

NSG Group
Medium Term Management Plan
Revival Plan 24 (RP24)
(2022/3 – 2024/3)

Contents

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Review of Medium-term Plan (MTP), Current Status and Policy of RP24

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Summary

Management Principles “Our Vision”



NSG Group's Medium Term Vision

A global glass supplier contributing to the world with high value-added glass products and services

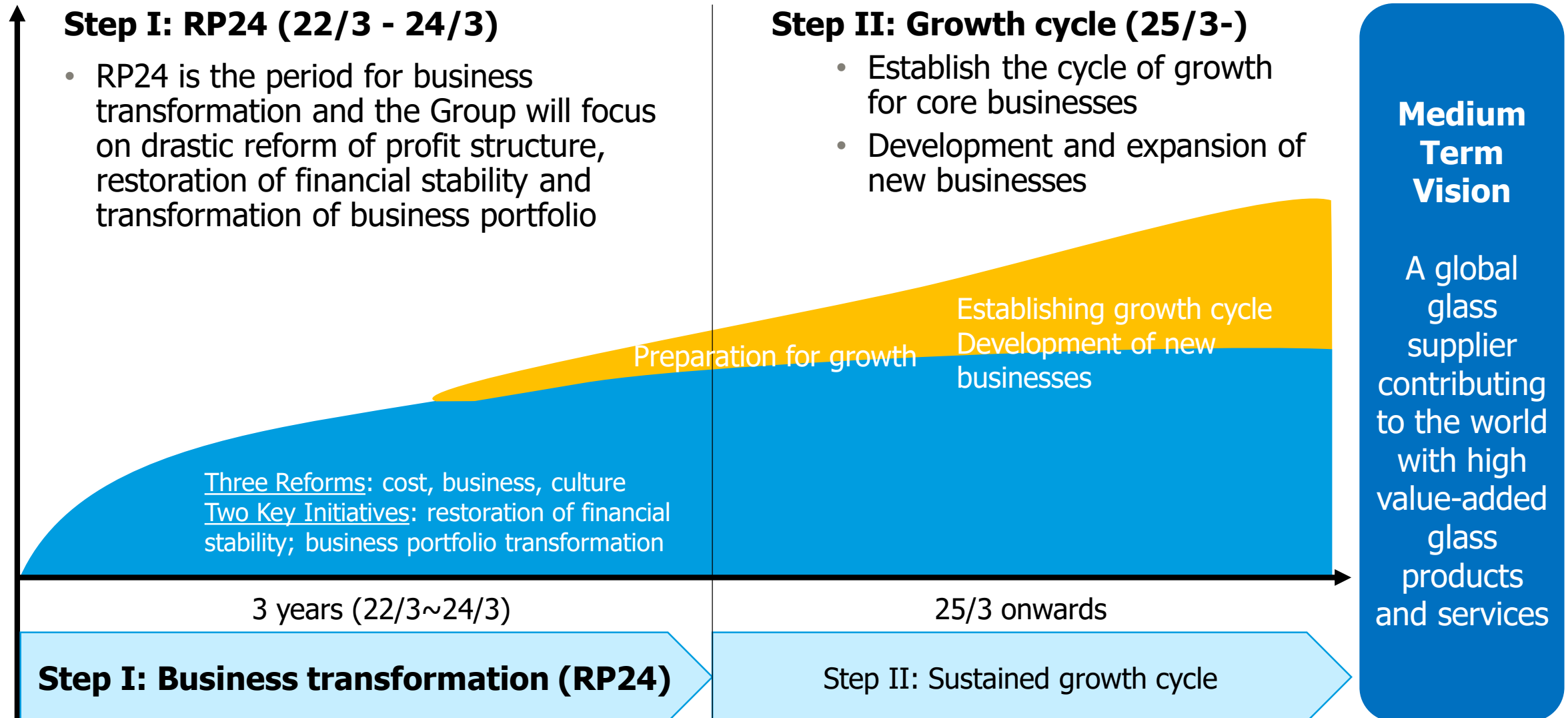
■ Three focus areas the Group aims to contribute to:

- 1) Safety & Comfort: To create people-friendly surroundings and a living space that is pleasant, safe and healthy
- 2) Eco Society: To create an eco-friendly world by various contributions such as a shift to renewable energy and lowering the usage of air-conditioning and heating
- 3) Information and Telecommunication: To contribute to the development of information and telecommunication technology to make people's lives more convenient and to support the advancement of the society

■ To never fail to take up challenges and follow through to deliver results

■ To continue to provide employees with opportunities to grow and find joy in working

Roadmap to Achieve Medium Term Vision



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Revival Plan 24 (RP24) – Outline

- Although NSG Group aimed to transform itself into a “VA glass company” under the Medium-term Plan (MTP), its asset-heavy business structure with high fixed cost and cyclical nature of the business portfolio have not been fundamentally changed. A significant demand decline due to the pandemic has made it clear that more drastic reforms are needed
- Under RP24, the Group commits to the following Three Reforms and Two Key Initiatives. It will start fresh and complete business transformation to build business strength and sustain the cycle of growth.

Three Reforms

- ❑ Cost structure reform: cost reduction and productivity improvement
- ❑ Business structure reform: expansion of value-added business; development of new growth businesses; emphasis on investment and asset efficiency
- ❑ Corporate culture reform: never failing to take up challenges and following through to deliver results

Two Key Initiatives

- ❑ Restoration of financial stability
- ❑ Transformation into more profitable business portfolio

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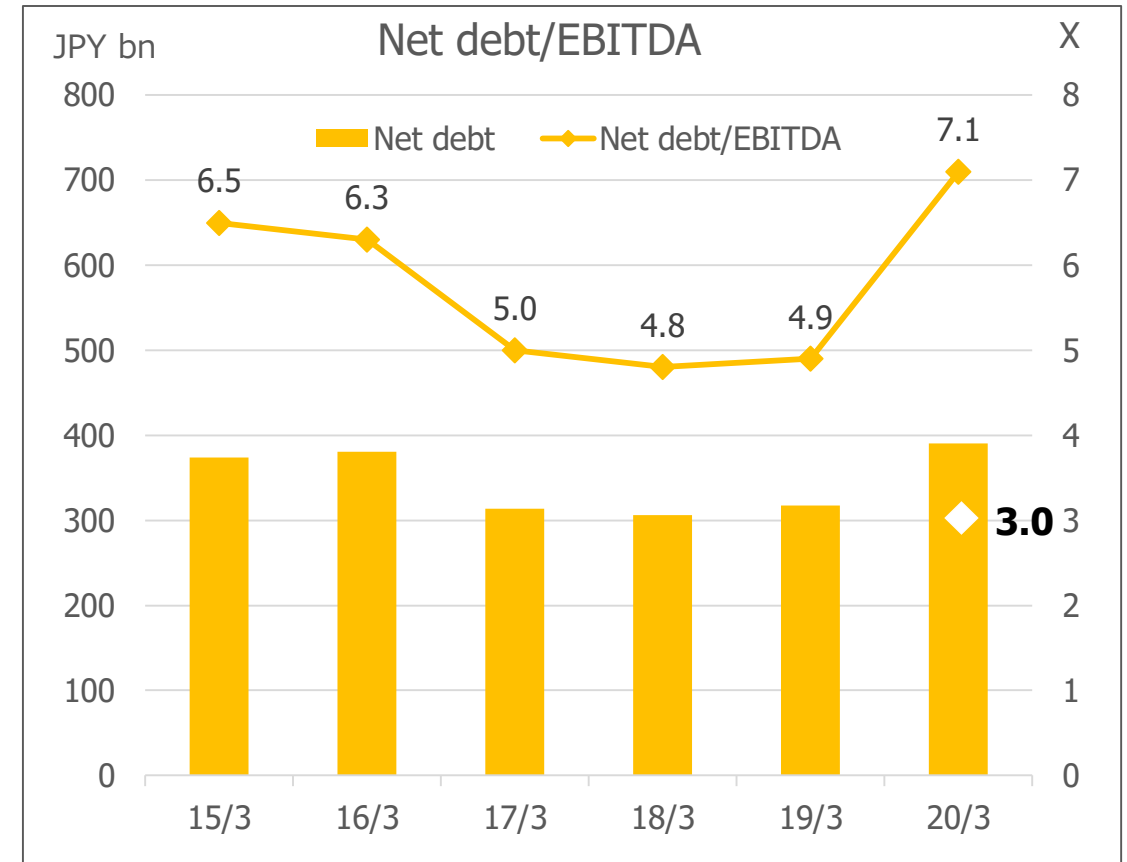
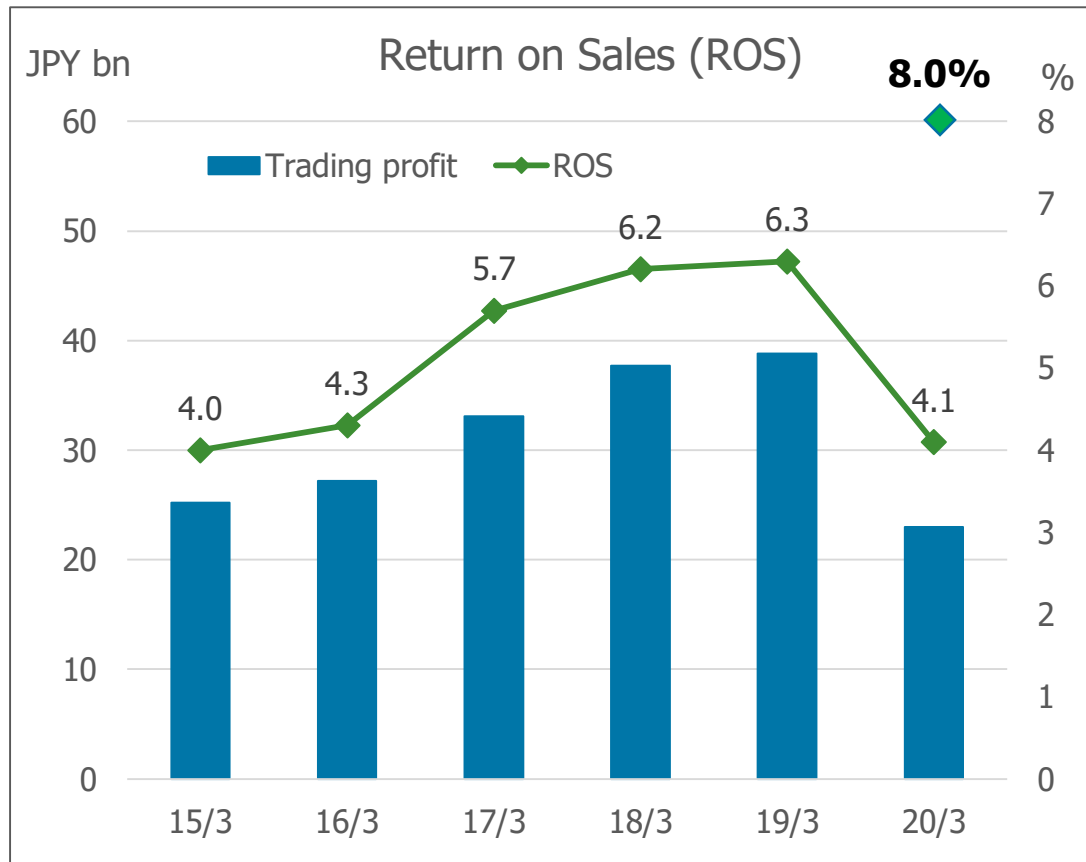
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Review of Medium-term Plan (MTP)

Return on sales (ROS), improving during the MTP period (15/3-20/3), began to fall from the second half of 20/3 with the worsening trading conditions. Neither of the two financial targets was achieved



* Based on trading profit (profit before amortization of non-tangible assets)

Current Status and RP24 Policy

Current Status

- With a high fixed cost ratio and cyclical nature of its business, the Group could not effectively cope with drastic changes in markets, recording net loss for two consecutive years
- The financial base has weakened significantly since the outbreak of pandemic
- RP24 is a critical three-year period to build robust business for sustained growth and prepare the Group for the next disruption in the business environment

Business Environment

- In the commodity flat glass market, competitors from emerging markets are growing rapidly both in terms of size and technology, intensifying competition. This trend is expected to escalate in future
- Overall market demands are expected to recover gradually but will not fully return to the levels before the pandemic during the RP24 period
- “Value creation and business development based on glass” remains promising, as demand for highly functional glass continues to be robust and value-added products such as those contributing to the environment are increasingly required

RP24 Policy

- **The Group will accomplish drastic and fundamental initiatives, revising the business strategy reflecting the changes in the business environment**
- **RP24 is the period for business transformation and the Group will focus on drastic reform of profit structure, restoration of financial stability and transformation of business portfolio**

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PR24: Aim and Initiatives of Business Transformation

Aim of business transformation	To execute the Three Reforms and Two Key Initiatives decisively and build business strength to sustain the cycle of growth		
Initiatives	Three Reforms		
	Cost structure reform <ul style="list-style-type: none"> • Cost reduction • Productivity improvement 	Business structure reform <ul style="list-style-type: none"> • Expansion of high value-added business • Development of new businesses • Focus on investment and asset efficiency 	Corporate culture reform <ul style="list-style-type: none"> • Change into an organization that take up challenges and follow through to deliver results
	Two Key Initiatives	Restoration of financial stability	
		Transformation into more profitable business portfolio	

Financial Targets

NSG Group intends to generate stable net profit and free cash flow by strengthening its earning power, and aim to recover the equity ratio to at least 10 percent at the earliest opportunity. Additionally, over the medium to long-term, the Group will opportunistically consider ways to further improve its financial foundations

(JPY)	21/3	24/3 Target
Operating Profit Margin ^{*1}	2.6%	8%
Net profit ^{*2}	(16.9 bn)	> 30 bn cumulatively for 3 years
Equity ratio	7.6%	> 10%
Free cash flow	(4.5 bn)	> 10 bn

Improvement of OP margin via:

- Cost structure reform
- Business structure reform
- Business portfolio transformation

Selective and focused investment

- Control of the total capital expenditure
- Prioritization according to asset efficiency, growth potential and added value

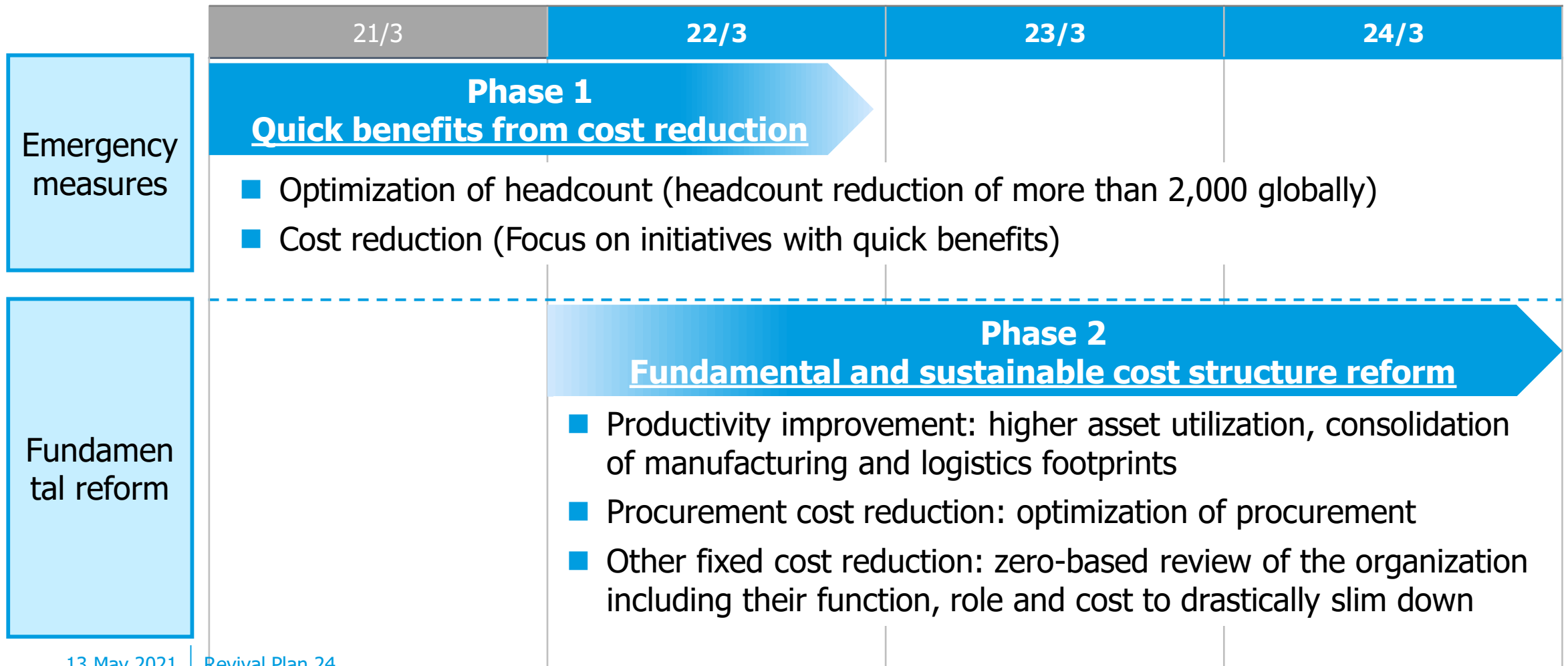


Profitable business to generate stable free cash flow
Constant net profit generation to restore equity ratio of more than 10 percent

Reform (1): Cost Structure Reform

Actions: cost reduction and productivity improvement

Fundamental cost structure reform including headcount reduction, fixed cost reduction and procurement cost reduction will be executed to lower the cost base further



Reform (2): Business Structure Reform

Actions: expansion of value-added business; development of new growth businesses; and emphasis on investment and asset efficiency

Expansion of value-added business

- Early contribution of strategic investments decided and executed during MTP
 - ❑ Full operation of new solar energy glass production lines in the USA and Vietnam
 - ❑ Start operation of a new float furnace in Argentina
- Market development with online coating technology
 - ❑ New application development such as electrochromic glass and BIPV*

Development of new growth businesses

- Establishing a structure to accelerate new business development and commercialization of new products
 - ❑ Concentration of non-flat-glass businesses in the Creative Technology business
- Acceleration of new business development through business alliances

Emphasis on investment and asset efficiency

- Stricter decision-making and management of capital expenditure
 - ❑ Redoubled attention to asset efficiency
 - ❑ Diversifying away from asset intensive traditional businesses
 - ❑ Prioritization of asset allocation to growth and added-value areas

Reform (3): Corporate Culture Reform

Actions: value “customer focus”, “swift decision making and action” and “overcoming difficulties” and change into an organization that never fails to take up challenges and follow through to deliver results

Goals

Management/ organization structure

- Realization of Aspiration under Our Vision: through innovation, becoming the most trusted partner in all industries we work in”
- Autonomous and collaborative organizations

Corporate culture

- Autonomous and proactive talent and leadership capabilities
- Encouragement of taking up new challenges without fear of failure
- Corporate culture to follow through to deliver results
- A rewarding place to work for all employees

Actions to be taken in RP24

- Effective response to market and customer needs
 - Decision making at a business/business region level with accountability
 - Streamlining management and administrative work to reduce cost
-
- Development and appointment of those who can lead reform
 - Diversity: nationality, gender, age, etc.
 - Inclusion: increasing opportunity
 - Recognition of delivering on the reform in incentive schemes
 - Encouragement of open communication

Two Key Initiatives

Two Key Initiatives are: 1) Restoration of financial stability and 2) Transformation into more profitable business portfolio

Restoration of financial stability

- Focus of growth investment on strategically core businesses and selectively allocate and prioritize other capital expenditure
- Thorough review of cost through Cost Structure Reform and improvement of productivity to build a robust business that can generate sustainable profit and free cash flow constantly
- Strict cash management to generate free cash flow, generation of net profit aiming to enhance equity, while opportunistically consider ways to further improve its financial foundations

Transformation into more profitable business portfolio

- In light of changing trade conditions such as markets and competition, bold strategic review of shrinking or exiting non-core businesses
- Focus of management resources on growth and high value-added areas, considering investment and asset efficiency
- Review of business portfolio, profitability improvement and management cost reduction to establish the cycle of sustained growth

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Products

Architectural glass, solar energy glass, value-added glass for industrial applications

Assumption

- Commodity glass will continue to be affected by market conditions considerably
- Demand for high value-added glass will expand against the backdrop of tougher environmental regulations and increasing awareness of health
- Demand for solar energy glass will remain solid with increasing shift to renewable energy
- Demand in emerging markets, especially South America, is expected to be robust
- Demand for value-added glass for industrial application will grow

Business Direction

- Acceleration of the shift from commodity glass to value-added products
 - ❑ Add value utilizing proprietary technologies such as online coating and sol gel coating
 - ❑ New market development through finding and collaboration with third parties
- Securing returns on the strategic investments decided and executed during MTP
 - ❑ Sales expansion of solar energy glass
 - ❑ Start operation of the new float furnace in Argentina

Automotive Business

Develop

Grow

Improve
Profit

NSG
GROUP

Products

Automotive glazing for new vehicles (OE) and for replacement markets (AGR)

Assumption

- Vehicle production volumes in the Group's main markets are not expected to recover to the pre-pandemic levels during RP24
- Rapid development of CASE will cause significant changes to the auto industry supply chain
 - While demand for windshields with HUD, glass antenna for 5G and solar control coating on glass for EV is expected to grow, the resource allocation will have to be more selective and focused
 - CASE will also increase its importance in the AGR business

Business Direction

- Drastic cost structural reform including consolidation of manufacturing and logistics sites
 - Optimization of capacity utilization with improved productivity and flexible manufacturing, diversifying away from asset intensive traditional businesses
 - Minimization of logistics cost through thorough reexamination
- Expansion of value-added products by leveraging the Group's proprietary technologies, especially advanced windshields
- Strengthen sales and distribution network in the AGR business

Creative Technology Business

Develop

Grow

Improve
Profit

NSG
GROUP

Products

Optoelectronics products, specialty glass fiber products

Assumption

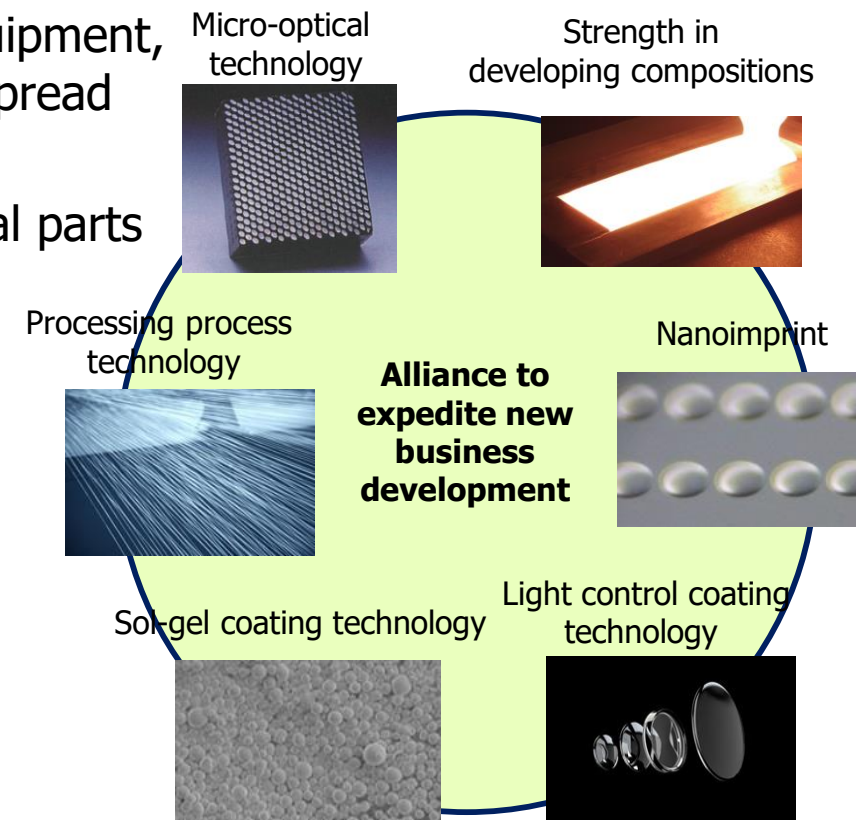
- The advancement of highly information-oriented society will increase demand dramatically for products related to storage and high-speed and large capacity communication
- The application of image sensing technology to FA equipment, logistics robots and drones and other equipment will spread and expand

❑ Growing needs for small and high precision optical parts

Business Direction

- Pursuing niche-top strategy
- Bold alliance to expedite new business development
- Development of unique products in line with changes in market needs centering around ICT
- New customer base through the launch of new products
- Accelerated commercialization of new products to drive business growth

Anticipating changes in market needs, grow the Group's technological base and develop new applications



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Medium Term Vision & Three Areas of Contribution

Mission: Changing our surroundings, improving our world
Medium Term Vision: A global glass supplier contributing to the world
with high value-added glass products and services

Three business areas

Safety & Comfort

Pursue the value of glass
essential in creating comfortable
spaces for people

Home and workplace



Public space



Car interior space



Eco society

Promote shift to renewable
energy infrastructure with core
and production technologies

Renewable energy



Smart grid



ICT

Develop key components
necessary for digitizing and
utilizing information & high speed
telecommunication

High speed
communication



CASE



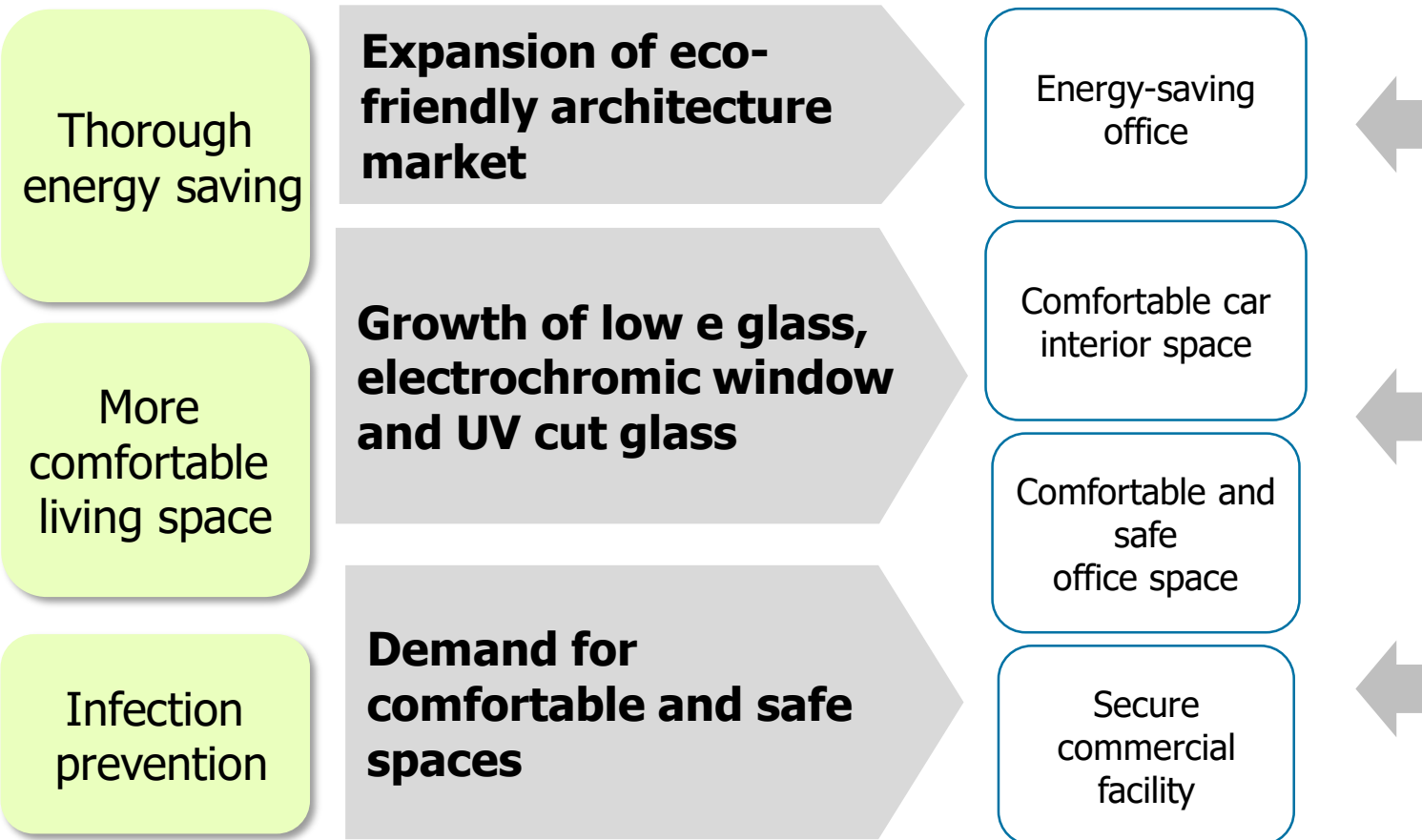
Factory
automation



Safety and Comfort

Pursue the value of glass essential in creating comfortable spaces for people

Accelerating changes in needs in the medium to long term

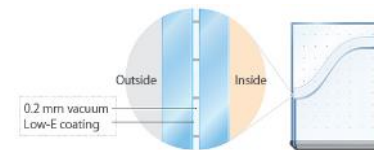


Core technologies to be developed

Low e glass for buildings and cars



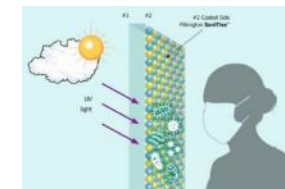
Vacuum glazing



Conductive coating



Antimicrobial & antiviral technologies



Promote shift to renewable energy infrastructure with core and production technologies

Development of renewable energies

Renewable energy will account for circa 50 percent of total power generation in 2030

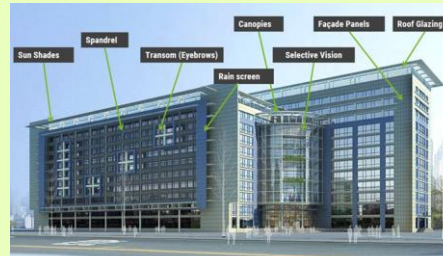
Dramatic expansion of solar power generation



Growth of wind power generation



BIPV*



Smart grid



Core technologies to be developed

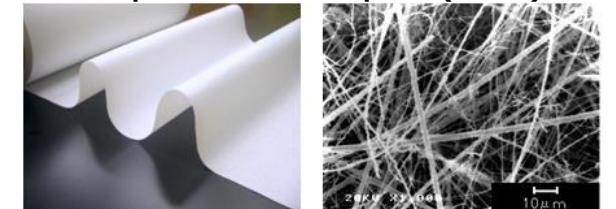
Transparent conductive oxide coating for solar power generation



High modulus glass fiber and anti-corrosion filler



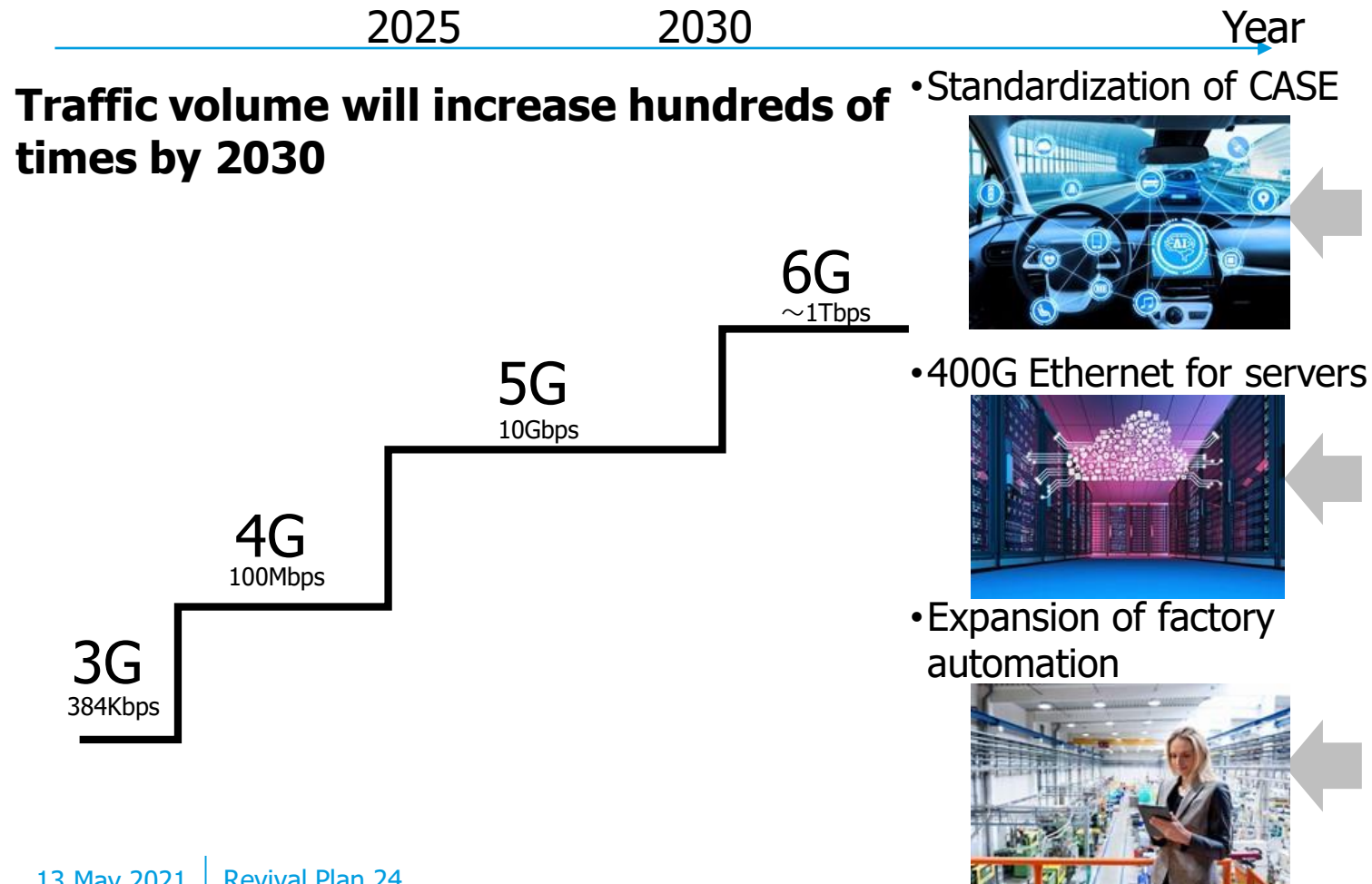
Super Glass Paper (SGP)



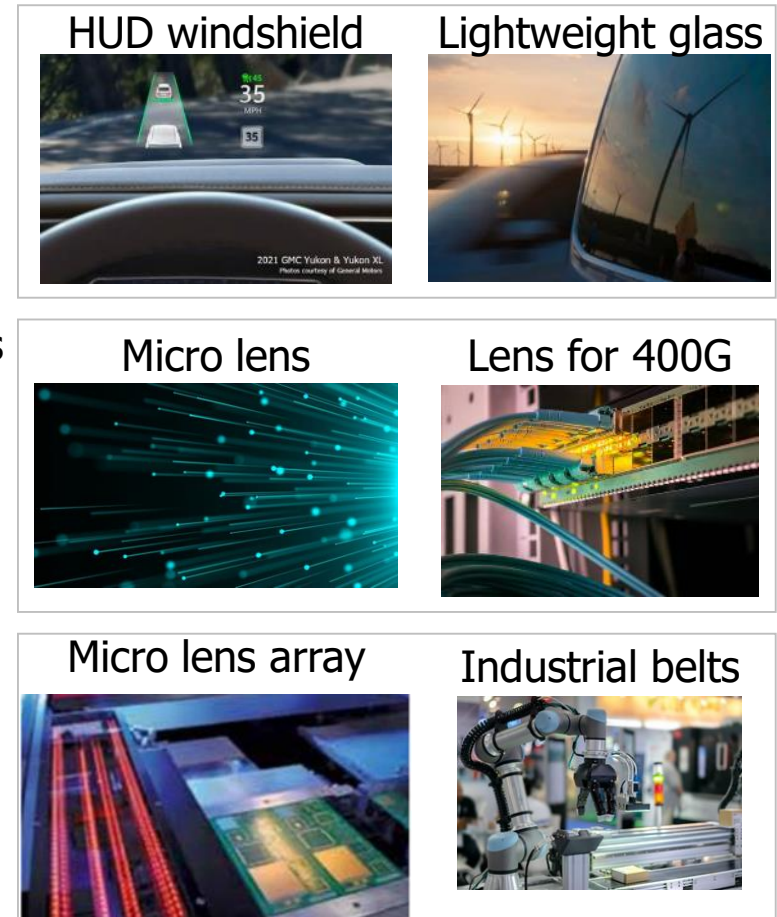
*BIPV: building integrated photovoltaic

Develop key components necessary for digitizing and utilizing information & high speed communication

Dramatic increase in communication speed and capacity



Core technologies to be developed



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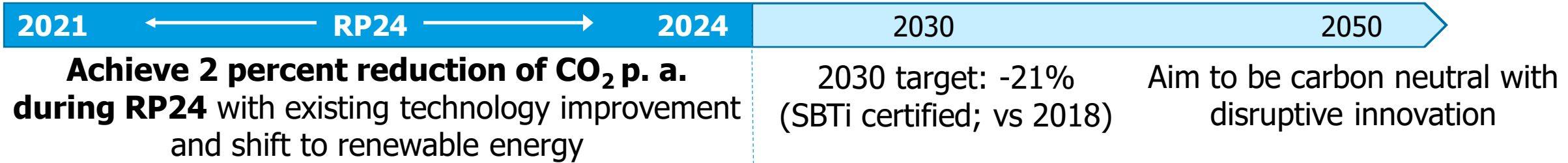
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Approach to Sustainability

Milestones to carbon neutrality



Optimization of glass making process

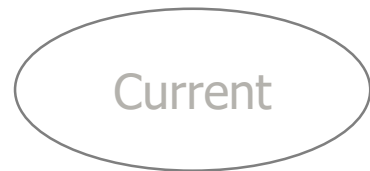
- Improved furnace energy efficiency

Expanded usage of renewable energy

- Increase renewable energy usage to 50%

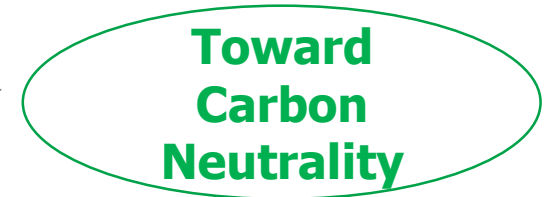
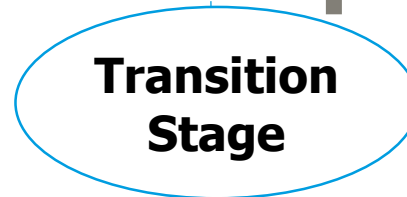
Short to medium term technical development

- Improved raw materials
- cullet recycle
- waste heat reuse



Supply chain Management

Supplier engagement and decarbonization initiatives



Disruptive innovation

Long term technical development

- Green hydrogen fuel
- Electric melting
- Carbon capture, utilization and storage

Contribution to CO₂ reduction with products
(solar energy glass, BIPV*, solar control glass)



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- NSG Group will accomplish drastic and fundamental initiatives, revising the business strategy reflecting the changes in the business environment
- RP24 is the period for business transformation and the Group will focus on drastic reform of profit structure, restoration of financial stability and transformation of business portfolio
- Under RP24, the Group commits to the following Three Reforms and Two Key Initiatives. It will start fresh and complete structural reforms to build business strength and sustain the cycle of growth.

Three Reforms: Cost structure reform; Business structure; Corporate culture reform

Two Key Initiatives: Restoration of financial stability; Transformation into more profitable business portfolio

- NSG Group will recover the business foundation for future growth, passing down its corporate DNA to future generations.
- Beyond completing RP24, NSG Group advance value adding and business development based on glass and aim for becoming a global glass supplier contributing to the world with high value-added glass products and services

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