



2030 Vision

Shift the Phase

NSG Group

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3. 2030 Vision and Strategic Pillar
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Executive Summary of the Medium-Term Plan

- Through Revival Plan 24 (RP24), we've seen consistent improvements in profitability. However, our profit margins are still on the lower side. We will persist in our journey to transform ourselves into a highly profitable business group.
- We will drive forward reforms aligned with our 2030 Vision of transitioning to the next phase and positioning ourselves as vital contributors to the development of a sustainable society.
- NSG Group is committed to advancing glass and associated technologies and services. We are focused on crafting solutions in tandem with our customers to promote sustainability.
- Our strategy is embodied in the **4Ds**. These are the pillars that serve as the foundation for the NSG Group to drive forward our vision.
 - **B**usiness **D**evelopment: We will identify opportunities for value creation and invest in them discerningly. Mindful of the cost of capital, we will continuously optimize resource allocation.
 - **D**ecarbonization: We are championing decarbonization across our supply chain, underlining our commitment to a sustainable future.
 - **D**igital Transformation: We are overhauling our operations through comprehensive digital adoption, ensuring efficiency and innovation at every step.
 - **D**iverse Talent: We are committed to creating a genuinely diverse, high-performing, and truly inclusive team.
- Through a strategy centered around the 4Ds, we will reduce interest-bearing liabilities and bolster equity by improving cash flow. During this medium-term period, we will restructure the capital structure, including Class A shares, to achieve a robust balance sheet.
 - Our targets for FY2027/3 are an operating profit of 64 billion yen, a return on sales (ROS) of 7%, free cash flow of 27 billion yen, and a shareholders' equity ratio of 15%.
 - We will make continuous efforts to expand high value-added businesses and reduce market dependence to achieve ROS of 10% or more in FY2030/3



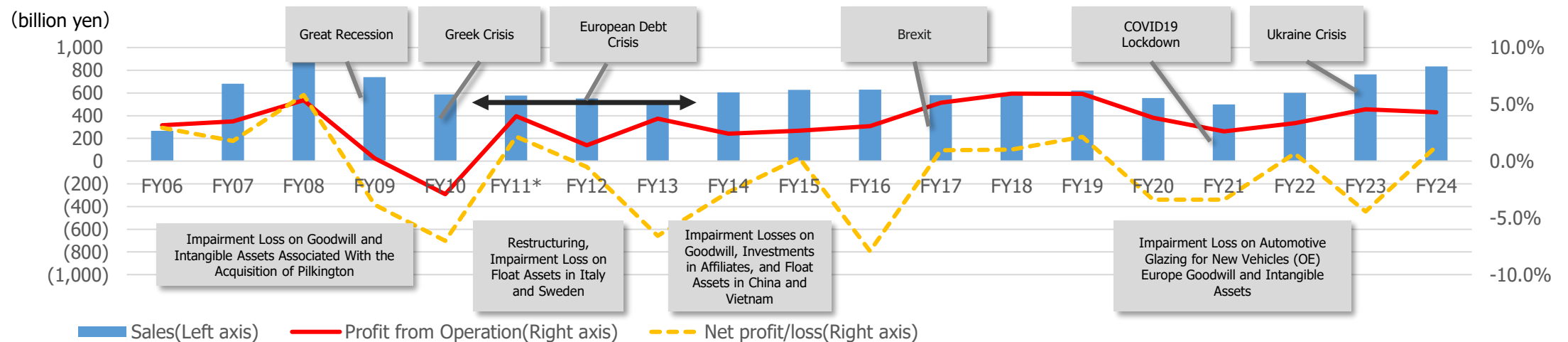
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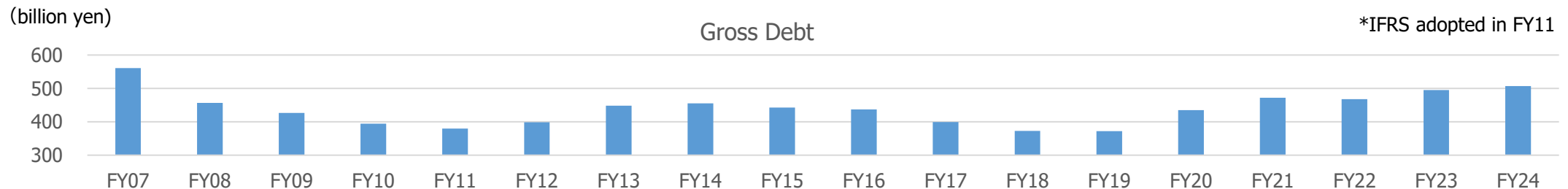
Post-Acquisition Performance

In Revival Plan 24 (RP24), we achieved steady improvements in profitability, but did not reach our targeted 8% return on sales (ROS). Halfway through our journey, we remain committed to becoming highly profitable without loosening our grip.

- Since the acquisition of Pilkington, performance has fluctuated, in part influenced by the macroeconomic factors.



- Borrowings declined from FY17 to FY19; however, they subsequently rose, in part due to the impact of a weaker yen. Addressing the challenge of reducing our borrowings remains among our prime concerns.



RP24 in Review: Status of Financial Goals Achievement

In RP24, reforms were promoted in response to the critical business environment. As a result, we achieved our targets for shareholders' equity ratio and free cash flow, while the earnings target was significantly missed.

	FY2022/3	FY2023/3	FY2024/3	RP24 (Targets)	Performance Against Objectives
Operating Profit Margin ^{*1}	3.3%	4.6%	4.3%	8%	<ul style="list-style-type: none"> Profit targets not met but activity plans steadily progressed Expansion of manufacturing capacity for high value-added products Reduce fixed and purchasing costs through cost structure reform
Net Profit ^{*2} (billion yen)	4.1	(33.8)	10.6	3-year cumulative total of 30 or more	<ul style="list-style-type: none"> Review of prices in all businesses Portfolio transformation through disposal of battery business and Russian business, restructuring of Chinese business, etc. Amortization of goodwill in the European automotive business
Shareholders' equity ratio	15.5%	10.2%	12.3%	10% or more	<ul style="list-style-type: none"> Shareholders' equity ratio over 10% consistently
Free cash flow (billion yen)	22.3	13.9	15.3	10 or more	<ul style="list-style-type: none"> Exceeded 10 billion yen for 3 consecutive years

^{*1} Operating margin after amortization of intangible assets ^{*2} Profit/(loss) for the year attributable to owners of the parent

RP24 in Review: Results of Policy Measures

We addressed our challenges and achieved significant milestones. While there are still many issues to tackle in the medium-term plan, we have made substantial progress in building an organization that works together as one team on reforms, a result that will contribute to future success.

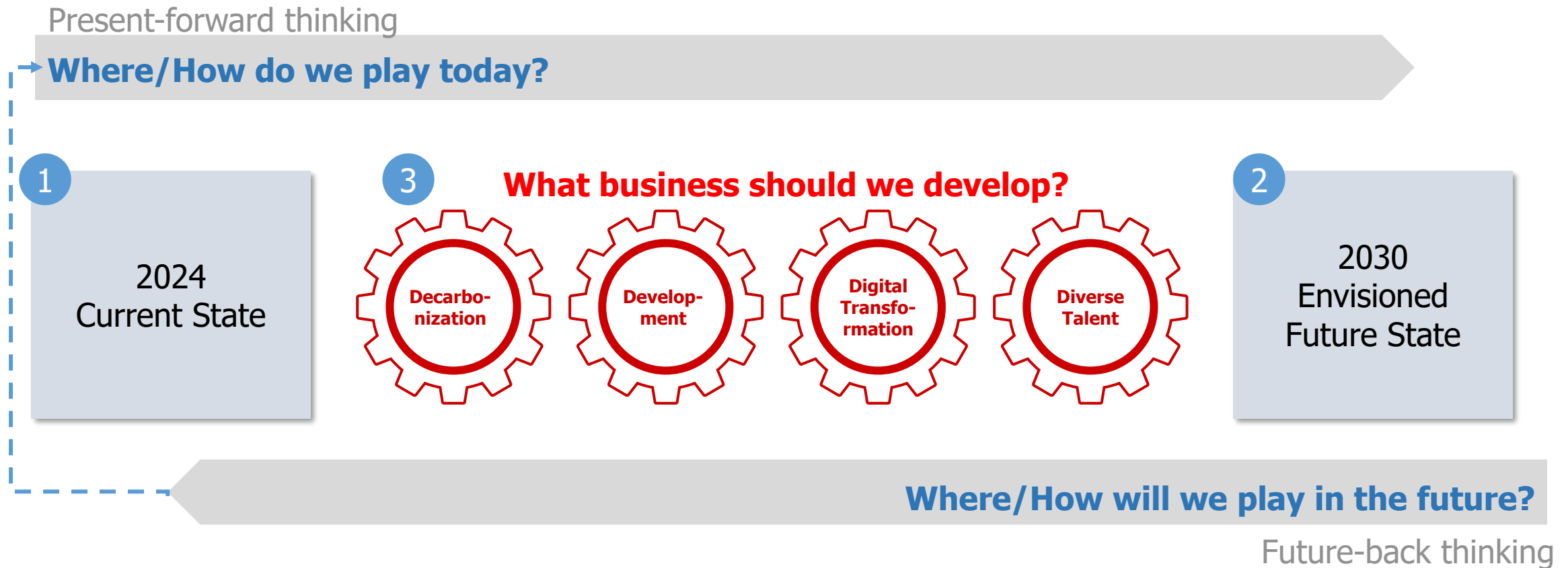
RP24 Policy Measures		Results	Actions in the Medium-Term Plan
Three Reforms	Cost Structure Reform	<ul style="list-style-type: none"> 18 billion reduction in labor costs Approximately 80 billion yen in price improvements 	<ul style="list-style-type: none"> Measures to counter inflation and interest rate increases (Continuous cost reduction, price management)
	Business Structure Reform	<ul style="list-style-type: none"> Capital investment for solar projects in North America and Malaysia, Capacity reduction at the Chiba plant Capacity reduction and product portfolio shift in the automotive business Integration of BIC divisions, and selection of pipelines to focus on 	<ul style="list-style-type: none"> Further rationalization in response to changes in the external environment Continued selection of business areas and reallocation of resources
	Corporate Culture Reform	<ul style="list-style-type: none"> Leadership Behavior Charter, Employee Survey, 4F (Flat, Frank, Fast, Fun) Communication Principles Significant progress in building an organization that collaboratively engages in reforms as One Team 	<ul style="list-style-type: none"> Formulating and implementing HR strategies that leverage diversity as a source of competitive advantage in business
Two Key Measures	Restoration of Financial Stability	<ul style="list-style-type: none"> Operating profit margin: Target not achieved Net profit: Excluding goodwill impairments on Automotive business, the three-year cumulative total is 29.8 billion Shareholders' equity ratio: Achieved over 10% Free cash flow: Achieved 10 billion consecutively for three years 	<div> <ul style="list-style-type: none"> Strategic replacement of assets, concurrent enhancement of the earning power in core operations Profitability reforms with an awareness of the cost of capital Strengthening of the revenue foundation centered around the four Ds Debt repayments, Reduction in finance expenses </div>
	Transformation into More Profitable Business Portfolio	<ul style="list-style-type: none"> Disposal of battery separator business Restructuring of the automotive business in China Withdrawal from the Russian market Closure of St. Helens (the Watson Street), solar conversion of existing manufacturing facilities 	

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Our Approach to Formulating the Medium-Term Plan

Backcasting from the envisioned state we aim to achieve by 2030, we developed the strategies and activity plans to become an attractive company for both internal and external stakeholders.



2030 Vision: The Envisioned State of NSG Group

After one year of discussions, we formulated our 2030 Vision. 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 commit to creating value that realizes a sustainable society for all stakeholders and with stakeholders.
- We commit to developing and providing glass and its related technologies and services that play a crucial role in our customers' solutions.
- We commit to deeply understanding our customers' potential needs and delivering solutions that are suitable for them by leveraging both tangible and intangible assets.
- We commit to continuing our investment in our people, taking pride in a global, diverse team passionate about glass and brimming with talent.

Financial Targets

Throughout this medium-term period, NSG Group is focused on enhancing profitability and increasing cash generation to improve its financial status.

		FY2024/3	FY2027/3	
Profitability (P/L)	Operating Profit	35.9 billion yen	64.0 billion yen	<ul style="list-style-type: none"> • Clear profit growth targets • Disciplined business strategy and overhead management
	ROS	4.3%	7%	
Cash Generation (C/F)	Free cash flow	15.3 billion yen	27.0 billion yen	<ul style="list-style-type: none"> • Rigorous management of investments and working capital
Stabilization of Financial Status (B/S)	Interest-Bearing Debt	506.5 billion yen	442.0 billion yen	<ul style="list-style-type: none"> • Reduction of interest-bearing debt • Stabilization of our financial status for enhancing our investment for growth
	Shareholders' equity ratio	12.3%	15%	
Capital and Investment Efficiency	ROE	9.6%	20%	<ul style="list-style-type: none"> • Monitoring ROE improvement as a reference indicator, not as a goal

(assumed FX effect in FY2027 financials)

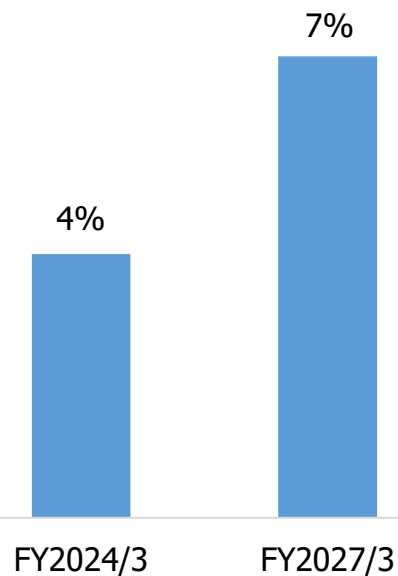
We will make continuous efforts to expand high value-added businesses and reduce market dependence to achieve ROS 10% or more in FY2030/3.

Profitability Improvement

Improve profitability through portfolio transformation by investing in enhanced manufacturing capacity for high value-added products, continuous cost reduction, and strategic replacement and conversion of manufacturing facilities.

NSG Group Targets

- Aims to achieve ROS 7% in FY2027/3

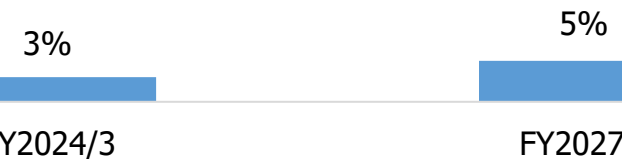


ROS Targets by Business

Architectural



Automotive

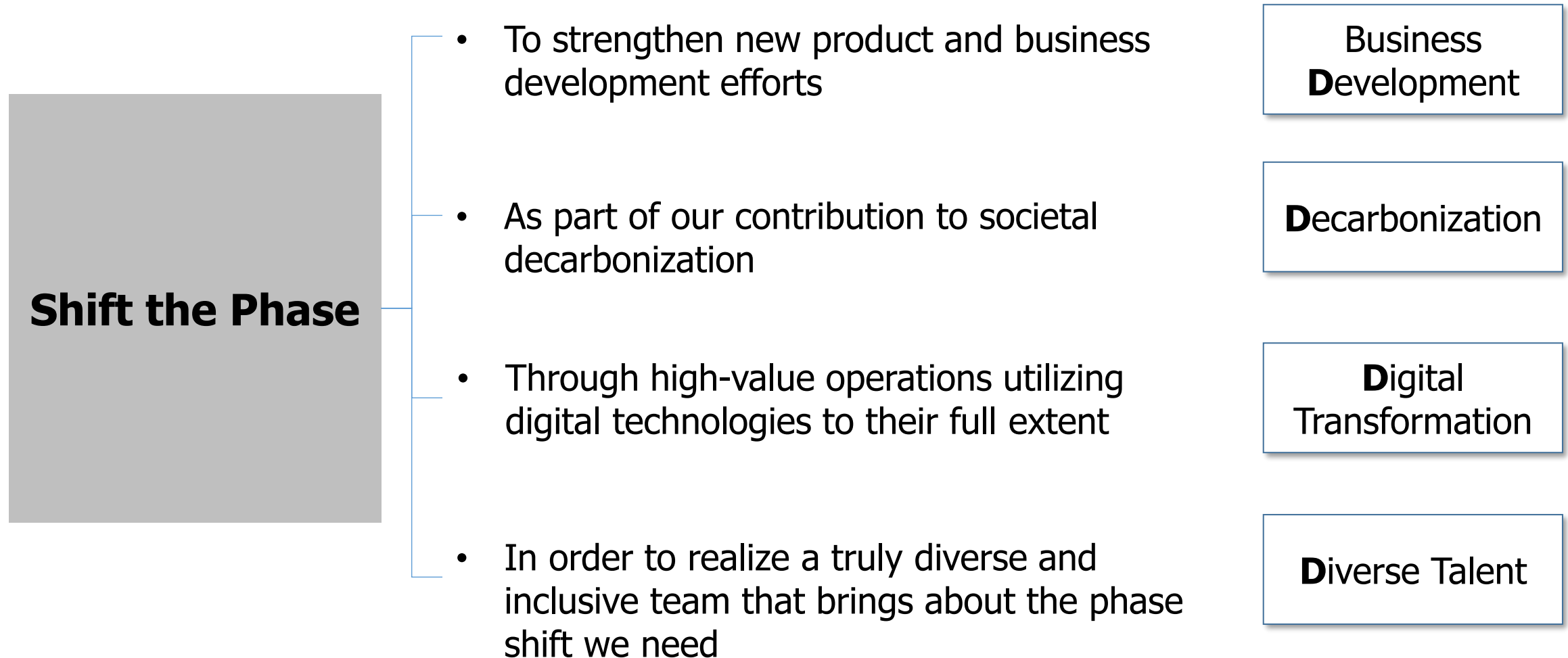


Technical Glass



Group-Wide Strategic Direction

Positioning the four Ds as the strategic pillars of the NSG Group, we aim to achieve our strategic goals in each pillar.



2030 Vision: Strategic 4D

Business Development

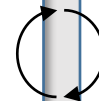
Business Development

Adapting to societal changes, we will develop new solutions and technologies with our customers to create high added value.

We will enhance our business creation capabilities by continuing to invest in R&D and fostering the skills of our personnel in business development within the glass and related areas.

Identifying areas where new value is demanded and creating new solutions together with customers.

- Identifying and focusing on areas of potential new value creation
- Co-creating value with customers
 - Strengthening our relationships with customers who are committed to new value creation
 - Adapting our technology to contribute to customers' technological goals
 - Turning the adapted technologies into business together with customers



Developing new, valuable technologies and services while taking pride in our history of creating world-first technologies and expertise

- Further evolving our proprietary technologies and expanding their applications
- Developing new technologies in areas that contribute to sustainability, informed by societal trends

We will maintain our focus on capital costs in prioritizing projects and allocating resources, through governance exercised in Management Committee.

Examples of Strategic Products to be Strengthened through Business Development

Architectural

- Products that contribute to the decarbonization of buildings
- Products that enhance the potential of solar technology

- Solar Panel



- Low E (On-line/Off-line/Laminated)
- Triple Glass Units
- Coated IGU



Automotive

- Products that contribute to the advancement of automobiles

- HUD/AR HUD windshields (WS)



- Heated windshields (WS)
- Large Area Fixed with Low e Roof Light (RL)
- Variable Transmission RL
- Higher functional RL



- IR Reflective windshields (WS)



Technical Glass

- Products that enable the development of high-performance components
- Products contributing to environmental conservation such as reduction of microplastics

- AOI (Automated Optical Inspection)
- FINEFLAKE/DURA FLAKE
- Filler
- MAGNAVI®



- LPH (LED Print Head)



- Base makeup powder products (MAR'VINA®/GLACIA DROPS™)



Business Environment Outlook

Architectural

- While near-term demand may see a downturn, the medium- to long-term demand is set to witness a surge in renovation activities aimed at boosting energy efficiency. This trend is expected to catalyze growth in the building glass market.
- The demand for carbon neutrality is on the rise, particularly in developed countries. Anticipation grows for South America to join this expansion by around FY30. This underscores the importance of developing capabilities to offer decarbonization solutions and securing a leadership role in the market.

Automotive

- The new car market is showing signs of recovery, yet vehicle production in our key markets is not anticipated to reach levels seen before the Covid-19 pandemic. On the other hand, the added value per vehicle is increasing with the penetration of ADAS/EVs into the markets.
- As glass bending and laminate technology requirements grow more complex to comply with ADAS/EV standards, elevating development and technological standards and boosting manufacturing capabilities become crucial for enhancing profitability and competitiveness.
- In the aftermarket, the growing number of new, ADAS-equipped vehicles increases the demand for sophisticated ADAS-compatible windshields, which in turn poses challenges to us in terms of timely supply. It's becoming crucial not only to develop and manufacture these advanced products but also to ensure quality service through an ecosystem incorporating skilled fitters for repair and replacement.

Technical Glass

- The markets targeted by existing products, e.g. printers, automotive engines, etc., are facing competition from alternative materials. While a sharp decline in these markets is not immediately expected, significant growth is not anticipated either.
- Adjacent market areas are experiencing growth, with opportunities emerging from expanded applications. (For instance, automatic optical inspection systems are projected to grow by approximately 10%, and markets for factory automation and e-bikes are also on the rise. Furthermore, materials for high-performance components, catering to the miniaturization and thinning of IT-related products and high-speed communications, are expected to see high growth.)

Business Development: Architectural

We will aim to be a leading supplier of architectural glass that contributes to sustainability, with a focus on decarbonization.

Key strategic measures:

Capability Enhancements for the Development of Sustainability Solutions

- Intensive investment in glass coating technology development and equipment
- A development focus that includes not only decarbonization but also wildlife protection, e.g., AviSafe™



Creation of high added value

Decarbonization of Our Products

- Establishing glass manufacturing technology using low- or no-carbon fuels and investing in equipment
- Market launch of low-carbon glass, e.g., Mirai™



Review of resource allocation

Continuous Reviews on Regional Strategies

- Strategically withdrawing and investing within Europe
- Reassessing resource allocation in Southeast Asia to pivot towards the solar business
- Expansion into regions where creation of added-value is expected in the medium to long term.



Business Development: Advanced Coating Technology

Leveraging our proprietary advanced coating technologies, we aim to become the development and supply partner for key components crucial for achieving the performance of customer products in renewable energy and similar sectors.

Key strategic measures:

Acceleration of Business Development with Business Partners

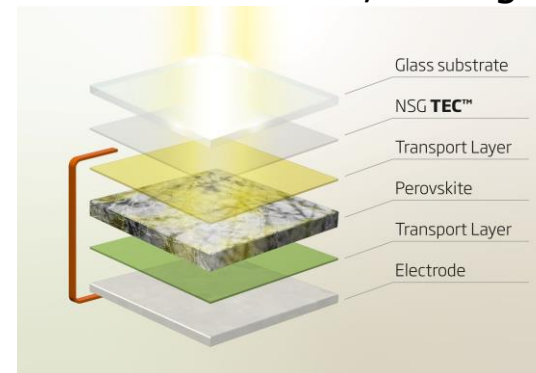
- Conversion of existing furnaces for Architectural into solar applications as our business partners ramp up their production, e.g., in North America and Southeast Asia



Creation of high added value

Development of New Technologies with Long-Term Growth Potential

- Technologically contributing to the development of diverse renewable energy technologies
 - Perovskite solar cell
 - Dye-sensitized solar cell
 - Photovoltaics integrated into building materials, among others



Review of resource allocation

Business Development: Automotive

We will accelerate manufacturing technologies to enable our global customers shift to safer, connected, greener vehicles, while shifting to a sustainably profitable business as key strategic global supplier.

Key strategic measures:

Capability Enhancements to Cater to ADAS and EV

- Developing advanced glass bending technology
- Developing manufacturing technologies for the diversifying applications of laminated glass, among others



Creation of high added value

Strengthening the Aftermarket Business

- Improving inventory management and timely market supply
- Enhancing efficiency by integrated management of new car and aftermarket businesses
- Optimizing sourcing strategies, among others



Review of resource allocation

Thorough Improvement of Profitability

- Continuously reviewing pricing strategy
- Further optimizing footprint
- Operational improvement



Business Development: Technical Glass

We will establish a new revenue pillar by developing proprietary materials that play a pivotal role in advancing our customers' product offerings.

Key strategy measures:

Expansion of Business in Adjacent Markets

- Developing new applications and uses for glass flake and fiber technology
- Advancing our SELFOC® optical materials technology, and developing its new applications



Creation of high added value

Commercialization of New Technologies

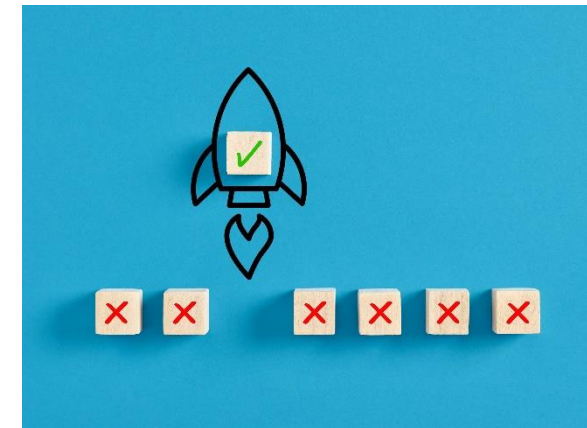
- Expanding sites and staffing in customer markets and regions
- Steadily commercializing product pipelines in the process of co-creation with customers



Review of resource allocation

Selection of Technological or Business Seeds

- Continuously identifying needs and seeds both in technology and business
- Assessing commercial viability of seeds, and sifting out those that have no chance



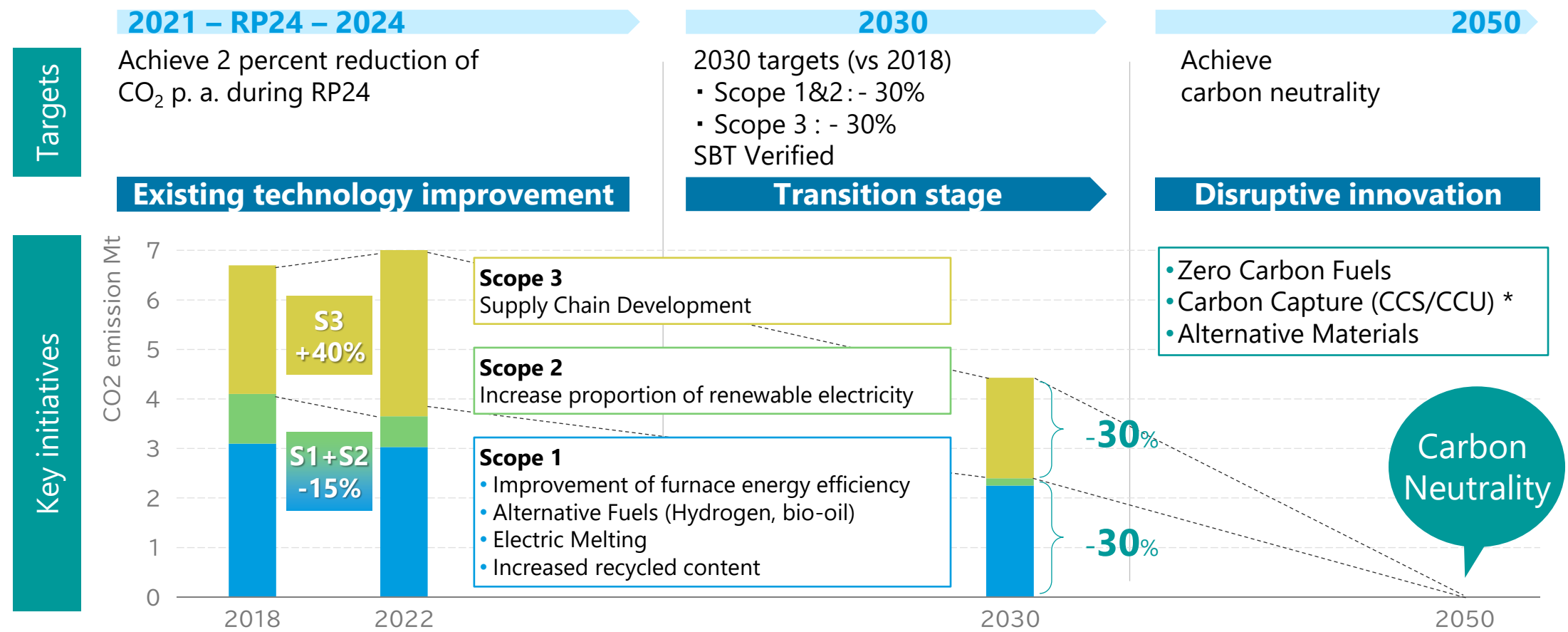
2030 Vision: Strategic 4D

Decarbonization

Decarbonization

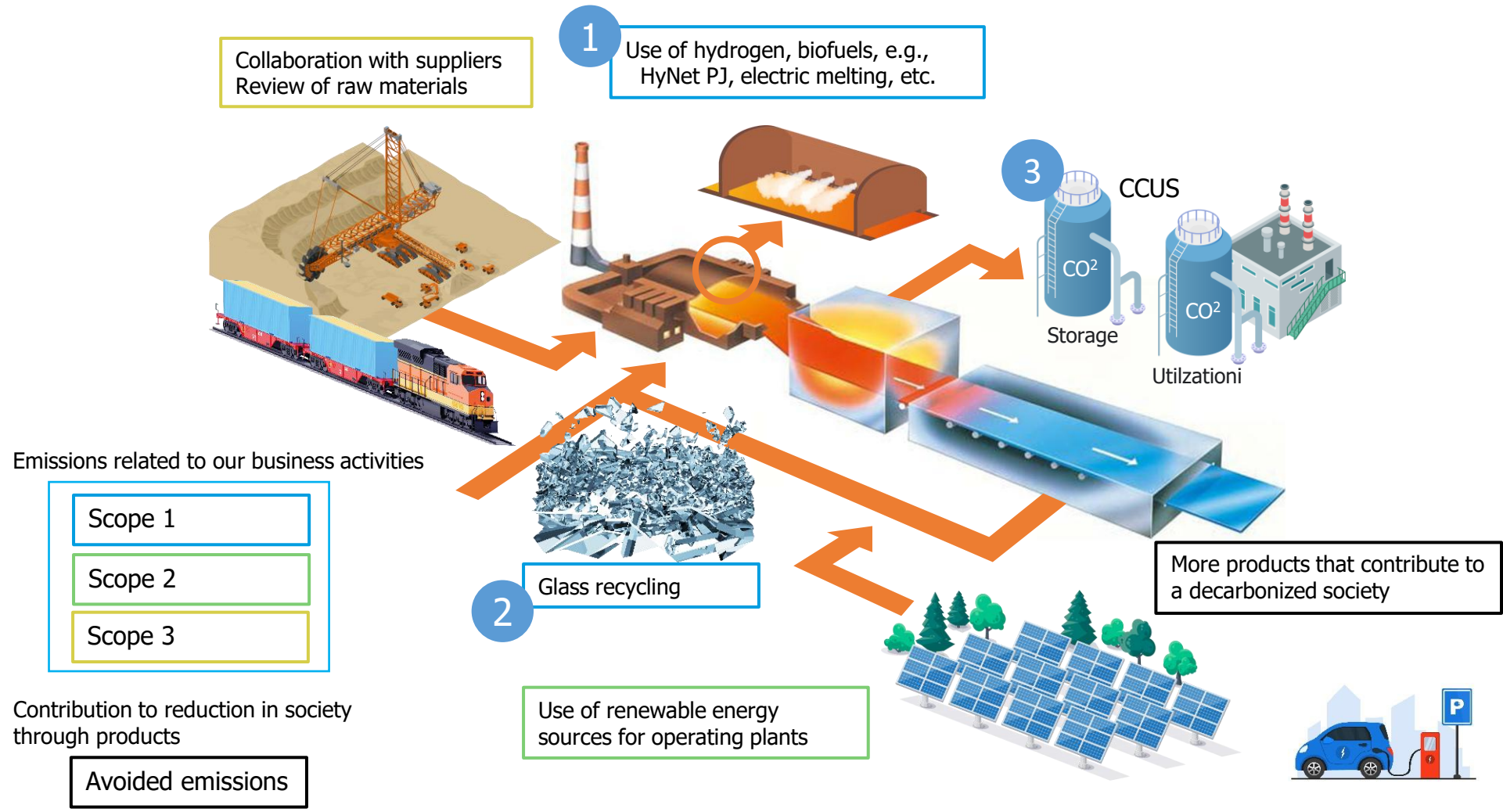
We are dedicated to driving decarbonization across our entire supply chain, embodying our commitment to sustainable social development.

Roadmap to Carbon Neutrality for 2050



Decarbonization

Overview of Decarbonization Efforts



[Third-Party Evaluation]



Green Transformation
Ranked #19



Climate Change
A- Score
(Leadership-level)



Supply Chain Sustainability
Silver Medal
(Top 17%)

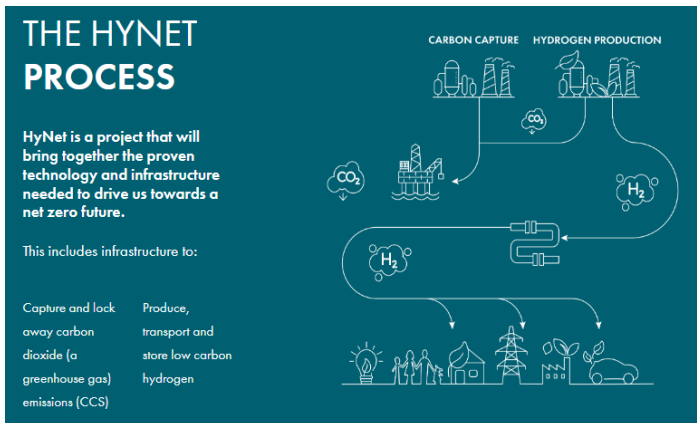
Decarbonization

Examples of Recent Initiatives

1

HyNet Project

- The HyNet project is a large-scale 'blue' hydrogen production and distribution network.
- NSG has signed an MOU and plans to enter into long-term offtake agreements for the supply of hydrogen in the UK



2

Cullet Recycling

- NSG is increasing cullet ratio by sourcing them not only from external suppliers but also from customers.
- Cullet Optimization projects are already underway at 15+ locations across Europe and South America.



3

Carbon Capture

- NSG has announced the successful launch of Europe's first carbon capture trial in the UK.
- We have initiated a field trial of Carbon Capture Solvent Compatibility Units (CCSCUs) for the separation and recovery of CO₂ from exhaust flue gases.

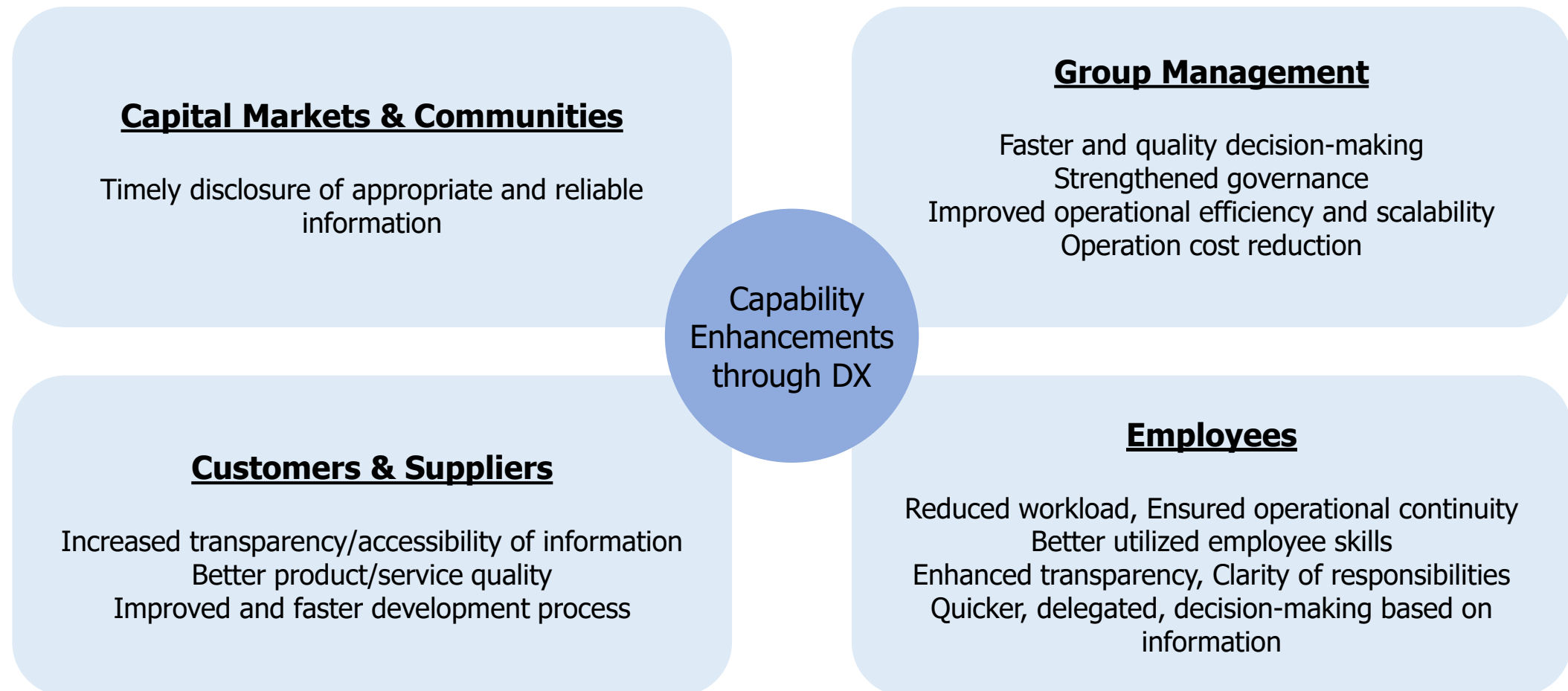


2030 Vision: Strategic 4D

Digital Transformation

Digital Transformation

In the Medium-Term Plan period, viewed as a second phase of post-merger integration (PMI), we aim to transform our group operations by leveraging digital technology to its fullest, thereby enhancing our value creation capabilities.



Digital Transformation

By thoroughly standardizing data and processes, we will elevate the level of information integration, thereby accelerating the quality and efficiency of our global management practices.

Groups
Management

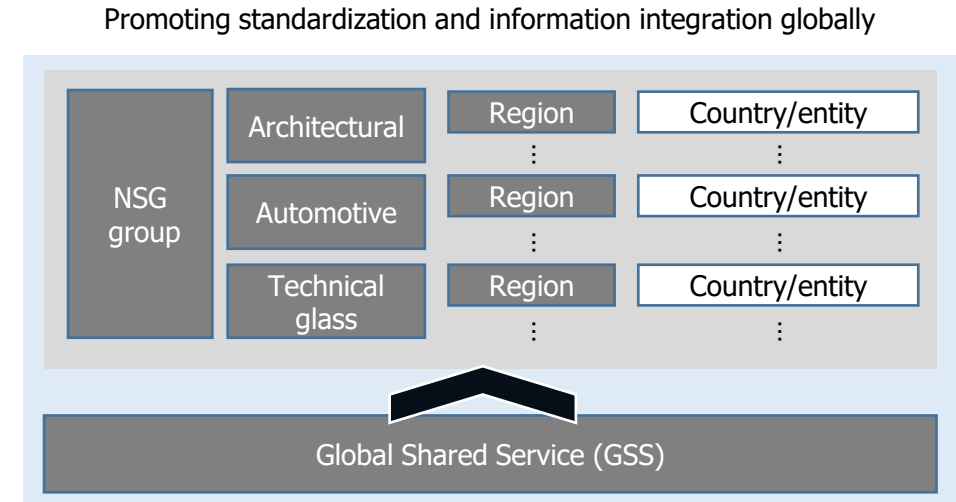
- Standardization and Information Integration
 - Standardizing data and processes across businesses and regions
 - Improving information integration and transparency
- Redesigning Shared Services and maximizing its use
 - Improving the consistency and quality of service, Reducing costs
 - Utilizing resources at an optimal level, Reallocating resources to strategic activities

Business/
Functions

- Leveraging digital technology to enhance efficiency, flexibility, and competitiveness
 - Gathering information efficiently for multidisciplinary reviews of safety, quality, costs, etc.
 - Automating analysis and extraction of insights using AI and advanced robotics

Sites/
Plants

- Reducing the burden on individuals and creating a sustainable working environment for both the company and employees.
 - Continuously ensure safe working environment and conditions
 - Thoroughly streamlining operations that involve manually-processed tasks and reducing cost among others
- Promoting quicker, delegated, decision-making based on information



2030 Vision: Strategic 4D

Diverse Talent

Diverse Talent

Building a robust and high-performing workforce and organization is pivotal to our strategy. We will invest based on a well-defined HR strategy, globally demonstrating our attractiveness as a workplace that offers opportunities for professional development for those who work with genuine passion and interest.

The Direction of Our HR Strategy

Leaders & Our Culture

Our leaders, together with employees, embody NSG's values and shape the corporate culture of NSG.

Attract, Develop, Retain

Our leaders attract, develop and retain talent, and lead teams to business success.

Team Strength

We develop people and enhance our team strength to fulfil our mission of innovation.

People Experience

We continuously improve the people experience, empowering our employees to flourish.

Key Actions

HR Digital

Designing, developing, and implementing a globally integrated, user-friendly system for employees that ensures transparency of HR information

Talent Acquisition & Recruitment

Investing in fostering an exceptional workplace that enables career growth for everyone

Value Proposition for Our Employees

Establishing a corporate brand and management that are both genuine and trusted

Diversity, Equity & Inclusion

Fostering an inclusive workforce ecosystem and culture that empowers everyone to perform at their best

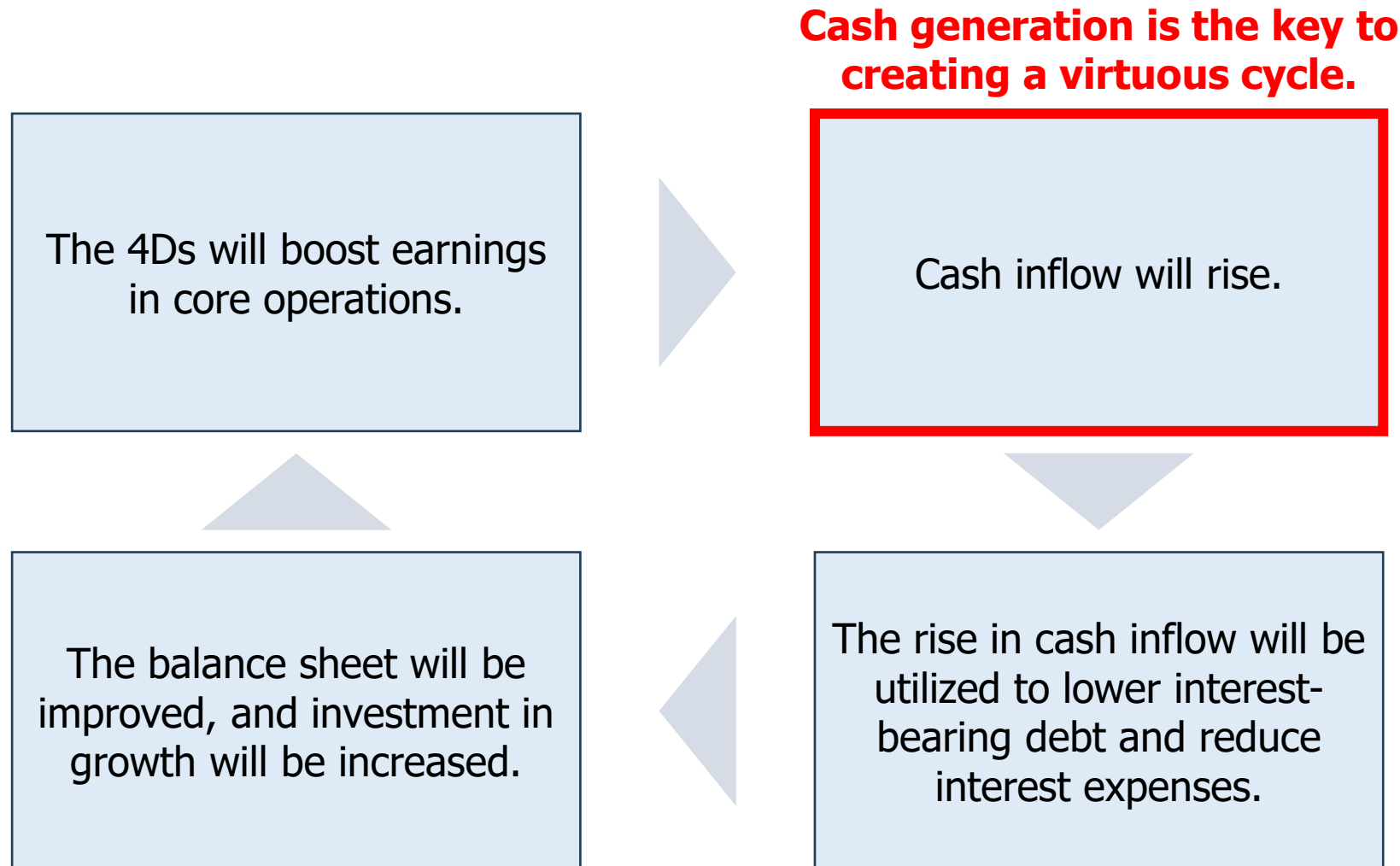
We will promote the four Fs—Flat, Frank, Fast, Fun—of communication within the organization as part of our corporate culture.

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Financial Policy

Our financial policy is to enhance the profitability of our operations and restore a virtuous cycle, as outlined below, that does not rely on borrowings.

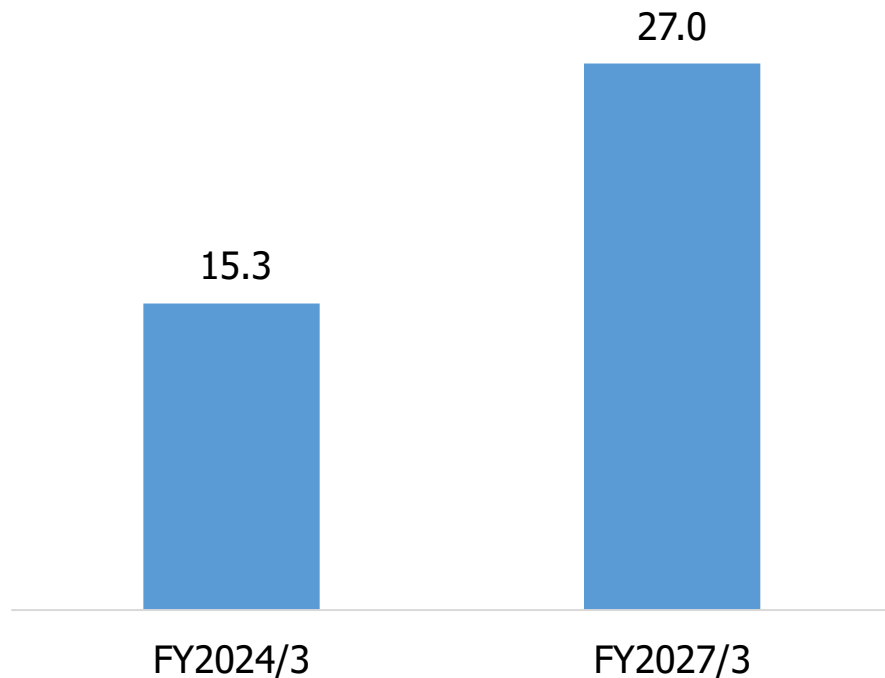


Boost cash generation

We will bolster cash generation by reducing financing costs through better management of working capital and reduction of interest-bearing debt, while making appropriate capital expenditure to improve profitability.

Free cash flow target

(billion yen)



Directions for cash generation

Capital expenditure

- Expand strategic products sales ratio from 23% to 29%.
- Reinforce Capex management while keeping required investments

Working capital

- Reduce inventory in the internal supply chain
- Enhance global management of accounts receivable and accounts payable

Financial cost

- Repay loans
- Reduce other financial costs

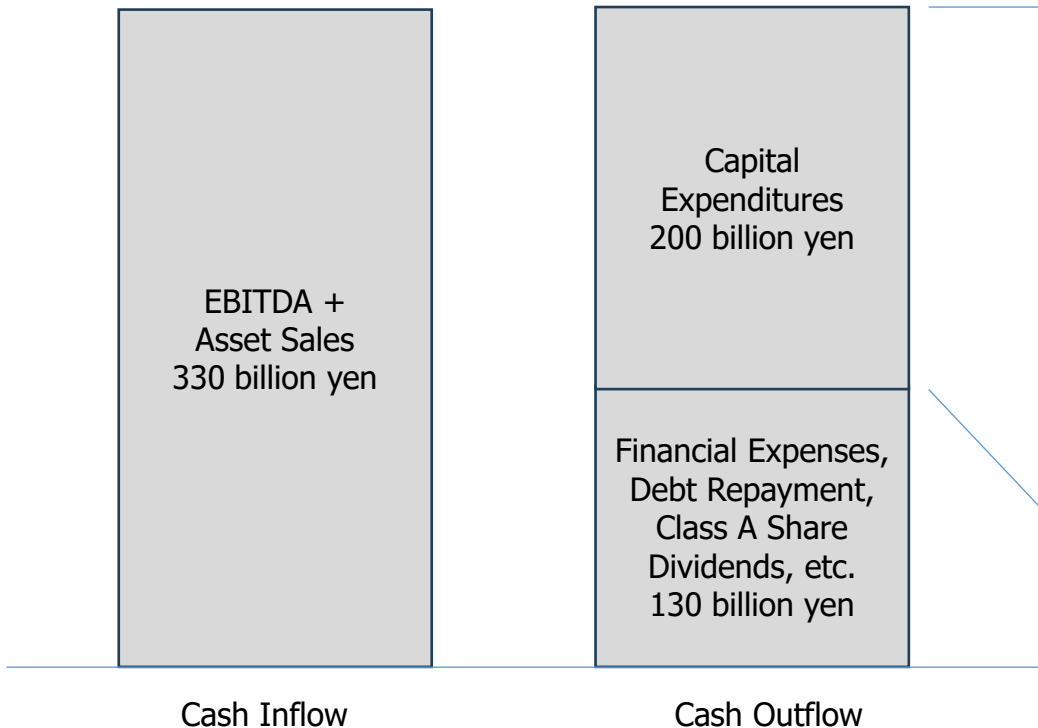
Tax

- Optimal management of effective tax rates

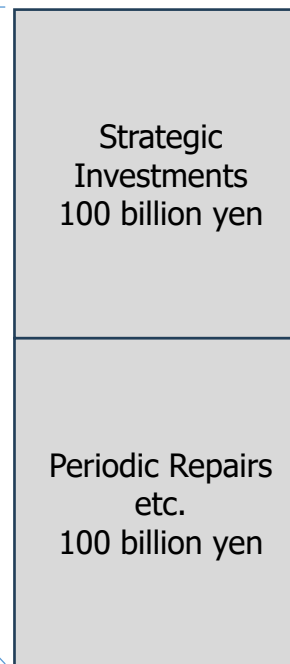
Resource Allocation for Normalizing Capital Flow

In the first half of this medium-term period, NSG Group will prioritize normalizing cash flow, directing our resource allocation towards strengthening the business and repaying borrowings.

Cash Allocation for the First Half of this MT (FY25-27)



Breakdown of Capital Expenditures



- Investments for advancing the 4D strategy
 - Development of value-added technologies and products
 - Improvement of production efficiency
 - Investment in decarbonization measures
 - DX, etc.
- Investments for business continuity
 - Periodic repairs of furnaces (Implementing investments postponed in response to COVID-19)
 - Equipment maintenance
 - R&D maintenance

The redemption of Class A shares and shareholder returns will be determined based on the sustainability of the financial conditions in the latter half of this medium-term period

Managing with Focus on Capital Cost and Share Price (PBR > 1)

Throughout this medium-term plan period, we are focusing on optimizing financial leverage and enhancing valuation multiples through improved asset efficiency and reduced interest-bearing liabilities.



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Materiality and MTP strategic pillars

We have reviewed Materiality and divided it into (1) elements that are fundamental to management and (2) sources of competitiveness.

Materiality

Health and Safety

Ethics and Compliance

Safe and High-quality Products and Services

Environment

Social Shift and Innovation

Human Capital

Management policy

As a **fundamental management matter** that must be achieved in the conduct of business, it is managed as a top priority for the Group as a whole, and it is continuously enlightened and improved.

Decarbonization

Business
Development

**Strategic initiatives to
improve corporate value**

Diverse Talent

**Digital
Transformation**

Environment, Social Shift and Innovation, and Human Capital, which are sources of competitiveness, **fit into the 4Ds** of the medium-term plan. Other materiality are categorized as fundamental.

Materiality Targets (Fundamental Management Matter)

Materiality	FY30 Aspirations	FY27 New Targets		FY27 KPIs
Health and Safety	Under the strong leadership, a safety culture has been fostered in which all consider safety as a value and work together to build a safe workplace. All risks are properly managed. Particularly for critical risks, a high level of control is in place. The use of digital technology has significantly improved the level of control.	Fatality	Fatality and life-changing disability	0
		Significant injury ratio (SIR)		Reduce SIR from 0.32 to 0.20
Ethics and Compliance	Partner and gain trust from stakeholders by regularly improving the Ethics and Compliance (E&C) programs to address Group risks.	Ratio of substantiated E&C hotline reports		45%
		Cases of retaliation reported to E&C		0
		Fines associated with Competition or Bribery/Corruption violations		0
		Ethics and Compliance (E&C) Annual Education		100% completion with achievement or improvement of any above KPIs
Safe and High-quality Products and Services	To implement a Sustainable Supply Chain strategy to minimize negative environmental and societal impact, increase innovation, reduce waste and risk and enhance NSG's brand	Compliance Program Score and Effectiveness		90% agreement/favorability
		Supply Chain	Scope3	2.6 MT
		Supplier collaboration	Supplier spend signing up to Supply Chain Charter	63%
			Supplier spend with recognized ESG assessment	74%
			A weighted average score for all assessed suppliers	Over 60
	Customer satisfaction remains as a core mission for the Group. The objective to supply of safe and high-quality products and services has been enhanced by incorporating a greater degree of automation and digitalization into our processes.	Supplier spend with Diverse Suppliers		2%
		Quality	Major quality spike	0

Materiality Targets (Sources of Competitiveness)

Materiality	FY30 Aspirations	FY27 New Targets		FY27 KPIs
Environment	To exceed stakeholder expectations by implementing sustainable processes to produce environmentally positive products and actively contribute to a decarbonized and a circular based society.	Carbon emission	CO ₂ intensity	3% YoY reduction
			Renewable energy electricity ratio	65%
			Absolute Scope1+2	Reduction
		Waste to landfill		20% reduction (vs FY24)
		Cullet ratio		3% point increase vs FY19
		Water withdraw		50% decrease vs FY19 in water stressed areas
Social shift and Innovation	With the strength of NSG's unique glass technologies, we aim to be a trusted partner for the stakeholders and contribute to the realization of a sustainable society.	% Sales of the strategic products		From 23% to 29%
Human Capital	<u>Employee Value Proposition</u> : A globally consistent employer brand that is relevant, differentiates NSG from its competitors and allows for local adaptation. The value proposition will be distinctive, aspirational but will maintain authenticity. <u>DE&I</u> : Inclusive organization where everyone can be their best (#BeYourselfAtWork activity). Recognized as a leader and winner of awards	Employee Engagement	% agreement for NPS question from "Your Voice" survey	80%
		DE&I	Female manager ratio	24% (FY24 result: 16%)

