of new, one-of-a-kind businesses unique to NEG. Compared to EGP2026, EGP2028 is much more specific and the direction has changed significantly, making it easy to understand the intent of the revision. I also have high expectations for the company's business strategy of expanding its research and development resources, particularly with regard to energy, medical care, the environment, and food.

**H. Ito** I also appreciate the big decision to close down factories in South Korea and the Netherlands just before the formulation of EGP2028 and, together with this, that NEG is responding to the issues it has been facing. Beyond this, my hope is that EGP2028 is treated not just as a plan but that the spirit embodied in it is conveyed to every workplace within NEG. Communicating this passion will catalyze a range of discussions inside NEG about work and the company. I hope that EGP2028 will create such opportunities.

## Sustainability strategy

**Matsumoto** At NEG, the three themes that comprise the foundation of CSR are the environment, diversity and inclusion, and community contribution. We carry out a range of activities under each theme. Diversity and inclusion and human capital came up frequently in board meetings in fiscal 2023. Earlier, Mr. Hiroyuki Ito spoke about communicating passion; President Kishimoto is doing his utmost to also facilitate greater motivation and engagement among employees. NEG is making an effort to employ more diverse human resources than before, such as by hiring more mid-career professionals and more foreign nationals.

**Y. Ito** For example, to ensure diversity when appointing executives, it would be a good idea to establish nomination criteria such as having experience in at least two business areas or having worked in multiple locations outside of Japan. I'm not sure how effective this would be, but, in any case, I feel that some kind of master plan for human resource development is needed.

**Urade** I think one problem is that there are very few women given responsible roles in the workplace, and especially those in managerial positions. While NEG is making progress in reforming its systems in accordance with the law, such as by obtaining Kurumin accreditation, this is not enough. NEG will not be able to improve the gender balance



Reiko Urade

unless a culture is created in which women, who tend to leave their jobs, want to continue working at the company.

**H. Ito** Figuring out how to update our corporate culture to keep up with the changing times is certainly a big challenge. I think there is room for improvement, such as by making use of the employee questionnaires the company has been conducting recently. NEG's corporate activities are based on what a company's existence means to society. So, as a matter of course, in terms of contributing to the environment and addressing diversity and inclusion, I think the company is taking these issues seriously.

## Review of, and outlook for, the Board of Directors

**Matsumoto** Finally, I'd like to hear your honest opinions regarding the running of the Board of Directors, its transparency, and issues in fiscal 2023.

**Urade** Given how easy it is to speak up, and given the advance explanations that are provided to us, I think the Board of Directors is extremely sound. I'd like to see more opportunities to discuss policy adjustments and other relevant matters whenever there are significant changes in the situation in Japan or overseas that have a strong impact on business, such as was the case in fiscal 2023. Time is limited, and while I believe the Board of Directors reaches conclusions after thorough discussions by the Management Committee, I'd like to know in depth about the process leading to the conclusion.

**H. Ito** Sometimes we don't have a full understanding of the background of a topic. There's room for us to work harder in this regard, and we're discussing the idea of having meetings of just outside directors, even if only once or twice a year. Even just hearing from the relevant person in charge would be fine, because I think having the opportunity to study beforehand the current issues that will be discussed at the board meeting enables us to make more appropriate statements and to engage in deeper discussion.

**Y. Ito** Since the number of outside directors will increase by one in fiscal 2024, it may be a good idea to divide the responsibilities for asking questions among the outside directors in order to allow for deeper discussion. It would also be a good idea to simplify the materials that we are provided. Improving how meetings are held, such as by using IT to go paperless, represents one possible means of revitalizing the board meetings.

**Matsumoto** The presence of outside directors has a huge impact on the management of the company, as they speak from a common-sense perspective and view things fairly. Management takes the opinions of the outside directors very seriously, and they will send a plan back to be reworked if they think the outside directors would not approve of it. I also want to revitalize the Board of Directors and, as you suggested, would like to rethink how we create materials and provide explanations. I look forward to working with you all in fiscal 2024.



Yoshio Ito



Hiroyuki Ito

Directors



Chairman of the Board (Representative Director)  
**Motoharu Matsumoto**  
 Apr. 1982 Joined Nippon Electric Glass  
 Jun. 2003 CEO of Techneglas Inc.  
 Feb. 2005 General Manager of Finance Division  
 Apr. 2007 Vice President  
 Jun. 2011 Director and Senior Vice President  
 Apr. 2013 Executive Vice President  
 Mar. 2015 President and Representative Director  
 Jan. 2023 Chairman of the Board and Representative Director (incumbent)



President (Representative Director)  
**Akira Kishimoto**  
 [Auditing]  
 Apr. 1985 Joined Nippon Electric Glass  
 Apr. 2012 General Manager, Electronic Products Division, Production  
 Apr. 2013 Vice President  
 Jan. 2016 Group General Manager, Electronic Products Group  
 Oct. 2017 Group General Manager, Consumer Glass Products Group  
 Jan. 2019 Senior Vice President  
 Jan. 2023 President (incumbent)  
 Mar. 2023 President and Representative Director (incumbent)



Director and Senior Vice President  
**Hiroki Yamazaki**  
 [Fundamental Technology, Intellectual Property, Environment, Product Safety Management, Cooperation in Research & Technology]  
 Apr. 1984 Joined Nippon Electric Glass  
 Oct. 2006 General Manager, Technical Division  
 Apr. 2011 Vice President  
 Jan. 2016 Group General Manager, Corporate Technology Group  
 Mar. 2016 Director (incumbent) and Senior Vice President (incumbent)



Director and Senior Vice President  
**Tomonori Kano**  
 (Glass Fiber Business)  
 Apr. 1989 Joined Nippon Electric Glass  
 Mar. 2015 General Manager, Display Glass Division, Production  
 Jan. 2016 Vice President  
 Jan. 2020 Senior Vice President (incumbent)  
 Jan. 2021 Group General Manager, Display Glass Group  
 Mar. 2021 Director (incumbent)  
 Jan. 2024 Group General Manager, Glass Fiber Group (incumbent)



Director and Senior Vice President  
**Mamoru Morii**  
 (General Affairs, Human Resources, Purchasing, Information Systems)  
 [Finance, Corporate Strategy, Marketing, Sales Management, Tokyo Branch Office, Security Trade Control]  
 Apr. 1985 Joined Nippon Electric Glass  
 Jun. 2014 General Manager, Finance Division  
 Jan. 2017 Vice President  
 Jan. 2021 Senior Vice President (incumbent)  
 Mar. 2022 Director (incumbent)



Outside Director  
**Reiko Urade**  
 (Independent Director)  
 Apr. 2010 Professor, Graduate School of Agriculture, Kyoto University  
 Apr. 2018 Emeritus Professor, Kyoto University (incumbent) and Research Professor, Institute for Integrated Radiation and Nuclear Science, Kyoto University (incumbent)  
 Mar. 2019 Outside Director of Nippon Electric Glass (incumbent)



Outside Director  
**Hiroyuki Ito**  
 (Independent Director)  
 Apr. 2009 Professor, Faculty of Economics, Shiga University  
 Mar. 2020 Outside Director of Nippon Electric Glass (incumbent)  
 Apr. 2020 Emeritus Professor, Shiga University (incumbent) and Professor, Faculty of Business Administration, Osaka University of Economics (incumbent)



Outside Director  
**Yoshio Ito**  
 (Independent Director)  
 Apr. 1973 Joined Matsushita Electric Industrial Co., Ltd. (currently Panasonic Holdings Corporation)  
 Jun. 2014 Representative Director, Senior Managing Director of Panasonic Corporation  
 Apr. 2017 Representative Director, Vice President of Panasonic  
 Jun. 2017 Representative Director, Executive Vice President of Panasonic  
 Jun. 2020 Outside Director of Kameda Seika Co., Ltd. (incumbent)  
 Jun. 2021 President of the Japan-China Economic Relations and Trade Centre (incumbent)  
 Mar. 2022 Outside Director of Nippon Electric Glass (incumbent)



Outside Director  
**Nahomi Aoto**  
 (Independent Director)  
 Apr. 1983 Joined NEC Corporation  
 Dec. 2011 Vice President of Elpida Memory, Inc. (currently Micron Memory Japan, K.K.)  
 Apr. 2015 Sr. Director, Responsible for the Development of DRAM and New Memory Processes, Technology Development Division, Micron Technology, Inc.  
 Nov. 2017 Sr. Director, Responsible for the Development of DRAM Processes, Technology Development Division, Micron Memory Japan, K.K.  
 Aug. 2023 Professor by Special Designation, Research Institute for Nanodevices (currently Research Institute for Semiconductor Engineering), Hiroshima University (incumbent)  
 Specially Appointed Visiting Professor, Center for Innovative Integrated Electronic Systems, Tohoku University (incumbent)  
 Mar. 2024 Outside Director of Nippon Electric Glass (incumbent)

Corporate Auditors



Full-time  
**Masahiko Ohji**  
 Apr. 1982 Joined Nippon Electric Glass  
 Oct. 2010 General Manager, Development Division  
 Jan. 2015 Special Assistant to the President  
 Mar. 2015 Full-time Corporate Auditor (incumbent)



Full-time  
**Yoshihisa Hayashi**  
 Apr. 1986 Joined Nippon Electric Glass  
 Mar. 2015 General Manager, General Affairs Division  
 Mar. 2019 Full-time Corporate Auditor (incumbent)



Outside  
**Yukihiro Yagura**  
 (Independent Corporate Auditor)  
 Oct. 1992 Joined Tohatsu Audit Corporation (currently Deloitte Touche Tohmatsu LLC)  
 Apr. 1996 Registered as certified public accountant  
 Jun. 2020 Left Deloitte Touche Tohmatsu LLC  
 Jul. 2020 Established Yagura-jicpa (incumbent)  
 Aug. 2020 Registered as certified public tax accountant  
 Mar. 2022 Outside Corporate Auditor of Nippon Electric Glass (incumbent)



Outside  
**Hiroji Indoh**  
 (Independent Corporate Auditor)  
 Apr. 1989 Registered as attorney at law and joined Showa Law Office  
 Jan. 1994 Partner, Showa Law Office  
 May 1998 Established Habataki Law Office, Partner (incumbent)  
 Jun. 2020 Outside Corporate Auditor of Keyence Corporation (incumbent)  
 Mar. 2023 Outside Corporate Auditor of Nippon Electric Glass (incumbent)

Senior Vice Presidents

<b>Norio Nakamura</b> [Consumer Glass Products Business]	<b>Masaaki Kadomi</b> [Research & Development]	<b>Masahiro Kobayashi</b> [Electronic Products Business]	<b>Takuo Horiuchi</b> [Display Glass Business, Thin Film Business]	<b>Hitoshi Kanaya</b> [Process Development & Engineering]
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Vice Presidents

<b>Toshiyuki Nakajima</b> [General Affairs, Human Resources]	<b>Hidetaka Oda</b> [Display Glass Business (Production)]	<b>Yoshiyuki Tamamura</b> [Purchasing, Information Systems]	<b>Ken Hamajima</b> [Glass Fiber Business (Production)]	<b>Takuji Oka</b> [Electronic Products Business (Production)]
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Note: ( ) means "supervising" and [ ] means "in charge" indicating work assignments of executive officers.

Skills Matrix of Directors

Name	Position in the company	Outside independent	Gender	Nomination and Remuneration Advisory Committee (◎ indicates chairperson)	Major knowledge, experience, and capabilities			
					Corporate management	Finance and legal	Technology	Sales and marketing
Motoharu Matsumoto	Chairman of the Board (representative director)		Male	●	●	●		●
Akira Kishimoto	President (representative director)		Male	●	●		●	●
Hiroki Yamazaki	Director		Male				●	
Tomonori Kano	Director		Male		●		●	●
Mamoru Morii	Director		Male			●		●
Reiko Urade	Director	●	Female	●			●	
Hiroyuki Ito	Director	●	Male	●		●		
Yoshio Ito	Director	●	Male	◎	●		●	●
Nahomi Aoto	Director	●	Female	●			●	

Note: The table above does not indicate all of the expertise possessed by each director.

# Corporate Governance

We aim to reach the targets set forth in our Medium-term Business Plan, EGP2028, by enhancing our competitiveness with a motivated Board of Directors and strengthened supervisory functions across management.

## Our Corporate Governance Policy

We believe that to increase corporate value and achieve sustained growth, it is essential to continue to ensure managerial transparency and strengthen supervisory functions regarding

the execution of business. This is our basic policy on corporate governance and we will strive to improve our organization and business systems in accordance with this policy.

## Corporate Governance Structure

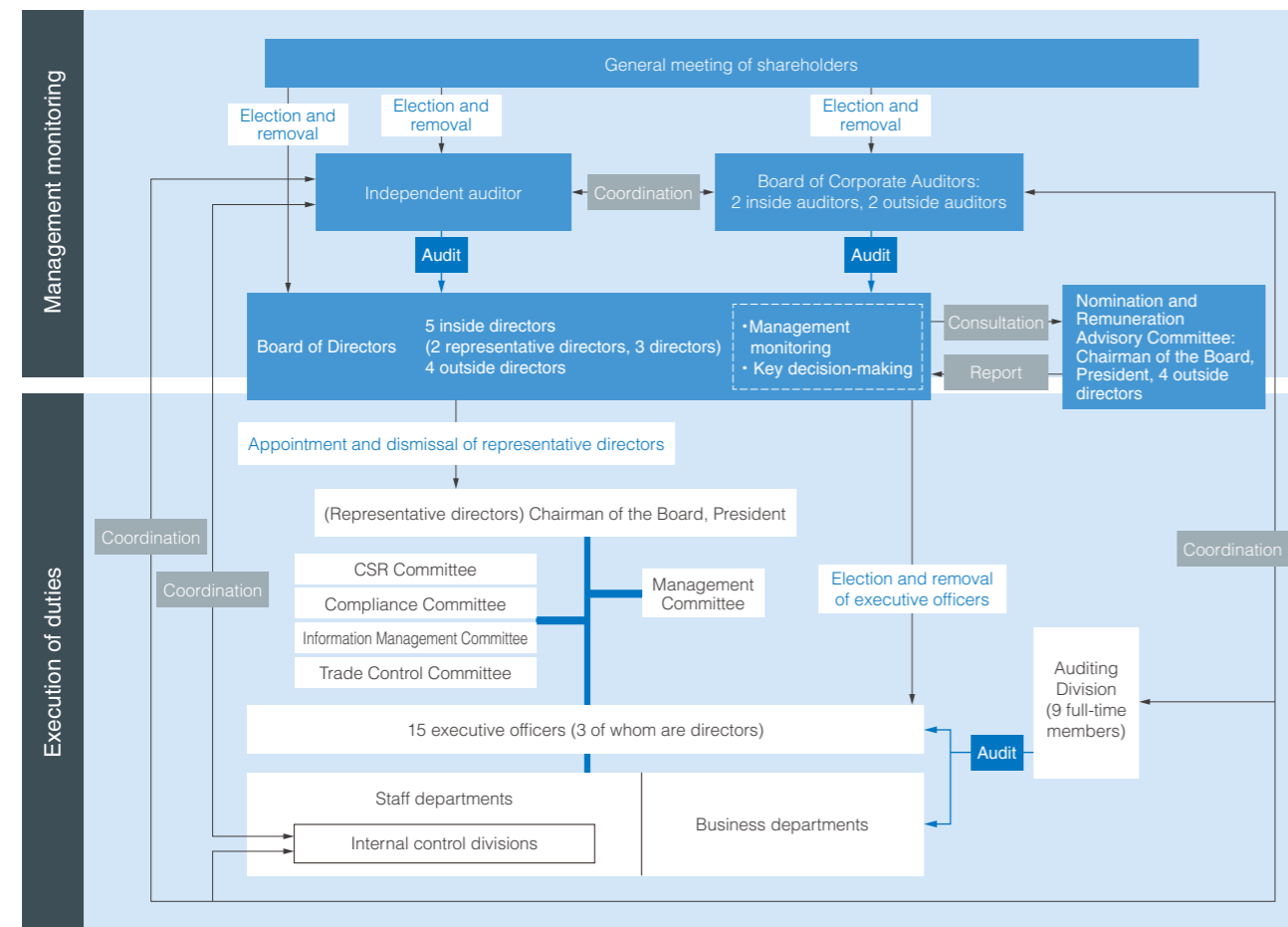
NEG is a company with a board of corporate auditors. The Board of Directors, which includes outside directors, carries out decision-making regarding the execution of duties and supervision of the execution of duties by directors and others. The supervision of the directors is carried out independently of the Board of Directors and the executive structure by the Board of Corporate Auditors, which includes outside corporate auditors. This system is intended to ensure the transparency and fairness of the Board of Directors.

Also, a Nomination and Remuneration Advisory Committee, which exists as a voluntary committee, has been established as an advisory body to the Board of Directors. The committee deliberates on the appropriateness of matters related to the appointment and dismissal of representative directors, remuneration policies and

systems for directors, and the amount of remuneration determined for directors. It then reports its conclusions to the Board of Directors.

In recent years, the number of issues, such as climate change, human capital, and human rights, that companies must address in order to achieve sustainable growth has been growing. Society increasingly expects companies to help solve the challenges facing it and to provide greater information disclosure. Therefore, we have established the CSR Committee as a cross-organizational entity that engages in comprehensive discussion of the direction and content of our CSR activities. The committee makes recommendations to management, flexibly develops activities, and contributes to more appropriate information disclosure.

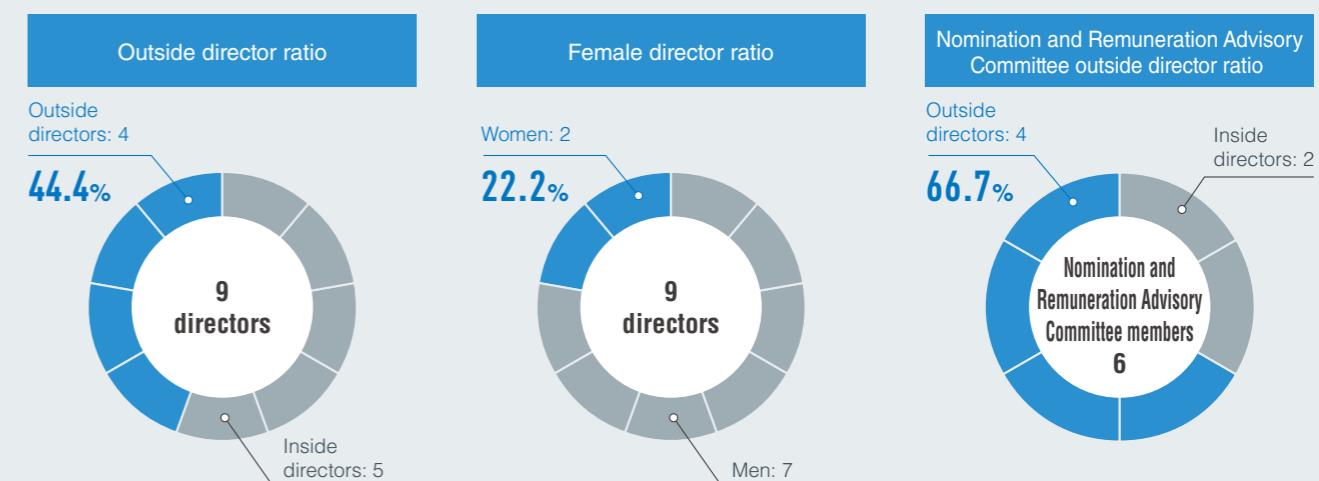
Diagram of Corporate Governance System (as of March 28, 2024)



## Journey towards Stronger Corporate Governance

	2000s	2010s	2020s
Settlement and shares	2006 Takeover defense measures introduced	2012 Takeover defense measures abolished	
Business execution supervision system	2001 Executive officer system introduced Start of reduction in number of directors	2015 First independent outside director appointed	2020 Nomination and Remuneration Advisory Committee established
	2003 Term of office for directors shortened to one year First independent outside corporate auditor appointed	2016 In total, two independent outside directors appointed Start of evaluation of Board of Directors effectiveness	2023 Non-Japanese executive officer appointed Corporate advisor system abolished
		2019 In total, three independent outside directors appointed (outside directors now comprise one-third) System for granting restricted shares introduced First female outside director appointed	
Internal control and risk management	2000 Principles of Activities established	2015 Corporate Philosophy Structure established Business continuity planning formulated	2023 CSR Committee established
	2003 Auditing Division established	2019 Whistleblowing system introduced for all group companies	
	2006 NEG Hotline whistleblowing system introduced Compliance Committee established		

## Governance Highlights



As of March 28, 2024

To maintain public trust and to achieve sustainable growth, every employee and executive of our Group is expected to comply with laws and international rules, and consistently act in accordance with our organization's high ethical standards.

## Attendance at Board Meetings in Fiscal 2023

	Name	Board of Directors meetings	Board of Corporate Auditors meetings
Representative directors	Motoharu Matsumoto	15/15 meetings (100%)	—
	Akira Kishimoto	12/12 meetings (100%) (since being appointed in March 2023)	—
Directors	Hiroki Yamazaki	15/15 meetings (100%)	—
	Tomonori Kano	15/15 meetings (100%)	—
	Mamoru Morii	15/15 meetings (100%)	—
Outside directors	Reiko Urade	15/15 meetings (100%)	—
	Hiroyuki Ito	15/15 meetings (100%)	—
	Yoshio Ito	15/15 meetings (100%)	—
Full-time corporate auditors	Masahiko Ohji	15/15 meetings (100%)	13/13 meetings (100%)
	Yoshihisa Hayashi	15/15 meetings (100%)	13/13 meetings (100%)
Outside corporate auditors	Yukihiro Yagura	15/15 meetings (100%)	13/13 meetings (100%)
	Hiroji Indoh	12/12 meetings (100%) (since being appointed in March 2023)	10/10 meetings (100%) (since being appointed in March 2023)

## Analysis and Evaluation of the Effectiveness of the Board of Directors

All of our directors respond to an annual questionnaire to investigate the effectiveness of the Board of Directors. The questionnaire focuses on (1) the Board of Directors in general, (2) the running of Board of Directors meetings, and (3) outside directors.

### Fiscal 2022 Questionnaire Questions, Opinions, and Action Taken

- (1) With regard to the question about the appropriateness of the size of the Board of Directors, some were of the opinion that the current size is the minimum acceptable size, while others were of the opinion that it should be smaller. In order to strengthen our governance system, at the ordinary general meeting of shareholders held on March 28, 2024, we increased the number of outside directors by one and appointed nine directors (of which four are outside directors).
- (2) With regard to the question of whether the inside directors were aware of the difference between their role in executing their own duties and their role as a director and could express an opinion in discussions outside of their immediate purview, and could contribute to improving the quality of deliberations and decision-making by the Board of Directors, there were those who felt that, although they were participating in decision-making, they would not go so far as to say they were contributing to improving the quality of decision-making. On this point, we are working to improve the quality of decision-making by holding more thorough deliberations at board meetings.

### Fiscal 2023 Questionnaire Opinions

From the fiscal 2023 questionnaire, some were of the opinion that, due in part to the effects of the COVID-19 pandemic, outside directors did not really have enough opportunities to tour factories in Japan and overseas and to exchange opinions with local executives. Also, there was feedback that sometimes board meeting materials are distributed at the last minute. Based on the results of the questionnaire, we have determined that the Board of Directors is viable and that its effective functioning has been ensured. However, we will strive to enhance deliberations at Board of Directors meetings by making improvements based on evaluation results and will continue to evaluate its effectiveness.

## Compliance System

We established our Compliance Committee as a specialized body that ensures our Group members continue to comply with laws and regulations. The Committee also provides information on corporate ethics and is primarily focused on the items listed at right.

- Drafting revisions to the Group Code of Conduct and Principles of Activities
- Collecting and analyzing information on compliance and providing compliance training
- Managing a whistleblowing system (NEG Hotline)

## Compliance Program

### Group Code of Conduct and Principles of Activities

To ensure that all employees are informed on compliance matters, we have established the Group Code of Conduct and Principles of Activities. Wallet-sized cards printed with the

Corporate Philosophy Structure, Code of Conduct, Principles of Activities, and an introduction to the NEG Hotline are distributed to employees of group companies in Japan.

### Whistleblowing System

A whistleblowing system called the NEG Hotline has been established to help prevent any illegal violations, wrongdoings, or unethical acts and to promote early detection and quick resolution should such acts occur. We have established two consultation hotlines, one that connects employees to the Compliance Committee (internal contact point) and another that connects to an attorney's office (outside contact point).

The confidentiality of the informants is strictly protected at both contact points, so that no unfair treatment will occur.

This whistleblowing system has been set up at all of our subsidiaries, including those outside of Japan, and we are working to ensure that our stakeholders know about the system and that it functions properly.

### Ensuring Compliance

To raise compliance awareness (for example, for high ethical standards and respect for human rights) throughout our Group, each year we carry out compliance training as a part of an education program for newly hired employees and antitrust seminars for employees engaged in sales activities. We also ensure awareness among management by holding workshops for directors and executive officers. At these sessions, participants take the opportunity to discuss themes such as governance and compliance. In addition, we have designated

October as the month for strengthening compliance. We conduct compliance-related lectures and workshops throughout our Group companies both in Japan and overseas, and also put up compliance awareness posters throughout our facilities. Moreover, we ask all executives and employees in Japan and overseas to provide the company with signed declarations each year promising that they will abide by the Principles of Activities. This gives them the opportunity to reflect on how they carry out their work in terms of compliance.

### UK Modern Slavery Act

Subsidiary Electric Glass Fiber UK, Ltd. has published a transparency statement pursuant to Section 54 of the UK

Modern Slavery Act 2015.

## Risk Management

Our Group reviews business risks on a periodic basis, based on our policy on internal control, and takes the necessary steps to manage such risks. In cases involving any business risks that are deemed significant, responsible divisions or

specialized committees formulate regulations and guidelines, conduct training, prepare manuals, and undertake additional activities as deemed necessary.

## Communicating with Stakeholders

We declare in our Group Code of Conduct that we disclose necessary corporate information in a timely and appropriate manner, and communicate on a broad basis with stakeholders. To enhance our corporate value, we strive to maintain active communication and deepen mutual understanding with various stakeholders.

### Communicating with Customers

The principle of "customer first" is a key value in our corporate philosophy structure, and a commitment to being the world's best in customer satisfaction is one of our essential management policies. We have basic policies for product safety and quality assurance, through which we aim to further improve customer satisfaction and deliver safe, reliable, and high-quality products.

#### Product Safety Basic Policy

We always offer safe products that consumers can use without worry.

1. Place the utmost importance on ensuring product safety from the design stage.
2. Continue to improve product safety through quality assurance.
3. Continue to reduce risks throughout the product life cycle.
4. In case of an accident involving our product, disclose information and ensure product safety promptly.

#### Communicating Product Information

We use exhibitions and our website as communication tools for introducing products and providing various relevant information.

Exhibitions

<https://www.neg.co.jp/en/company/exhibition/>

#### Quality Assurance Basic Policy

Under the principle of "customer first," we offer products that satisfy customers through the cooperation of all divisions involved in product sales, manufacturing, and development.

1. Properly understand customer needs for products and continue to reflect these needs in product specifications.
2. Market products that comply with appropriate quality assurance standards.
3. Continue to improve product quality and enhance the level of manufacturing that ensures product quality.
4. Take prompt and appropriate action to manage any problems reported by customers.

### Communicating with Business Partners

#### Basic Procurement Policy

Under the basic procurement policy that we have established, we seek to build up reliable relationships with business partners who can provide us with a stable supply of products and services of superior quality at competitive prices. In order to enhance the performance and efficiency of the entire supply chain, we ask our business partners to agree to produce a stable supply following our supply chain guidelines, improve their competitiveness, comply with laws and regulations, respect human rights, and protect the environment.

Minerals (such as tin, tantalum, tungsten, and gold) sourced in the Democratic Republic of the Congo and

adjacent countries in Africa are used to finance armed groups carrying out inhumane acts. That is why we place great importance on responsible procurement practices to ensure we do not source conflict minerals.

#### Basic Procurement Policy

1. Open and fair business dealings
2. Harmonious mutual prosperity with partners
3. Compliance with social norms
4. Consideration for human rights
5. Environmental consciousness
6. Policies regarding conflict minerals

Procurement policy and guidelines

<https://www.neg.co.jp/en/company/procurement/>

### Communicating with Shareholders and Investors

#### Information Disclosure Policy

Through the use of the Tokyo Stock Exchange's Timely Disclosure Network (TDnet), and by posting information on our website in a timely fashion, we ensure that we provide prompt disclosure of information according to the rules for disclosure established by the Tokyo Stock Exchange.

Furthermore, with regard to information that we believe will assist our stakeholders in gaining a better understanding of our Group, we make active use of news releases and web pages to present such information in a timely, appropriate, and fair manner, in accordance with Japan's Fair Disclosure Rules.

Basic stance on information disclosure

<https://www.neg.co.jp/en/ir/disclosure/>

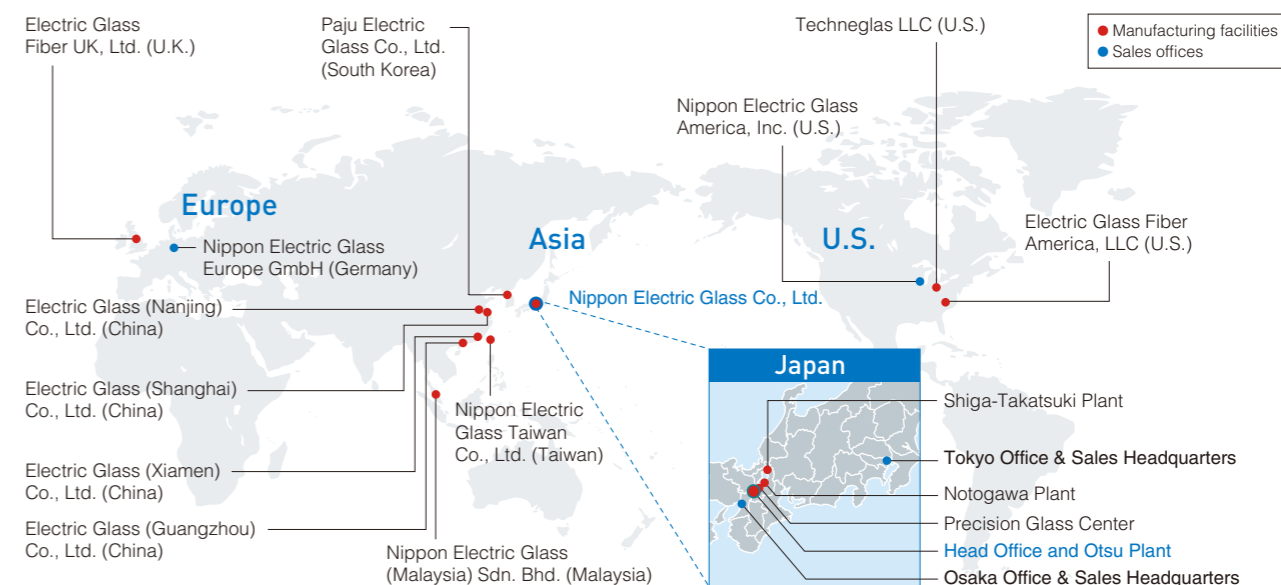
## Corporate Information

### Corporate Profile

**Company name** Nippon Electric Glass Co., Ltd.  
**Head office** 7-1, Seiran 2-chome, Otsu, Shiga 520-8639, Japan  
 Tel: +81-77-537-1700  
**Sales headquarters**  
**(Osaka)** 10F, Sumitomo Seimei Shin-Osaka Kita Bldg., 1-14, Miyahara 4-chome, Yodogawa-ku, Osaka 532-0003, Japan  
 Tel: +81-6-6399-2711  
**(Tokyo)** 9F, Shinagawa Grand Central Tower, 16-4, Konan 2-chome, Minato-ku, Tokyo 108-0075, Japan  
 Tel: +81-3-5460-2510

**Founded** December 1, 1949  
**Plants (in Japan)** Otsu, Shiga-Takatsuki, Notogawa, Precision Glass Center  
**Capital** 32,155 million yen  
**Number of employees** 5,578 (consolidated, as of December 31, 2023)  
**Stock exchange listings** Tokyo Stock Exchange (Prime Market)  
**Securities code** 5214  
**Fiscal year** January 1 to December 31 of each year  
**Ordinary general meeting of shareholders** Held each year in March  
**Transfer agent for common stock** Sumitomo Mitsui Trust Bank, Limited

### Global Operations

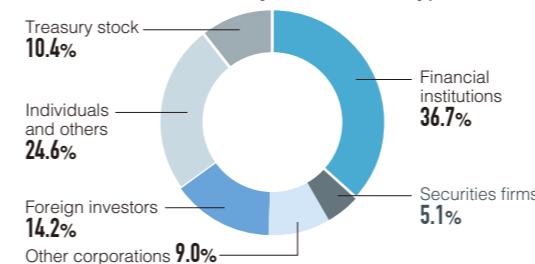


### Stock Information (as of December 31, 2023)

#### Information about NEG Stock

Total number of shares authorized to be issued	240,000,000 shares
Total number of shares issued	99,523,246 shares
Shares per unit	100 shares
Total number of shareholders	41,556

#### Distribution of Shares by Shareholder Type



#### Major Shareholders

Shareholder	Number of shares held (thousand shares)	Shareholding ratio (%)
The Master Trust Bank of Japan, Ltd. (Trust Account)	16,190	18.2
Custody Bank of Japan, Ltd. (Trust Account)	8,676	9.7
Nipro Corporation	4,644	5.2
Aya Nomura	3,564	4.0
JP Morgan Securities Japan Co., Ltd.	2,487	2.8
The Shiga Bank, Ltd.	1,617	1.8
Keimitsu Kin	1,500	1.7
NEG Business Partner Shareholding Association	1,321	1.5
Japan Securities Finance Co., Ltd.	1,264	1.4
The Bank of New York Mellon 140051	1,183	1.3

Notes: 1. NEG holds 10,378,386 treasury stock, and these are excluded from the major shareholders indicated above.  
 2. The ratio of shareholding is calculated by excluding treasury stock.

# Consolidated Financial Data from the Past 10 Years

## Nippon Electric Glass Co., Ltd. and consolidated subsidiaries

\*Fiscal year ended December 31, 2014 was a nine-month period due to a change in the fiscal year-end.

(Millions of yen and thousands of U.S. dollars, unless otherwise specified)

	2014/12*	2015/12	2016/12	2017/12	2018/12	2019/12	2020/12	2021/12	2022/12	2023/12	
<b>Results of operations</b>											
Net sales	¥192,692	¥251,178	¥239,412	¥282,447	¥300,327	¥257,511	¥242,886	¥292,034	¥324,635	¥279,975	\$1,971,655
Operating profit (loss)	5,224	22,035	19,571	32,202	24,866	16,258	17,661	32,780	26,184	(10,421)	(73,387)
Profit (loss) attributable to owners of the parent	5,938	9,637	4,969	27,184	15,200	(33,670)	15,253	27,905	28,168	(26,188)	(184,423)
Depreciation and amortization	28,420	37,154	31,256	28,735	29,776	28,576	24,932	26,721	28,962	37,185	261,866
Capital expenditures	45,214	49,212	46,429	52,913	49,340	20,160	23,447	44,894	68,024	34,402	242,268
Research and development	5,527	6,183	6,658	6,898	6,959	6,901	6,259	6,599	7,266	8,094	57,000
<b>Financial status</b>											
Total assets	¥731,185	¥726,938	¥693,918	¥764,420	¥725,320	¥664,801	¥658,140	¥698,130	¥747,907	¥703,917	\$4,957,162
Current assets	264,001	267,430	254,870	262,932	247,742	241,483	246,400	264,512	271,680	253,105	1,782,430
Net property, plant, and equipment	397,273	386,013	367,399	393,818	386,541	358,682	355,728	380,281	425,630	392,968	2,767,380
Current liabilities	82,701	105,400	86,025	103,836	112,992	96,485	103,577	117,935	131,665	109,043	767,908
Interest-bearing debt	109,141	109,731	101,997	120,661	112,005	100,479	103,687	96,823	105,525	120,343	847,486
Net assets	522,577	519,801	509,564	543,789	521,548	477,155	476,920	499,743	528,912	490,130	3,451,620
<b>Cash flows</b>											
Cash flows from operating activities	¥38,837	¥46,797	¥48,261	¥46,160	¥52,002	¥21,637	¥47,862	¥69,882	¥31,563	¥(1,361)	\$(9,585)
Cash flows from investing activities	(29,264)	(32,638)	(36,139)	(68,644)	(19,551)	(14,317)	(19,760)	(31,755)	(57,155)	(20,777)	(146,317)
Cash flows from financing activities	1,699	(7,892)	(17,624)	9,797	(28,503)	(21,976)	(7,739)	(29,178)	(5,874)	(11,573)	(81,499)
Cash and cash equivalents at end of year	129,823	133,856	126,167	113,835	116,249	100,977	121,215	134,723	106,863	75,083	528,753
<b>Per share of common stock (yen and dollars)</b>											
Net income (loss)	¥59.69	¥96.88	¥49.95	¥273.29	¥154.26	¥(348.50)	¥157.84	¥290.98	¥302.76	¥(282.90)	\$(1.99)
Net assets	5,163.32	5,159.30	5,069.60	5,416.93	5,346.03	4,885.50	4,886.10	5,321.77	5,635.52	5,463.53	38.48
Cash dividends	60.00	80.00	80.00	90.00	100.00	100.00	100.00	110.00	120.00	120.00	0.85
<b>Financial indicators (%)</b>											
Operating margin	2.7	8.8	8.2	11.4	8.3	6.3	7.3	11.2	8.1	(3.7)	
Equity ratio	70.2	70.6	72.7	70.5	71.2	71.0	71.7	70.9	70.1	69.2	
Return on equity	1.2	1.9	1.0	5.2	2.9	(6.8)	3.2	5.8	5.5	(5.2)	

Notes: 1. Net income (loss) per share and net assets per share are calculated based on the average number of shares outstanding during each year and the number of shares outstanding at the end of each year, respectively.  
2. As there was no dilutive stock outstanding during these years, diluted net income per share was not calculated.  
3. As of December 31, 2023, Nippon Electric Glass Co., Ltd. had 24 consolidated subsidiaries and 1 affiliated company accounted for by the equity method. Note that Electric Glass Fiber NL, B.V. commenced bankruptcy proceedings on September 26, 2023 and has since been excluded from NEG's consolidated data.  
4. Capital expenditures for the fiscal year ended December 31, 2014 were calculated based on the period from April 1, 2014 to December 31, 2014 for NEG and its domestic consolidated subsidiaries and the period from January 1, 2014 to December 31, 2014 for NEG's overseas consolidated subsidiaries.

5. Per share of common stock amounts are retroactively adjusted for subsequent stock consolidation. On July 1, 2017, common shares were consolidated at a ratio of 5 to 1 based on the number of shares held by shareholders of record as of June 30, 2017.  
6. NEG and its consolidated subsidiaries have applied the "Partial Amendments to Accounting Standard for Tax Effect Accounting" (Accounting Standards Board of Japan [ASBJ] Statement No. 28, February 16, 2018) from the fiscal year ended December 31, 2019. Accordingly, total assets and current assets for the fiscal year ended December 31, 2018 reflect the retroactive application of this standard.  
7. NEG and its consolidated domestic subsidiaries have applied the "Accounting Standard for Revenue Recognition" (Accounting Standards Board of Japan [ASBJ] Statement No. 29, March 31, 2020) and the relevant revised ASBJ regulations from the beginning of the fiscal year ended December 31, 2022. Accordingly, consolidated financial statements for that fiscal year reflect the application of this standard and the relevant revised ASBJ regulations.  
8. U.S. dollar amounts have been translated from Japanese yen solely for the convenience of the reader using the prevailing exchange rate at December 31, 2023 of ¥142 to U.S. \$1.00.