

NSG

GROUP

Medium-term Plan (MTP) Phase 2

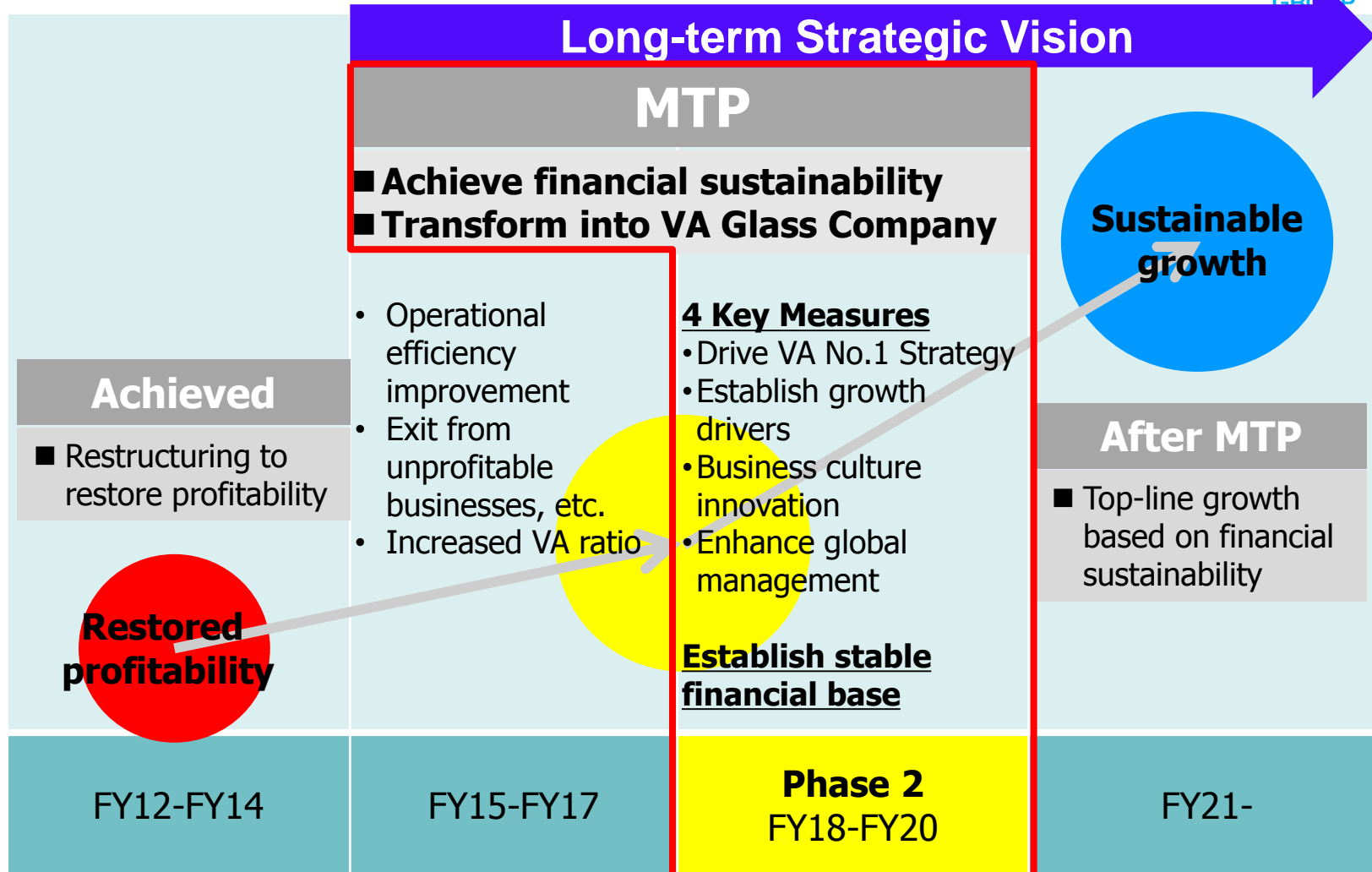
Financial Strategy (Issuance of JPY40 billion Class A Shares)

2 February 2017
Nippon Sheet Glass Co., Ltd.

Agenda

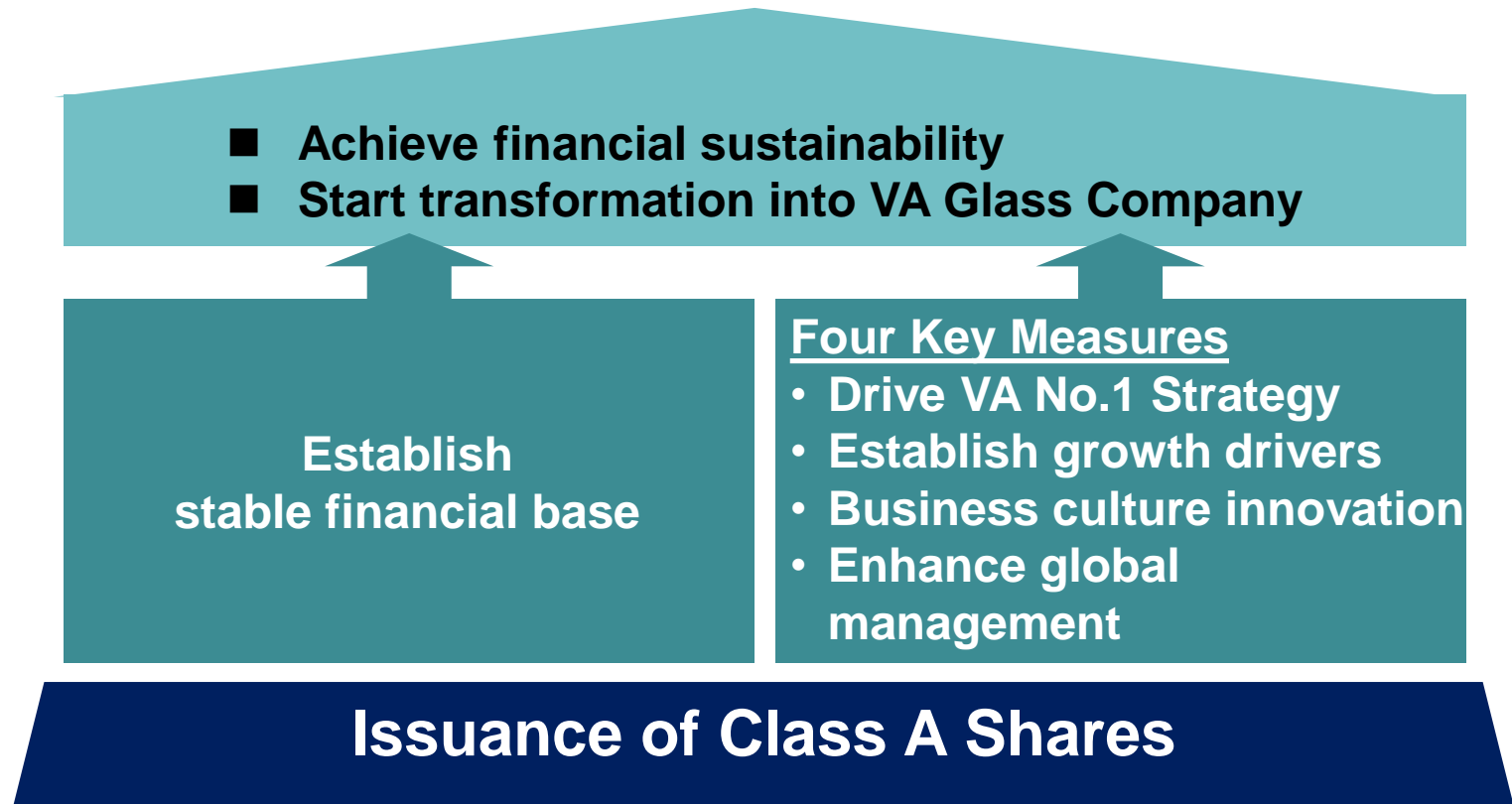
- Summary of MTP Phase 2
- Financial Strategy
- Delivery of MTP Phase 2 Targets
- Summary

Summary of MTP Phase 2



More focused strategy and proactive measures to ensure the delivery MTP targets

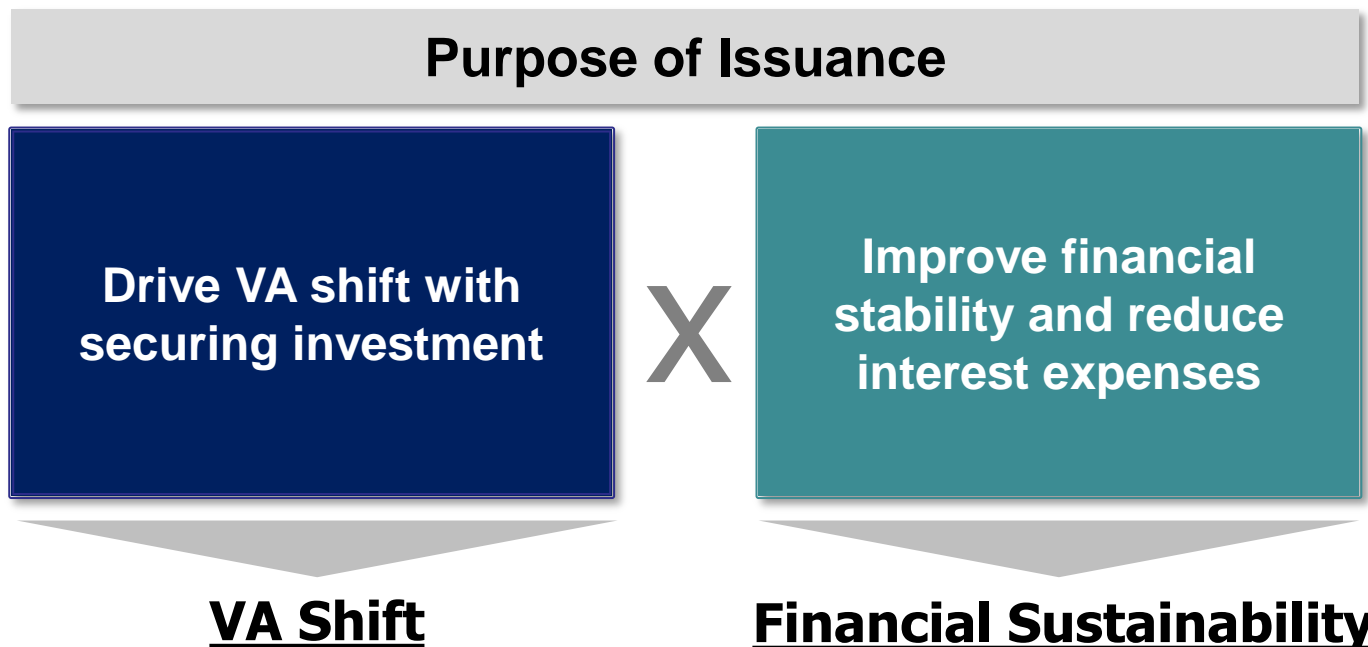
MTP Phase 2 Measures to Deliver Targets



Class A Shares to be issued to expedite establishment of stable financial base and execute key measures

Purpose of Issuance

- Purpose of Issuance of JPY40 billion Class A Shares
 - Enhance shareholders' equity and increase financial stability in view of volatility and uncertainty in the environment
 - Secure fund for investment to execute VA No.1 Strategy



Aiming for financial stability and profitability improvement at the same time

Summary of Issuance

- Summary

Amount	JPY40 billion
Planned Allottees	Japan Industrial Solutions* ¹ (Funding by Development Bank of Japan, Mizuho Bank, Sumitomo Mitsui Banking Corporation, Mitsubishi Tokyo UFJ Bank) UDS Corporate Mezzanine Fund* ² (Funding by Development Bank of Japan, Sumitomo Mitsui Banking Corporation)

- Timeline

- Extraordinary General Meeting of Shareholders: 24 March 2017
- Issuance of Class A Shares: 31 March 2017

*1: Japan Industrial Solutions No.2 Limited Partnership

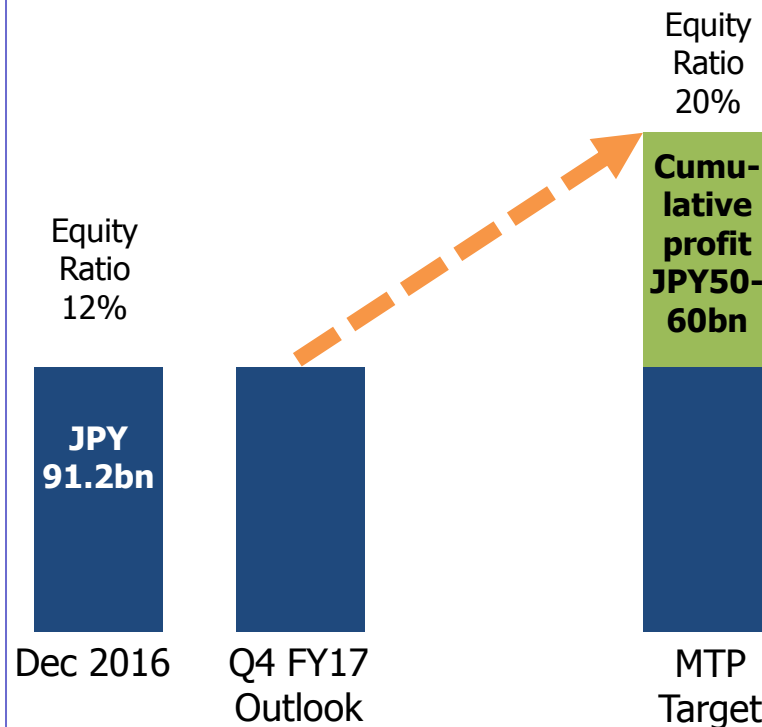
*2: UDS III Corporate Mezzanine Limited Partnership
UDS IV Corporate Mezzanine Limited Partnership

Balance sheet to begin improving at the end of FY17

Equity Enhancement

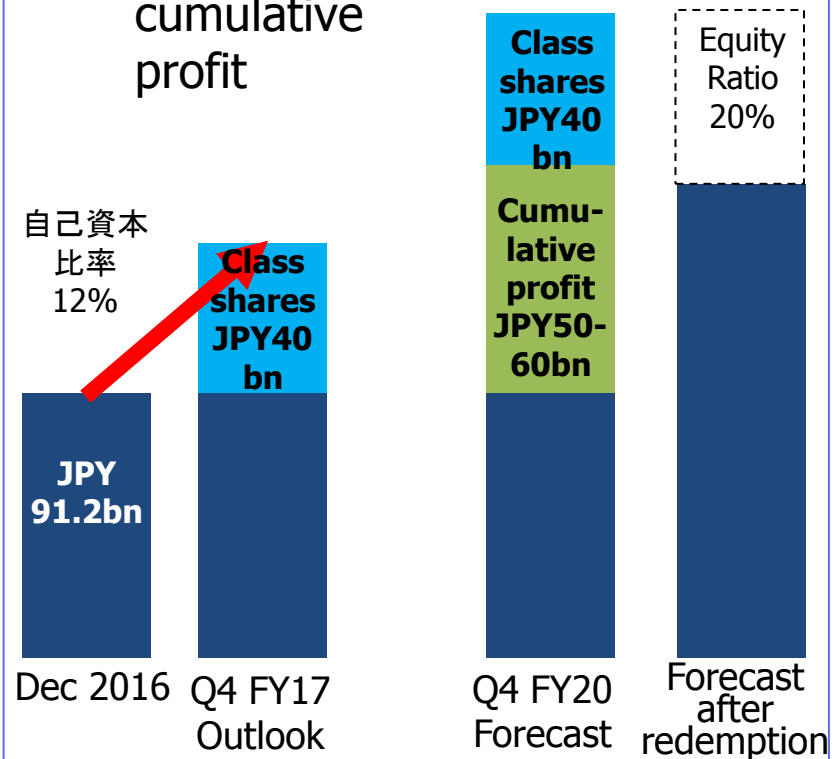
MTP Phase 2 (original assumption):

- Incremental enhancement of equity with profit generation



Share Issuance:

- Earlier** equity enhancement
- More robust equity after class shares' redemption with cumulative profit



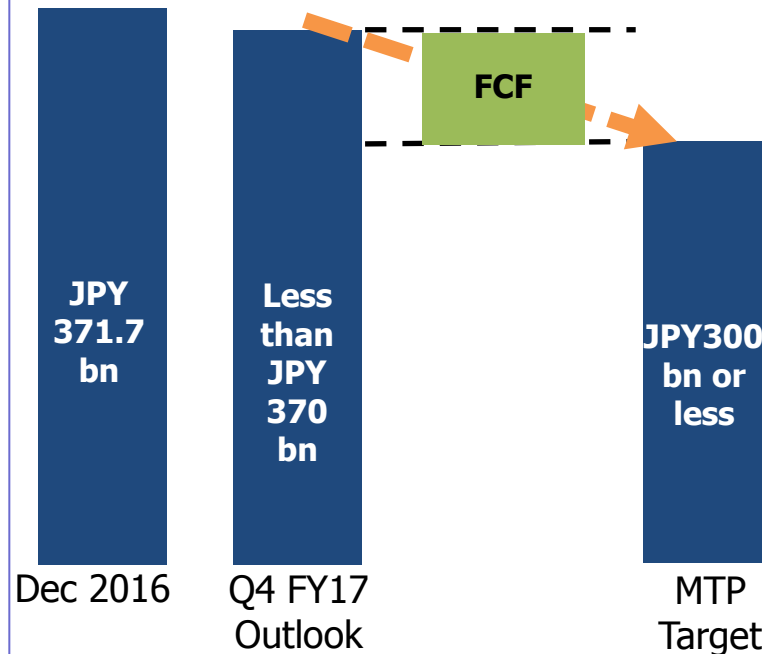
* Equity amount excluding non-controlling interests

Earlier equity enhancement to manage business risks

Net Debt & Interest Expense

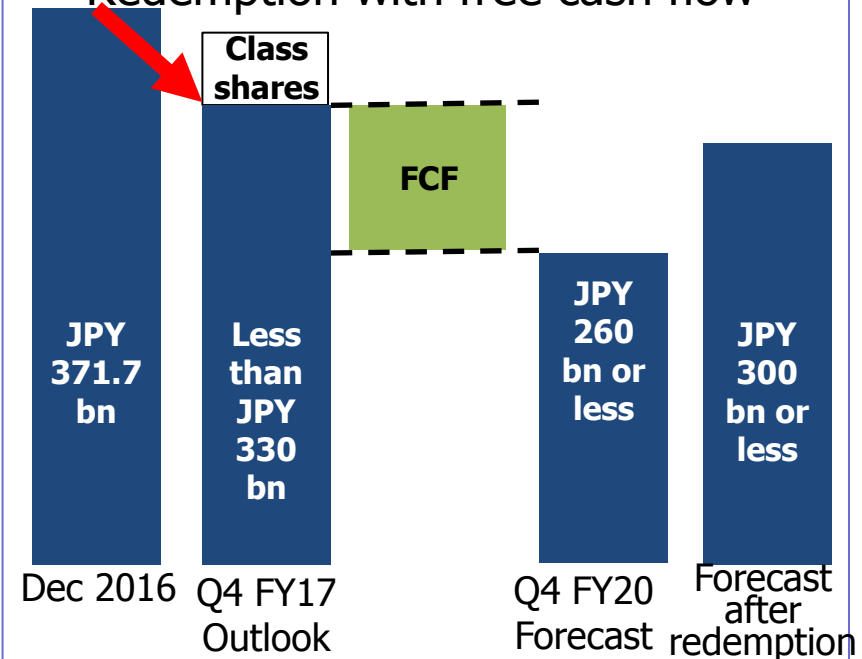
MTP Phase 2 (original assumption):

- Incremental debt reduction with free cash flow



Share Issuance:

- Earlier reduction of interest expense with debt pay-down
- Lower spread for borrowings based on improved balance sheet
- Redemption with free cash flow



Earlier reduction in debt and interest expense. Expected borrowing spread improvement

Redemption – Delivery of Phase 2

- Objectives
 - Achieve financial sustainability
 - Start transformation into VA Glass Company

- Financial Target (FY20)
 - ROS: 8%*
 - Net debt / EBITDA: 3x

- Key Measures of MTP Phase 2 (FY18 - FY20)
 - Drive VA No.1 Strategy
 - Establish Growth Drivers
 - Business Culture Innovation
 - Enhance Management Approach

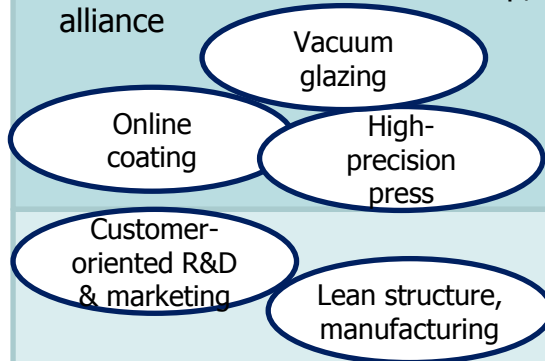
*Profit before depreciation of non-tangible assets

No change in MTP Targets or Key Measures, aiming for cash redemption of Class A Shares with robust delivery of MTP

MTP Phase 2: Four Key Measures

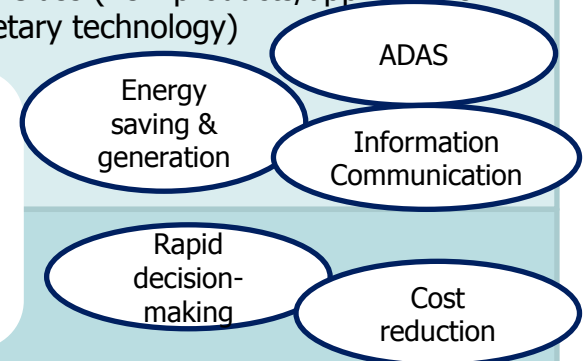
Drive VA No.1 Strategy

- Win leading position in the areas with “high growth potential” and “core strength”
- How:
 - Focus resources on VA shift in the areas where NSG technology and brand have the biggest advantage
 - Enhance customer relationship, build strategic alliance



Establish Growth Drivers

- Launch multiple, promising growth drivers
- Target areas:
 - Architectural Glass (energy-save/generation, health, design)
 - Automotive Glass (ADAS, connected, UV/IR shield, light-weight)
 - Technical Glass (new products/applications with proprietary technology)



VA Glass Company

Business Culture Innovation

- Build leaner business structure
- How:
 - Optimize all work processes
 - Enhance manufacturing excellence in each region
 - Optimize global R&D with customer viewpoints
 - Strengthen customer-oriented marketing

Enhance Global Management

- Advance global management to achieve the Group’s optimization
- How:
 - Drive talent development, promote diversity
 - Enhance faster decision-making with flexible organization management
 - Continue to reduce cost across the Group

Topline Growth in MTP Phase 2

Topline Growth

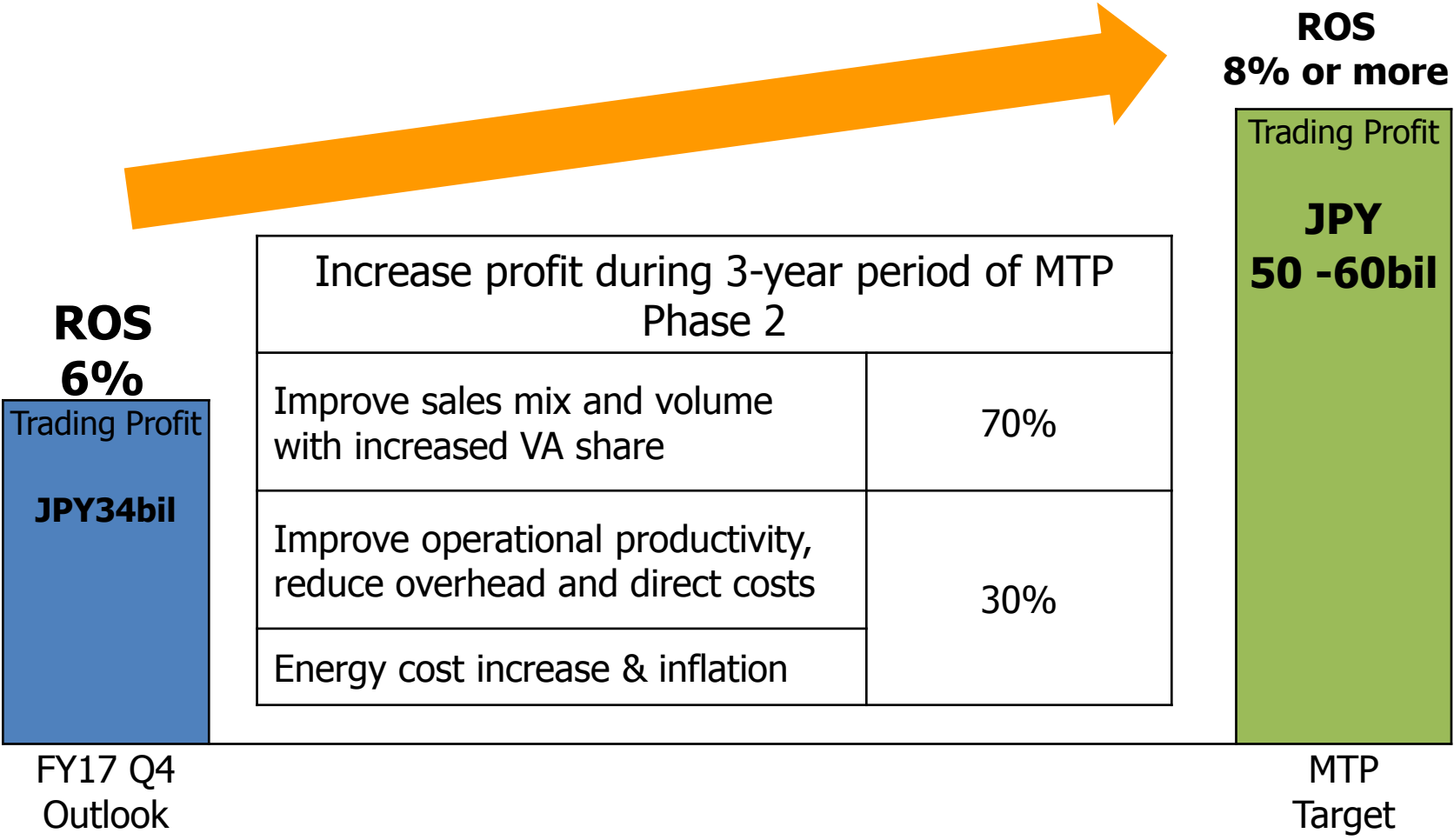
- Annual revenue growth with increased VA sales → 3%
- Annual organic growth → 1%

VA Ratio

40+% → 50% or more

- VA growth potential in Europe/Japan
- Energy-saving applications & high-functionality for automotive glass
- coated glass expansion

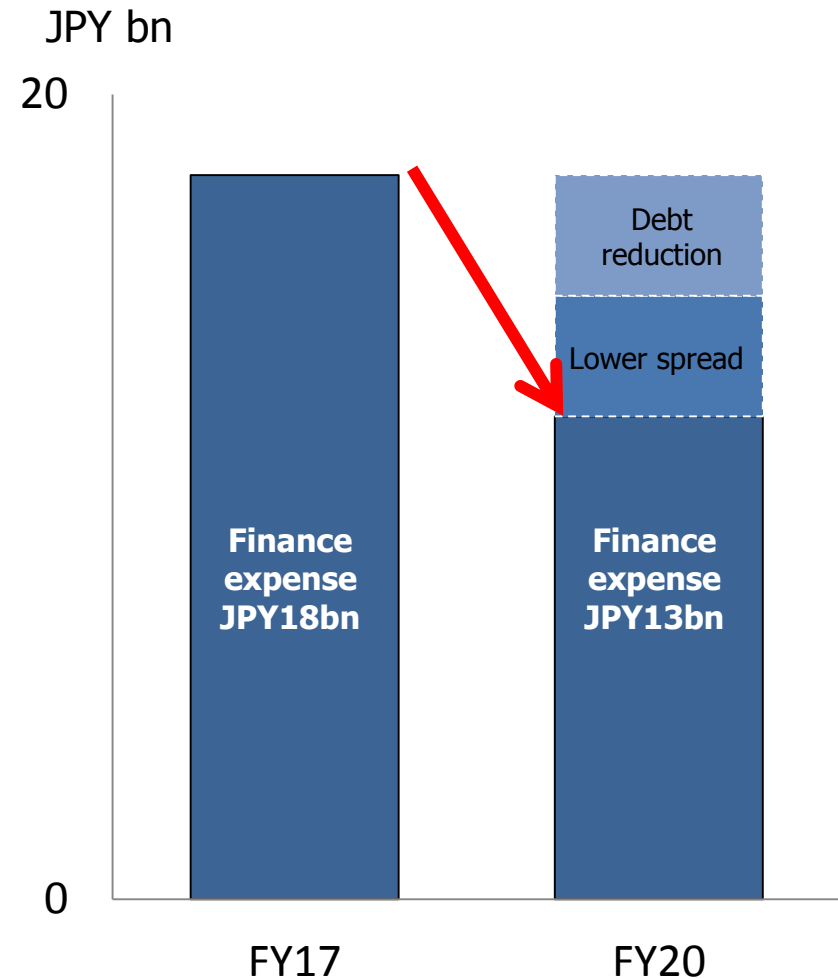
Trading Profit & ROS Improvement



Profit improvement with VA ratio increase and cost reduction during MTP Phase 2

Finance Expense Reduction

- Part of issuance proceeds to be used to pay down debt for early reduction of interest expense
- Balance sheet enhancement expected to improve borrowing terms
 - Lower spread
 - Longer borrowing term (higher stability)
 - Partial earlier refinancing in FY17 of FY18 or onward portions
- Reduction of annual interest expense by JPY5 billion by FY20, partly based on debt reduction



Redouble finance expense reduction efforts

Investing in VA

- Continue to maintain capital spending < depreciation cost
- Selectively invest in the following:

Architectural Glass

- To cope with growth of online-coated products (low-E glass, solar glass, TCO coated glass)
- Processing equipment for energy-saving products (SPACIA® etc.)
- VA improvements of furnace (low iron glass etc.)



Automotive Glass

- ADAS-related technology and production facility
- Environmental conscious products (light-weight glass etc)



Technical Glass

- New products based on core technologies

JPY20 billion of proceeds to be used for VA-related investment

Summary

- To issue JPY40 billion Class A Shares, subject to resolution at the extraordinary shareholders' meeting
- To aim for earlier financial stability and profit improvement with expedited debt reduction and equity enhancement
- To secure fund for VA related investment at the same time.
- To redeem Class A Shares with cash to be generated by executing the key measures under MTP Phase 2

Appendix

Class A Shares Detail

Amount (No of Shares)	JPY40 billion (40,000 shares)		
Planned Allottees (Amount & No of shares)	Japan Industrial Solutions Fund II		JPY20 billion (20,000 shares)
	UDS III Corporate Mezzanine Limited Partnership		JPY10 billion (9,000 shares)
	UDS IV Corporate Mezzanine Limited Partnership		JPY10 billion (11,000 shares)
Voting Rights	None		
Preferred dividend rate (Cumulative)	31 March 2017 ~ 31 March 2018	4.5%	
	1 April 2018 ~ 31 March 2020	5.5%	
	1 April 2020 ~	6.5%	
Call option (Comp- any's option)	Consi- deration	Cash	Put option (Planned Allottees' option)
	Redemp- -tion	1 April 2018 or later	
	Redemp- tion Amount per share	Paying-in amount per share + cumulative accrued dividend amount + daily prorated accrued preferred dividend amount + redemption premium <Redemption premium> 1 April 2018 ~ 30 June 2018 : 1.08 1 July 2018 ~ 30 June 2019 : 1.15 1 July 2019 ~ 30 June 2020 : 1.22 1 July 2020 ~ 30 June 2021 : 1.29 1 July 2021 ~ 30 June 2022 : 1.36 1 July 2022 ~ : 1.43	
	No. of Ordinary Shares to be Issued per Class A Share	(Paying-in amount per share X ordinary share redemption premium) + acquisition price <Ordinary share redemption premium> 1 April 2017 ~ 30 June 2017 : 1.05 1 July 2017 ~ 30 June 2018 : 1.08 1 July 2018 ~ 30 June 2019 : 1.15 1 July 2019 ~ 30 June 2020 : 1.22 1 July 2020 ~ 30 June 2021 : 1.29 1 July 2021 ~ 30 June 2022 : 1.36 1 July 2022 ~ : 1.43	
Design	<ul style="list-style-type: none"> In principle, the Planned Allottees may not exercise their put option before 1 July 2020. The Planned Allottees may exercise their put option for 4,000 or less Class A Shares, when the Company notifies the exercise of its call option for the entire outstanding Class A Shares. 		

Reference: VA related investment

Online Coated Products

Market	Application	Function / usage	Our product
Architectural	Eco glass IGU	Low-E coat	Energy Advantage™
Architectural	Windows, showcase	Anti-reflection view	OptiView™
Architectural	Windows	Reflective coat	Reflite™
Solar	PV panel	Conductive & anti-reflection	NSG TEC™
White goods	Refrigerator	Conductive layer	NSG TEC™
Digital signage	Touch panel	Conductive layer	NSG TEC™
Interior	Cover on display	Half mirror	MirroView™
Switchable	Electro chromic	Conductive layer	NSG TEC™
Automotive	Car glazing	Low-E / energy saving	(now in R&D)
Automotive	Car glazing	All-surface heating	(now in R&D)

Expanding to non-architectural market applications

Reference: VA related investment ADAS-related & Environment Conscious Products

ADAS / Sensors

- WS with camera sensor

Head-up display

- 3 dimensional contour control = APBL

Driving safety

- Anti-fog coating
- Hydrophobic coating

Electricity

- ◆ Power design
- ◆ AGM battery
- ◆ LIB separator

Human health, skin care

- UV & IR cut coated glass

Roof advanced

- Switchable
- PV panel
- Heat insulation, heat block

Connectivity

- Glass printed antenna (next gen ITS mode)

Sophisticated design

- Complex glass shaping
- ◆ Glass flake products



Energy saving Heat insulation

- Low-e glass

Rubber-made belt for engine & power steering unit

- ◆ Glass cord

Driving comfort

- Acoustic glass
- Heat block glass

Body light weighting

- ◆ PPS compound with glass flake
- Thin glass

The projections contained in this document are based on information currently available to us and certain assumptions that we consider to be reasonable. Hence the actual results may differ. The major factors that may affect the results are the economic environment in major markets (such as Europe, Japan, the U.S. and Asia), product supply/demand shifts, and currency exchange fluctuations.

Nippon Sheet Glass Co., Ltd.

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