



# NSG Group Information 2025

Nippon Sheet Glass Co., Ltd.

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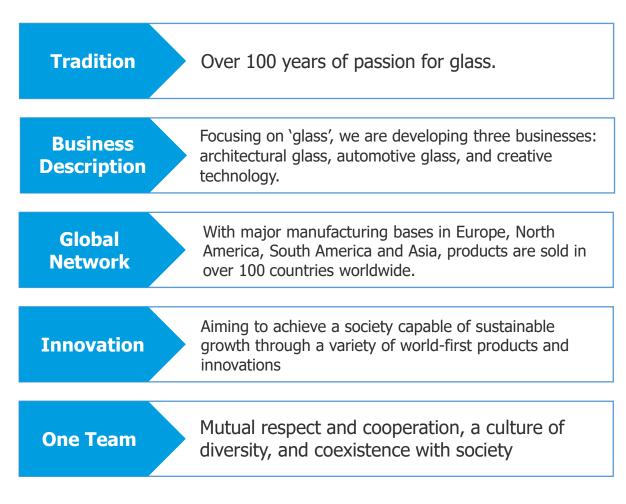


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# What is NSG Group?

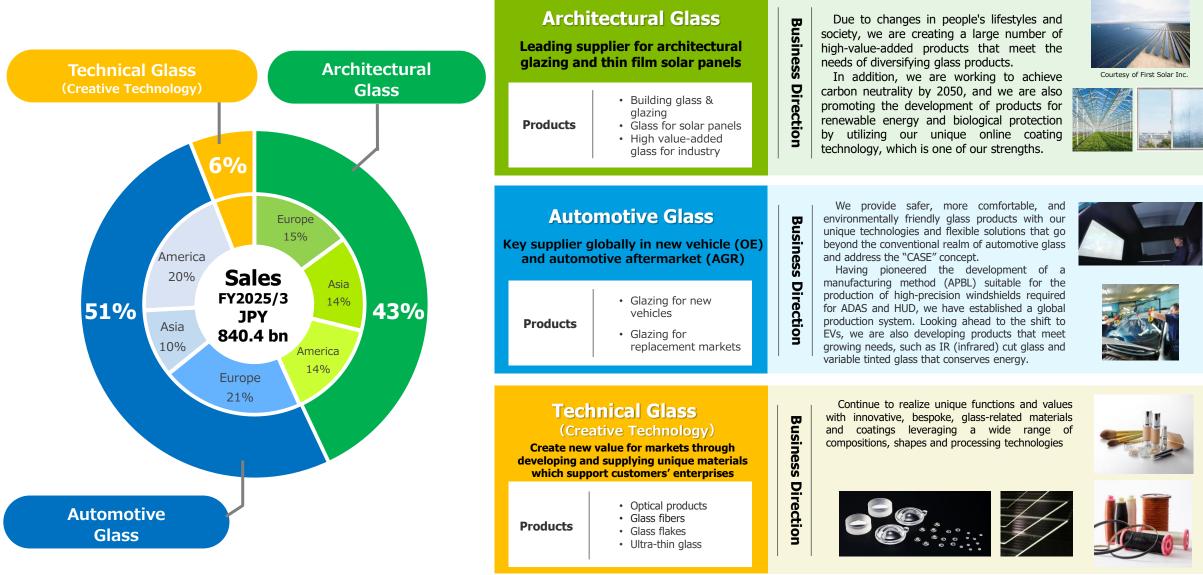
NSG Group is one of the world's largest glass manufacturers, with a strong passion for glass and a history of innovation, working with colleagues who share our aspirations.





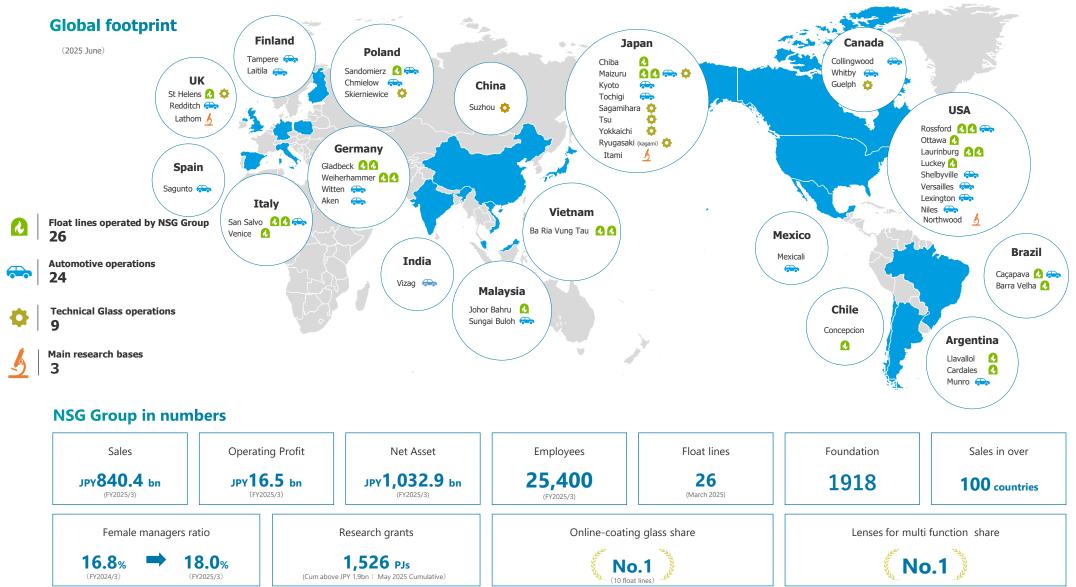
## **Business Overview**





# **Manufacturing and Research Bases**





# **History**



				GROUP
1826-1940s Foundation &	ST BILITIS) Glasuillorks	In 1826, <b>the St. Helens Crown Glass Company</b> , Pilkington's predecessor, was founded in England.	The world's first glass technology from the NSG Group	
Expansion	1918	America Japan Sheet Glass Co Ltd established in Osaka	1942	First patent on coated glass technology
	1931	Company name changed to Nippon Sheet Glass Co., Ltd.	1946	The first production plant for insulated
	1936	Yokkaichi site opened	1940	glass was operating
	1950	Listing on stock exchanges in Japan	1952	Invention of float glass
1950s -1960s Capacity Expansion	1951/1964	Maizuru / Chiba sites opened	1992	
and Start of Automotive Glass	1965	First float glass production in Asia at Maizuru site	1970s	Development of a wire-heated
	1905	This hoat glass production in Asia at Maizuru site	10906	windshield for Rolls-Royce
1970s-1990s	1971	First overseas investment made in Malaysia	1980s	First online pyrolytic low-e coating
Overseas	1978-79	UFF™ (Ultra Fine Flat)/ glass fiber business launched		Coated heated windshield for GE EV1
Expansion & Diversification	1995	Overseas investment expanded including China and Vietnam		Modular glazing with PU RIM
	1990		1997	First commercial vacuumed glass product, "Pilkington Spacia™"
2000s	2004	Headquarters moved from Osaka to Tokyo	1998	First oxy fired float line in the world in
Acquisition of	2006	Acquisition of Pilkington, becoming global leader in flat glass	1550	Rossford, OH
Pilkington & Globalization	2008	"Company with committees" governance adopted	2004	First self-cleaning glass, "Pilkington
	2010	Announces of Noun Mision/	2001	Activ™″
Ŭ	2018	Announcement of "Our Vision"	2003	First high-performance solar control on-
2010s- Shift to Value-	2020	Float lines for solar energy glass established in the US and expanded in Vietnam		line coated clear glass
added Business & Focus on Financial	2024	Announcement of Medium-Term Plan, "2030 Vision: Shift the Phase"	2005	Anti-reflective glass, "Pilkington OptiView™"
Stability	2025	Completion and start production at a new solar energy glass facility converted from an existing float line in the US		6

# Medium-Term Plan 2030 Vision: Shift the Phase

ROS

Free cash flow

ratio

2025



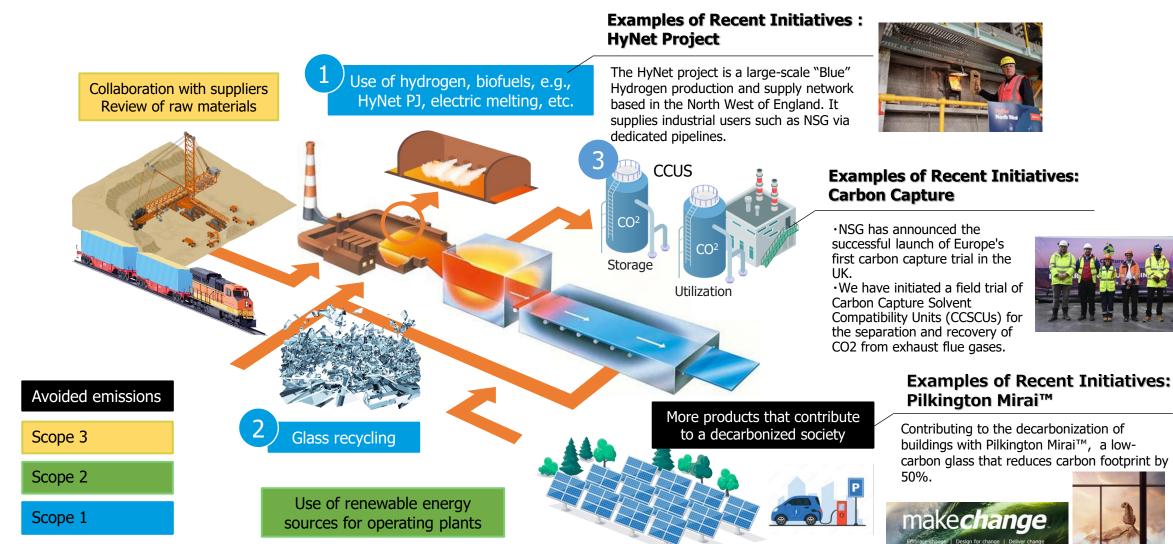
Focusing on our strengths, glass and related technologies, we aim to expand profits in high-value areas that contribute to the sustainable development of society.

GOAL To shift our company's phase and become vital in advancing a sustainable society Commitment -We are committed to creating value that realizes a sustainable society for, and with, all our stakeholders. -We are committed to developing and providing glass and its related technologies and services that play a crucial role in our customers' solutions. -We are committed to deeply understanding our customers' potential needs and delivering solutions that are suitable for them by leveraging both tangible and intangible assets. -We are committed to continuing to invest in our people, taking pride in a global, diverse team passionate about glass and brimming with talent. FY2024/3 **Group-Wide Strategic Direction - 4 "D"s** FY2027/3 **Business Development** 64.0 billion yen **Operating Profit** 35.9 billion yen To strengthen new product and business development efforts FY2030/3 Decarbonization 4.3% 7% As part of our contribution to societal decarbonization ROS 15.3 billion yen **27.0** billion yen **Digital Transformation** 10% or more Through high-value operations utilizing digital technologies to their full extent 442.0 billion yen **Interest-Bearing Debt** 506.5 billion ven **Diverse Talent** Shareholders' equity 12.3% 15% In order to realize a truly diverse and inclusive team that brings about the phase shift we need NSG Group Information

# **Decarbonization Initiatives**

NSG Group aims to reduce  $CO_2$  emissions by 30% by 2030 and achieve carbon neutrality by 2050.





# **Supply Chain Initiatives**

NSG Group is working with its suppliers to achieve a sustainable society.



#### **The Supplier Code of Conduct**

The Supplier Code of Conduct sets out the minimum standards and behaviors we expect from our suppliers of goods & services in areas of ESG. We expect all new suppliers and existing contracted suppliers to have signed agreement to the Code.



#### **Sustainable Supply Chain Charter**

In September 2023, the Supply Chain Charter was launched to enhance and accelerate actions beyond the Code of Conduct to deliver the Group's sustainability objectives.

This Charter sets out the eight areas that we have identified as the most critical in terms of environmental and social impact.



#### **External Evaluation**

#### CDP Supplier Engagement Leader

We have been recognized by CDP in their most recent evaluation for CY2024 as a Leader in Supplier Engagement.

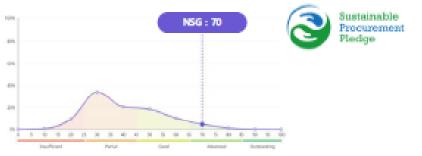




#### Sustainable Procurement Pledge

NSG Group has also taken the step in FY2023/3 to join the League of Champions within the Sustainable Procurement Pledge (SPP) organization. This network of individuals and companies is driving the agenda on Sustainable Procurement and Supply Chains.





# **DEI Initiatives**



NSG Group is committed to fostering an inclusive and diverse culture where everyone can be their best.



their strengths

#### Statement of Intent

#### Having an Inclusive Culture and Environment:

We give everyone an equal opportunity to contribute to their full potential and harness the richness of ideas.

#### Having a Diverse Workforce:

Any differences in individuals' backgrounds, experiences, preferences and beliefs are recognized, respected and valued for their variety of perspectives.



In commemoration of International Women's Day, an Italian site was lit up in purple.



Promoting diversity in the tech industry with the "Skills City Program"



NSG Group and Pilkington UK win big on Diverse Talent, Decarbonization and product Development at the Glass Focus Awards 2024



Upskilling women in our workforce so they are empowered and encouraged to grow and develop for future roles within the business.

We will promote the four 'Fs' Flat, Frank, Fast, and Fun communication within the organization as part of our corporate culture.

## Board of Directors (As of 26 June 2025)



NSG Group adopts a "Company with Three Committees" governance structure, and has in place, as statutory corporate organizations, Board of Directors and Nomination Audit and Compensation Committees, and an office of Executive Officer. Currently, the Chairperson of the Board as well as chairpersons of all three Committee are all appointed from among the Independent External Directors.



## Executive Officers (As of 26 June 2025)





# **Social Action Programs**



As a responsible and important member of the local communities in which we operate, NSG Group believes it is important to make a positive contribution to the development of our local communities.

#### **NSG Foundation**

NSG Foundation(Nippon Sheet Glass Foundation for Materials Science and Engineering) aim to contributing to the promotion of R&D activities on inorganic materials through research grants, which amounts above JPY1,900 million for 1,526 projects cumulatively (As of June 2025)



(公財) 日本板第子材料工学助成会 研究站成会睡堂式

#### **Contributing to Society through the Sumitomo Group**

As a member of the Sumitomo Group, we support projects in the fields of basic science, the environment, art and culture, and international exchange through the Sumitomo Foundation, and we also support events such as the "A Brief Message from the Heart" Letter Contest and the "Speech Contest of the Schools for the Blind" through the Sumitomo Group Public Affairs Committee, which are linked to the spirit of "People to People".



#### **Community Support Activities in Brazil**

The Group company in Brazil is supporting the social project "Banho Solidário Sampa", which provides homeless people in São Paulo, Brazil with warm baths, clean clothes and other daily necessities.

#### **Bee Project Charity Activities in UK**

Honeybees are kept at the Lathom and NGFE sites in the UK, and the honey is sold locally, with the profits donated to local charities every year. This activity also helps to protect the environment and increase biodiversity around the sites, which are rich in nature and popular with the bees.



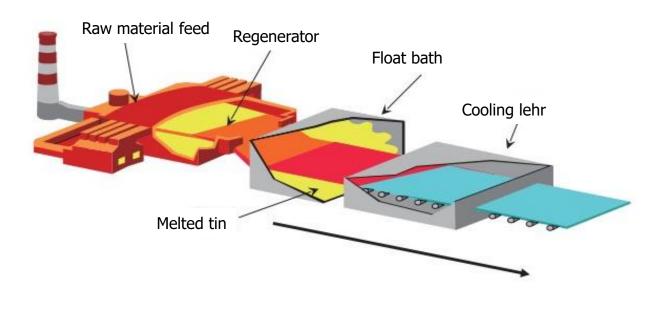
# **Float Glass Manufacturing Process**

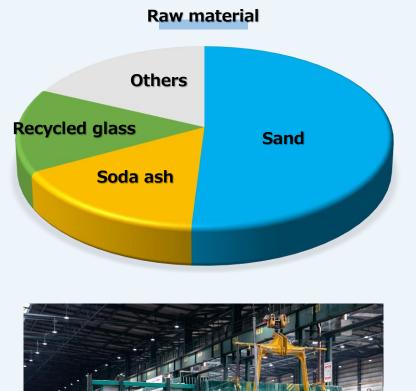


### What is "Float glass" ?

**Appendix** 

Molten glass is poured continuously from a furnace onto a shallow bath of molten tin. It floats on the tin, spreads out and forms a level surface. This method was introduced to the world as the float process in 1959.

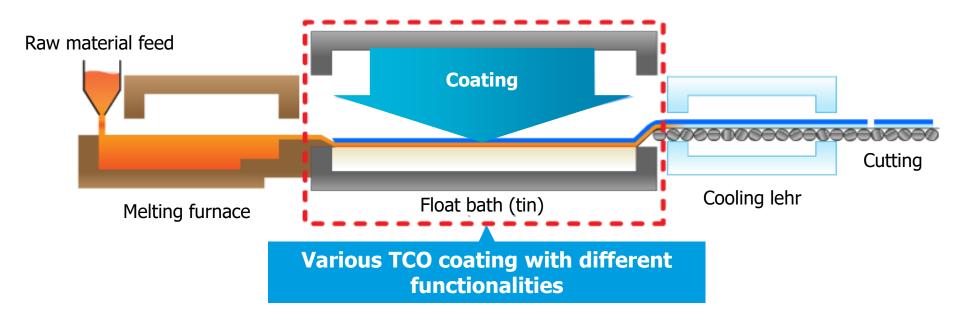






# Appendix Online Coating





#### **Characteristics of Online Coatings**

- Thin, uniform metallic oxide film deposited over glass while being formed inside the float bath
- Cost competitive, available in large size
- Durable: suitable for further processing & for use as an external glass pane
- Versatile: architectural, solar & automotive applications, technical applications include thin or curved displays, OLED lighting and thin-film sensors



# Automotive Glazing – Toughening

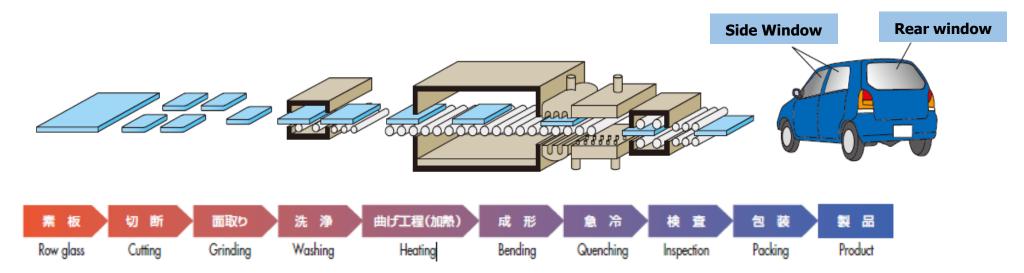


## What is "Toughening glass"?

Flat glass is placed in a tempering oven, and heated to between 650 and 700°C, which is near the glass softening temperature.

Then the glass is quenched by blowing air evenly on both sides, causing the surface to harden first, with the inside cooling and shrinking later. The result is the formation of a stable compressive stress layer at the surface, and the glass is 3 to 5 times more resistant to impact than ordinary glass.

This glass is mainly used for the side and rear windows of automobiles.



#### Main uses for toughening glass

Appendix

#### Appendix

# **Automotive Glazing – Laminating**



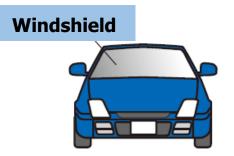
#### What is "Laminated Glass" ?

Laminated glass consists of two pieces of glass with a sandwich of transparent plastic interlayer.

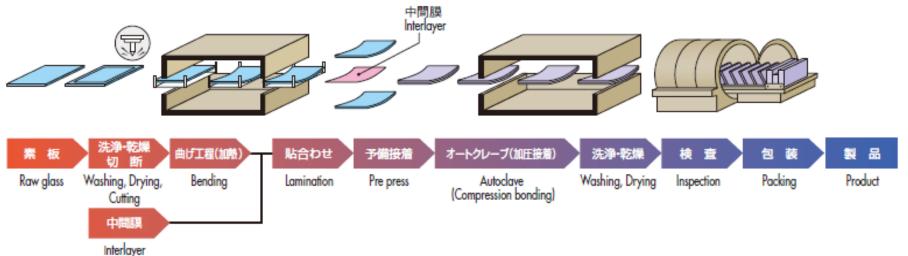
This is then placed into an air-pressure autoclave and treated at high temperature and pressure.

Some special products are made with 3 or more sheets of glass.

This glass is mainly used for the front windows of automobiles.



Main uses for laminated glass





 $\searrow$  NSG Badger  $\nearrow$ 

