ANNUAL REPORT 2017

FISCAL YEAR ENDED 31 MARCH 2017

‘MAKING A DIFFERENCE TO OUR WORLD THROUGH GLASS TECHNOLOGY’

Our Vision

'Making a Difference to our World through Glass Technology'

Our Mission

'To be the global leader in innovative high-performance glass and glazing solutions, contributing to the conservation and generation of energy, working safely and ethically'

Our Values

People are our most important asset.
We value:

- Trust and mutual respect
- Integrity and professionalism
- Teamwork and mutual support
- Open communication
- Initiative and creativity
- Passion and resilience
- Individual and social responsibility
- Sustainability

Our Guiding Principles

We will achieve success by:

- Ensuring that all our actions add value and make our company sustainable
- Being obsessed with safety, in the belief that all accidents are preventable
- Following the highest standards of social and environmental responsibility in everything we do
- Developing the potential, motivation and commitment of every individual
- Achieving defined quality standards to satisfy all our customers
- Staying ahead by constantly developing advanced technologies, innovative products and applications
- Making decisions based on data, facts and analysis, working closely with operations, development and commercial teams
- Exploiting synergies and eliminating waste, to ensure competitiveness
  Striving for continuous improvement - in all our activities

FINANCIAL HIGHLIGHTS

Revenue
Millions of yen

580,795

FY2016: 629,172

Trading profit*
Millions of yen

33,062

FY2016: 27,175

Profit/(loss) before taxation
Millions of yen

14,751

FY2016: (37,439)

Profit/(loss) attribute to owners of the parent
Millions of yen

5,605

FY2016: (49,838)

Total assets
Millions of yen

790,192

FY2016: 812,120

Number of employees
Permanent

26,950

FY2016: 27,463

*Operating profit before the amortization of intangible assets arising on the acquisition of Pilkington plc

CONTENTS

BUSINESS OVERVIEW

WE OPERATE THREE BUSINESS LINES: ARCHITECTURAL, AUTOMOTIVE AND TECHNICAL GLASS.

Domain | **Business outline** | **External revenue**

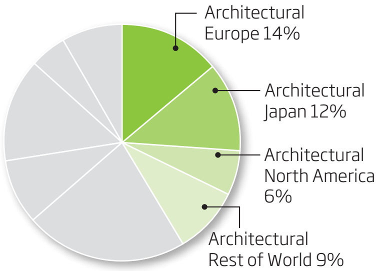
Architectural

A leader in architectural glazing and glass for solar energy products

31 Caroline St N, Waterloo, ON N2L 6B9, Canada
Pilkington Eclipse™ Gold

- **Manufacturing**
  Glass for architectural and solar energy applications
  Overall, the Group manages 26 float lines around the world. (Note: Some of them are dedicated to Automotive and Technical Glass production)
- **Global spread**
  Major presence in Europe and Japan. Also in North America, South America and South East Asia

41%
Contribution to Group revenue



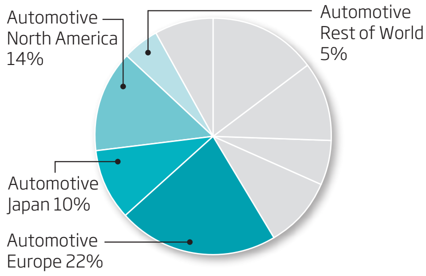
Automotive

Leading supplier of glass to original equipment (OE) and automotive glass replacement (AGR) market

Photo Credit: TOYOTA MOTOR CORPORATION

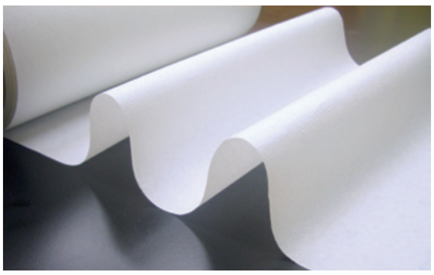
- **Manufacturing**
  Supplying the world's leading vehicle manufacturers
  Principal fabrication facilities in 14 countries. Major presence in Europe, Japan, North America and South America
- **Global spread**
  Leading share of the global original equipment (OE) and specialized transport markets. Largest player globally in automotive aftermarket (AGR) glazing distribution and wholesale

51%
Contribution to Group revenue



Technical Glass

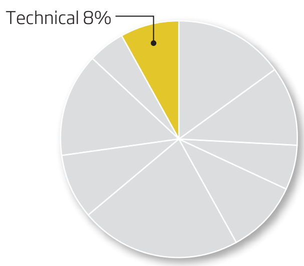
World leader in thin display glass and optical devices for office machinery



SGP (Super Glass Paper)

- **Manufacturing**
  Producing the world's thinnest float glass
  Major fabrication facilities in Japan, China and Europe
- **Global spread**
  World leader in thin display glass and optical devices for office machinery and glass fiber for battery separators and timing belts

8%
Contribution to Group revenue



Other

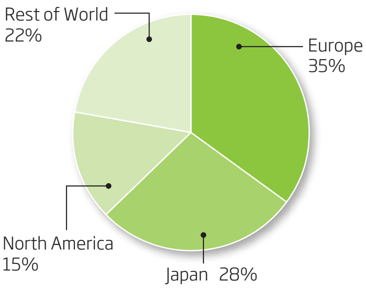
This segment covers corporate costs, consolidation adjustments, certain small businesses not included in the segments covered above and the amortization of other intangible assets related to the acquisition of Pilkington plc.

<1%
Contribution to Group revenue

Revenues by region and by sector

Financial highlights by business

Revenue by region
FY 2017

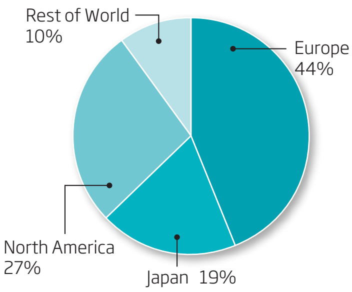


Millions of yen

	2017	2016
Revenue	**237,722**	262,559
Operating profit*	**27,044**	24,560
Net trading assets	**131,595**	148,164
Capital expenditure	**11,585**	13,156

*Before exceptional items

Revenue by region
FY 2017

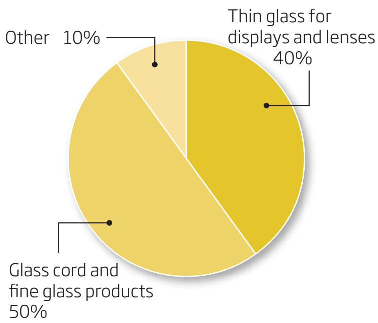


Millions of yen

	2017	2016
Revenue	**296,560**	316,327
Operating profit*	**12,654**	9,813
Net trading assets	**137,393**	155,754
Capital expenditure	**13,316**	13,272

*Before exceptional items

Revenue by sector
FY 2017



Millions of yen

	2017	2016
Revenue	**46,088**	49,490
Operating profit*	**1,756**	267
Net trading assets	**39,561**	44,428
Capital expenditure	**1,664**	1,452

*Before exceptional items

Millions of yen

	2017	2016
Revenue	**425**	796
Operating costs*	**(11,592)**	(15,278)
Net trading assets	**2,654**	2,786
Capital expenditure	**1,448**	312

*Before exceptional items

NSG GROUP - CORPORATE HISTORY
(Nippon Sheet Glass Co., Ltd.)

Since the foundation of Nippon Sheet Glass Co., Ltd. in 1918, the NSG Group has continued to evolve. While sharing the 400-year-old Sumitomo Spirit, we are operating in markets around the world where our products have established a major presence in architectural, automotive and technical glass sectors.


Futajima Plant in Fukuoka, Japan

1918
America Japan Sheet Glass Co., Ltd. was established in Osaka, Japan.

1920
Flat glass production begun in Fukuoka, Japan.

1920s-1940s
Capacity expanded in line with domestic glass demand growth.

- New capacity added at the Kitakyushu plant in 1920s.
- A new plant was built in Yokkaichi, Mie, in 1935.


Maizuru Plant in Kyoto, Japan

1950s-1960s
The Company increased the production capacity and capability in the context of economic development. The Company also made a full-scale inroad into the automotive glass business in 1950s.

- A new plant was built in Maizuru, Kyoto, in 1951.
- A new plant was built in Chiba in 1963.

1910 1920 1930 1940 1950 1960

1931
The Company name was changed to Nippon Sheet Glass Co., Ltd.


First piece of float glass ever made in Asia

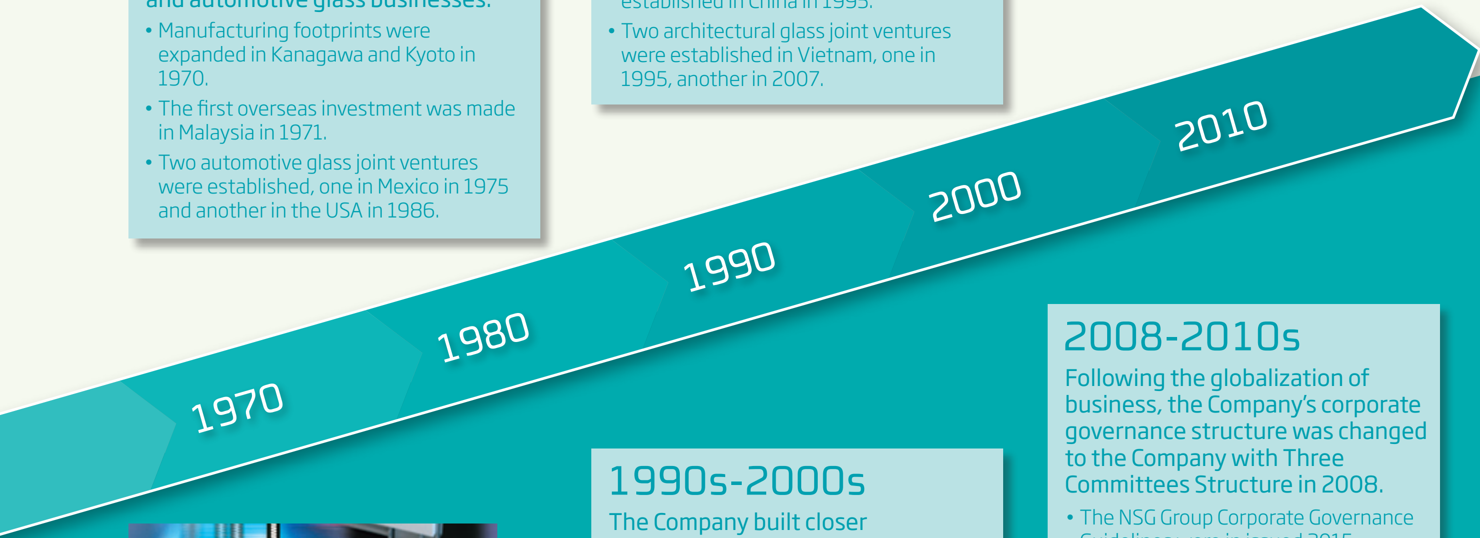
1950
The Company listed its shares on the Tokyo and other stock exchanges in Japan.

1965
The Company started the first float glass production in Asia, with the technology licensed from Pilkington. (Inventor of float process)

1970s-1980s

The automotive glass business grew and, in parallel, the Company began globalizing its architectural and automotive glass businesses.

- Manufacturing footprints were expanded in Kanagawa and Kyoto in 1970.
- The first overseas investment was made in Malaysia in 1971.
- Two automotive glass joint ventures were established, one in Mexico in 1975 and another in the USA in 1986.




The SELFOC is still core technology in NSG.

1970s-2000s

The Company focused on developing new products and technology. While setting up manufacturing sites in Japan, the Company also invested overseas such as Suzhou, China, building the foundation for the current technical glass business.

- SELFOCTM™ was developed in 1968.
- The production of thin glass, UFF™, started in 1978.
- The glass fiber business was launched in 1979.
- The battery separator business was expanded through an acquisition in 2001.

1979

The NSG Foundation was established to commemorate the 60th anniversary of the Company.

Vietnam Float Glass Co., Ltd.

1990s-2000s

Business expansion in Asia continued.

- An automotive glass joint venture was established in China in 1995.
- Two architectural glass joint ventures were established in Vietnam, one in 1995, another in 2007.

1990s-2000s

The Company built closer relationship with Pilkington.

- In 1990, the Company acquired a 20% stake in LOF, then subsidiary of Pilkington.
- The Company acquired a share in Pilkington while divesting its stake in LOF in 2000.
- In 2001, with the increase in shareholding to 20%, Pilkington became an affiliate of the Company.


Lathom site, UK

2004

The Company moved its registered headquarters from Osaka to Tokyo.

2006～

With the acquisition of Pilkington plc, the Company fully globalized its architectural and automotive glass business. The integrated NSG Group has principal operations around the world and sales in 100 countries. (As of March 31, 2017)

2008-2010s

Following the globalization of business, the Company's corporate governance structure was changed to the Company with Three Committees Structure in 2008.

- The NSG Group Corporate Governance Guidelines were in issued 2015.

2014

In May 2014, the Company announced the Long-term Strategic Vision and launched the Medium-term Plan (MTP).

2017

After a thorough review, the Company redefined the MTP and began MTP Phase 2 covering the three-year period from FY2018 to FY2020.

TO OUR SHAREHOLDERS

WE AIM TO BE THE GLOBAL LEADER IN INNOVATIVE HIGH-PERFORMANCE GLASS AND GLAZING SOLUTIONS, CONTRIBUTING TO ENERGY CONSERVATION AND GENERATION, WORKING SAFELY AND ETHICALLY.

Günter Zorn
Chairman of the Board

On behalf of the NSG Group, I thank our shareholders for their support. As Chairman of the Board, I am pleased to have this opportunity to report on the business performance of the NSG Group for FY2017 (From 1 April 2016 to 31 March 2017).

During the term, we achieved a significant improvement in operating profit thanks to steady progress in our VA shift as well as a recovery in the European market and a solid US market. We will continue efforts to achieve our Medium-term Plan (MTP) targets and accelerate our growth by implementing the newly formulated MTP Phase 2 under our Long-term Strategic Vision to transform into a VA Glass Company.

Summary of FY2017

The NSG Group's performance in FY2017 can be summarized as follows.

Despite the adverse impact of the Japanese yen appreciation, operating profit improved significantly from the previous term and we were able to rebound from a net loss of nearly ¥50 billion in the previous financial year to record a net profit. This improvement was fueled by the restructuring and cost-saving efforts launched in FY2016 along with steady progress in our VA shift.

The Group generated free cash flow of more than ¥20 billion. The main contributing factors were the significant improvement in operating profit, a reduction of working capital and the disposal of certain assets.

During the financial year, the Group reviewed its Medium-term Plan (MTP) and announced MTP Phase 2 in October 2016, as more fully described later in the report. In accordance with the plan, aiming for enhancing its shareholders' equity and bolstering the execution of measures set forth in MTP Phase 2, the Group issued a total of ¥40 billion in Class A shares on 31 March 2017.

Dividend policy

The Group's basic dividend policy is to make stable dividend payments based on sustainable business results. In consideration of the Group's current financial condition and profit level, however, the Company's Board of Directors have regrettably decided not to declare a year-end dividend for the year to 31 March 2017. The Group recognizes the importance of dividends to our shareholders and will resume the payment of dividends when the Group's business results sufficiently improve.

Corporate governance

We believe that good corporate governance serves as the foundation for improving a company's business results, enhances the ease of external financing and contributes to the sustainable development of companies. Therefore, the Company discloses to all stakeholders its guidelines and business targets that clearly show our responsible management stance and also ensures adequate accountability with high transparency.

The NSG Group has adopted the Company with Three Committees structure under which it has set up the Board of Directors; three committees, namely the Nomination, Audit and Compensation Committees; and Executive Officers. By adopting this system, the Company has further enhanced shareholder protection, raised the transparency of its corporate activities and reinforced governance by strengthening the functions of External Directors and separating the functions of oversight and execution.

In May 2015, we announced the NSG Group Corporate Governance Guidelines as we support the Principles of the Tokyo Stock Exchange Corporate Governance Code. These Guidelines provide the basic principles and framework concerning a governance system to enable the NSG Group to enhance our corporate value in a sustainable way over the medium- to long term period and thus increase the common value of the Group for our various stakeholders, including our shareholders.

Under the corporate governance structure as shown in the Guidelines, including the respective roles and composition of the Board of Directors, the three Committees, and the Independent External Directors and Executive Officers, we aim to ensure an appropriate system of checks and balances and accountability. This enables management to make prompt and decisive business decisions in an effective, efficient and ethical manner to maintain good relationships with and respond to the needs of our stakeholders.

For the latest information concerning the NSG Group's corporate governance, please access the Company's website.

"Good corporate governance serves as the foundation for improving the Group's business results and contributes to the sustainable development of the Group."

Board of Directors

The NSG Group is governed by its Board of Directors, which is elected by resolution at the General Meeting of Shareholders.

The Board comprises three Directors, concurrently serving as Executive Officers, and five External Directors including four Independent External Directors. The Board is chaired by an Independent External Director, Günter Zorn.

The Nomination Committee is chaired by an Independent External Director, Masatoshi Matsuzaki. The Committee consists of five members, including four Independent External Directors. The Audit Committee, chaired by an Independent External Director, Toshikuni Yamazaki, comprises four Independent External Directors. The Compensation Committee is chaired by an Independent External Director, Yasuyuki Kimoto, and comprises five members, including four Independent External Directors.

We have one newly elected External Director, Yuji Takei, pursuant to a resolution of the Extraordinary General Meeting of Shareholders held on 24 March 2017, whose term of office commenced on 1 April 2017. He does not satisfy our criteria for independency. In relation to such new appointment, we have not altered the membership composition as regards any of Nomination, Compensation or Audit Committee.

Evaluating the effectiveness of the Board of Directors

As further improvement on the functions and effectiveness of the Board of Directors and the three Committees, from FY2017 the Group started evaluating the effectiveness of the Board and each Committee and plan to carry out this evaluation every year.

The effectiveness review of the Board and Committees was conducted with reference to feedbacks and views taken from each Director in terms of composition, status of meeting management, agenda setting and direction in the role of such organization.

The entire process for such review was led and supervised by the Independent External Directors under the leadership of the Chairman of Board to ensure sufficient accuracy and independence. As a consequence, we have confirmed that the Board and all Committees are duly and adequately managed in overall terms and subsequently concluded that their effectiveness was ensured.

In this regard, we have also received certain feedbacks from the Directors to the effect that the Board might wish to focus relatively more on strategic subjects or give further thoughts to the selection of agenda items or manner of meeting management.

With the aid and on the basis of such results and views, the Group then organized a session exclusively attended by the Independent External Directors for further exchange of the views and then for the Board to consider the matters further; those process has led to the creation and introduction of a specific action plan whose aim is to ensure further in-depth opportunities for discussion and confirmation be made available to the Board and/or the Committees in relation to those strategic issues and enhanced efficiency in meeting management.

“We aim to achieve our sustainability objectives by balancing the needs of all our stakeholders, managing the environmental impacts of our activities and enhancing our safety program.”

We will regularly confirm the state of execution and the effectiveness of this Action Plan as well as review its contents. Additionally, we expect this Action Plan will become an important element in the process for evaluating the effectiveness of the Board of Directors in the next fiscal year.

Sustainability

The NSG Group is committed to sustainable development. Our strategy and policies respond to the challenges we all face in managing the world’s limited resources. We deliver products and services of unique value to the markets we serve that contribute to improving living standards, promoting the safety and well-being of people, and to the generation and conservation of energy. We aim to achieve our sustainability objectives by balancing the needs of all our stakeholders, managing the environmental impacts of our activities, developing our people, encouraging innovation in processes and products, working in harmony with the communities in which we operate and encouraging our customers, contractors and suppliers to do the same.

Our policies underline the contribution our products can make to addressing climate change. We are also committed to improving our own energy usage and resource management. Over the past year, we have made further progress in embedding the principles of sustainability within the NSG Group. We are a member of the UN Global Compact and support the advancement of its Ten Principles. We consider these principles to be a natural extension of our Code of Ethics, which defines our commitment to our social and environmental responsibilities. Our principal sustainability targets and the progress we have made so far towards their attainment are covered in our 2016 Sustainability Report and on our website.

In CY2016 absolute greenhouse gas emissions dropped by 0.21 percent to 3.98 million tonnes due to improved capacity utilization and energy efficiency. We aim to make a positive environmental contribution to the value chains in which we operate while benefiting from the growing international demand for our products that help save and generate energy. Glass has an important contribution to make in helping to reduce greenhouse gas emissions. We work with stakeholders in the framing of policies and regulations to help improve energy efficiency through the use of glass.

People being the most important asset of our company is deeply rooted in the 400-year-old Sumitomo Spirit to which we subscribe.

The Group has around 27,000 permanent employees speaking over 20 languages around the world. Around 46 percent of Group employees work in Europe, 16 percent in Japan, 17 percent in North America and just over 21 percent in the rest of Asia and South America. Our policy is to put the best person in each job, regardless of nationality or regional identity. We have identified specific challenges in attracting and retaining talent, particularly in emerging markets, and we are already putting in place measures to address these.

Safety at work is a priority for the Group. Our safety programs emphasize the importance of individuals taking personal responsibility and of appropriate safe behavior. All injuries at work are regarded as unnecessary and avoidable. We require full reporting of all incidents, no matter how minor, and proper investigation to ensure we learn from all such events. We owe it to our colleagues and their families to fully investigate and follow through on any improvement actions that are identified. We are committed to our high risk reduction program and the safety tools we operate.

In closing

In 2018, the Company will celebrate its centennial. On this occasion, the Group will renew its commitment and make every effort towards its further development and unite as a team to enhance shareholder value going forward.

We look forward to your continued understanding and support of the NSG Group’s activities.

Günter Zorn

Chairman of the Board

LONG-TERM STRATEGIC VISION AND MEDIUM-TERM PLAN PHASE 2

THE IMPLEMENTATION OF NSG GROUP'S LONG-TERM STRATEGIC VISION AND THE KEY MEASURES DEFINED IN MTP PHASE 2 WILL CREATE A BETTER LONG-TERM SHAREHOLDER VALUE.

Shigeki Mori
President and Chief Executive Officer

In FY2017, we took two key steps regarding our strategic management plan. In October 2016, the Group announced the launch of the Medium-term Plan ("MTP") Phase 2, covering the three-year period from FY2018 to FY2020, after conducting a thorough review of the original MTP started in FY2015. In February 2017, we decided to take a financial measure to enhance our financial stability and bolster the execution of MTP Phase 2, as further explained hereafter. We aim to create better long-term shareholder value and meet the expectations of our stakeholders through the implementation of the key measures defined in MTP Phase 2.

Long-term Strategic Vision

Our Long-term Strategic Vision is to transform the Group into a "VA Glass Company". "VA" comes from "value-added" and our aim is to:

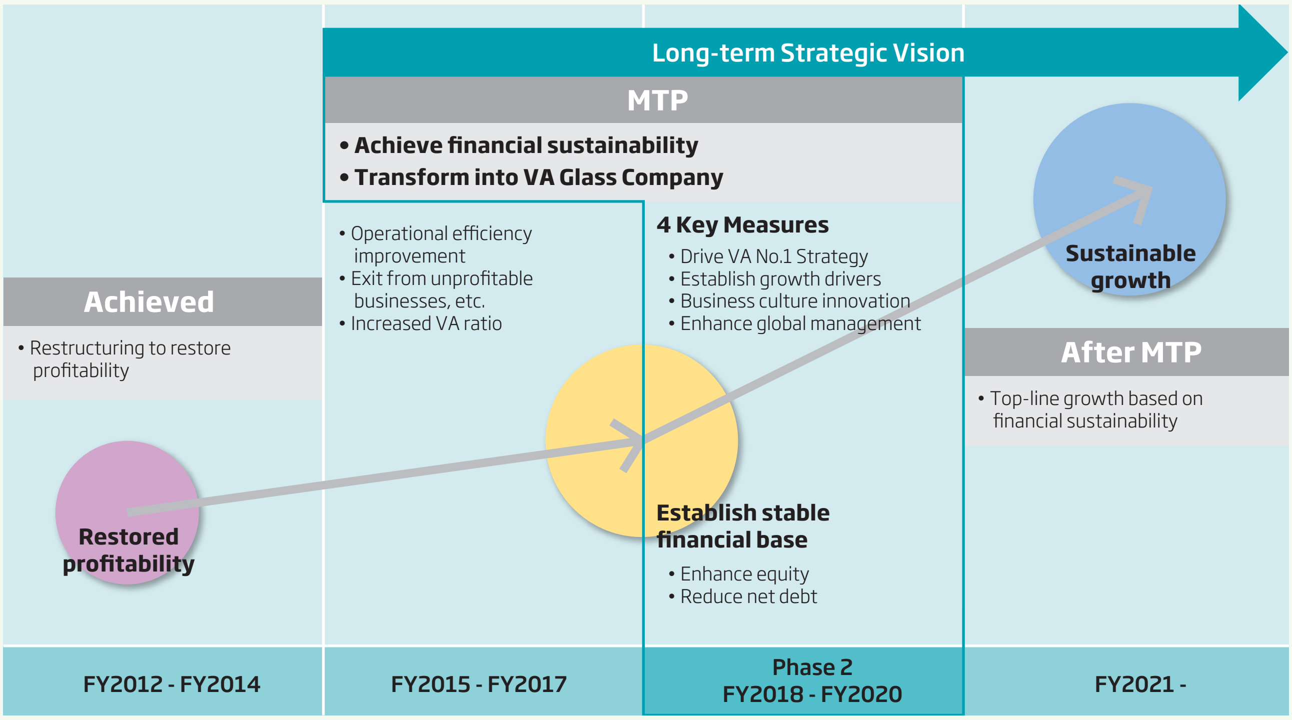
- Consolidate our trusted reputation as a glass specialist
- Work closely with our customers in a range of global industries to deliver unique value through our products and services
- Transform our float glass business, moving from a traditional business model towards one increasingly focused on VA

Medium-term Plan (MTP) Phase 2

Based on our Long-term Strategic Vision, the Group launched the MTP starting in FY2015. The key objectives of the MTP are: to achieve financial sustainability; and to start the transformation into a VA Glass Company. The two financial targets are Net debt / EBITDA of 3x and Return on Sales (ROS) of greater than 8 percent. The Group also envisions a Return on Equity (ROE) of greater than 10 percent as an image to be achieved under the MTP.

In October 2016, in light of the MTP progress and changes in the business environment, we announced MTP Phase 2. The Group positions a three-year period from FY2018 as MTP Phase 2 and is redoubling its efforts to ensure the achievement of the targets.

Summary of MTP Phase 2



Growth strategy under MTP Phase 2

The basic policies are to accelerate and to evolve the VA strategy to build a robust profit base for sustainable growth, and to review each work process to develop a leaner business structure.

Specifically, during the MTP Phase 2 period, the Group will implement the following four key measures as indicated.

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 alliances

Establish Growth Drivers

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

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 manufacturing excellence in each region
  - Enhance faster decision-making with flexible organization management
  - Continue to reduce cost across the Group

Establish stable financial base

Enabled with ¥40 billion Class A shares

• Enhance shareholders' equity and increase financial stability in view of volatility and uncertainly in the environment

Equity
Earlier enhancement of equity

×

Net Debt & Interest
Earlier reduction in interest expense & improvement of balance sheet

Earlier start of virtuous cycle of cash generation: to ensure financial stability; and to redeem Class A shares

20% Equity Ratio (forecast after redemption)

+

Net Debt < ¥300 billion (forecast after redemption)

Earlier equity enhancement for earlier financial stability

Financial strategy under MTP Phase 2

Believing it was necessary and appropriate for us to augment our shareholders' equity through procuring equity funding so that we could achieve a more stable financial base and establish financial sustainability sooner, the Company issued a total of ¥40 billion Class A shares through third-party allotment on 31 March 2017 after the relevant proposals had been approved at the extraordinary general meeting of shareholders on 24 March 2017. About a half of the total proceeds of ¥40 billion would be invested to drive the VA No.1 Strategy and establish growth drivers under MTP Phase 2. The rest would be used to pay down debt and we expect this could expedite our actions under MTP Phase 2 through initiating a virtuous cycle of a reduction in interest-bearing debt and further decrease in interest expense. It is the intention of the Company to redeem the Class A shares in cash.

Shigeki Mori
President and Chief Executive Officer

REVIEW OF BUSINESS

THE FULL-YEAR OPERATING PROFIT REPRESENTS AN IMPROVEMENT ON THE PREVIOUS YEAR. MANAGEMENT IS COMMITTED TO IMPROVING PROFITABILITY FURTHER UNDER THE GROUP'S MEDIUM-TERM PLAN PHASE 2.

Clemens Miller
Chief Operating Officer

During FY2017, market conditions continued to represent an improvement from the previous year, with results additionally benefitting from a further improvement in sales of higher value-added (VA) products.

The Group's operating profit showed a significant improvement, despite an unfavorable translational impact of a strengthened Japanese yen. The profit improvement has been supported by external factors such as the recovery of European markets, robust North American markets and lower input costs. The Group's initiatives to increase VA sales, improve operational efficiency, and exit and/or downsize unprofitable businesses also drove the improvement.

In FY2018, the first year of MTP Phase 2, we aim for even higher profitability by improving business performance further and accelerating our growth strategy.

Architectural

Architectural glass revenues fell from the previous year due to a translational impact of the strengthened Japanese yen. At constant exchange rates, revenues increased slightly from the previous year with improved prices in Europe and North America. Operating profits also benefitted from the continued low level of input costs.

In Europe, representing 35 percent of the Group's architectural glass sales, markets continued to be positive, with strong demand leading to a robust pricing environment. Profits also benefitted from benign input costs. On 13 February 2017, the Group announced the restart its float glass line in Venice, Italy, with production expected to recommence during FY2018.

One Albert Quay, Cork, Ireland
For the outer pane, Pilkington Suncool™ 50/25
Our glazing helps deliver energy performance for 'Smartest Building in Ireland'.

In Japan, representing 28 percent of the Group's architectural glass sales, volumes were below the previous year. While construction markets remained at a low level, volumes improved through the year. Price levels were similar to the previous year. The generally weak market environment was mitigated by additional cost savings and falling input costs.

In North America, representing 15 percent of the Group's architectural glass sales, local currency revenues were similar to the previous year as improving prices offset a decline in commodity volumes. Local currency profits were also similar to the previous year. On 28 February 2017 (local time), a tornado damaged the Group's float glass manufacturing plant in Ottawa, Illinois, and the Group decided to conduct an expedited cold repair of the furnace during FY2018.

In the rest of the world, markets were generally improved from the previous year. Local currency profits in South America increased with the previous year having included the effect of a cold repair in Argentina. Profitability also improved in South East Asia with growing domestic markets and robust dispatches of solar energy glass.

Automotive

In the automotive glass business, revenues were also below the previous year due to a translational impact of the strengthened Japanese yen. At constant exchange rates, revenues were ahead of the previous year, mainly due to increased volumes in Europe and North America. Profits were also ahead, due to the increased volumes and a continued improvement in operational performance.

Europe represents 44 percent of the Group's automotive glass sales. The Group's original equipment (OE) volumes were similar to the previous year, although volumes increased in the automotive glass replacement (AGR) business. Profits increased with the higher volumes and improved operational performance.

In Japan, representing 19 percent of the Group's automotive glass sales, revenues and profits fell slightly from the previous year. Vehicle sales started the year at a low level, impacted by the Kumamoto earthquakes, but improved significantly since then. AGR profits were similar to the previous year.

In North America, representing 27 percent of the Group's automotive glass sales, local currency revenues and profits improved from the previous year. Overall light vehicle sales were similar to the previous year, although the Group's volumes increased. AGR results were slightly below the previous year.

During the year we worked closely with customers using our internally developed press bending technology. The customers recognized NSG's leading glass forming capability.

In the rest of the world, weak market conditions persisted in South America.

Technical Glass

Revenues and profits in the technical glass business continue to be under pressure from challenging conditions in display glass markets and a decline in volumes of components used in multi-function printers.

Losses narrowed in the display business following the mothballing of the Group's thin glass float line in Vietnam. Demand for components used in multi-function printers continued to be below the previous year. Volumes of glass cord used in engine timing belts were robust, consistent with strengthening automotive markets. Battery separator profits benefitted from strong demand and an improving operational performance.

The Group's HTS (High Tensile Strength) glass cords significantly improve belt flexibility and stretch resistance. This advanced technology has been successfully incorporated into innovative 'Belt in Oil' systems that further improve engine refinement.

Research and Development

The NSG Group continues its strong investment in R&D and recognizes that innovation is a critical part of the Group's future growth. R&D costs amounted to ¥8,470 million for FY2017.

Outlook

The Group aims for further improvement in profitability during FY2018. Overall architectural and automotive glass markets are expected to show modest growth. The Group also expects further improvement in VA contribution generally, with growth in some areas compensating for a temporary reduction of demand in others. A further improvement in profitability is expected in the technical glass business, with improved costs and increased sales of VA products.

Clemens Miller

Chief Operating Officer

CHIEF FINANCIAL OFFICER'S REVIEW

THE SIGNIFICANT IMPROVEMENT IN OPERATING PROFITABILITY REFLECTS THE GROUP'S INITIATIVES TO INCREASE HIGHER VALUE-ADDED (VA) SALES, OPERATIONAL EFFICIENCY IMPROVEMENTS AND THE EXIT AND DOWNSIZING OF UNPROFITABLE BUSINESSES.

Kenichi Morooka
Chief Financial Officer

"Despite the unfavorable translational impact of a strengthened Japanese yen, the Group's operating profitability reflects the results of our business initiatives, with support from a recovery of European markets, robust North American markets and lower energy costs. Our bottom-line profit has returned to positive territory.

Progress towards establishing a stable financial base has been made, with the issuance of Class A shares, along with the Group's improved cash-flow generation."

Results for the year

Revenue

Revenues decreased to ¥580,795 million compared to ¥629,172 million in the previous year. At constant exchange rates, revenues were 2 percent higher than the previous year.

Operating profit

Trading profit (before amortization arising from the acquisition of Pilkington plc) increased from a profit of ¥27,175 million to a profit of ¥33,062 million. After charging amortization costs, operating profit increased from a profit of ¥19,362 million to a profit of ¥29,862 million.

Exceptional items

Exceptional items are analyzed in a note to the annual financial statements and comprise transactions that are of a material, non-routine nature. A credit of ¥2,921 million was posted to exceptional items compared to a charge of ¥35,142 million in the previous year.

The most significant items included a gain related to the sale and lease-back of certain assets in Japan and Malaysia.

Joint ventures and associates

The Group's share of the results of its joint ventures and associates improved from a loss of ¥3,435 million to a profit of ¥1,142 million. Results of Chinese and Russian joint ventures were not included following the impairments in March 2016, while profits at Cebrace, the Group's joint venture in Brazil, were below the previous year.

Interest expenses

Net interest expenses increased from the previous year, due to refinancing of debt which was brought forward to this fiscal year.

Taxation

The Group has a tax charge for the period to 31 March 2017 which results in an effective rate of 54.8 percent on profit before taxation, after excluding the Group's share of net profits at its joint ventures and associates.

Non-controlling interests

Profits attributable to non-controlling interests decreased from ¥2,338 million to ¥1,687 million.

Profit attributable to owners of the parent

Profit attributable to owners of the parent improved to ¥5,605 million, from a loss of ¥49,838 million in the previous year.

Earnings per share

Basic (undiluted) earnings per share increased from a net loss per share of ¥551.75 to a net profit per share of ¥62.04.

Cash flows

There has been a strong improvement in cash flow performance, supported by the improvement in operating profit and reducing levels of working capital. Cash inflows from operating activities were ¥30,429 million. Cash outflows from investing activities were ¥10,152 million, including capital expenditure on property, plant and equipment of ¥24,130 million and proceeds on disposal of property, plant and equipment of ¥10,403 million. As a result, total cash inflows before financing were ¥20,277 million.

Funding and liquidity

Net debt

Net financial indebtedness decreased by ¥67,791 million from FY2016 to ¥313,254 million at the period end. Currency movements generated a decrease in net debt of approximately ¥3,870 million over the period. Gross debt was ¥399,385 million at the period end. As of 31 March 2017, the Group had undrawn committed facilities of ¥50,524 million.

Sources of finance

The Group is financed by a combination of cash flows from operations, bank loans and corporate bonds. The Group aims to refinance borrowings well before their due date and ensures that any uncommitted or short-term borrowings are supported by undrawn committed facilities. The Group aims to obtain its funding from a variety of sources and access markets globally as and when they are available to it.

The Group seeks to deal with relationship banks that are able to support its businesses worldwide with the services it requires and at the same time provide, where necessary, appropriate levels of credit.

Shareholders' equity (net assets)

Total equity at the end of FY2017 was ¥133,708 million, representing an increase of ¥21,697 million from the end of FY2016. The issuance of Class A shares and improved profit more than offset the translational impact of a strengthened Japanese yen.

Kenichi Morooka

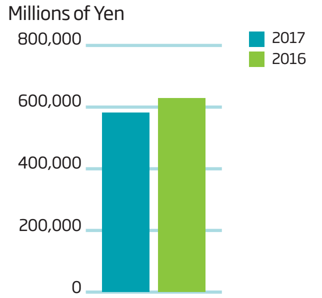
Chief Financial Officer

FINANCIAL SUMMARY

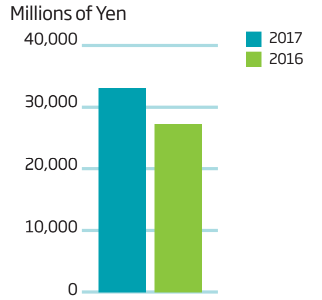
Period ended 31 March	2017	2016
	Millions of yen	
Revenue	**580,795**	629,172
Trading profit*	**33,062**	27,175
Profit/(loss) before taxation	**14,751**	(37,439)
Profit/(loss) for the period	**7,292**	(47,500)
Profit/(loss) attributable to owners of the parent	**5,605**	(49,838)
Earnings per share attributable to owners of the parent (yen)		
Basic	**62.04**	(551.75)
Diluted	**61.49**	(551.75)
Total assets	**790,192**	812,120
Total shareholders' equity	**124,146**	103,109
Number of permanent employees	**26,950**	27,463

Note: Effective as from 1 October 2016, the Company conducted a share consolidation in which every ten common shares were consolidated into one share. Diluted earnings per share is calculated under the assumption that this share consolidation was conducted on 1 April 2015.

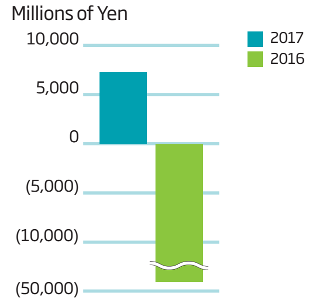
Revenue



Trading profit*



Profit/(loss) for the period



* Operating profit before the amortization of intangible assets arising on the acquisition of Pilkington plc

BOARD OF DIRECTORS AND EXECUTIVE OFFICERS

Members of the Board

Günter Zorn
External Director
Chairman of the Board

Toshikuni Yamazaki
External Director

Yasuyuki Kimoto
External Director

Masatoshi Matsuzaki
External Director

Yuji Takei
External Director

Shigeki Mori
Director
Representative Executive Officer
President and
Chief Executive Officer

Clemens Miller
Director
Representative Executive Officer
Executive Vice President and Chief Operating Officer

Kenichi Morooka
Director
Representative Executive Officer
Executive Vice President and Chief Financial Officer

Nomination Committee

Masatoshi Matsuzaki*
Günter Zorn
Toshikuni Yamazaki
Yasuyuki Kimoto
Shigeki Mori

Audit Committee

Toshikuni Yamazaki*
Günter Zorn
Yasuyuki Kimoto
Masatoshi Matsuzaki

Compensation Committee

Yasuyuki Kimoto*
Günter Zorn
Toshikuni Yamazaki
Masatoshi Matsuzaki
Shigeki Mori

*Committee Chairman

Executive Officers (Excluding Representative Executive Officers)

Shirley Anderson
Executive Officer
Chief Human Resources Officer

Tony Fradgley
Executive Officer
Head of Automotive AGR SBU and Automotive OE SBU

Koichi Hiyoshi
Executive Officer
Chief Legal Officer and Company Secretary

Hiroshi Kishimoto
Executive Officer
Chief Corporate Planning Officer

Hiroshi Nishikawa
Executive Officer
Head of Technical Glass SBU

Jochen Settelmayer
Executive Officer
Head of Architectural Glass SBU

ADDITIONAL INFORMATION

This information does not form part of the audited consolidated financial statements of the Nippon Sheet Glass Co., Ltd. and is provided purely for the information of the investors.

Business and other risks

The Group regularly reviews the principal financial and operating risk factors considered relevant to its current business activities and financial position. An updated analysis of the principal financial and operating risk factors facing the Group is presented below. Any references to future events in the below are based on what the Group judged as effective as at the end of this financial year.

There were no material issues or events occurring during the year that cast doubt on the ability of the Group to continue to operate as a going concern for the foreseeable future.

Economic conditions

The majority of the Group's products are sold in the Japanese, European and North American markets, with these markets representing 25 percent, 38 percent and 20 percent, respectively, of net sales for the year ended 31 March 2017. The majority of sales made outside of these three areas are in emerging markets such as South America. Over the long-term, the Group expects that its growth in emerging markets is likely to exceed its growth in more mature markets, and therefore the proportion of Group sales recorded in such markets is likely to increase in the future. Such markets may be considered to have a more significant level of risk than the more mature markets in which the Group operates. Changes in the business environments of the Group's customers and any geopolitical issues around the world might affect the Group's business, and if economic conditions or particular business environments in these regions of the Group's major markets and emerging markets deteriorate, this could have a significant negative effect on the Group's financial performance and financial position.

Europe represents the largest region for Group revenues. European markets have continued to strengthen during FY2017 and the Group expects that this will continue in FY2018. There can, however, be no assurance that this will be the case.

Dependency on certain specified industries and sectors

The Group's Architectural and Automotive businesses together account for over 90 percent of Group revenues for the year ended 31 March 2017. In FY2017, the Group's Architectural and Automotive business accounted for 41 percent and 51 percent of sales to external customers respectively. Products are principally provided to customers in the construction, housing and automotive industries. These industries have historically experienced swings in demand in response to cyclical changes in consumer confidence, and this is likely to continue to be the case in the future.

The Group is working to increase its revenues generated from value-added glass products that generate higher than average margins, and are typically sold into markets with significant growth prospects. Such products would normally have a lower level of cyclical volatility than commodity products, and are therefore less likely to be effected by deteriorating economic conditions. However there can be no assurance that such products will continue to enjoy higher than average margins, or that the markets for such products will continue to grow at higher than average rates. In addition, technological advances by other glass manufacturers in these areas could lead to an increased level of competition with a resulting erosion of profit margins for value-added products.

The Automotive business is also working to diversify its customer base. In recent years there has been a significant level of consolidation in the Automotive industry, leading to increased purchasing power for the Group's automotive customers. If such consolidation continues then this could mean that the Group's automotive customer base becomes more concentrated.

Competition

The Group competes with domestic and overseas glass product manufacturers. The Group also competes with material manufacturers of various plastic, metal and other materials used in the Architectural, Automotive and/or IT sectors. Although the Group endeavors to ensure a competitive edge in the provision of original technologies and products in these markets, if the Group is unable to ensure a competitive advantage due to changes in market needs or due to the emergence of a manufacturer providing low-cost products, or due to a manufacturer with a solid customer base and a high level of name recognition, or if our competitors receive governmental subsidies which are not available to us, there could be an adverse effect on the Group's financial performance and financial position.

Development of new products and technological innovation

The Group focuses on developing original technologies and products in its existing business fields and on developing new products in non-exploited business fields. The new product development process could require considerable time and expenses, and the Group might be requested to invest considerable amounts of capital and resources before achieving revenues from the sale of new products. Should any competitor launch a similar product in the target market earlier than the Group, or if alternative technologies and products are preferred by the market, the previous investment in the Group's product development might not produce the profits initially expected. Should the Group be unable to predict or respond to an anticipated technological innovation and/or succeed in the development of a new product that sufficiently meets customers' needs, such failure in product development or technological innovation could adversely affect the Group's businesses, financial performance and financial position.

Funds necessary for future business operations

The Group might have additionally to raise funds to 1) launch new products, 2) conduct business or R&D projects, 3) extend manufacturing capacity, 4) acquire a supplementary business, technology or service, 5) implement cost-saving initiatives and restructuring projects, or 6) repay maturing debt. If such funds cannot be raised under the intended conditions or at all, the Group might not be able to invest in the expansion, development or reinforcement of any product or service, capitalize on an opportunity for business development, or ensure higher competitiveness to its competitors, or the Group's financial position could be negatively affected.

Overseas operations

The Group has many production facilities in numerous areas around the world including Japan, elsewhere in Asia, Europe, North America, and South America.

The Group has various joint venture operations, investments, alliances and subsidiary operations in emerging markets such as South America, Russia, China and other areas. The Group believes that the stakes it holds in these operations are an important part of its strategy to keep its manufacturing capacities in these regions. In recent years the Group has impaired certain of these investments, resulting in an exceptional charge within the Group's income statement. There can be no assurance that there will not be a further deterioration in the underlying markets faced by the Group's affiliates and subsidiaries in these regions. Consequently, there can be no assurance that the Group will not have to recognize further impairments with respect to these businesses in the future. In addition, the Group could face unexpected losses from these investments if it becomes difficult to continue an operation as a result of disagreements with its joint venture partners or other partners regarding business operation policy or for other reasons.

Risk involved in the suspension of production

The Group undertakes regular anti-disaster inspections and the maintenance of facilities in order to minimize the potential adverse effects that might be caused by the suspension of production activity. Nevertheless, the potential adverse effects on production facilities due to a natural disaster (including an earthquake, an electric power outage or any other type of event that causes a suspension of the Group's or of its customers' production) cannot always be prevented or mitigated. In some cases, certain types of products manufactured at a Group facility might not be able to be produced by another facility. Consequently, in case that production activity is suspended at a facility due to an earthquake or any other similar event, the possibility of considerably reduced production capacity for certain specific product(s) could adversely affect the Group's financial performance and financial position. The Group insures against such events but there can be no guarantee that such insurance will fully compensate the Group in all circumstances.

Fluctuations in foreign exchange and interest rates

The Group has manufacturing operations in a variety of different countries around the world. Consequently, the Group is exposed to the risk of fluctuations in foreign exchange and interest rates associated with those countries. In addition, as the assets and liabilities denominated in local currencies are translated into yen when consolidated financial statements are prepared, the Group might be exposed to the risk of fluctuations in foreign exchange rates. Furthermore, fluctuations in interest rates might affect the values of interest expenses, interest income or financial assets and liabilities. Although the Group aims to hedge these risks, such fluctuations in foreign exchange and interest rates could adversely affect the Group's businesses, financial performance and financial position.

Changes in supply of raw materials and fuel, and distribution of products

Specific raw materials, such as silica sand and soda ash, and fuels, such as fuel oil and natural gas, are critical to the glass manufacturing process. Fluctuations in the cost of supplying raw materials and fuel may adversely affect the Group's financial performance and financial condition. The Group uses commodity derivatives and swap contracts to hedge the effect of fluctuations in the market prices for raw materials and fuel. However, there can be no assurance that such measures can eliminate the impact of future increases in the prices of raw materials and fuel.

The Group has entered into purchase agreements with selected suppliers of raw materials and fuel for medium and long-term fixed prices. The Group also sells its products through third party distributors in addition to its own distribution channels. If, for some reason, the Group's relationship with a major supplier or distributor ended, or such suppliers failed to perform their contractual obligations, the Group may have to enter into agreements with less favorable terms and conditions, or the supply of raw materials and the distribution of products may be impeded. This may result in the Group's financial performance and financial condition being adversely affected.

Retirement Benefit Obligations

The Group operates numerous corporate pension plans and some healthcare benefit plans for retiring employees. In the event of large fluctuations in the market value of the Group's pension assets, discount rates used to calculate pension liabilities, or mortality assumptions used in the calculation of pension liabilities, the Group may be obliged to contribute additional funds into the schemes.

While providing appropriate retirement benefit plans for our employees, the Group regularly reviews its retirement benefit obligations in order to reduce the risk to the Group. In recent years the Group has taken actions such as reducing the risk profile of assets within asset backed schemes, hedging longevity risks of certain groups of pensioners, and capping pensionable salaries for certain groups of active employees. However, there can be no assurance that such actions will be completely effective in eliminating the risk of increasing cash outflows into the Group's pension schemes in the future.

Legal restrictions

Foreign subsidiaries and affiliates of the Group are subject to local regulations relative to investment, imports and exports, fair competition rules, regulations for environmental conservation, and other laws regarding business transactions, labor, intellectual property rights, income tax, currency control and so forth of the respective countries and regions where they operate. Any change to these laws and regulations or operation thereof could adversely affect the Group's financial performance and financial position through limitation of the Group's business activities or imposition of expenses to be disbursed regarding legal compliance or penalty fees, and their subsequent claims for damages based on civil liability, to the Group by reason of infringement of any of the relevant laws and regulations.

Business strategies

The Group's business strategies are affected by a variety of factors, including the economic environment, the price of raw materials, foreign exchange rates, and the development and provision of new technologies and products. However, there can be no assurances that, under these conditions, the Group's business plan will be successful, or that the intended results of the business strategies through the success of the strategy will be achieved. Furthermore, it is possible that the proposed execution of the Group's business plan will not be delivered, or that the intended effects will not be realized.

The Group invests intensively in shifting from relatively low margin products to value-added products which require advanced technology in order to keep its competitive advantages. However, there can be no assurance that the Group can succeed in development of higher technology earlier than its competitors, or, as a result, can ensure higher competitiveness than its competitors.

Intellectual property rights

Patents and other intellectual property rights are an important competitive factor in the Group's operation. However, there can be no assurance that the Group will always be successful in adequately protecting our intellectual property rights. In addition, the Group conducts operations globally, which increases the risk of disputes between the Group and third parties over intellectual property rights. Any such infringements or disputes could have a negative impact on the Group's business, financial performance and financial condition.

Civil liability

If individuals are injured as a result of defects in the Group's products, the Group could be subject to claims for damages based on product liability. In addition, the occurrence of the claim could negatively affect the Group's reputation.

The Group strives to ensure that its products are of the highest quality. However, if unexpected quality problems occur, the Group may need to conduct a major recall. If this happens, the Group's reputation may be harmed and its financial performance and financial position may be adversely affected.

Environmental laws and regulations

The Group is subject to a variety of environmental laws and regulations. Although the Group makes efforts to implement a variety of measures in regard to product development and manufacturing process in order to have a beneficial environmental impact and comply with the relevant laws and regulations, there can be no assurance that the Group can achieve expected results through those measures. Also, any change to these laws and regulations or operation thereof could adversely affect the Group's financial performance and financial position through limitation of the Group's business activities or imposition of expenses to be disbursed regarding legal compliance or penalty fees to the Group by reason of infringement of any of the relevant laws and regulations.

Evaluation and impairment of balance sheet assets

The Group has a considerable value of assets included on its balance sheet that must be tested annually for impairment. Such assets include, but are not limited to, goodwill and intangible assets arising on the acquisition of Pilkington plc, and deferred taxation assets arising largely from historic taxable losses generated in certain territories. In recent years, the Group has concluded that an impairment of goodwill was required with respect to its Automotive Rest of World cash generating unit. There can be no assurance that further impairments of goodwill with respect to that cash generating unit will not be required in the future, and there can also be no assurance that goodwill held with respect to other cash generating units will not also be required in the future. In particular, if the performance of the Group in the future does not improve to the extent that has been assumed in previous impairment tests, then impairments of such assets in the future will be more likely.

Whilst the Group has recorded various write-downs of deferred tax assets following its annual review of the realization profile of such assets in recent years, there can be no assurance that this will be the case in the future. In particular the current tax environment globally is one of falling corporate tax rates. Whilst such reductions will be generally beneficial for the Group, there may be accounting write-downs in the future arising on the application of reduced tax rates to the deferred tax assets recognized on the Group's balance sheet.

Information security

The Group owns and uses various kinds of confidential information and data related to its business activities. Controls over information technology systems are increasingly important to enable the Group to control such information and data appropriately and manage the operations efficiently. The Group makes efforts in sufficiently protecting such confidential information and its information systems, but in case the information systems and the business activities are disrupted or any confidential information leaks externally due to any events such as natural disasters, telecommunications failures, computer viruses and cyber-attacks, it could have a material adverse effect on the Group's financial performance and financial position.

INDEPENDENT AUDITOR'S REPORT

The Board of Directors
Nippon Sheet Glass Company, Limited

We have audited the accompanying consolidated financial statements of Nippon Sheet Glass Company, Limited and its consolidated subsidiaries, which comprise the consolidated balance sheet as at 31 March 2017, the consolidated income statement, the consolidated statements of comprehensive income, changes in equity and cash flows for the year then ended and notes to the consolidated financial statements.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with International Financial Reporting Standards, and for designing and operating such internal control as management determines is necessary to enable the preparation and fair presentation of the consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in Japan. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. The purpose of an audit of the consolidated financial statements is not to express an opinion on the effectiveness of the entity's internal control, but in making these risk assessments the auditor considers internal controls relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of Nippon Sheet Glass Company, Limited and its consolidated subsidiaries as at 31 March 2017, and their consolidated financial performance and cash flows for the year then ended in conformity with International Financial Reporting Standards.

Ernst & Young ShinNihon LLC

30 June 2017
Tokyo, Japan

CONSOLIDATED INCOME STATEMENT

Nippon Sheet Glass Co., Ltd and consolidated subsidiaries
For the period ended 31 March 2017

	Note	2017	2016 (restated)*
			Millions of yen
Revenue	2	**580,795**	629,172
Cost of sales		**(429,122)**	(472,217)
Gross profit		**151,673**	156,955
Other income	3	**1,874**	2,945
Distribution costs		**(51,834)**	(56,639)
Administrative expenses		**(64,922)**	(70,716)
Other expenses	4	**(6,929)**	(13,183)
Operating profit before exceptional items	2	**29,862**	19,362
Exceptional items	6	**2,921**	(35,142)
Operating profit/(loss) after exceptional items		**32,783**	(15,780)
Finance income	8	**1,380**	1,624
Finance expenses	8	**(20,554)**	(19,848)
Share of post-tax profits/(losses) of joint ventures and associates accounted for using the equity method	14	**1,142**	(3,435)
Profit/(loss) before taxation		**14,751**	(37,439)
Taxation	9	**(7,459)**	(10,061)
Profit/(loss) for the period		**7,292**	(47,500)
Profit attributable to non-controlling interests	39	**1,687**	2,338
Profit/(loss) attributable to owners of the parent		**5,605**	(49,838)
		7,292	(47,500)
Earnings per share attributable to owners of the parent:			
Basic earnings per share (yen)	35	**62.04**	(551.75)
Diluted earnings per share (yen)	35	**61.49**	(551.75)

There were no revenues or costs incurred during the period with respect to discontinued operations.

* Note: For further details, please refer to Note 35.

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

Nippon Sheet Glass Co., Ltd and consolidated subsidiaries
For the period ended 31 March 2017

	Note	2017	2016 (restated)*
			Millions of yen
Profit/(loss) for the period		**7,292**	(47,500)
Other comprehensive income:			
Items that will not be reclassified to profit or loss:			
Re-measurement of retirement benefit obligations (net of taxation)	26	**(1,833)**	12,203
Revaluation of Assets held at Fair Value through Other Comprehensive Income – equity investments (net of taxation)		**(6,182)**	4,912
Share of other comprehensive income of joint ventures and associates accounted for using the equity method		**33**	(749)
Sub total		**(7,982)**	16,366
Items that may be reclassified to profit or loss:			
Foreign currency translation adjustments		**(19,190)**	(39,176)
Revaluation of Assets held at Fair Value through Other Comprehensive Income – other investments (net of taxation)		**95**	(35)
Cash flow hedges – fair value gains/(losses), net of taxation		**3,073**	(2,855)
Sub total		**(16,022)**	(42,066)
Other comprehensive income for the period, net of taxation		**(24,004)**	(25,700)
Total comprehensive income for the period		**(16,712)**	(73,200)
Attributable to non-controlling interests		**1,388**	(496)
Attributable to owners of the parent		**(18,100)**	(72,704)
		(16,712)	(73,200)

* Note: For further details, please refer to Note 1.2, Changes in accounting policies and disclosures.

Financial statements

CONSOLIDATED BALANCE SHEET

Nippon Sheet Glass Co., Ltd and consolidated subsidiaries
As at 31 March 2017

	Note	2017	2016
		Millions of yen	
Assets			
Non-current assets			
Goodwill	10	**105,972**	113,459
Intangible assets	11	**56,288**	62,898
Property, plant and equipment	12	**245,157**	258,866
Investment property	13	**523**	715
Investments accounted for using the equity method	14	**13,773**	17,869
Retirement benefit asset	26	**19,227**	18,837
Trade and other receivables	15	**17,170**	15,297
Financial assets			
assets held at fair value through other comprehensive income	16	**26,568**	33,995
derivative financial instruments	17	**248**	26
Deferred tax assets	19	**41,622**	48,357
Tax receivables		**1,270**	1,098
		527,818	571,417
Current assets			
Inventories	20	**105,514**	108,862
Construction work-in-progress	21	**625**	716
Trade and other receivables	15	**68,010**	72,574
Financial assets			
assets held at fair value through other comprehensive income	16	**572**	346
derivative financial instruments	17	**963**	815
Cash and cash equivalents	22	**84,920**	55,074
Tax receivables		**1,644**	1,093
		262,248	239,480
Assets held for sale or included in a disposal group held for sale	23	**126**	1,223
		262,374	240,703
Total assets		**790,192**	812,120

CONSOLIDATED BALANCE SHEET CONTINUED

	Note	2017	2016
		Millions of yen	
Liabilities and equity			
Current liabilities			
Financial liabilities			
borrowings	24	**78,417**	139,089
derivative financial instruments	17	**1,393**	4,453
Trade and other payables	25	**123,794**	120,979
Taxation liabilities		**2,797**	2,219
Provisions	27	**14,091**	16,181
Deferred income	28	**2,733**	2,989
		223,225	285,910
Non-current liabilities			
Financial liabilities			
borrowings	24	**317,981**	289,319
derivative financial instruments	17	**1,595**	4,098
Trade and other payables	25	**443**	714
Deferred tax liabilities	19	**15,005**	17,321
Taxation liabilities		**1,536**	1,002
Retirement benefit obligations	26	**70,826**	75,111
Provisions	27	**16,903**	16,512
Deferred income	28	**8,970**	10,122
		433,259	414,199
Total liabilities		**656,484**	700,109
Capital and reserves attributable to the owners of the parent			
Called up share capital	30	**116,463**	116,449
Capital surplus	31	**166,578**	127,511
Retained earnings	32	**(59,646)**	(63,502)
Retained earnings (translation adjustment at the IFRS transition date)		**(68,048)**	(68,048)
Other reserves	33	**(31,201)**	(9,301)
Total shareholders' equity		**124,146**	103,109
Non-controlling interests	39	**9,562**	8,902
Total equity		**133,708**	112,011
Total liabilities and equity		**790,192**	812,120

The financial statements on pages 21 to 83 were approved by the Executive Officers on 30 June 2017.

Executive Officers

Shigeki Mori
Representative Executive Officer
President and Chief Executive Officer

Kenichi Morooka
Representative Executive Officer
Chief Financial Officer

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

Nippon Sheet Glass Co., Ltd and consolidated subsidiaries
For the period ended 31 March 2017

Millions of yen

	Called up share capital	Capital surplus	Retained earnings	Retained earnings (translation adjustment at the IFRS transition date)	Other reserves	Total shareholders' equity	Non-controlling interests	Total equity
Note	30	31	32		33		39	
Balance at 31 March 2015	**116,449**	**127,511**	**(25,082)**	**(68,048)**	**24,916**	**175,746**	**10,262**	**186,008**
Profit for the period	–	–	(49,838)	–	–	**(49,838)**	2,338	**(47,500)**
Other comprehensive income	–	–	11,454	–	(34,320)	**(22,866)**	(2,834)	**(25,700)**
Total comprehensive income	–	–	(38,384)	–	(34,320)	**(72,704)**	(496)	**(73,200)**
Transactions with owners								
Stock options	–	(36)	–	–	107	**71**	–	**71**
Dividends paid	–	–	–	–	–	**–**	(864)	**(864)**
Issuance and purchase of treasury stock	–	–	–	–	(4)	**(4)**	–	**(4)**
Transfer from retained earnings to capital surplus	–	36	(36)	–	–	**–**	–	**–**
Balance at 31 March 2016	**116,449**	**127,511**	**(63,502)**	**(68,048)**	**(9,301)**	**103,109**	**8,902**	**112,011**
Profit for the period	–	–	5,605	–	–	**5,605**	1,687	**7,292**
Other comprehensive income	–	–	(1,800)	–	(21,905)	**(23,705)**	(299)	**(24,004)**
Total comprehensive income	–	–	3,805	–	(21,905)	**(18,100)**	1,388	**(16,712)**
Transactions with owners								
Issuance of preference shares	20,000	20,000	–	–	–	**40,000**	–	**40,000**
Share issuance costs	–	(946)	–	–	–	**(946)**	–	**(946)**
Transfer of share capital to capital surplus	(20,000)	20,000	–	–	–	**–**	–	**–**
Stock options	14	(12)	76	–	8	**86**	–	**86**
Dividends paid	–	–	–	–	–	**–**	(728)	**(728)**
Issuance and purchase of treasury stock	–	–	–	–	(3)	**(3)**	–	**(3)**
Transfer from retained earnings to capital surplus	–	25	(25)	–	–	**–**	–	**–**
Balance at 31 March 2017	**116,463**	**166,578**	**(59,646)**	**(68,048)**	**(31,201)**	**124,146**	**9,562**	**133,708**

CONSOLIDATED STATEMENT OF CASH FLOWS

Nippon Sheet Glass Co., Ltd and consolidated subsidiaries
For the period ended 31 March 2017

	Note	2017	2016
		Millions of yen	
Cash flows from operating activities			
Cash generated from operations	34	**54,523**	42,281
Interest paid		**(20,666)**	(17,931)
Interest received		**1,567**	1,282
Income tax paid		**(4,995)**	(3,843)
Net cash generated from operating activities		**30,429**	21,789
Cash flows from investing activities			
Dividends received from joint ventures and associates		**1,104**	2,741
Proceeds on disposal of joint ventures and associates		**2,005**	–
Purchases of property, plant and equipment		**(24,130)**	(28,197)
Proceeds on disposal of property, plant and equipment		**10,403**	608
Purchase of intangible assets		**(1,855)**	(1,790)
Proceeds on disposal of intangible assets		**46**	–
Purchase of assets held at fair value through other comprehensive income		**(7)**	(13)
Proceeds on disposal of assets held at fair value through other comprehensive income		**1,967**	128
Loans advanced to joint ventures, associates and third parties		**(465)**	(529)
Loans repaid from joint ventures, associates and third parties		**641**	370
Others		**139**	281
Net cash used in investing activities		**(10,152)**	(26,401)
Cash flows from financing activities			
Dividends paid to non–controlling interests		**(728)**	(857)
Issuance of preferred shares		**39,054**	–
Repayment of borrowings		**(210,499)**	(136,485)
Proceeds from borrowings		**188,573**	131,438
Others		**(2)**	(4)
Net cash generated from/(used in) financing activities		**16,398**	(5,908)
Increase/(decrease) in cash and cash equivalents (net of bank overdrafts)		**36,675**	(10,520)
Cash and cash equivalents (net of bank overdrafts) at the beginning of the period	22	**46,162**	62,340
Effect of foreign exchange rate changes		**(3,029)**	(5,658)
Cash and cash equivalents (net of bank overdrafts) at the end of the period	22	**79,808**	46,162

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

1.1 Summary of significant accounting policies

The principal accounting policies applied in the preparation of these consolidated financial statements are set out below. These policies have been consistently applied to all the periods presented. As noted in 1.2 below, the Group has adopted IFRS 9 "Financial Instruments" from FY2017. FY2016 comparative information is restated accordingly.

Reporting entity
Nippon Sheet Glass Co., Ltd (the Company) together with its consolidated subsidiaries (the Group) is a world leader in the supply of flat glass for architectural and automotive applications. In addition, the Group has a number of discreet technical glass businesses, operating in high technology areas. The parent company of the Group, Nippon Sheet Glass Co., Ltd is incorporated and domiciled in Japan and has shares publicly traded on the Tokyo Stock Exchange. The registered office is located at 5-27, Mita 3-chome, Minato-ku, Tokyo, 108-6321, Japan.

Basis of preparation
The consolidated financial statements of the Group have been prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB). The consolidated financial statements have been prepared on a historical cost basis, except for investment property, derivative financial instruments and assets held at fair value through other comprehensive income that have been measured at fair value.

The financial statements are presented in Japanese yen and are rounded to the nearest million yen (¥m) except where otherwise indicated.

IFRS standards not relevant for this financial period
Certain new standards, amendments and interpretations to existing standards have been published that are mandatory for the Group's annual accounting periods beginning on or after 1 April 2017 and are considered to be relevant and potentially material to the Group's primary financial statements. The Group has elected not to adopt early the standards as described below:

IFRS 15 'Revenue from Contracts with Customers' addresses the recognition of revenues and will be effective from the Group's financial period commencing 1 April 2018. This new standard will replace IAS 18 'Revenue' and IAS 11 'Construction Contracts'. The Group has not yet calculated the impact of the adoption of this new standard.

IFRS 16 'Leases' addresses the principles for the recognition and measurement of leases, and will be effective from the Group's financial period commencing 1 April 2019. This new standard will replace IAS 17 'Leases' and IFRIC 4 'Determining whether an Arrangement contains a Lease'. The Group has not yet calculated the impact of the adoption of this standard.

IFRS 17 "Insurance Contracts" addresses accounting for insurance contracts and will be effective from the Group's financial period commencing 1 April 2021. This new standard will replace IFRS 4 "Insurance Contracts". The Group has not yet calculated the impact of the adoption of this standard.

Consolidation
(a) Subsidiaries
Subsidiaries are all entities over which the Group has the power to control the financial and operating policies, generally accompanying a shareholding of more than one-half of the voting rights. The existence and effect of potential voting rights arising from equity share options that are currently exercisable or convertible, are considered when assessing whether the Group controls another entity. Subsidiaries where the Group controls more that 50 percent of the voting rights are fully consolidated from the date on which control is transferred to the Group. They are consolidated until the date that control ceases.

The Group uses the acquisition method of accounting to account for business combinations. The consideration transferred for the acquisition of a subsidiary is the fair value of the assets transferred, the liabilities incurred and the equity interests issued by the Group. The consideration transferred includes the fair value of any assets or liabilities resulting from a contingent consideration arrangement. Acquisition-related costs are expensed as incurred. Identifiable assets acquired, and liabilities and contingent liabilities assumed, in a business combination are measured initially at their fair values at the acquisition date.

The excess of the consideration transferred, the amount of any non-controlling interest, based upon the appropriate share of the acquiree's net asset value, and the acquisition-date fair value of any previous equity interest in the acquiree, over the fair value of the Group's share of the identifiable net assets acquired, is recorded as goodwill. If this is less than the fair value of the net assets of the subsidiary acquired in the case of a bargain purchase, the difference is recognized immediately in the consolidated income statement (see Intangible Assets – Goodwill).

Inter-company transactions, balances and unrealized gains on transactions between Group companies are eliminated. Unrealized losses are also eliminated unless the transaction provides evidence of an impairment of the asset transferred. All Group companies use a common set of accounting policies, and are consolidated using a common accounting reference date of 31 March.

(b) Non-controlling interests, joint ventures and associates
Non-controlling interests
Changes in the Group's ownership interests in subsidiaries, arising from transactions between the Group and non-controlling interests, that do not result in a change in the Group's control over a subsidiary, are treated as equity transactions and therefore do not result in goodwill, or in gains and losses in the income statement.

Joint ventures
A joint venture is a contractual arrangement whereby the Group and other parties undertake an economic activity, which is then subject to joint control. In the Group, all such jointly controlled activities are undertaken through jointly controlled entities with the Group entitled to a share of the net assets of the jointly controlled entity. Consequently, the Group considers each of its joint arrangements to be joint ventures rather than joint operations. The Group considers that it has no other material contractual arrangements with its joint venture partners, other than the joint venture agreement itself. The Group accounts for its interest in these jointly controlled entities by the equity method of accounting, as described in relation to associates below.

Associates
Associates are all entities over which the Group has significant influence, generally accompanying a shareholding of between 20 and 49 percent of the voting rights. Significant influence is the power to participate in the financial and operating policy decisions of an investee, but is not control or joint control over these policies. Investments in associates are accounted for by the equity method of accounting and are initially recognized at cost. The Group considers that it has no material contractual arrangements with the other investors in each of the Group's associated entities, other than those which arise in the normal course of business. The Group's investment in associates

includes goodwill (net of any accumulated impairment loss) identified on acquisition (see Intangible Assets– Goodwill).

The Group's share of its associates' post-acquisition profits or losses is recognized in the income statement, and its share of post-acquisition movements in reserves is recognized in reserves. The cumulative post-acquisition movements are adjusted against the carrying amount of the investment. When the Group's share of losses in an associate equals or exceeds its interest in the associate, including any other unsecured receivables, the Group does not recognize further losses, unless it has incurred obligations or made payments on behalf of the associate.

Unrealized gains on transactions between the Group and its associates are eliminated to the extent of the Group's interest in the associates. Unrealized losses are also eliminated unless the transaction provides evidence of an impairment of the asset transferred.

Accounting for joint ventures and associates
Joint ventures and associates are accounted for on the basis of audited accounts, or where these are not available, on the basis of unaudited management accounts prepared up to the Group's accounting date. Where it is not practicable to obtain such accounts, audited accounts or unaudited management accounts prepared to an accounting date not more than three months prior to the Group's accounting date are used. Where appropriate, the financial statements of joint ventures and associates are adjusted to conform to the Group's accounting policies.

Segment reporting
The chief operating decision-making body in the Group is the Board of Directors. The Group reports the results of its operating segments externally in a manner consistent with its internal reporting to the Board of Directors. The Board of Directors is responsible for allocating resources to, and assessing the performance of, the Group's operating segments.

Foreign currency translation
(a) Functional and presentation currency
Items included in the financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which the entity operates (the functional currency). The consolidated financial statements are presented in Japanese yen which is the Company's functional and the Group's presentation currency.

(b) Transactions and balances
Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at period-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognized in the income statement, except when deferred in equity as qualifying cash flow hedges and qualifying net investment hedges.

Translation differences on non-monetary items, such as equities classified as assets held at fair value through other comprehensive income, are included in the fair value reserve in equity.

(c) Group companies
The results and financial position of all the Group entities with a functional currency different from the Group's presentation currency (none of which has the currency of a hyperinflationary economy) are translated into the presentation currency as follows:

- assets and liabilities for each balance sheet presented are translated at the closing rate at the date of that balance sheet;
- income and expenses for each income statement are translated at average exchange rates (unless this average is not a reasonable approximation of the cumulative effect of the rates prevailing on the transaction dates, in which case income and expenses are translated at the dates of the transactions); and
- all resulting exchange differences are recognized in the exchange translation reserve, a separate component of equity.

On consolidation, exchange differences arising from the translation of the net investment in foreign entities, and of borrowings and other currency instruments designated as hedges of such investments, are taken to the exchange translation reserve within shareholders' equity. When a foreign operation is sold, such exchange differences are recognized in the income statement as part of the gain or loss on sale.

Exchange differences recognized prior to 31 March 2010 are included in a separate reserve within retained earnings called 'Retained earnings (translation adjustment at the IFRS transition date)'. Exchange differences arising on or after 1 April 2010 are recognized within a separate exchange reserve.

Goodwill, intangibles and fair value adjustments arising on the acquisition of a foreign entity are treated as assets and liabilities of the foreign entity and translated at the closing rate.

Property, plant and equipment
Land and buildings comprise mainly the Group's manufacturing facilities. Land is shown at historical cost (and depreciated if held on a finance lease). All property (excluding land) and plant and equipment are stated at historical cost less accumulated depreciation and impairment. Historical cost comprises all expenditure that is directly attributable to the acquisition of the items. Cost may also include transfers from equity of any gains/losses on qualifying cash flow hedges of foreign currency purchases of property, plant and equipment.

Borrowing costs are capitalized with respect to material capital expenditure projects, using the Group's marginal cost of borrowing over the period of construction of the asset. Borrowing costs are depreciated over the useful economic life of the asset to which they relate.

Subsequent costs are included in the asset's carrying amount or recognized as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to the Group and the cost of the item can be measured reliably. All other repairs and maintenance are charged to the income statement during the financial period in which they are incurred.

Freehold land is not depreciated. Depreciation on other assets is calculated using the straight-line method to allocate their cost less their residual values over their estimated useful lives, as follows:

Freehold buildings	3 to 50 years
Long leasehold land and buildings	lease term or useful economic life
Float glass tanks	10 to 15 years
Glass-making plant	25 years
Glass-processing plant	15 years
Other plant and equipment	5 to 20 years
Vehicles	5 years

The assets' residual values and useful lives are reviewed to take account of technological changes, intensity of use over their lives and market requirements, and adjusted if appropriate, at each balance sheet date. In the event of impairment, an asset's carrying amount is written down immediately to its recoverable amount (see Impairment of Assets).

Gains and losses on disposals are determined by comparing the proceeds with the carrying amount. These are included in the income statement.

Investment property

Investment property principally comprises land, office buildings and small industrial units, and those parts of other properties not occupied by the Group, which are held for long-term rental yields. Investment properties are initially recognized at cost and are thereafter carried at fair value, representing open-market value determined annually by discounted cash flows or by the use of external valuers. Changes in fair value are recorded in the income statement as part of other income and expense.

Intangible assets

(a) Goodwill

Goodwill is tested annually for impairment and carried at cost less accumulated impairment losses. Gains and losses on the disposal of an entity include the carrying amount of goodwill relating to the entity sold.

Goodwill is allocated to cash-generating units for the purpose of impairment testing. Each of those cash-generating units represents the Group's investments in each region of operation by each primary reporting segment (see Impairment of Assets).

(b) Trademarks and licenses

Trademarks and licenses are shown at historical cost. Trademarks and licenses have a finite useful life and are carried at cost less accumulated amortization. Amortization is calculated using the straight-line method to allocate the cost of trademarks and licenses over their estimated useful lives (over a maximum of twenty years).

(c) Computer software

Acquired computer software licenses are capitalized on the basis of the costs incurred to acquire and bring to use the specific software. These costs are amortized over their estimated useful lives (five to ten years).

Costs associated with developing or maintaining computer software programs are recognized as an expense as incurred. Costs that are directly associated with the production of identifiable and unique software products controlled by the Group, which are seen to generate economic benefits exceeding costs beyond one year, are recognized as intangible assets. Direct costs include the software development employee costs and an appropriate portion of relevant overheads.

Computer software development costs recognized as assets are amortized over their estimated useful lives (not exceeding ten years).

(d) Research and development

Research expenditure is recognized as an expense as incurred. Costs incurred on development projects (relating to the design and testing of new or improved products or processes which will be used internally within the Group) are recognized as intangible assets when it is probable that the project will be commercially successful and technologically feasible or will give rise to internally improved processes, and costs can be measured reliably.

Other development expenditure is recognized as an expense as incurred. Development costs previously recognized as an expense are not recognized as an asset in a subsequent period. Development costs with a finite useful life that have been capitalized, are amortized from the date when the product or use of the process becomes available for commercial production on a straight-line basis over the period of its expected benefit, not exceeding five years (products) and twenty years (processes).

(e) Intangible assets created on acquisition

The intangible assets identified on acquisition of the Pilkington Group in June 2006 as part of the fair valuing of the net assets acquired include customer relationships, know-how, license agreements, the Pilkington brand name and other brands, in-process research and development and developed technology. These have been capitalized and are amortized over the estimated life of each category of intangible asset and are amortized on a straight-line basis over the period of their expected benefit to the Group as follows:

Customer relationships	Up to 20 years
Know-how**	10 years
License agreements	11 years
Pilkington brand name*	Nil
Other brands**	10 years
Research and development	Up to 20 years
Developed technology	Up to 15 years

* The Pilkington brand name has been assigned an indefinite useful life and is therefore not subject to routine amortization, but is instead tested annually for impairment.

** Fully amortized, with remaining book value of nil as from FY2017

Impairment of assets

Assets that have an indefinite useful life are not subject to amortization and are tested annually for impairment. Assets that are subject to amortization are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognized when the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use.

For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash-generating units). A number of significant assumptions and estimates are involved in forecasting future cash flows, including market growth rates, sales volumes and market prices. Forecasts of future cash flows are based on best estimates of future revenues and operating expenses using historical trends, market conditions and industry trends. These assumptions are subject to review by management and the Board of Directors. The future forecasts are adjusted by an appropriate discount rate derived from the cost of capital plus a risk premium at the date of the evaluation. The discount rate, based on the pre-tax weighted average cost of capital used in calculating the recoverable value, is set at a rate appropriate to each territory, consistent with the rates used to assess the potential impairment of goodwill, detailed in note 10.

Financial risk management

Financial risk factors

The Group's multinational operations and debt financing expose it to a variety of financial risks that include the effects of changes in foreign currency exchange rates, energy prices, debt market prices, interest rates, credit risks, and liquidity. The Group has in place a risk management program that seeks to limit the effects on the financial performance of the Group by using financial instruments.

Financial risk management is carried out by a central treasury department (Group Treasury) under policies approved by the Board of Directors. Group Treasury identifies, evaluates and hedges financial risks in close co-operation with the Group's operating units. The Board provides written principles for overall risk management, as well as written policies covering specific areas, such as foreign exchange risk, energy price risk, use of derivative and non-derivative financial instruments, credit risk, and investing excess liquidity.

(a) Market risk
(i) Foreign exchange risk
The Group operates internationally and is exposed to foreign exchange risk arising from various currency exposures, primarily with respect to the euro, sterling and US dollar. Foreign exchange risk arises from future commercial transactions, recognized assets and liabilities and net investments in foreign operations.

To manage their foreign exchange risk arising from future commercial transactions and recognized assets and liabilities, companies in the Group use forward contracts, transacted with Group Treasury. Foreign exchange risk arises when future commercial transactions and recognized assets and liabilities are denominated in a currency that is not the entity's functional currency. Group Treasury is responsible for managing the net position in each foreign currency by using external forward currency contracts.

Each subsidiary designates contracts with Group Treasury as fair value hedges or cash flow hedges, as appropriate.

External foreign exchange contracts are designated at Group level as hedges of foreign exchange risks on specific assets, liabilities or future transactions on a gross basis.

The Group's risk management policy is to hedge forecast transactions creating the foreign currency exposure provided that such forecast transactions are reasonably certain.

The Group has certain investments in foreign operations, whose net assets are exposed to foreign currency translation risk. Currency exposure arising from the net assets of the Group's foreign operations is managed primarily through borrowings denominated in the relevant foreign currencies.

The Group is exposed to the risk of fluctuations in foreign exchange rates, mainly as the assets, liabilities, incomes and expenses denominated in local currencies are translated into yen when consolidated financial statements are prepared.

All other things being equal, a 1% increase in the value of the yen would lead to a decrease in total equity of ¥3,500 million (2016: ¥3,500 million). Based on the financial results for the year to 31 March 2017, a 1% increase in the value of the yen would result in a decrease in the profit for the period of ¥150 million (2016: decrease in loss for the period of ¥300 million).

(ii) Energy price risks
The Group consumes significant amounts of energy and is exposed to energy price risk arising from this consumption, principally of oil and gas.

The Group's risk management policy is to hedge between 20 percent and 100 percent of anticipated purchases for the subsequent 12 months and between 0 percent and 80 percent for the subsequent four years.

(iii) Cash flow and fair value interest rate risk
As the Group has no significant interest-bearing assets, the Group's income and operating cash inflows are substantially independent of changes in market interest rates.

The Group's interest rate risk arises primarily from long-term borrowings. Borrowings issued at variable rates expose the Group to cash flow interest rate risk. Borrowings issued at fixed rates expose the Group to fair value interest rate risk. Group policy is to maintain approximately 30 to 70 percent of net borrowings in fixed rate instruments. All other things being equal, a 1 percent increase in interest rates would result in an increase in annual interest costs on financial balances of ¥1,713 million.

The Group manages its cash flow interest rate risk by using floating-to-fixed interest rate swaps. Such interest rate swaps have the economic effect of converting borrowings from floating rates to fixed rates. Under the interest rate swaps, the Group agrees with other parties to exchange, at specific intervals, the difference between fixed contract rates and floating rate interest amounts calculated by reference to the agreed notional principal amounts.

(b) Credit risk
The Group has no significant concentrations of credit risk other than in relation to the receivables due from automotive original equipment manufacturers. It has policies in place to ensure that sales of products are made to customers with an appropriate credit history. Derivative counterparties are limited to high credit quality financial institutions. The Group has policies that limit the amount of credit exposure to any financial institution.

As set out in note 37, the Group has outstanding loans and receivables owed by joint ventures and associates. The Group manages these balances on an arms-length basis, ensuring that loans and receivables are only advanced to joint ventures and associates where the Group is satisfied that these balances will be repaid.

(c) Liquidity risk
Prudent liquidity risk management policies maintain sufficient cash and cash equivalents and availability of funding through committed credit facilities. Due to the dynamic nature of the underlying businesses, Group Treasury aims to maintain flexibility in funding by keeping a substantial portion of committed credit lines undrawn.

Financial Instruments
The Group classifies its financial instruments in the following categories: financial assets and liabilities at fair value through profit or loss, financial assets and liabilities held at amortized cost, and financial assets held at fair value through other comprehensive income. Management determines the classification of its investments at initial recognition and re-evaluates this designation at every reporting date. The evaluation considers the characteristics of the cash flows generated by the investments and the Group's business model rationale for holding the investments.

(a) Financial assets/liabilities at fair value through profit or loss
This category has two sub-categories: financial assets held for trading, and those designated at fair value through profit or loss at inception. A financial asset is classified in this category if acquired principally for the purpose of selling in the short term or if so designated by management. Derivatives are also categorized as held for trading unless they are designated as hedges. Assets/liabilities in this category are classified as current assets/liabilities if they are either held for trading or are expected to be realized within 12 months of the balance sheet date. At the balance sheet date the Group does not have any assets or liabilities in this category.

(b) Financial assets and liabilities at amortized cost
Assets within this category are included in the Group's balance sheet as receivables. Receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. They arise when the Group provides money, goods or services directly

to a debtor with no intention of trading the receivable. They are included in current assets, except for maturities greater than 12 months after the balance sheet date and these are classified as non-current assets. Loans and receivables are included in trade and other receivables in the balance sheet.

Liabilities in this category are included in the balance sheet either as financial liabilities – borrowings, or as trade and other payables. Financial liabilities - borrowings predominantly arise from the Group's lending facilities arranged with its banks, classified either as current liabilities for maturities within 12 months, or non-current for maturities later than 12 months. Liabilities in this category have fixed or determinable payments to debt holders and are not quoted in an active market. Trade and other payables arise when the Group receives goods and services from its suppliers and is similarly split into current and non-current liabilities dependent on the time period expected before settlement.

Financial assets and liabilities at amortized cost are carried at amortized cost using the effective interest method, unless the asset or liability arises through the normal course of business with payments terms that indicate that the group is neither granting a financing arrangement to its suppliers or receiving one from its customers. Where no financing arrangement exists then the asset, classified as a receivable or payable, is held at amortized cost.

Borrowings consist of bonds payable, loans payable, lease obligations and non-controlling interests entitled to receive a fixed share dividend. Borrowings are recognized initially at fair value then subsequently stated at amortized cost. Borrowing transaction costs are expensed in the income statement over the period to the maturity of the related financial liability. Any difference between the proceeds (net of transaction costs) and the redemption value is recognized in the income statement over the period of the borrowings using the effective interest method.

Non-equity preference shares are classified as liabilities and are measured in the balance sheet at their most recent redemption price. The dividends on these preference shares are recognized in the income statement as interest expense. Borrowings are classified as current liabilities unless the Group has an unconditional right to defer settlement of the liability for at least 12 months after the balance sheet date.

The Group applies the expected credit loss method to receivables balances and also considers individual provisions for specific balances where appropriate. This involves considering likely credit losses for a portfolio of receivables using a range of forward looking scenarios. A provision for impairment of trade receivables is established with respect to an individual receivable when there is objective evidence that the Group will not be able to collect all amounts due according to the original terms of trade. The amount of the provision is the difference between the asset's carrying amount and the present value of estimated future cash flows, discounted at the effective interest rate. The expected credit loss method applied to a portfolio of receivables can result in a provision being created even when on an individual basis, the Group expects each receivable to be converted to cash with no loss arising. The movement in receivables provisions is recognized in the income statement.

Where trade receivables are sold to a financial institution through a securitization program and where the Group does not retain the significant risks and rewards of these receivables, or where the Group retains an element of risk and reward but no longer controls the asset, the Group derecognizes the trade receivables.

(c) Financial assets at fair value through other comprehensive income
Financial assets held at fair value through other comprehensive income are non-derivative financial investments where the Group is unable to exert significant influence over the investee. This category of investment could include equity investments or investments that are expected to generate fixed or determinable payments.

Financial assets at fair value through other comprehensive income are initially and subsequently recognized at fair value. Unrealized gains and losses arising from changes in the fair value of such assets are recognized within the statement of comprehensive income and result in a movement within the fair value reserve within equity. The Group assesses at each balance sheet date whether there is objective evidence that a financial asset or a group of financial assets is impaired. When assets that represent fixed interest investments held in this category are impaired, then the Group treats this as a realized loss recognized in the income statement, with historical amounts recycled from reserves through the statement of comprehensive income. When assets that represent equity investments held in this category are impaired, resulting in a realized loss, then that realized loss is recognized in the statement of comprehensive income.

Accounting for derivative financial instruments and hedging activities
Derivatives are initially recognized at fair value on the date a derivative contract is entered into and are subsequently re-measured at their fair value. The method of recognizing the resulting gain or loss depends on whether the derivative is designated as a hedging instrument, and, if so, the nature of the item being hedged and the effectiveness of the hedging arrangement. The Group designates certain derivatives as hedges of the changes in fair value of recognized assets or liabilities or a firm commitment (fair value hedges), hedges of exposure to variability in cash flows associated with an asset or liability or arising from highly probable forecast transactions (cash flow hedges), and hedges of net investments in foreign operations (net investment hedges).

The Group documents at the inception of the transaction the relationship between hedging instruments and hedged items, as well as its risk management objective and strategy for undertaking various hedge transactions. The Group also documents, both at hedge inception and on an ongoing basis, its assessment of whether the derivatives used in hedging transactions are highly effective in offsetting changes in fair values or cash flows of hedged items. For time period related hedges, the cost of hedging is reflected in the income statement on a straight-line basis over the period of the hedge, with the accounting treatments described below relating to movements in the principal value of the hedge.

(a) Fair value hedge
Changes in the fair value of derivatives, designated and qualifying as fair value hedges, are recorded in either the statement of comprehensive income, if hedging a financial instrument at fair value through comprehensive income, or the income statement if hedging other items. Consequently, the movement in the fair value of the hedging contract is treated in a manner consistent with the movement in the fair value of the item being hedged.

(b) Cash flow hedge
The effective portion of changes in the fair value of derivatives, designated and qualifying as cash flow hedges, is recognized in equity. The gain or loss relating to the ineffective portion is recognized immediately in the income statement.

Amounts accumulated in equity are recycled in the income statement in the periods when the hedged item affects profit or loss (for instance, when the forecast sale that is hedged takes place). However, when the forecast transaction that is hedged results in the recognition of a non-financial asset (for example, inventory) or a liability, the gains and losses previously deferred in equity are transferred from equity and included in the initial measurement of the cost of the asset or liability.

When a forecast transaction is no longer expected to occur, the cumulative gain or loss that was reported in equity is immediately transferred to the income statement.

(c) Net investment hedge
Hedges of net investments in foreign operations are accounted for similarly to cash flow hedges. Any gain or loss on the hedging instrument relating to the effective portion of the hedge is recognized in equity, the gain or loss relating to the ineffective portion is recognized immediately in the income statement.

Gains and losses accumulated in equity are included in the income statement when the foreign operation is disposed of.

(d) Derivatives that do not qualify for hedge accounting
Certain derivative instruments do not qualify for hedge accounting. Changes in the fair value of any derivative instruments, not qualifying for hedge accounting, are recognized immediately in the income statement.

Fair value estimation
The fair value of financial instruments traded in active markets (such as derivatives and investments at fair value through other comprehensive income) is based on quoted market prices at the balance sheet date. The quoted market price used for financial assets held by the Group is the current bid price. The appropriate quoted market price for financial liabilities is the current offer price. In the event of an indication of a potential impairment, management assess the recoverable value of the asset based on the higher of its value in use and fair value less cost to sell.

The fair value of financial instruments that are not traded in an active market is determined by using valuation techniques. The Group uses a variety of methods and makes assumptions that are based on market conditions existing at each balance sheet date.

The fair values of foreign exchange contracts are determined using forward exchange market rates at the balance sheet date. The fair values of interest rate swaps are calculated as the present value of the estimated future cash flows based on observable yield curves at the balance sheet date. The fair values of commodity hedges are determined by using forward market prices at the balance sheet date.

The fair value of financial liabilities is determined using cash flows discounted using a rate based on credit risk factors and the relevant currency swap rate for the specific maturity, plus a margin.

Inventories
Inventories are stated at the lower of cost and net realizable value. Cost is mainly determined using the first-in, first-out (FIFO) method. The cost of finished goods and work-in-progress comprises design costs, raw materials, direct labor, other direct costs and related production overheads (based on normal operating capacity). Net realizable value is the estimated selling price in the ordinary course of business, less applicable variable selling expenses. Costs of inventories include the transfer from equity of any gains/losses on qualifying cash flow hedges relating to purchases of raw materials.

Inventories carried in the balance sheet are reviewed on a regular basis and, in the case of any inventories which are slow moving, or where the Group considers that it is unlikely to recover the cost of such inventory through subsequent sale, appropriate provisions are made to impair the inventory to its estimated net realizable value.

Construction work-in-progress
Construction work-in-progress is represented by engineering construction contracts for the building, construction and delivery of float glass lines or other assets for third-party customers. Profits are recognized where revenue and contract costs can be reliably estimated and are based on the stage of completion of the contract. Where the outcome cannot be estimated reliably, revenue is only recognized to the extent that it is probable that the contract costs incurred will be recoverable. Where it is probable that the contract costs will exceed the total contract revenue, the expected loss is recognized as an expense immediately in the income statement.

The stage of completion on construction contracts is assessed at regular intervals by the engineering project team and is based on an analysis of construction progress made, order fulfillment, costs incurred and technical completion at the balance sheet date.

Cash and cash equivalents
Cash and cash equivalents include cash in hand, deposits held on call with banks, other short-term highly liquid investments with original maturities of three months or less, and bank overdrafts. Bank overdrafts are shown within borrowings in current liabilities on the balance sheet.

Leases
When entering into a contract that commits the Group to a series of regular cash flows in return for a right to use an asset, the Group considers whether the arrangement contains a lease. In the event that the arrangement represents in substance payment for a service, the Group does not consider the arrangement to be a lease. In other cases, the Group considers the arrangement to be a finance or operating lease as appropriate and accounts for all cash flows on this basis without separating non-lease components.

Assets held under finance leases (in which a significant proportion of the risks and rewards of ownership are retained by the Group) are included in property, plant and equipment or intangible assets at cost and are depreciated/amortized over the shorter of the lease term or their useful economic life. Obligations under finance leases, net of finance charges in respect of future periods, are included as appropriate under borrowings due within or after one year. Finance charges are allocated to accounting periods over the lease term to reflect a constant rate of interest on the remaining balance of the obligations.

Where a lease is identified as an operating lease (a lease other than a finance lease), any payments made thereunder (net of any incentives received from the lessor) are charged to the income statement on a straight-line basis over the period of the lease.

Where a sale and lease-back transaction results in the creation of a finance lease, the Group does not recognize a disposal of the asset sold nor any resulting gain or loss. Similarly the Group accounts for the finance lease created as a secured borrowing.

Taxation
Current income taxes for the current period are measured based on the amount expected to be paid to, or recovered from, local taxation authorities.

Deferred income tax is provided in full, using the liability method and without discounting, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the consolidated financial statements. However, if the temporary difference arises from initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting nor taxable profit or loss, it is not accounted for. Deferred income tax is determined using tax rates (and laws) that have been enacted or substantially enacted by the balance sheet date and are expected to apply when the related deferred income tax asset is realized or the deferred income tax liability is settled.

Deferred income tax assets are recognized to the extent that it is probable that future taxable profits will be available, against which the temporary differences can be utilized. Deferred income tax is provided on temporary differences arising on investments in subsidiaries and associates, except where the timing of the reversal of the temporary difference is controlled by the Group and it is probable that the temporary difference will not reverse in the foreseeable future.

Deferred taxation liabilities are not recognized on timing differences arising from the initial recognition of goodwill. The Group offsets deferred tax assets and liabilities if a legally enforceable right exists to set off current tax assets against current income tax liabilities and the deferred tax asset and liability are related to the same taxable entity or group of entities and the same taxation authority.

Employee benefits

(a) Pension obligations

The Group operates various pension schemes globally. The schemes are generally funded through payments to insurance companies or trustee-administered funds, as determined by periodic actuarial calculations. The Group has both defined benefit and defined contribution plans.

The liability recognized in the balance sheet in respect of defined benefit pension plans is the present value of the defined benefit obligation at the balance sheet date less the fair value of plan assets. The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high quality corporate bonds that are denominated in the currency in which the benefits will be paid, and that have terms to maturity approximating to the terms of the related pension liability.

Retirement benefit assets, net of applicable taxes that would be levied on the refund of a pension surplus, are recognized for schemes in surplus, when the Group has an unconditional right to a refund of that surplus.

Current service costs, representing the additional liability accrued as a result of employee's services undertaken during the period, are charged to operating costs within the income statement.

Past service costs are recognized immediately in the income statement.

Finance costs are calculated by applying territory specific discount rates to the net defined benefit obligation in that region.

Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are taken through the statement of comprehensive income to equity in accordance with IAS 19 'Employee Benefits'.

For defined contribution plans, the Group pays contributions to publicly or privately administered pension insurance plans on a mandatory, contractual or voluntary basis. The Group has no further payment obligations once the contributions have been paid.

Prepaid contributions are recognized as an asset to the extent that a cash refund or a reduction in the future payments is available.

(b) Other post-employment retirement obligations

Group companies in the USA and the UK provide post-retirement healthcare benefits to certain retired employees. The entitlement to these benefits is usually conditional on the employee remaining in service up to retirement age and the completion of a minimum service period. The expected costs of these benefits are accrued over the period of employment using an accounting methodology similar to that for defined benefit pension plans.

Actuarial gains and losses arising from experience adjustments, and changes in actuarial assumptions, are charged or credited to the statement of comprehensive income in accordance with IAS 19. These obligations are valued annually by independent qualified actuaries.

(c) Termination benefits

Termination benefits are payable when employment is terminated before the normal retirement date, or whenever an employee accepts voluntary redundancy in exchange for these benefits. The Group recognizes termination benefits when it is demonstrably committed to either terminating the employment of current employees according to a detailed formal plan without possibility of withdrawal, or providing termination benefits as a result of an offer made to encourage voluntary redundancy.

(d) Profit-sharing, bonus and management incentive plans

The Group recognizes a liability and an expense for bonus schemes, which take into consideration the attainment of profit and cash flow targets. The Group recognizes a provision where contractually obliged or where there is a past practice that has created a constructive obligation.

Provisions

Provisions are recognized when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that an outflow of resources will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation. When the Group expects some or all of a provision to be reimbursed, for example, under an insurance contract, the reimbursement is recognized as a separate asset, but only when the reimbursement is virtually certain. The expense relating to a provision is presented in the income statement net of any reimbursement. Provisions are not recognized for future losses.

Where there are a number of similar obligations, the likelihood that an outflow will be required in settlement is determined by considering the class of obligations as a whole. A provision is recognized even if the likelihood of an outflow with respect to any one item included in the same class of obligations may be small.

All provisions, where the time value of money is material with a settlement date exceeding 12 months, are discounted and carried at their discounted value. The discount is unwound through a charge to finance costs each period until the provision is settled. Discount rates are based on rates applicable in each relevant territory where the provision is carried, consistent with risks specific to the liability.

Revenue recognition

Revenue comprises the fair value for the sale of goods and services, net of value-added or similar sales-based taxes, rebates and discounts and after eliminating sales within the Group. Revenue is recognized as follows:

(a) Sales of goods

Sales of goods are recognized when a Group entity has delivered products to the customer, the customer has accepted the products and collectability of the related receivables is reasonably assured.

Where a product is sold with a right of return, accumulated experience is used to estimate and provide for such returns at the time of sale.

(b) Sales of services

Sales of services are recognized in the accounting period in which the services are rendered, by reference to the completion of the specific transaction, and assessed on the basis of the actual service provided as a proportion of the total services to be provided.

(c) Engineering revenue

Engineering revenue is recognized on engineering construction contracts for the building, construction and supply of float glass lines for third-party customers.

Profits are recognized on such long-term contracts where revenue and contract costs can be reliably estimated and are based on the estimated stage of completion of the contract. Where the outcome of the contract cannot be estimated reliably, revenue is only recognized to the extent that it is probable that the contract costs incurred will be recoverable. In circumstances where it is probable that the total contract costs will exceed the total contract revenue, the expected loss is recognized as an expense immediately in the income statement.

(d) Interest income

Interest income is recognized on a time-apportioned basis using the effective interest method. Interest income on impaired loans is recognized either as cash is collected or on a cost-recovery basis as conditions warrant.

(e) Royalty income

Royalty income is recognized on an accruals basis in accordance with the substance of the relevant agreements.

(f) Dividend income

Dividend income is recognized when the right to receive payment is established.

Exceptional Items

The Group discloses certain gains or losses in the income statement as exceptional items if this is necessary to gain a fair understanding of the Group's operating performance. Exceptional items would usually be material in value and/or would be of a non-recurring nature.

Deferred income

(a) Government grants

The Group recognizes government grants at their fair value where there is reasonable assurance that the grant will be received and all attaching conditions will be complied with. When the grant relates to an expense item, it is recognized as income over the periods necessary to match the grant on a systematic basis to the costs that it is intended to compensate. Where the grant relates to property, plant and equipment, the fair value is credited to deferred income and released to the income statement over the expected useful life of the relevant asset by equal annual installments.

(b) Other deferred income

The Group recognizes other deferred income including customers' contributions to automotive tooling costs at their fair value. The income is recognized in the income statement over the periods necessary to match the write-off of the asset, to which the deferred income relates, by equal annual installments.

Emission rights

Emissions rights granted are recognized on a systematic basis over the period to which they relate. The difference between the emission rights granted and recognized at the balance sheet date, and CO_2 emitted is recorded as an asset or liability at fair value at each balance sheet date.

Borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of qualifying assets, which are assets that necessarily take a substantial period of time to get ready for their intended use or sale, are added to the cost of these assets, until such time as the assets are substantially ready for their intended use or sale. All other borrowing costs are recognized in the consolidated income statement in the period in which they are incurred.

Share capital

Common (ordinary) shares are classified as equity. Preferred shares, that are not mandatorily redeemable with cash or other monetary asset, and where the Group has no contractual obligation to pay cash dividends or to deliver a variable number of the entity's own equity instruments by exercise of any put options attached to the preferred shares, are classified as equity. Incremental costs directly attributable to the issue of new shares or options are shown in equity as a deduction, net of tax, from the proceeds.

Treasury shares

Treasury shares represent the Group's interests in its own equity instruments, and are included within shareholders' funds. Treasury shares are measured at their cost.

Share based payments

The Group operates a number of equity settled, share-based payment plans, under which the entity receives services from directors, executive officers, senior corporate officers and corporate officers as consideration for equity instruments (options) of the Group. The fair value of the employee services received in exchange for the grant of options is calculated using the Black-Scholes model. In accordance with IFRS 2 'Share-based Payment', the resulting cost is recognized in the income statement over the vesting period of the options, being the period in which the services are received. The value of the charge is adjusted to reflect expected and actual levels of vesting options, except where the failure to vest is as a result of not meeting a market condition. All plans are classified as equity settled.

Discontinued operations and assets held for sale

Discontinued operations include components of the Group that have been disposed of (through sale or abandonment) or are classified as held for sale and represent a major line of the Group's business or geographical area of operations or represent a part of a single coordinated plan to dispose of such a business line or geographical area.

Non-current assets and disposal groups are classified as held for sale if their carrying amount will be recovered principally through a sale transaction rather than through continued use. This condition is regarded as met only when the sale is highly probable and the non-current asset (or disposal group) is available for immediate sale in its present condition. Management must be committed to the sale, which should be expected to be completed within one year.

When the Group is committed to a sale plan involving loss of control of a subsidiary, all of the assets and liabilities of that subsidiary are classified as held for sale when the criteria described above are met, regardless of whether the Group will retain a minority interest in its former subsidiary after the sale.

Assets classified as held for sale are measured at the lower of their previous carrying amount and fair value less costs to sell. Property, plant and equipment and intangible assets classified as held for sale are not depreciated or amortized after classification as held for sale.

Critical accounting estimates and assumptions

Estimates and judgments are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances.

The Group makes estimates and assumptions concerning the future. The resulting accounting estimates will not usually be equal to the resulting actual results. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial period are discussed below.

(a) Estimated impairment of goodwill and intangible assets

The Group tests, on an annual basis, whether goodwill or intangible assets with an indefinite useful life have suffered any impairment, in accordance with the accounting policy stated above.

(b) Income taxes

The Group is subject to income taxes in numerous jurisdictions worldwide. During the normal course of business, there are a significant number of transactions where the final tax determination is uncertain. The Group recognizes liabilities for anticipated tax audit issues based on an estimate of both the value of any additional taxes that may be due and the likelihood that the final tax audit outcome may result in such additional liabilities. In arriving at the total liability to be provided, significant judgment is required. Where the final tax outcome of these matters is different from the amounts provided, any difference is recorded in the period in which that final outcome is known.

(c) Post-retirement benefits

The Group has a variety of post-retirement benefit schemes in various countries in which it operates. Where such schemes are in the nature of a defined benefit arrangement, the Group uses a variety of assumptions in the calculation of the scheme assets and liabilities. These assumptions are subject to a degree of uncertainty and the Group takes advice from professional actuaries before finalizing such assumptions.

(d) Provisions

Provisions are evaluated using either the Group's experience of previous provisions or, where appropriate, using the advice of professional consultants. Claims and litigation provisions are calculated based on discussions with claimants and the Group's legal advisors. Environmental provisions are calculated based on either currently estimated remediation costs, or, for more material environmental provisions, simulation models, evaluated with the assistance of environmental consultants, which consider a range of possible outcomes. Bonus provisions are estimated based on the Group's current and expected future performance evaluated against the terms of specific bonus schemes. Redundancy and restructuring provisions are estimated using the expected costs of restructuring programs that have been announced prior to the balance sheet date. Warranty provisions are calculated using the Group's experience of previous customer claims rates.

(e) Preferred shares

The Group has considered the terms and conditions attaching to Class A shares, and determined that these shares are classified as equity instruments, as a fixed number of common shares would be delivered to Class A shareholders in the event of relevant put options being exercised. The Group has no contractual obligation to mandatorily redeem these shares through cash or any other monetary assets. Also, the Group has no contractual obligation to pay dividends although terms of dividends are stipulated in the contract, and any payment of dividends for each relevant period is ultimately determined by the Company's board of directors.

1.2 Changes in accounting policies and disclosures

The Group has adopted IFRS 9 "Financial Instruments" from FY2017. The main impact arising from this is the reclassification of "available-for-sale" assets into a new category of investments entitled "assets held at fair value through other comprehensive income". All assets previously held as "available-for-sale" have now been reclassified as "assets held at fair value through other comprehensive income". Included in this category are fixed interest and equity investments. The equity investments held within this category are those where the Group does not have a significant influence over the finance and operating policies of the investee. The Group expects to retain its investments in these entities. Therefore it considers gains and losses arising from fluctuations in valuations of investments to be unrealized. The adoption of IFRS 9 allows the Group to classify investments at fair value through other comprehensive income with subsequent gains and losses recorded in other comprehensive income. The Group considers this accounting treatment to be more aligned with its intentions with respect to these investments compared to its treatment prior to adoption of IFRS 9. Except for the change in categorization, no changes arise to the Group's accounting policies for fixed interest investments. The accounting policy for equity investments is amended with respect to the processing of impairment losses. Previously impairment losses were charged to the consolidated income statement. Future impairment losses will be charged to the consolidated statement of comprehensive income. As no such material impairments were recognized during FY2016, no restatement of the prior period income statement is required. The prior period statement of comprehensive income is restated to reflect movements in the fair value of equity investments classified as assets held at fair value through other comprehensive income within the section for items that will not be reclassified to profit or loss. Previously, such movements were included within the section for items that may be subsequently reclassified to profit or loss.

The Group now applies the expected credit loss method to receivables balances. This involves considering likely credit losses using a range of forward looking scenarios. No changes to the balances of receivables either at 1 April 2015, 31 March 2016 or at 31 March 2017 have arisen as a result of this change.

The Group's accounting policy for hedging instruments is amended such that for time period related hedges, the cost of hedging is now allocated to the income statement on a straight-line basis. Previously this cost of hedging was recognized over time as part of the gain or loss on the hedging instrument included in the statement of comprehensive income, and then recycled to the consolidated income statement on maturity. The impact of this amended policy on the Group's FY2016 financial statements is immaterial and therefore no restatement of the prior period has been processed in this respect.

There are no other changes to the classifications of assets or liabilities on the adoption of IFRS 9.

2. Segmental information

Primary reporting format – by business line

The Group is organized on a worldwide basis into the following principal primary operating segments:

The Architectural segment engages in the manufacturing and sale of flat glass and various interior and exterior glazing products within commercial and residential markets. It also includes glass for the solar energy sector.

The Automotive segment supplies a wide range of automotive glazing for new vehicles and for replacement markets.

The Technical Glass segment comprises a number of discrete businesses, including the manufacture and sale of very thin glass for small displays, lenses and light guides for printers, as well as glass fiber products, such as battery separators and glass components for engine timing belts.

The Other segment covers corporate costs, consolidation adjustments, certain small businesses not included in the segments covered above, and the amortization of other intangible assets related to the acquisition of Pilkington plc.

No operating segments have been aggregated to form the above reportable operating segments.

The segmental results for the periods ended 31 March 2017 and 2016 are as follows:

					Millions of yen
					2017
	Architectural	Automotive	Technical Glass	Other	Total
Revenue					
External revenue	237,722	296,560	46,088	425	580,795
Inter-segmental revenue	17,818	1,885	107	5,417	25,227
Total revenue	255,540	298,445	46,195	5,842	606,022
Trading profit	27,044	12,654	1,756	(8,392)	33,062
Amortization arising from acquisition of Pilkington plc	–	–	–	(3,200)	(3,200)
Operating profit before exceptional items	27,044	12,654	1,756	(11,592)	29,862
Exceptional items	(2,082)	2,773	(802)	3,032	2,921
Operating profit after exceptional items					32,783
Finance costs – net					(19,174)
Share of post-tax profits from joint ventures and associates					1,142
Profit before taxation					14,751
Taxation					(7,459)
Profit for the period					7,292

					Millions of yen
					2016
	Architectural	Automotive	Technical Glass	Other	Total
Revenue					
External revenue	262,559	316,327	49,490	796	629,172
Inter-segmental revenue	22,208	2,185	48	5,368	29,809
Total revenue	284,767	318,512	49,538	6,164	658,981
Trading profit	24,560	9,813	267	(7,465)	27,175
Amortization arising from acquisition of Pilkington plc	–	–	–	(7,813)	(7,813)
Operating profit before exceptional items	24,560	9,813	267	(15,278)	19,362
Exceptional items	(7,618)	(11,183)	(8,918)	(7,423)	(35,142)
Operating loss after exceptional items					(15,780)
Finance costs – net					(18,224)
Share of post-tax losses from joint ventures and associates					(3,435)
Loss before taxation					(37,439)
Taxation					(10,061)
Loss for the period					(47,500)

2. Segmental information continued

The Group uses a number of methods to calculate the price of intra-group transactions depending upon the business sector and geographic location. This is largely dependent on local custom and regulations. Usual methods include reference to external market prices or to manufacturing costs plus an appropriate margin.

No significant changes were made in the method of pricing intra-group transactions in the period.

Finance costs include results from cash flow hedges of interest-bearing borrowings that have been reported in the income statement during the period. They also include gains and losses from the re-measuring of interest rate derivatives designated as fair value hedges. Unallocated costs represent corporate Group expenses.

Other information in respect of items (charged) or credited within operating profit, excluding exceptional items, in the income statement are as follows:

		Millions of yen				
		2017				
	Note	**Architectural**	**Automotive**	**Technical Glass**	**Other**	**Total**
Depreciation	12	**(10,134)**	**(13,617)**	**(2,161)**	**(830)**	**(26,742)**
Amortization	11	**(194)**	**(525)**	**(42)**	**(4,686)**	**(5,447)**
Impairment of property, plant and equipment	12	**(82)**	**(58)**	**(43)**	**–**	**(183)**
Reversal of prior period impairments of property, plant and equipment	12	**1**	**–**	**–**	**–**	**1**
Profit/(loss) on sale of property, plant and equipment		**168**	**195**	**1**	**(6)**	**358**
Research and development expenditure		**(2,682)**	**(2,623)**	**(1,776)**	**(1,389)**	**(8,470)**
Operating lease rentals						
plant and equipment		**(1,143)**	**(1,870)**	**(32)**	**(120)**	**(3,165)**
property		**(677)**	**(4,282)**	**(146)**	**(946)**	**(6,051)**
Net credit/(charge) for bad and doubtful debts		**(270)**	**(83)**	**2**	**–**	**(351)**
Amortization of deferred income	28	**169**	**3,039**	**–**	**28**	**3,236**

		Millions of yen				
		2016				
	Note	Architectural	Automotive	Technical Glass	Other	Total
Depreciation	12	(12,062)	(14,744)	(2,852)	(819)	(30,477)
Amortization	11	(258)	(632)	(62)	(9,520)	(10,472)
Impairment of property, plant and equipment	12	(72)	(9)	-	-	(81)
Reversal of prior period impairments of property, plant and equipment	12	31	3	-	-	34
Profit/(loss) on sale of property, plant and equipment		66	39	158	(8)	255
Research and development expenditure		(3,082)	(3,006)	(1,999)	(1,712)	(9,799)
Operating lease rentals						
plant and equipment		(1,250)	(2,100)	(46)	(150)	(3,546)
property		(768)	(4,692)	(154)	(644)	(6,258)
Net credit/(charge) for bad and doubtful debts	15	137	(78)	2	-	61
Amortization of deferred income	28	204	3,006	27	106	3,343

Segmental net trading assets at 31 March 2017 and 2016 and capital expenditure for the periods then ended are as follows:

	Millions of yen				
	2017				
	Architectural	**Automotive**	**Technical Glass**	**Other**	**Total**
Segmental net trading assets	**131,595**	**137,393**	**39,561**	**2,654**	**311,203**
Capital expenditure (including intangibles)	**11,585**	**13,316**	**1,664**	**1,448**	**28,013**

	Millions of yen				
	2016				
	Architectural	Automotive	Technical Glass	Other	Total
Segmental net trading assets	148,164	155,754	44,428	2,786	351,132
Capital expenditure (including intangibles)	13,156	13,272	1,452	312	28,192

Segmental net trading assets consist of property, plant and equipment, investment properties, intangible assets excluding those arising from a business combination, inventories, construction work-in-progress, trade and other receivables (excluding financial receivables) and trade and other payables (excluding financial payables).

Capital expenditure comprises additions to property, plant and equipment, note 12, and intangible assets, note 11.

2. Segmental information continued

Secondary reporting format – by revenue category and geographical location

	2017	2016
	Millions of yen	
Analysis of revenue by category		
Sale of glass and glass-related products	**562,667**	609,833
Sales of services	**718**	706
Royalty and licensing income	**698**	544
Engineering contracts	**3,945**	4,965
Other sundry sales	**12,767**	13,124
	580,795	629,172

The Group's revenue from its external customers based on the geographical location of those customers is as follows:

	2017	2016
	Millions of yen	
Revenue		
Japan	**142,952**	149,002
Europe	**214,591**	232,361
North America	**114,870**	125,667
Rest of World	**108,382**	122,142
	580,795	629,172

No individual customer accounts for more than 10 percent of total revenues of the Group.

The total of non-current assets, other than retirement benefit assets, financial instruments, deferred tax assets, trade and tax receivables, located in Japan is ¥61,038 million (2016: ¥60,947 million), UK ¥182,752 million (2016: ¥207,609 million) and the total of these non-current assets located in other countries is ¥177,923 million (2016: ¥185,251 million).

3. Other income

	2017	2016
	Millions of yen	
Dividend income on assets held at fair value through other comprehensive income	**118**	236
Gains on settlements of insurance proceeds	**4**	352
Profit on disposals	**543**	378
Other	**1,209**	1,979
	1,874	2,945

4. Other expenses

		Millions of yen	
	Note	**2017**	2016
Amortization of intangibles	11	**(5,447)**	(10,472)
Impairment of property, plant and equipment	12	**(183)**	(81)
Reversal of prior period impairments of property, plant and equipment	12	**1**	34
Impairment of intangible assets	11	**–**	(3)
Impairment of assets held at fair value through other comprehensive income	16	**–**	(3)
Research and development costs expensed in the period		**(867)**	(962)
Bad debts written back/(written off)		**8**	(133)
Doubtful debt provision increase	15	**(576)**	(455)
Reversal of previously held doubtful debt provision		**225**	516
Float tank repair costs		**(7)**	(6)
Net foreign exchange on other expense items		**(221)**	(892)
Decrease in fair value of investment properties	13	**(150)**	(137)
Redundancy and restructuring		**(87)**	(244)
Loss on disposal		**(46)**	(75)
Others		**421**	(270)
		(6,929)	(13,183)

5. Net foreign exchange gains and losses

The net foreign exchange differences on operating items charged to the income statement in the year amounted to a gain of ¥65 million (2016: a loss of ¥347 million).

6. Exceptional items

		Millions of yen	
	Note	**2017**	2016
Exceptional Items (gains):			
Gain on disposal of non-current assets		**8,189**	237
Reversal of impairment of non-current assets	12	**1,468**	7
Gain on disposal of investments in associates		**907**	–
Reversal of restructuring provisions		**893**	–
Gain from exit of business		**855**	–
Settlement of litigation matters		**772**	–
Gain on dilution of shares in an associate		**–**	96
Others		**47**	90
		13,131	430
Exceptional Items (losses):			
Restructuring costs, including employee termination payments		**(4,759)**	(4,305)
Impairments of non-current assets	11,12,23	**(3,855)**	(12,708)
Settlement of litigation matters		**(972)**	(4,721)
Loss on disposal of current assets		**(624)**	(1,681)
Impairments of goodwill	10	**–**	(6,914)
Impairment of investments in joint ventures and associates		**–**	(5,234)
Others		**–**	(9)
		(10,210)	(35,572)
		2,921	(35,142)

The gain on disposal of non-current assets primarily relates to the sale and lease-back of land at Kyoto City, Kyoto Prefecture, Japan, and land and buildings at Sungai Buloh, Malaysia.

The previous year gain on disposal of non-current assets related to the disposal of assets in China.

Reversals of impairment of non-current assets, and reversals of restructuring provisions together arise from the Group's decision to restart its float glass production line at Venice, Italy.

The previous year reversal of impairment of non-current assets relates mainly to assets in Italy, which had their recoverable value re-assessed.

The gain from disposal of investments in associates relates to the disposal of a part of the Group's shareholding in China Glass Holdings Ltd. This includes a gain on recycling to the income statement of foreign exchange postings, made previously within the statement of comprehensive income.

6. Exceptional items continued

The gain on exit from business relates to the exit from the Group's business in China producing rolled glass for Solar Energy applications. This includes a gain on recycling to the income statement of foreign exchange postings, made previously within the statement of comprehensive income.

In both the current and previous years, the settlement of litigation matters relates to claims made by certain of the Group's Automotive customers in Europe, following the European Commission's earlier decision to fine the Group for alleged breaches of European competition law. The gain arising during the period represents a partial reversal of provision recognized through exceptional costs in previous periods.

The previous year gain on dilution of shares in an associate arose following a placing of shares by Holding Concorde SA in which the Group did not participate.

Restructuring costs arise in a variety of locations around the world and principally includes the cost of compensating redundant employees for the termination of their contracts of employment. The current year cost relates principally to restructuring activities in both Architectural and Automotive Europe, and Technical Glass in Vietnam.

The impairment of non-current assets for the current year relates mainly to assets in Architectural and Automotive Europe, together with an impairment of architectural assets in Vietnam.

The previous year impairment includes asset write-downs following the Group's decision to exit from its business in China producing rolled glass for crystalline silicon photovoltaic applications, and asset write-downs at the Group's thin glass facility in Vietnam.

The loss on disposal or scrapping of assets relates to inventories damaged at Ottawa, USA, during the Tornado that struck this site on 28 February 2017. It also includes the scrapping of current assets in Europe connected to restructuring programs undertaken in that region.

The loss on disposal or scrapping of current assets in the previous year relates to a variety of regions, principally China, Japan, and Vietnam.

The impairment of goodwill in the previous year mainly relates to the Group's Automotive Rest of World cash generating unit (CGU) following a significant reduction in light vehicle sales, particularly in Brazil, during FY2016. This write-down applied to goodwill created on the acquisition of Pilkington in 2006. It also included an impairment of goodwill related to the Group's business in China producing rolled glass for crystalline silicon photovoltaic applications.

The previous year impairment of the Group's investments in affiliates related to difficult market conditions in Russia and China. The Group processed an impairment of its investment in SP Glass Holdings BV, a joint venture company owning glass production facilities in Russia. The Group also processed impairments of its investments in Jiangsu Pilkington SYP Glass Co., Limited and Tianjin Pilkington SYP Glass Co., Limited, both joint venture companies owning glass production facilities in China.

7. Employee benefit expenses

		Millions of yen	
	Note	**2017**	2016
Wages and salaries		**(121,596)**	(128,466)
Redundancy and termination benefits		**(1,707)**	(2,114)
Social security costs		**(13,937)**	(14,445)
Share options granted to directors and employees	29	**(86)**	(71)
Pension costs, excluding those classed as exceptional items			
defined contribution schemes		**(8,332)**	(8,801)
defined benefit schemes		**(3,462)**	(3,661)
Other short-term employee benefits		**(5,620)**	(6,505)
		(154,740)	(164,063)

Key management compensation (included above) comprises:

	Millions of yen	
	2017	2016
Short-term employee benefits	**(1,068)**	(910)
Post-employment benefits	**(171)**	(165)
Other long-term benefits	**–**	(131)
Termination benefits	**(73)**	–
Share-based payment	**(86)**	(71)
	(1,398)	(1,277)

Key management compensation comprises the remuneration of those 29 (2016: 26) key employees who have responsibility for planning, controlling and directing the activities of the Group and includes all the members of the Group's Executive Board and corporate and senior corporate officers. Included within key management remuneration are post-employment benefits based on the IFRS operating cost charge in respect of service costs.

8. Finance income and expenses

	Note	2017	2016
		Millions of yen	
Finance income			
Interest income		**1,342**	1,312
Foreign exchange transaction gains		**38**	312
		1,380	1,624
Finance expenses			
Interest expense – bank and other borrowings		**(18,227)**	(16,943)
Dividend on non-equity preference shares due to minority shareholders		**(238)**	(263)
Foreign exchange transaction losses		**(33)**	(76)
Other interest and similar charges		**(942)**	(877)
		(19,440)	(18,159)
Unwinding of discounts on provisions	27	**(216)**	(240)
Retirement benefit obligations – net finance charge	26	**(898)**	(1,449)
		(20,554)	(19,848)

9. Income tax

The analysis of the tax charge for the period is as follows:

	Note	2017	2016
		Millions of yen	
Current tax			
charge for the period		**(5,010)**	(4,962)
adjustment in respect of prior periods		**(418)**	460
		(5,428)	(4,502)
Deferred tax			
charge for the period		**(3,185)**	(6,322)
adjustment in respect of prior periods		**842**	52
adjustment in respect of rate changes		**312**	711
	19	**(2,031)**	(5,559)
		(7,459)	(10,061)

The tax charge for the year is calculated as the sum of the total current and deferred tax charge or credit arising in each territory in which the Group operates. The Group's expected weighted average tax rate (after deducting the Group's share of post-tax profit/(loss) of joint ventures and associates) is 31.46 percent (2016: 25.47 percent). The tax rate is different to the prior year because of changes in the mix of profits and losses realized by the Group in each of the territories in which it operates and differences in tax rates across each of those territories.

A number of countries have changed their corporate income tax rates during the year and any such changes that have been enacted, or substantively enacted, at 31 March 2017 are reflected in the weighted average tax rate. None of these rate changes are significant enough, on their own, to have a material impact on the weighted average tax rate. For reference, the applicable tax rate in Japan is 30.86 percent (2016: 33.06 percent) and this consists of corporate income tax, inhabitants' taxes and enterprise tax.

9. Income Tax continued

The tax charge for the period differs from the tax credit/(charge) that would be anticipated by applying the weighted average tax rate to the Group's profit/ (loss) before tax. The differences are explained as follows:

	Millions of yen	
	2017	2016
Profit/(loss) before taxation	**14,751**	(37,439)
Deduct share of post-tax (profits)/losses of joint ventures and associates	**(1,142)**	3,435
Profit/(loss) before tax of Group companies	**13,609**	(34,004)
Tax (charge)/credit calculated at the statutory tax rates applicable to profits/(losses) in the respective countries	**(4,281)**	8,661
Expenses not deductible for tax purposes	**(5,065)**	(2,829)
Income not subject to tax	**6,896**	4,407
Non-deductible amortization and impairments of goodwill and other intangible assets	**–**	(5,093)
Non-deductible gains/(losses) on hedging derivative contracts	**–**	371
Other items giving rise to local tax adjustments	**(432)**	97
Adjustment to tax in respect of prior periods		
current tax	**(418)**	460
deferred tax	**842**	52
Adjustment to tax as a result of changes in tax rates	**312**	711
Tax losses and other temporary differences for which no deferred tax asset is recognized	**(3,215)**	(14,351)
Other local, non-corporate and withholding taxes suffered	**(2,098)**	(2,547)
Total taxation charge – continuing operations	**(7,459)**	(10,061)

Previous year non-deductible amortization and impairments of goodwill and other intangible assets includes the impairment of investments in the following affiliates; SP Glass Holdings BV, Jiangsu Pilkington SYP Glass Co., Ltd, and Tianjin Pilkington SYP Glass Co., Ltd. It also includes the impairment of property, plant & equipment and other assets at Pilkington Solar (Taicang) Ltd following the Group's decision to exit from that business, and impairment of goodwill with respect to the Automotive Rest of the World cash generating unit as described in note 6.

10. Goodwill

	Millions of yen	
	2017	2016
Cost		
At 1 April	**120,589**	130,956
Exchange differences	**(5,184)**	(10,367)
Disposals	**(2,437)**	–
At 31 March	**112,968**	120,589
Accumulated impairment		
At 1 April	**7,130**	222
Exchange differences	**1,552**	(6)
Impairment charge in the period	**–**	6,914
Disposals	**(1,686)**	–
At 31 March	**6,996**	7,130
Net book amount at 31 March	**105,972**	113,459

The impairments incurred during FY2016 were charged to exceptional items, see note 6.

In accordance with IAS 36, goodwill has been tested for impairment at 31 March 2017. To perform this test, at 31 March 2017 and 2016, the directors compared the carrying value of each cash-generating unit, including the value of goodwill and intangible assets allocated to that cash-generating unit, to the value in use of each cash-generating unit. The value in use for this purpose is considered to be the capitalized current value of the future cash flows of each cash-generating unit as calculated by discounting the projected future operating cash flows of each cash-generating unit, using the discount rates in the table below. The projected future operating cash flows were based on financial forecasts covering a maximum four-year period being the Group's current planning horizon, with a perpetuity applied thereafter.

10. Goodwill continued

A general growth rate of two percent each year has been applied to the cash flows included within the perpetuity for cash generating units in Europe and North America (2016: two percent each year). General growth rates of 2.0 and 3.5 percent have been applied to the perpetuity cash flows of the Architectural and Automotive Rest of World cash generating units respectively (2016: 2.0 percent for Architectural Rest of World and 3.5 percent for Automotive Rest of World). The pre-tax discount rate for each cash-generating unit is determined by adding an appropriate risk factor onto the Group's weighted average cost of capital.

The goodwill included in the balance sheet with an indefinite useful life has been allocated to cash-generating units as set out in the table below, for the purposes of testing the goodwill for potential impairment.

	Millions of yen	
	2017	2016
Architectural Europe	**38,597**	43,333
Architectural Japan	**12**	12
Architectural North America	**8,198**	8,649
Architectural Rest of World	**3,194**	2,359
Automotive Europe	**39,874**	42,698
Automotive North America	**12,898**	13,605
Automotive Rest of World	**2,152**	1,683
Others	**1,047**	1,120
Total	**105,972**	113,459

The key assumptions used in this process are as follows:

Assumption	**Value**
Period used for discounted cash flow calculations	Maximum of four years from the balance sheet date with perpetuity thereafter
Perpetuity growth rate	2.0% to 3.5%
Pre-tax discount rate used	7.59% to 11.30%

Other key assumptions include glass prices, growth in market volumes, and input prices. Glass prices are projected using current trends and expectations of demand and supply movements in the period covered. Growth in market volumes is estimated with reference to general GDP growth in each territory and specific factors pertaining to the glass industry in that market including for example changes in regulatory environment. Input prices are estimated based on recent negotiations with suppliers and also generally available industry forecasts.

The key sensitivity in the impairment test described above is the selection of the discount rate. If discount rates greater than the rates quoted above were used, there would be a reduction in the headroom for each cash-generating unit.

The cash-generating unit with the least amount of headroom was Automotive Rest of World. A 0.53% increase in discount rates would result in this cash-generating unit having no residual headroom.

The Group considers that there is a satisfactory level of headroom with respect to other cash-generating units.

11. Intangible assets

Millions of yen

	Trademarks and licenses	Development costs	Computer software	Other	Total
Cost					
At 1 April 2016	**321**	**15,918**	**14,457**	**144,550**	**175,246**
Exchange differences	**(12)**	**(1,962)**	**(476)**	**(6,051)**	**(8,501)**
Additions	**3**	**1,222**	**618**	**12**	**1,855**
Disposals	**(6)**	**(643)**	**(56)**	**(248)**	**(953)**
At 31 March 2017	**306**	**14,535**	**14,543**	**138,263**	**167,647**
Accumulated amortization and impairment					
At 1 April 2016	**317**	**10,426**	**11,121**	**90,484**	**112,348**
Exchange differences	**(11)**	**(1,282)**	**(373)**	**(3,893)**	**(5,559)**
Amortization charge for the period	**2**	**1,106**	**949**	**3,390**	**5,447**
Impairment charge in the period	**–**	**68**	**–**	**–**	**68**
Disposals	**(6)**	**(643)**	**(56)**	**(240)**	**(945)**
At 31 March 2017	**302**	**9,675**	**11,641**	**89,741**	**111,359**
Net book amount at 31 March 2017	**4**	**4,860**	**2,902**	**48,522**	**56,288**

Millions of yen

	Trademarks and licenses	Development costs	Computer software	Other	Total
Cost					
At 1 April 2015	388	16,086	14,511	151,715	182,700
Exchange differences	(8)	(1,538)	(388)	(7,172)	(9,106)
Additions	–	1,370	414	7	1,791
Disposals	(59)	–	(80)	–	(139)
At 31 March 2016	321	15,918	14,457	144,550	175,246
Accumulated amortization and impairment					
At 1 April 2015	384	9,686	10,491	86,459	107,020
Exchange differences	(9)	(1,013)	(296)	(4,535)	(5,853)
Amortization charge for the period	1	1,348	1,006	8,117	10,472
Impairment charge in the period	–	405	–	443	848
Disposals	(59)	–	(80)	–	(139)
At 31 March 2016	317	10,426	11,121	90,484	112,348
Net book amount at 31 March 2016	4	5,492	3,336	54,066	62,898

Amortization in 2017 has been charged to other expenses, note 4 (2016: other expenses). Impairment of ¥68 million has been charged to exceptional items, note 6 (2016: ¥845 million), and ¥nil million to other expenses, note 4 (2016: ¥3 million).

Development costs represent internally generated intangible assets. Computer software represents the acquisition cost of purchasing software plus internal costs to implement the usage of that software. Trademarks and licenses and other intangible assets represent the acquisition cost of those assets.

Computer software includes assets with a carrying amount of ¥295 million (2016: ¥nil million) is subject to specific charges to secure Group borrowings

11. Intangible assets continued

'Other' intangibles include the following amounts recognized on the acquisition of the Pilkington Group in June 2006:

Millions of yen

	Customer relationships	Know-how	Pilkington brand	Other brands	Developed technology	Other	Total
Cost							
At 1 April 2016	**25,160**	**41,081**	**44,002**	**4,733**	**22,460**	**419**	**137,855**
Exchange differences	**(577)**	**(1,506)**	**(1,946)**	**19**	**(881)**	**(58)**	**(4,949)**
At 31 March 2017	**24,583**	**39,575**	**42,056**	**4,752**	**21,579**	**361**	**132,906**
Accumulated amortization and impairment							
At 1 April 2016	**15,611**	**40,053**	**8,250**	**4,615**	**17,031**	**371**	**85,931**
Exchange differences	**(400)**	**(1,458)**	**(365)**	**22**	**(637)**	**(52)**	**(2,890)**
Amortization charge for the period	**1,019**	**980**	**–**	**115**	**1,052**	**34**	**3,200**
At 31 March 2017	**16,230**	**39,575**	**7,885**	**4,752**	**17,446**	**353**	**86,241**
Net book amount at 31 March 2017	**8,353**	**–**	**34,171**	**–**	**4,133**	**8**	**46,665**

Millions of yen

	Customer relationships	Know-how	Pilkington brand	Other brands	Developed technology	Other	Total
Cost							
At 1 April 2015	26,664	43,041	45,826	5,122	23,486	463	144,602
Exchange differences	(1,504)	(1,960)	(1,824)	(389)	(1,026)	(44)	(6,747)
At 31 March 2016	25,160	41,081	44,002	4,733	22,460	419	137,855
Accumulated amortization and impairment							
At 1 April 2015	15,016	37,661	8,593	4,481	16,342	368	82,461
Exchange differences	(871)	(1,919)	(343)	(366)	(804)	(40)	(4,343)
Amortization charge for the period	1,466	4,311	–	500	1,493	43	7,813
At 31 March 2016	15,611	40,053	8,250	4,615	17,031	371	85,931
Net book amount at 31 March 2016	9,549	1,028	35,752	118	5,429	48	51,924

In addition to the other intangible assets recognized on the acquisition of the Pilkington Group, the Group also has intangible assets relating to customer relationships recognized on smaller acquisitions and other intangible assets, amounting to ¥1,857 million (2016: ¥2,142 million). Amortization charged in the period on these other intangible assets amounted to ¥190 million (2016: ¥304 million) and impairments on these other intangible assets amounts to ¥nil million (2016: ¥443 million).

The Pilkington Brand has been assigned an indefinite useful life and is therefore not subject to routine amortization. This brand has a long history in an established industry, with a significant share of the worldwide glass market. These factors, together with the scale of the business, contribute to the brand's durability. The Group intends to use the Pilkington brand indefinitely. All other intangible assets have finite lives, as set out in note 1.1.

The Pilkington Brand included in the intangible assets on the balance sheet has been allocated to cash generating units as set out in the table below, for the purposes of testing for potential impairment. The testing has been carried out as part of the exercise to test goodwill for potential impairment. See note 10, goodwill, for details of the assumptions used in this testing.

Millions of yen

	2017	2016
Architectural Europe	**16,065**	17,149
Architectural North America	**3,456**	3,499
Automotive Europe	**8,272**	8,827
Automotive North America	**4,875**	4,936
Automotive Rest of World	**1,503**	1,341
Total	**34,171**	35,752

12. Property, plant and equipment

	Land and buildings	Plant, equipment and vehicles	Total
			Millions of yen
Cost			
At 1 April 2016	**175,717**	**552,352**	**728,069**
Exchange differences	**(4,137)**	**(20,257)**	**(24,394)**
Transferred from/(to) assets held for sale	**727**	**(1,927)**	**(1,200)**
Additions	**3,083**	**23,074**	**26,157**
Disposals	**(808)**	**(4,209)**	**(5,017)**
At 31 March 2017	**174,582**	**549,033**	**723,615**
Accumulated depreciation and impairment			
At 1 April 2016	**94,025**	**375,178**	**469,203**
Exchange differences	**(1,331)**	**(13,203)**	**(14,534)**
Charge for the period	**3,326**	**23,416**	**26,742**
Impairment losses arising in the period	**307**	**3,663**	**3,970**
Reversal of impairment losses from prior periods	**(867)**	**(602)**	**(1,469)**
Transferred from/(to) assets held for sale	**441**	**(1,268)**	**(827)**
Eliminated on disposals	**(546)**	**(4,081)**	**(4,627)**
At 31 March 2017	**95,355**	**383,103**	**478,458**
Net book amount at 31 March 2017	**79,227**	**165,930**	**245,157**

	Land and buildings	Plant, equipment and vehicles	Total
			Millions of yen
Cost			
At 1 April 2015	182,484	568,882	751,366
Exchange differences	(6,152)	(31,173)	(37,325)
Transferred to assets held for sale	(1,466)	(88)	(1,554)
Additions	1,746	24,655	26,401
Disposals	(895)	(9,924)	(10,819)
At 31 March 2016	175,717	552,352	728,069
Accumulated depreciation and impairment			
At 1 April 2015	92,335	365,502	457,837
Exchange differences	(1,743)	(17,892)	(19,635)
Charge for the period	3,471	27,006	30,477
Impairment losses arising in the period	1,201	10,382	11,583
Reversal of impairment losses from prior periods	–	(41)	(41)
Transferred to assets held for sale	(543)	(7)	(550)
Eliminated on disposals	(696)	(9,772)	(10,468)
At 31 March 2016	94,025	375,178	469,203
Net book amount at 31 March 2016	81,692	177,174	258,866

The carrying amount of the Group's land and buildings includes ¥1,373 million (2016: ¥1,165 million) and the Group's plant, equipment and vehicles includes ¥60 million (2016: ¥106 million) in respect of assets held under finance leases.

Land and buildings includes assets with a carrying amount of ¥1,025 million (2016: ¥1,124 million), and plant and machinery includes assets with a carrying amount of ¥13,367 million (2016: ¥10,512 million), are subject to specific charges to secure Group borrowings.

Of the additions in the period, ¥398 million were financed by new finance leases (2016: ¥110 million).

Depreciation charged in the period all relates to continuing operations, this has been charged to cost of sales ¥23,550 million (2016: ¥26,989 million), distribution costs ¥709 million (2016: ¥1,304 million), administrative expenses ¥2,483 million (2016: ¥2,184 million.) Impairments in the period have been charged to exceptional items ¥3,787 million (2016: ¥11,502 million), note 6, and other expenses ¥183 million (2016: ¥81 million), note 4. The reversal of previous period impairments have been credited to exceptional items ¥1,468 million (2016: ¥7 million), note 6, and other expenses ¥1 million (2016: ¥34 million), note 4.

Property, plant and equipment includes ¥3,273 million (2016: ¥1,509 million) in respect of assets in the course of construction.

13. Investment property

	Note	2017	2016
		Millions of yen	
Fair value			
At 1 April		**715**	867
Exchange differences		**(42)**	(15)
Net increase/(decrease) in fair value	4	**(150)**	(137)
At 31 March		**523**	715

Investment property principally comprises land, office buildings and small industrial units, and those parts of other properties not occupied by the Group, which are held for long-term rental yields. Investment properties are initially recognized at cost and are thereafter carried at fair value, representing open-market value determined annually by discounted cash flows or by the use of external valuers. Changes in fair value are recorded in the income statement as part of other income and other expenses.

The property rental income earned by the Group from its investment properties, all of which are leased out under operating leases, amounted to ¥216 million (2016: ¥239 million). Direct operating expenses arising on the investment properties in the period amounted to ¥223 million (2016: ¥149 million).

The Group has no restrictions on the realizability of its investment properties and there were no commitments at 31 March 2017 or 2016.

Fair value measurement disclosures for investment properties are provided in note 18.

14. Investments accounted for using the equity method

Joint ventures

The Group's interests in its material joint ventures, all of which are unlisted, are as follows:

Name	Proportion of issued ordinary shares held	Country of operation and incorporation	Principal activity
Cebrace Cristal Plano Limitada (Cebrace)	50%	Brazil	Glass manufacturing
SP Glass Holdings BV	50%	Russia/Netherlands	Glass manufacturing
Jiangsu Pilkington SYP Glass Co., Ltd	50%	China	Glass manufacturing

There were no material additions to joint ventures in the period ended 31 March 2017 (31 March 2016 – none).

The Group has legal ownership of 50 percent of the issued share capital of SP Glass Holdings BV, but, due to the existence of call options held by one of the Group's joint venture partners over part of the Group's shareholding, the Group accounts for this investment using a beneficial shareholding percentage of 35 percent.

Jiangsu Pilkington SYP Glass Co., Ltd is a 50 percent joint venture with Shanghai Yaohua Pilkington Glass Group Co., Ltd. In addition, Pilkington International Holdings BV, a subsidiary of the Group, holds a 15.18 percent interest in Shanghai Yaohua Pilkington Glass Group Co., Ltd. Therefore, the Group's proportionate economic interest in the entity is 57.59 percent.

Of the joint ventures above, Cebrace and Jiangsu Pilkington SYP Glass Co., Ltd report to an accounting date coterminous with that of the Group, but SP Glass Holdings BV reports to 31 December, being its local statutory accounting date.

During the year to 31 March 2016, the Group's equity investments in each of SP Glass Holdings BV, Jiangsu Pilkington SYP Glass Co., Ltd and Tianjin Pilkington SYP Glass Co., Ltd (which is included in other in the tables below) were impaired to nil, as these joint venture companies faced extremely challenging marketing conditions and has therefore been loss-making prior to the impairment.

The impairment in the year to 31 March 2016 amounted to ¥ 5,234 million and is recorded as an exceptional loss (See Note 6).

The balance sheet values of the Group's material joint ventures are as follows:

	Millions of yen				
	2017				
	Cebrace	SP Glass Holdings BV	Jiangsu Pilkington SYP Glass Co., Ltd	Others	Total
Current assets	14,170	3,190	970	3,505	21,835
Non-current assets	33,789	12,553	6,463	4,508	57,313
Current liabilities	(21,747)	(2,920)	(3,315)	(4,315)	(32,297)
Non-current liabilities	(8,904)	(6,320)	(4,876)	(84)	(20,184)
Total equity	17,308	6,503	(758)	3,614	26,667
NSG Group interest in total equity	8,654	2,276	(379)	1,434	11,985
NSG Group's unrecognized interest in total equity	–	2,276	(379)	1,142	3,039
Carrying amount of the Group's investment	8,654	–	–	292	8,946
The total equity above includes:					
Cash and cash equivalents	1,372	384	34	250	2,040
Current financial liabilities	(14,826)	(1,290)	(648)	–	(16,764)
Non-current financial liabilities	(1,251)	(6,310)	(4,876)	–	(12,437)

14. Investments accounted for using the equity method continued

	Cebrace	SP Glass Holdings BV	Jiangsu Pilkington SYP Glass Co., Ltd	Others	Total
					Millions of yen
					2016
Current assets	12,903	2,659	2,852	3,678	22,092
Non-current assets	32,064	11,704	7,711	5,182	56,661
Current liabilities	(23,032)	(1,398)	(6,487)	(5,051)	(35,968)
Non-current liabilities	(6,701)	(8,702)	(3,043)	(92)	(18,538)
Total equity	15,234	4,263	1,033	3,717	24,247
NSG Group interest in total equity	7,617	1,492	517	1,469	11,095
Goodwill	–	3,112	–	–	3,112
Impairments	–	(4,604)	(517)	(1,156)	(6,277)
Carrying amount of the Group's investment	7,617	–	–	313	7,930
The total equity above includes:					
Cash and cash equivalents	307	304	88	290	989
Current financial liabilities	(16,123)	(215)	(3,387)	(1)	(19,726)
Non-current financial liabilities	(1)	(8,603)	(3,043)	(1)	(11,648)

The Group considers that for all joint ventures accounted for using the equity method the balance sheet value approximates the fair value of the Group's investment. Current and non-current financial liabilities exclude trade and other payables as well as provisions.

The Group has no unrecognized commitments, relating to any of its joint ventures, which would result in a future outflow of economic resources from the Group.

The key income statement and comprehensive income figures of the Group's material joint ventures are as follows:

	Cebrace	**SP Glass Holdings BV**	**Jiangsu Pilkington SYP Glass Co., Ltd**	**Others**	**Total**
					Millions of yen
					2017
Revenue	**43,715**	**10,227**	**1,033**	**5,077**	**60,052**
Profit/(loss) for the period from continuing operations	**2,201**	**1,478**	**(1,717)**	**143**	**2,105**
Other comprehensive income	**–**	**325**	**–**	**–**	**325**
Total comprehensive income	**2,201**	**1,803**	**(1,717)**	**143**	**2,430**
NSG Group's share of profit/(loss) for the period	**1,101**	**–**	**–**	**(2)**	**1,099**
NSG Group's unrecognized share of profit/(loss) for the period	**–**	**517**	**(858)**	**63**	**(278)**
Dividends received by NSG Group	**1,087**	**–**	**–**	**–**	**1,087**
The profit/(loss) for the period includes the following:					
Depreciation and amortization	**(3,522)**	**(1,045)**	**(304)**	**(313)**	**(5,184)**
Interest expense	**(1,872)**	**691**	**(186)**	**(7)**	**(1,374)**
Taxation	**(1,161)**	**(15)**	**–**	**(1)**	**(1,177)**

	Cebrace	SP Glass Holdings BV	Jiangsu Pilkington SYP Glass Co., Ltd	Others	Total
					Millions of yen
					2016
Revenue	44,707	10,209	5,324	5,419	65,659
Profit/(loss) for the period from continuing operations	3,896	(3,241)	(2,103)	(2,742)	(4,190)
Other comprehensive income	–	(850)	–	5	(845)
Total comprehensive income	3,896	(4,091)	(2,103)	(2,737)	(5,035)
NSG Group's share of profit/(loss) for the period	1,948	(1,134)	(1,051)	(1,182)	(1,419)
Dividends received by NSG Group	2,723	–	–	–	2,723
The profit/(loss) for the period includes the following:					
Depreciation and amortization	(3,600)	(1,403)	(968)	(453)	(6,424)
Interest expense	(1,732)	(2,208)	(300)	(92)	(4,332)
Taxation	(2,433)	(12)	–	(5)	(2,450)

14. Investments accounted for using the equity method continued

Associates

The Group's interest in its material associates is as follows:

Name	Proportion of issued ordinary shares held	Country of operation and incorporation	Principal activity
Flachglas Wernberg GmbH	49%	Germany	Glass manufacturing and processing
Holding Concorde SA	21.9%	Columbia	Glass manufacturing and processing

During the year to 31 March 2017, the Group's investment in China Glass Holdings Ltd was reclassified as an asset held at fair value through other comprehensive income, after the partial disposal of the shares held. (See Note 6)

During the year to 31 March 2016, the Group's associated entity in Columbia, Holdings Concorde SA issued a placing of new shares in which the Group did not participate. As a result, the Group's shareholding reduced to 21.9 percent. The Group also owns a direct shareholding in a subsidiary of Holding Concorde SA, resulting in an effective interest of 23 percent in the closing consolidated net assets of this associate.

The accounting date for each of the associates listed above, is 31 December, the date to which each draws up its annual accounts.

The balance sheet values of the Group's material associates are as follows:

	Millions of yen			
	2017			
	Flachglas Wernberg GmbH	Holding Concorde SA	Others	Total
Current assets	**4,197**	**3,503**	**4,172**	**11,872**
Non-current assets	**5,137**	**13,203**	**3,918**	**22,258**
Current liabilities	**(2,577)**	**(2,885)**	**(2,726)**	**(8,188)**
Non-current liabilities	**(3,332)**	**(4,909)**	**(1,810)**	**(10,051)**
Total equity	**3,425**	**8,912**	**3,554**	**15,891**
NSG Group interest in total equity	**1,678**	**2,050**	**1,099**	**4,827**
Carrying amount of the Group's investment	**1,678**	**2,050**	**1,099**	**4,827**

	Millions of yen				
	2016				
	Flachglas Wernberg GmbH	China Glass Holdings Ltd	Holding Concorde SA	Others	Total
Current assets	4,218	31,034	3,206	3,892	42,350
Non-current assets	5,887	67,018	13,019	3,835	89,759
Current liabilities	(2,254)	(49,874)	(2,993)	(2,555)	(57,676)
Non-current liabilities	(4,232)	(14,224)	(5,355)	(1,716)	(25,527)
Total equity	3,619	33,954	7,877	3,456	48,906
NSG Group interest in total equity	1,773	7,317	1,811	1,070	11,971
Goodwill	–	2,781	–	–	2,781
Impairments	–	(4,813)	–	–	(4,813)
Carrying amount of the Group's investment	1,773	5,285	1,811	1,070	9,939

The Group considers that for all associates accounted for using the equity method, the balance sheet value is approximately equal to the fair value.

14. Investments accounted for using the equity method continued

The key income statement and comprehensive income figures of the Group's material associates are as follows:

	Flachglas Wernberg GmbH	China Glass Holdings Ltd*	Holding Concorde SA	Others	Total
Millions of yen 2017					
Revenue	**15,625**	**6,240**	**9,454**	**10,028**	**41,347**
Profit/(loss) for the period from continuing operations	**(17)**	**(844)**	**698**	**238**	**75**
Other comprehensive income	**49**	**–**	**39**	**–**	**88**
Total comprehensive income	**32**	**(844)**	**737**	**238**	**163**
NSG Group's share of profit/(loss) for the period	**(8)**	**(182)**	**153**	**80**	**43**
Dividends received by NSG Group	**–**	**–**	**–**	**17**	**17**

* Data prior to transfer to assets held at fair value through other comprehensive income

	Flachglas Wernberg GmbH	China Glass Holdings Ltd	Holding Concorde SA	Others	Total
Millions of yen 2016					
Revenue	17,470	37,160	9,097	11,309	75,036
Profit/(loss) for the period from continuing operations	(607)	(8,048)	(233)	226	(8,662)
Other comprehensive income	33	414	(2,551)	–	(2,104)
Total comprehensive income	(574)	(7,634)	(2,784)	226	(10,766)
NSG Group's share of profit/(loss) for the period	(297)	(1,734)	(51)	66	(2,016)
Dividends received by NSG Group	–	–	–	18	18

15. Trade and other receivables

	Note	2017	2016
		Millions of yen	
Trade receivables		**49,977**	50,422
Less provision for impairment of receivables		**(2,931)**	(2,832)
Trade receivables – net		**47,046**	47,590
Amounts due from customers for contract work	21	**2,069**	1,362
Amounts owed by related parties (trading)	37	**1,767**	1,906
Loans to related parties	37	**8,698**	9,316
Other receivables		**21,380**	23,545
Prepayments and accrued income		**4,220**	4,152
		85,180	87,871
Current		**68,010**	72,574
Non-current		**17,170**	15,297
		85,180	87,871

The directors consider that the carrying amount of trade and other receivables approximates to their fair value.

There is no particular concentration of credit risk relating to Architectural, Automotive AGR, or Technical Glass balances, as these operations have a large number of customers. There is, however, a concentration of credit risk within the Automotive OE balances where the Group is supplying automotive manufacturers worldwide. The Automotive OE business customers constitute the majority of the major global car manufacturers. Due to the nature of the industry with a relatively small number of large customers, there is therefore a higher credit risk concentration. Total amounts owed by Automotive OE customers were ¥16,949 million (2016: ¥17,806 million). This risk is managed through the monitoring of aged receivables, analysis of the cost effectiveness of insuring receivables and through general credit collection procedures.

Receivable balances are impaired on a case by case basis when there is evidence to suggest that the value may not be collectable. Overdue balances may not be impaired when there is good reason to expect that the receivable would still be collected.

As at 31 March 2017, trade receivables at nominal value of ¥2,931 million (2016: ¥2,832 million) were impaired and fully provided for. Movements in the provision for impairment of receivables were as follows:

	Note	2017	2016
		Millions of yen	
At 1 April		**(2,832)**	(3,829)
Exchange differences		**118**	125
Charge for the period	4	**(576)**	(455)
Unused amounts reversed		**248**	516
Utilized		**111**	811
At 31 March		**(2,931)**	(2,832)

As at 31 March, the ageing analysis of current trade and other receivables (excluding prepayments and accrued income) is below. All non-current trade and other receivables (excluding prepayments and accrued income) is considered neither past due nor impaired.

			Past due but not impaired			
Millions of yen	Total	Neither past due nor impaired	Less than 3 months overdue	Between 3 and 6 months overdue	Between 6 and 12 months overdue	More than 12 months overdue
2017	**64,759**	**60,462**	**1,980**	**610**	**262**	**1,445**
2016	68,893	63,397	2,389	1,048	311	1,748

16. Assets held at fair value through other comprehensive income

	Note	2017	2016
		Millions of yen	
At 1 April		**34,341**	31,873
Exchange differences		**(1,993)**	(2,340)
Transferred to assets held for sale		**(1,747)**	–
Acquisitions		**7**	13
Transferred from investments accounted for using the equity method		**2,795**	–
Original value of assets disposed		**(175)**	(82)
Impairment in the period to the income statement	4	**–**	(3)
Revaluation surplus			
transferred to equity	33	**(6,044)**	4,880
transferred to income statement	33	**(44)**	–
At 31 March		**27,140**	34,341
Current		**572**	346
Non-current		**26,568**	33,995
		27,140	34,341

The transfer to assets held for sale in 2017 relates to the Group's investment located in Mexico and Switzerland, which was disposed during the period.

The transfer from investments accounted for using the equity method in 2017 relates to the Group's investment in China Glass Holdings Ltd, see note 6.

The disposal in the period ended 31 March 2017 relates to the sale of UK Government gilts (2016: relates to the sale of listed equities and unlisted shares).

Impairments in the period have been charged to other expenses ¥ nil million (2016: ¥3 million), note 4.

Assets held at fair value through other comprehensive income include the following:

	2017	2016
	Millions of yen	
UK Government gilts	**2,968**	3,529
Listed equities	**20,882**	15,585
Unlisted shares	**2,794**	14,698
Bond funds	**277**	296
Other	**219**	233
	27,140	34,341

Fair value measurement disclosures are provided in note 18.

17. Derivative financial instruments

	2017		2016	Millions of yen
	Assets	**Liabilities**	Assets	Liabilities
Interest rate swaps				
not qualifying as hedges	**2**	**124**	–	104
cash flow hedges	**194**	**842**	–	1,747
Forward foreign exchange contracts				
not qualifying as hedges	**8**	**13**	216	42
cash flow hedges	**339**	**48**	469	238
net investment hedges	**419**	**122**	100	1,154
Energy hedges				
cash flow hedges	**249**	**1,839**	56	5,266
	1,211	**2,988**	841	8,551
Current	**963**	**1,393**	815	4,453
Non-current	**248**	**1,595**	26	4,098
	1,211	**2,988**	841	8,551
Derivatives at fair value through income statement	**10**	**137**	216	146
Derivatives at fair value through other comprehensive income	**1,201**	**2,851**	625	8,405
	1,211	**2,988**	841	8,551
Maturity				
within one year	**963**	**1,393**	815	4,453
between one and two years	**57**	**584**	20	1,748
between two and three years	**5**	**964**	2	782
between three and four years	**186**	**32**	–	1,546
over four years	**–**	**15**	4	22
	1,211	**2,988**	841	8,551

Of the above financial instruments, gross cash flows are exchanged for forward foreign exchange contracts only. The contractual liabilities are ¥107,927 million (2016: ¥126,853 million), falling due within one year.

Gains and losses in equity on forward foreign exchange contracts as of 31 March 2017 will be released to the income statement at various dates up to 11 months from the balance sheet date. Fair values are calculated with reference to market prices discounted to current value.

The notional principal amounts of the outstanding interest rate swap contracts at 31 March 2017 were ¥97,988 million (2016: ¥ 113,444 million). At 31 March 2017, the fixed interest rates on interest rate swaps vary from 0.068 percent to 1.0875 percent (2016: 0.068 percent to 2.66 percent) and the main floating rates are TIBOR, EURIBOR and LIBOR. The Group designates a portion of its currency denominated borrowings and derivatives as hedges of the net investment in the Group's overseas subsidiaries. The fair value of these borrowings as at 31 March 2017 was ¥56,598 million (2016: ¥63,324 million). The fair value of the derivatives as at 31 March 2017 was a gain of ¥349 million (2016: a loss of ¥873 million). The foreign exchange loss of ¥2,506 million (2016: loss of ¥3,128 million) on translation of the borrowings and derivatives to yen at the balance sheet date was recognized in the exchange translation reserve in shareholders' equity, note 33.

Fair value measurement disclosures for derivative assets and liabilities are provided in note 18.

Financial risk management

An explanation of the Group's financial instrument risk management objectives, policies and strategies is set out in the financial risk management section in note 1.1, Summary of significant accounting policies.

18. Fair value measurement

Fair value hierarchy

For those assets and liabilities included in the consolidated balance sheet at fair value, the table below provides the fair value measurement of the Group's assets and liabilities by valuation method. The different levels have been defined as follows:

Level 1: quoted prices (unadjusted) in active markets for identical assets and liabilities.

Level 2: inputs other than quoted prices included within level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices)

Level 3: inputs for the asset or liability that are not based upon market data (unobservable inputs).

Assets and liabilities included in the balance sheet at amortized cost, have fair value disclosures included within the relevant disclosure note for that balance sheet item, where required by IFRS 13 or other relevant standards.

					Millions of yen
					2017
	Note	Level 1	Level 2	Level 3	Total
Investment Properties	13				
Rental properties		–	–	523	523
		–	–	523	523
Assets held at fair value through other comprehensive income	16				
UK Government gilts		2,968	–	–	2,968
listed equities		20,882	–	–	20,882
unlisted equities		–	–	2,794	2,794
bond funds		277	–	–	277
other		–	–	219	219
		24,127	–	3,013	27,140
Derivative assets	17				
interest rate swaps		–	196	–	196
forward foreign exchange contracts		–	766	–	766
energy hedges		–	249	–	249
		–	1,211	–	1,211

					Millions of yen
					2016
	Note	Level 1	Level 2	Level 3	Total
Investment Properties	13				
Rental properties		–	–	715	715
		–	–	715	715
Assets held at fair value through other comprehensive income	16				
UK Government gilts		3,529	–	–	3,529
listed equities		15,585	–	–	15,585
unlisted equities		–	–	14,698	14,698
bond funds		296	–	–	296
other		–	–	233	233
		19,410	–	14,931	34,341
Derivative assets	17				
forward foreign exchange contracts		–	785	–	785
energy hedges		–	56	–	56
		–	841	–	841

18. Fair value measurement continued

					Millions of yen
					2017
	Note	Level 1	Level 2	Level 3	Total
Derivative liabilities	17				
interest rate swaps		–	966	–	966
forward foreign exchange contracts		–	183	–	183
energy hedges		–	1,839	–	1,839
		–	2,988	–	2,988

					Millions of yen
					2016
	Note	Level 1	Level 2	Level 3	Total
Derivative liabilities	17				
interest rate swaps		–	1,851	–	1,851
forward foreign exchange contracts		–	1,434	–	1,434
energy hedges		–	5,266	–	5,266
		–	8,551	–	8,551

Investment properties

Investment properties are valued either by reference to future expected rental receipts or by reference to a recently obtained valuation prepared by a qualified valuation professional. Gains or losses arising on the fair value of investment properties are recognized in operating profit, see note 13. The sensitivity of the fair value of investment properties is subject to rental yields and fluctuation of property prices in the relevant markets however the Group has not quantified the impact of any change as any reasonable change would not have a material impact.

Assets held at fair value through other comprehensive income

UK government gilts, listed equities, and bond funds are valued based on quoted market prices obtained by the Group at the balance sheet date. Unlisted equities and other assets held at fair value through other comprehensive income are valued using a variety of different techniques including future projected cash flows and net asset values of the underlying investments. Those classified in level 3 of the fair value hierarchy are subject to a variety of sensitivities and, as these investments comprise mainly Japanese trading companies, economic growth projections in Japan are the main sensitivity influencing the valuation. The Group has not quantified the impact of the change in GDP growth rates for these investments, included within level 3, as any reasonable movement would not have a material impact.

Fair value gains and losses are recognized within the statement of comprehensive income, see note 16.

Derivatives

The fair values of foreign exchange contracts are determined using forward exchange market rates at the balance sheet date. The fair values of interest rate swaps are calculated as the present value of the estimated future cash flows based on observable yield curves at the balance sheet date. The fair values of commodity hedges are determined by using forward market prices at the balance sheet date.

Gains and losses arising on the fair value of net derivative assets and liabilities have been recognized as follows. A gain of ¥14 million was recognized in operating profit (2016: loss of ¥44 million) in relation to derivatives classed as fair value through profit or loss. A gain of ¥2,237 million was recognized directly in the statement of comprehensive income (2016: loss of ¥4,588 million) in relation to derivatives classed as fair value through other comprehensive income.

There was no hedge ineffectiveness in the year therefore no charge to the income statement in respect of hedge ineffectiveness of assets classed as fair value through other comprehensive income.

18. Fair value measurement continued

Transfers between levels

The Group determines whether a transfer between levels in the hierarchy has occurred by reassessing categorization at the end of each reporting period. During the periods ended 31 March 2017 and 2016, there were no transfers between Level 1 and Level 2 fair value measurements.

There have been no changes in the valuation techniques in either the current or prior year.

A reconciliation of movements in assets held at fair value through other comprehensive income included in the above hierarchy based on level 3 valuation techniques is as follows:

	Millions of yen	
	2017	2016
At 1 April	**14,931**	2,957
Acquisitions	**–**	2
Transfer to assets held for sale	**(1,747)**	–
Disposals	**–**	(31)
Movements in fair value recognized in income statement	**–**	(3)
Movements in fair value recognized in comprehensive income	**(9,458)**	12,515
Exchange differences recognized in other comprehensive income	**(713)**	(509)
At 31 March	**3,013**	14,931

Movements in fair value recognized in comprehensive income relate to the movements of net realizable value in the Group's investment located in Mexico and Switzerland.

Management have assessed that cash and short-term deposits, trade receivables, trade payables, bank overdrafts and other current liabilities approximate their carrying amounts largely due to the short-term maturity of these instruments.

19. Deferred income tax

	2017	2016
	Millions of yen	
Deferred tax assets	**41,622**	48,357
Deferred tax liabilities	**(15,005)**	(17,321)
Net deferred tax asset	**26,617**	31,036

The movement for the period in the net deferred tax asset is as follows:

	Note	2017	2016
		Millions of yen	
At 1 April		**31,036**	41,372
Exchange differences		**(840)**	(2,038)
Charge to the income statement for the period	9	**(2,031)**	(5,559)
Deferred tax transferred to assets held for sale		**26**	33
Charge to other comprehensive income for the period		**(1,574)**	(2,772)
At 31 March		**26,617**	31,036

The charge of ¥1,574 million (2016: a charge of ¥2,772 million) to other comprehensive income in the year comprises a charge to the hedging reserve of ¥1,051 million (2016: a credit of ¥ 113 million), note 33, and a credit to the fair value reserve of ¥1 million (2016: a charge of ¥ 3 million), note 33. The company also has a charge to other comprehensive income in respect of retirement benefit obligations in retained earnings of ¥524 million (2016: a charge of ¥2,882 million), note 26.

The following movement in the Group's deferred tax assets and liabilities took place during the periods ended 31 March 2017 and 31 March 2016:

Millions of yen

	Note	Property, plant and equipment	Tax losses	Fair value losses	Defined benefit obligations	Provisions	Other	Total
Deferred tax assets								
At 1 April 2016		**2,949**	**20,987**	**392**	**17,276**	**8,931**	**5,083**	**55,618**
Exchange differences		**(132)**	**(633)**	**(24)**	**(480)**	**(189)**	**(153)**	**(1,611)**
(Charge)/credit to the income statement in the period	9	**(93)**	**(5,254)**	**–**	**384**	**1,142**	**(399)**	**(4,220)**
Credit to assets held for sale		**26**	**–**	**–**	**–**	**–**	**–**	**26**
Charge to other comprehensive income for the period		**–**	**–**	**–**	**(524)**	**–**	**(634)**	**(1,158)**
Gross deferred tax assets		**2,750**	**15,100**	**368**	**16,656**	**9,884**	**3,897**	**48,655**
Offset of deferred tax assets and liabilities relating to income taxes levied by the same taxation authority		**(1,464)**	**(895)**	**(1)**	**(4,079)**	**(209)**	**(385)**	**(7,033)**
At 31 March 2017		**1,286**	**14,205**	**367**	**12,577**	**9,675**	**3,512**	**41,622**

Millions of yen

	Note	Property, plant and equipment	Tax losses	Fair value losses	Defined benefit obligations	Provisions	Other	Total
Deferred tax assets								
At 1 April 2015		2,609	30,723	405	22,748	8,867	7,740	73,092
Exchange differences		(173)	(1,353)	(9)	(992)	(632)	(303)	(3,462)
(Charge)/credit to the income statement in the period	9	543	(8,446)	(4)	(1,598)	696	(2,447)	(11,256)
(Charge)/credit to assets held for sale		(30)	63	–	–	–	–	33
(Charge)/credit to other comprehensive income for the period		–	–	–	(2,882)	–	93	(2,789)
Gross deferred tax assets		2,949	20,987	392	17,276	8,931	5,083	55,618
Offset of deferred tax assets and liabilities relating to income taxes levied by the same taxation authority		(1,077)	(202)	(392)	(3,104)	(1,495)	(991)	(7,261)
At 31 March 2016		1,872	20,785	–	14,172	7,436	4,092	48,357

The Group assesses its ability to utilize tax losses in future periods based on management-approved financial forecasts. This takes account of the Group's medium and long-term strategic and financial plans and the expected future economic outlook. The ability to utilize tax losses in future periods also takes account of material tax adjusting items and the period (if any) in which tax losses might expire under local tax laws. The Group's ability to utilize its tax losses is re-assessed annually.

At 31 March 2017, the Group has tax losses which it is able to carry forward of ¥221,580 million (2016: ¥263,640 million), in respect of which it is recognizing a deferred tax asset of ¥15,100 million (2016: ¥20,987 million).

19. Deferred income tax continued

A significant part of this deferred tax asset arises in the USA and a deferred tax asset of ¥9,634 million (2016: ¥12,453 million) has been recognized based on management-approved financial forecasts and taking into account the date of expiry of tax losses under US tax laws.

Tax losses in Japan are supported by the management-approved financial forecast. The recognized amount of losses is calculated with reference to the availability of future taxable profits in excess of the profit arising from the reversal of existing timing differences. Following a re-assessment of expectations of future utilization of deferred tax assets recognized in previous years, the Group has written off deferred tax assets in Japan with a value of ¥2,062 million during the year (2016: ¥5,237 million). A deferred tax asset on losses of ¥104 million remains (2016: ¥2,185 million). Further tax losses of ¥34,280 million (2016: ¥22,186 million) are being carried forward in Japan on which no deferred tax is recognized and which are subject to time expiry between FY2018 and FY2026.

A further ¥1,094 million (2016: ¥1,575 million) of the deferred tax asset relates to tax losses arising in the UK, based on the management-approved financial forecasts. These tax losses are not subject to time expiry. Further tax losses of ¥89,801 million (2016: ¥103,751 million) are being carried forward in the UK and the Group does not consider it probable that there will be sufficient future taxable profits against which these losses may be utilized and no deferred tax asset is being recognized.

A deferred tax asset of ¥4,268 million (2016: ¥4,774 million), in respect of tax losses arising in other territories, is being recognized in full, based on management-approved financial forecasts.

In addition to tax losses in Japan and the UK on which no deferred tax asset is being recognized, the Group also considered it appropriate not to recognize a deferred tax asset in respect of other tax losses of ¥45,468 million (2016: ¥61,256 million), with ¥5,604 million subject to time expiry under local tax laws. The balance of unrecognized tax losses, of ¥39,864 million, are not subject to time expiry.

The deferred tax asset in respect of the Group's retirement benefit obligations arises mainly in USA, where a deferred tax asset of ¥11,247 million (2016: ¥11,887 million) is being recognized, and Germany, where a deferred tax asset of ¥4,625 million is being recognized (2016: ¥4,753 million). In addition in the UK there is a further asset of ¥833 million (2016: ¥908 million) and in Japan an asset of ¥494 million (2016: ¥471 million) which is not being recognized in respect of retirement benefit obligations.

The Group also has other assets on which no deferred tax is recognized amounting to ¥10,906 million (2016: ¥10,864 million).

						Millions of yen
	Note	Property, plant and equipment	Fair value gains	Provisions	Other	Total
Deferred tax liabilities						
At 1 April 2016		**12,650**	**11,176**	**276**	**480**	**24,582**
Exchange differences		**(283)**	**(439)**	**(24)**	**(25)**	**(771)**
(Credit)/charge to the income statement in the period	9	**(1,280)**	**(1,120)**	**(283)**	**494**	**(2,189)**
Charge/(credit) to other comprehensive income for the period		**–**	**(5)**	**373**	**48**	**416**
Gross deferred tax liabilities		**11,087**	**9,612**	**342**	**997**	**22,038**
Offset of deferred tax assets and liabilities relating to income taxes levied by the same taxation authority		**(5,035)**	**(1,164)**	**(213)**	**(621)**	**(7,033)**
At 31 March 2017		**6,052**	**8,448**	**129**	**376**	**15,005**

						Millions of yen
	Note	Property, plant and equipment	Fair value gains	Provisions	Other	Total
Deferred tax liabilities						
At 1 April 2015		16,295	14,321	84	1,020	31,720
Exchange differences		(828)	(383)	(18)	(195)	(1,424)
(Credit)/charge to the income statement in the period	9	(2,817)	(2,765)	210	(325)	(5,697)
(Credit)/charge to other comprehensive income for the period		–	3	–	(20)	(17)
Gross deferred tax liabilities		12,650	11,176	276	480	24,582
Offset of deferred tax assets and liabilities relating to income taxes levied by the same taxation authority		(5,577)	(1,169)	(131)	(384)	(7,261)
At 31 March 2016		7,073	10,007	145	96	17,321

19. Deferred income tax continued

Deferred taxation provided on unremitted earnings of joints ventures and associates at 31 March 2017, was ¥116 million (2016: ¥189 million). This reflects local withholding and other taxes which would be suffered if these earnings were repatriated and which would not be creditable against local corporation tax.

Fair value gains principally relate to the recognition of intangible assets on acquisition of the Pilkington Group by NSG UK Enterprises Ltd in June 2006.

20. Inventories

	Millions of yen 2017	2016
Raw materials	**25,064**	26,447
Work-in-progress	**18,414**	18,106
Finished goods	**62,036**	64,309
	105,514	108,862

The cost of inventories recognized as an expense and included in cost of sales amounted to ¥328,271 million (2016: ¥363,760 million) and includes the write down of inventories totaling ¥1,403 million (2016: ¥2,885 million) and the reversal of inventory write-downs made in previous periods amounting to ¥2,442 million (2016: ¥901 million). The reversal of previous write-downs relates to an increase in the net realizable value at the end of the period.

In addition, write-down of inventories totaling ¥314 million (2016: ¥941 million) has been charged to exceptional items, note 6.

The carrying amount of inventories carried at fair value less cost to sell (net realizable value) amount to ¥9,008 million (2016: ¥9,309 million).

21. Construction work-in-progress

	Note	Millions of yen 2017	2016
Contract costs incurred plus recognized profits less recognized losses		**788**	1,616
Less amounts invoiced		**(163)**	(900)
		625	716
Contracts in progress at 31 March			
Amounts due from contract customers included in trade and other receivables	15	**2,069**	1,362
		2,069	1,362

Advances received from customers for contract work, included in the above summary, amounted to ¥661 million (2016: ¥401 million).

At 31 March 2017 and 2016, there were no amounts included in trade and other receivables arising from construction contracts which are due for settlement after more than 12 months.

There are no material amounts of construction work-in-progress held by customers as retentions.

The Group's income statement included the following results in respect of engineering contracts:

	Millions of yen 2017	2016
Contract revenue	**3,945**	4,965
Contract costs	**(2,779)**	(4,428)
Gross profit	**1,166**	537
Profit before tax	**874**	25

22. Cash and cash equivalents

	Millions of yen	
	2017	2016
Cash at bank and in hand	**66,146**	35,258
Short-term deposits	**18,774**	19,816
	84,920	55,074

The effective interest rate on the Group's short-term bank deposits was 5.83 percent (2016: 2.29 percent) with an average maturity of 24 days (2016: 11 days).

The short-term deposits noted above, which constitute cash equivalents, are represented by deposit account balances principally in the UK, Vietnam and Argentina.

The Group's cash flow statement includes the following:

		Millions of yen	
	Note	**2017**	2016
Cash and cash equivalents		**84,920**	55,074
Bank overdrafts	24	**(5,112)**	(8,912)
		79,808	46,162

23. Assets held for sale

	Millions of yen	
	2017	2016
Assets held for sale within a disposal group held for sale		
Property, plant and equipment	**126**	1,194
Deferred taxation	**–**	29
	126	1,223

At 31 March 2017, assets held within a disposal group mainly comprised of property, plant and equipment within Architectural businesses in Europe and are expected to be disposed of within 12 months of the balance sheet date.

At 31 March 2016, assets held within a disposal group mainly comprised of property, plant and equipment within Architectural businesses in Europe and Automotive businesses in Asia.

During the year to 31 March 2016, other excess property, plant and equipment in Architectural Europe was impaired by ¥361 million down to its recoverable amount. This is charged to exceptional items, note 6.

24. Borrowings

a. Borrowings and net debt

	Note	2017	2016
		Millions of yen	
Current			
Bank overdrafts	22	**5,112**	8,912
Bank borrowings		**72,972**	109,786
Other long-term loans		**66**	20,058
Finance lease liabilities		**25**	75
Non-equity non-controlling interest preference shares		**242**	258
		78,417	139,089
Non-current			
Bank borrowings		**298,480**	269,532
Other long-term loans		**15,164**	15,158
Finance lease liabilities		**60**	65
Non-equity non-controlling interest preference shares		**4,277**	4,564
		317,981	289,319
Total borrowings		**396,398**	428,408

Group borrowings include secured liabilities of ¥15,720 million (2016: ¥14,329 million). Borrowings are secured by fixed and floating charges over certain assets of undertakings in the Group. Bank borrowings in the above table include the liabilities of ¥15,720 million (2016: ¥14,329 million) as a consequence of the finance lease contracts from the sale and leaseback transactions made by the Group in Japan.

Summary of net debt

	Note	2017	2016
		Millions of yen	
Financial liabilities			
borrowings		**396,398**	428,408
derivative financial instruments	17	**2,988**	8,551
Financial assets			
derivative financial instruments	17	**(1,211)**	(841)
Cash and cash equivalents	22	**(84,920)**	(55,074)
Net debt		**313,255**	381,044

Net debt includes energy hedges within derivative financial instruments.

b. Interest rate exposure

The exposure of the Group's borrowings to interest rate changes and the contractual re-pricing dates are as follows:

	Less than one year	One to five years	Over five years	Total
	Millions of yen			
	2017			
Total borrowings	**372,070**	**20,051**	**4,277**	**396,398**
Effect of interest rate swaps	**(92,988)**	**92,988**	**–**	**–**
	279,082	**113,039**	**4,277**	**396,398**

	Less than one year	One to five years	Over five years	Total
	Millions of yen			
	2016			
Total borrowings	406,720	17,124	4,564	428,408
Effect of interest rate swaps	(113,444)	113,444	–	–
	293,276	130,568	4,564	428,408

24. Borrowings continued

The effective interest rates at the balance sheet date on the Group's principal currency borrowings were as follows:

	Interest rate %				
	2017				
	Yen	£	US$	Euro	Other
Bank overdrafts	**–**	**1.00**	**–**	**1.00**	**3.99**
Bank borrowings	**2.08**	**–**	**3.62**	**2.76**	**11.40**
Other long-term loans	**1.56**	**–**	**–**	**–**	**–**
Finance lease obligations	**2.52**	**–**	**–**	**–**	**–**

	Interest rate %				
	2016				
	Yen	£	US$	Euro	Other
Bank overdrafts	–	1.00	–	2.13	1.99
Bank borrowings	2.60	–	3.44	2.98	18.23
Other long-term loans	1.37	–	–	–	–
Finance lease obligations	4.75	–	–	–	–

The non-equity non-controlling interest preference shares relate to Pilkington Deutschland AG and Dahlbusch AG with the right to a dividend of 5.6 and 4.5 percent of nominal value respectively in perpetuity.

c. Fair values of borrowings

The carrying amounts and fair values of the Group's non-current borrowings are as follows:

	Millions of yen			
	2017		2016	
	Carrying amounts	Fair values	Carrying amounts	Fair values
Bank borrowings	**298,480**	**270,919**	269,532	254,623
Other long-term loans	**15,164**	**14,609**	15,158	14,086
Finance lease obligations	**60**	**60**	65	65
Non-equity non-controlling interest preference shares	**4,277**	**4,277**	4,564	4,564
	317,981	**289,865**	289,319	273,338

The above fair values are based on cash flows discounted using a rate based on credit risk factors and the relevant currency swap rate for the specific maturity, plus a margin. This methodology is consistent with hierarchy level 2 inputs as set out in note 18.

d. Currency of borrowings

The Group's total borrowings are denominated in the following currencies:

	Millions of yen	
	2017	2016
Japanese yen	**291,642**	303,095
Euro	**59,300**	73,699
Sterling	**14,278**	9,311
Polish zloty	**12,304**	14,983
US dollar	**14,834**	13,791
Swedish krona	**1,487**	1,082
Other currencies	**2,553**	12,447
	396,398	428,408

e. Maturity profile of committed borrowings

The Group has the following undrawn borrowing facilities:

	Millions of yen	
	2017	2016
Floating rate		
maturing within one year	**18,825**	31,600
maturing after one year	**31,699**	18,047

24. Borrowings continued

The overall maturity profile of the Group's borrowings is as follows:

	Millions of yen	
	2017	2016
Within one year	**78,417**	139,089
One to two years	**86,127**	93,639
Two to three years	**102,074**	140,195
Three to four years	**7,195**	46,299
Four to five years	**81,935**	4,622
After five years	**40,650**	4,564
	396,398	428,408

f. Finance leases

The finance lease liabilities are analyzed as follows:

	Millions of yen	
	2017	2016
Finance lease liabilities – minimum lease payments		
not later than one year	**25**	75
later than one year and not later than five years	**60**	65
Present value of finance lease liabilities	**85**	140

The maturity of the present value of finance lease liabilities is as follows:

	Millions of yen	
	2017	2016
Not later than one year	**25**	75
Later than one year and not later than five years	**60**	65
	85	140

The fair value of the Group's non-current finance lease liabilities equates to book value.

It is the Group's policy to lease certain of its plant and equipment under finance leases. Interest rates are fixed at the contract date. The majority of the Group's leases are subject to fixed interest rates and all leases are on a fixed repayment basis.

25. Trade and other payables

		Millions of yen	
	Note	**2017**	2016
Trade payables		**78,232**	79,207
Amounts owed to related parties (trading)	37	**2,511**	3,272
Loans from related parties		**32**	49
Social security and other taxes		**6,687**	5,863
Other payables		**22,585**	19,627
Accruals		**14,190**	13,675
		124,237	121,693
Current		**123,794**	120,979
Non-current		**443**	714
		124,237	121,693

The directors consider that the carrying amount of trade and other payables approximates to their fair value.

26. Pensions and other post-employment benefits

The Group operates a number of defined benefit pension arrangements, together with related arrangements, which are required to be disclosed as post-employment or other long-term benefits under IAS 19. The defined benefit pension arrangements cover schemes operating in Japan, the UK, Germany, Austria, the USA, Canada and Sweden and there are leaving indemnity arrangements in Italy and Austria, together with phased retirement (Altersteilzeit) and long service arrangements in Germany.

The defined benefit pension schemes are closed with the exception of those in Japan, Canada and Sweden. The German and UK defined benefit pension schemes are closed to new members but continuing employees accrue pension rights covering their current employment. Although benefits are accruing in the UK plans, the definition of pensionable salary has been 'frozen' so that benefits no longer increase in line with salary increases.

All the pension schemes are unfunded except for those in Japan, the UK, the USA and Canada. The assets of the funded schemes are generally held in separately administered trusts, either as specific assets or as a proportion of a general fund, or are insurance contracts. Pension scheme assets held in trust are governed by local regulations and practice in each country. Responsibility for governance of the schemes - including investment decisions and contribution schedules – lies either with the Group or jointly with the Group and the board of trustees.

Through its defined benefit pension schemes, the Group is exposed to a number of risks, the most significant of which are detailed below:

Asset volatility	The liabilities are calculated using a discount rate set with reference to corporate bond yields; if assets underperform against this yield, this will create a deficit. All funded schemes hold a significant proportion of growth assets, which are expected to outperform corporate bonds in the long-term while providing volatility and risk in the short-term. The allocation to growth assets is monitored regularly to ensure it remains appropriate and in line with the Group's long-term strategy to manage the schemes.
Changes in bond yields	A decrease in corporate bond yields will increase the scheme liabilities, although this will be partially offset by an increase in the value of the schemes' bond holdings.
Inflation risk	Much of the UK schemes' benefit obligations are linked to inflation, and higher inflation will lead to higher liabilities (although, in most cases, caps on the level of inflationary increases are in place to protect against extreme inflation). The Pilkington Superannuation Scheme (PSS) hedges 85% of liability movements against interest and inflation rate volatility.
Life expectancy	The majority of the plans' obligations are to provide benefits for the life of the member, and in some cases, their spouse on death of the member, so increases in life expectancy will result in an increase in the liabilities. Some of the longevity risk in the main UK plan is hedged with a longevity swap which was put in place in 2012. In August 2016 NSG entered into an agreement with the Pension Insurance Corporation (PIC) to insure pensions in payment for a group of current pensioners in the UK main plan. The plan now holds annuity contracts to cover these thereby removing all risks in respect of these pensions.

Pension plan assets are invested in different asset classes in order to maintain a balance between risk and return. The main plans use government and corporate bonds as well as cash as liability matching assets. The remainder of the asset classes are used as return seeking assets. Investments are well diversified to limit the financial effect of the failure of any individual investment.

The largest pension scheme is in the UK. This scheme, the Pilkington Superannuation Scheme (PSS), covered 913 employees, 2,936 deferred members and 10,214 pensioners as at 31 March 2017. This scheme was closed to new members with effect from 30 September 2008. This scheme is subject to applicable UK employment laws and is governed by a Board of Trustees. The Board of Trustees consists of seven member nominated directors and seven employer nominated directors. Of the employer nominated directors, two are independent and five are current or former employees of the Group. The Board of Trustees is responsible for the overall governance of the scheme and the management of its assets.

Prior to 1 January 2009, employer contributions under the PSS's governing trust deed were fixed at 10.5 percent of pensionable salary for active members. However, with effect from that date, employer contributions are now levied at 16 percent of pensionable salary for active members accruing on a 1/60th basis, and 12.5 percent for active members accruing on a 1/80th basis.

A formal funding valuation of the scheme's liabilities is carried out using a prudent basis, as agreed between the Trustee and the Company, every three years. If the funding valuation reveals a deficit the Trustee agree with the Group a plan for recovering that deficit. Following the actuarial valuation as at 31 December 2014, the Group has agreed a funding plan which requires annual deficit contributions of £25 million (¥3,550 million at FY2017 exchange rates) payable up to and including 2018.

26. Pensions and other post-employment benefits continued

The Group has an unconditional right to a refund of surplus, as defined under IFRIC 14 and considers that the possibility that a surplus could be reduced or extinguished by discretionary actions by the trustee does not affect the existence of the asset at the end of the reporting period. The Group therefore recognizes a pension asset with respect to this scheme valued on an IAS19R basis. No liability is recognized with respect to further funding contributions.

The investment objectives and asset allocation policy adopted by the Trustee are defined in the scheme's Statement of Investment Principles and associated documentation which sets out specific asset allocation, benchmark indices and performance objectives. This policy is linked to a 'de-risking' plan that was agreed with the Group as part of the 2011 valuation. Under this plan the amount of return-seeking assets as a proportion of the total is expected to reduce as the funding position improves. The current benchmark is 21% return-seeking 79% liability matching assets.

The Group operates a number of defined benefit pension plans in Japan. These plans are of cash balance design and generally provide lump sums at retirement. The plans are governed by the Japanese Ministry of Health, Labor and Welfare in accordance with the Defined Benefit Corporate Pension Law. They are subject to minimum funding requirements stipulated in law, which requires the plan sponsor to pay additional contributions to achieve a minimum funding level within a certain time scale if the plan does not hold sufficient assets. The largest Japanese plan covers employees of Nippon Sheet Glass Co., Ltd., NSG Co Ltd (Tarui), and NSG Co Ltd (Tsu). The latest valuation for this plan was carried out as at 31 March 2016, and showed a surplus of ¥2,272 million. The investment strategy is determined by the Trustee and the current strategic allocation is approximately 22% equity, 78% bonds and insurance products.

The Group also operates post-retirement healthcare and life insurance benefits for employees, retirees and their dependents in the USA and for retirees in the UK. The method of accounting, assumptions and the frequency of actuarial valuations are similar to those used for defined benefit pension schemes.

Balance sheet obligations (assets) are as follows:

	Millions of yen	
	2017	2016
Recognized in non-current (assets):		
Pension and early-retirement benefit schemes in surplus	**(19,227)**	(18,837)
Recognized in Pension and other long-term benefit obligations:		
Pension and early-retirement benefit schemes in deficit	**46,181**	49,619
Post-retirement healthcare benefits	**24,506**	25,341
Long service arrangements	**139**	151
Total recognized in Pension and other long-term benefit obligations	**70,826**	75,111
Net liability in the balance sheet	**51,599**	56,274

(Charges)/credits in the income statement and statement of comprehensive income are as follows:

							Millions of yen
				2017			2016
	Note	**Operating profit**	**Finance costs**	**SoCI***	Operating profit	Finance costs	SoCI*
Pension and early-retirement benefits		**(3,516)**	**22**	**185**	(3,666)	(410)	15,986
Post-retirement healthcare benefits		**(45)**	**(919)**	**136**	(71)	(1,038)	5,158
Long service arrangements		**(7)**	**(1)**	**–**	(14)	(1)	4
Deferred income and other taxes**	19	**–**	**–**	**(2,154)**	–	–	(8,945)
At 31 March		**(3,568)**	**(898)**	**(1,833)**	(3,751)	(1,449)	12,203

* Statement of comprehensive income

** Of the deferred income and other taxes, a charge of ¥524 million (2016: a charge of ¥2,882 million) is included within deferred tax (note 19). Other taxes of ¥1,630 million (2016: ¥6,063 million) are included as a charge against the pension asset.

26. Pensions and other post-employment benefits continued

Excluding long service arrangements, the amounts recognized in the balance sheet are determined as follows:

	Millions of yen				
	2017				
	Pension and early-retirement benefits				Post-retirement healthcare
	Japan	UK	Rest of world	Total	Total
Present value of the funded benefit obligation	35,247	237,153	28,957	301,357	–
Fair value of assets of the plans	(32,422)	(266,733)	(22,856)	(322,011)	–
Deficit/(surplus) in the funded plans	2,825	(29,580)	6,101	(20,654)	–
Present value of the unfunded benefit obligation	–	4,476	32,779	37,255	24,506
Net liability/(asset) in the balance sheet	2,825	(25,104)	38,880	16,601	24,506
Taxes relating to refund of pension fund surplus	–	10,353	–	10,353	–
Net liability/(asset) in the balance sheet after tax on refund	2,825	(14,751)	38,880	26,954	24,506
Included in non-current assets	–	(19,227)	–	(19,227)	–
Included in pension and other long-term benefit obligations	2,825	4,476	38,880	46,181	24,506

	Millions of yen				
	2016				
	Pension and early-retirement benefits				Post-retirement healthcare
	Japan	UK	Rest of world	Total	Total
Present value of the funded benefit obligation	34,054	247,693	32,174	313,921	–
Fair value of assets of the plans	(31,722)	(276,359)	(24,884)	(332,965)	–
Deficit/(surplus) in the funded plans	2,332	(28,666)	7,290	(19,044)	–
Present value of the unfunded benefit obligation	–	4,556	35,127	39,683	25,341
Net liability/(asset) in the balance sheet	2,332	(24,110)	42,417	20,639	25,341
Taxes relating to refund of pension fund surplus	–	10,143	–	10,143	–
Net liability/(asset) in the balance sheet after tax on refund	2,332	(13,967)	42,417	30,782	25,341
Included in non-current assets	–	(18,837)	–	(18,837)	–
Included in pension and other long-term benefit obligations	2,332	4,870	42,417	49,619	25,341

The weighted average duration of the pension obligations across all plans was 14 years as at 31 March 2017.

Excluding long service arrangements, the amounts recognized in the income statement are as follows:

	Millions of yen				
	2017				
	Pension and early-retirement benefits				Post-retirement healthcare
	Japan	UK	Rest of world	Total	Total
Current service cost	(1,301)	(1,381)	(397)	(3,079)	(45)
Past service cost	–	–	(58)	(58)	–
Settlements and terminations losses	–	(60)	–	(60)	–
Administration expenses	(13)	(14)	(292)	(319)	–
Operating profit charge	(1,314)	(1,455)	(747)	(3,516)	(45)
Net interest on the net defined benefit liability	(8)	840	(810)	22	(919)
Finance costs – (charge)/credit	(8)	840	(810)	22	(919)
Total income statement charge	(1,322)	(615)	(1,557)	(3,494)	(964)

	Millions of yen				
	2016				
	Pension and early-retirement benefits				Post-retirement healthcare
	Japan	UK	Rest of world	Total	Total
Current service cost	(1,251)	(1,831)	(482)	(3,564)	(71)
Past service cost	52	–	(40)	12	–
Settlements and terminations losses	–	(19)	145	126	–
Administration expenses	(13)	(20)	(207)	(240)	–
Operating profit charge	(1,212)	(1,870)	(584)	(3,666)	(71)
Net interest on the net defined benefit liability	(4)	393	(799)	(410)	(1,038)
Finance costs – (charge)/credit	(4)	393	(799)	(410)	(1,038)
Total income statement charge	(1,216)	(1,477)	(1,383)	(4,076)	(1,109)

26. Pensions and other post-employment benefits continued

Including charges with respect to long service arrangements, of the total charge to operating profit of ¥3,568 million (2016: ¥3,751 million), a charge of ¥1,405 million (2016: ¥1,615 million) is included in cost of sales, a charge of ¥82 million (2016: ¥102 million) is included within distribution costs, a charge of ¥2,021 million (2016: ¥2,015 million) is included within administrative expenses, and a charge of ¥60 million (2016: charge of ¥19 million) is included within exceptional items.

The actual return on the various plan assets was a gain of ¥37,026 million (2016: gain of ¥5,479 million). The Group expects to contribute ¥8,703 million to pension plans during the next financial period and ¥1,703 million to post-retirement healthcare plans.

The (charges)/credits recognized in the statement of comprehensive income during the period are as follows:

					Millions of yen
					2017
	Pension and early-retirement benefits				**Post-retirement healthcare**
	Japan	**UK**	**Rest of world**	**Total**	**Total**
Actual return less interest income on plan assets recognized in the income statement	**714**	**26,903**	**221**	**27,838**	**–**
Experience gains/(losses) arising on schemes' liabilities	**(1,012)**	**2,910**	**(557)**	**1,341**	**(1,944)**
Changes in the financial assumptions underlying the present value of the schemes' liabilities	**414**	**(29,773)**	**637**	**(28,722)**	**1,438**
Changes in the demographic assumptions underlying the present value of the schemes' liabilities	**(616)**	**(195)**	**539**	**(272)**	**642**
	(500)	**(155)**	**840**	**185**	**136**

					Millions of yen
					2016
	Pension and early-retirement benefits				Post-retirement healthcare
	Japan	UK	Rest of world	Total	Total
Actual return less interest income on plan assets recognized in the income statement	(281)	(4,058)	(1,461)	(5,800)	325
Experience gains/(losses) arising on schemes' liabilities	401	243	883	1,527	2,426
Changes in the financial assumptions underlying the present value of the schemes' liabilities	(1,486)	15,661	3,125	17,300	1,477
Changes in the demographic assumptions underlying the present value of the schemes' liabilities	11	1,994	954	2,959	930
	(1,355)	13,840	3,501	15,986	5,158

26. Pensions and other post-employment benefits continued

The movements in the present value of the Defined Benefit Obligations (DBO) recognized in the balance sheet are as follows:

					Millions of yen
	Pension and early-retirement benefits				Post-retirement healthcare
	Japan	UK	Rest of world	Total	Total
At 31 March 2015	**33,197**	**299,775**	**79,978**	**412,950**	**32,866**
Current service cost	1,251	1,831	482	3,564	71
Interest cost on the schemes' liabilities	291	9,216	1,857	11,364	1,038
Members' contributions	–	155	–	155	–
Plan amendments	(52)	–	40	(12)	–
Settlements and terminations	–	19	(2,089)	(2,070)	–
Actuarial losses	1,074	(17,898)	(4,962)	(21,786)	(4,833)
Benefits paid	(1,707)	(14,567)	(4,954)	(21,228)	(2,010)
Exchange differences	–	(26,282)	(3,051)	(29,333)	(1,791)
At 31 March 2016	**34,054**	**252,249**	**67,301**	**353,604**	**25,341**
Current service cost	1,301	1,381	397	3,079	45
Interest cost on the schemes' liabilities	166	7,368	1,632	9,166	919
Members' contributions	–	51	–	51	–
Plan amendments	–	–	58	58	–
Settlements and terminations	–	60	–	60	–
Actuarial losses	1,214	27,058	(619)	27,653	(136)
Benefits paid	(1,488)	(11,554)	(4,300)	(17,342)	(1,266)
Exchange differences	–	(34,984)	(2,733)	(37,717)	(397)
At 31 March 2017	**35,247**	**241,629**	**61,736**	**338,612**	**24,506**

The movements in the fair value of assets recognized in the balance sheet are as follows:

					Millions of yen
	Pension and early-retirement benefits				Post-retirement healthcare
	Japan	UK	Rest of world	Total	Total
At 31 March 2015	**32,088**	**307,814**	**31,156**	**371,058**	**–**
Members' contributions	–	155	–	155	–
Settlements and terminations	–	19	(1,944)	(1,925)	–
Return on plan assets (excluding amount included in interest income)	(281)	(4,058)	(1,461)	(5,800)	325
Benefits paid	(1,707)	(14,567)	(4,954)	(21,228)	(2,010)
Expenses paid	(13)	(20)	(207)	(240)	–
Employer's contributions	1,348	6,550	2,973	10,871	1,685
Interest income on assets	287	9,609	1,058	10,954	–
Exchange differences	–	(29,143)	(1,737)	(30,880)	–
At 31 March 2016	**31,722**	**276,359**	**24,884**	**332,965**	**–**
Members' contributions	–	51	–	51	–
Settlements and terminations	–	60	–	60	–
Return on plan assets (excluding amount included in interest income)	714	26,903	221	27,838	–
Benefits paid	(1,488)	(11,554)	(4,300)	(17,342)	(1,266)
Expenses paid	(13)	(14)	(292)	(319)	–
Employer's contributions	1,329	5,089	1,902	8,320	1,266
Interest income on assets	158	8,208	822	9,188	–
Exchange differences	–	(38,369)	(381)	(38,750)	–
At 31 March 2017	**32,422**	**266,733**	**22,856**	**322,011**	**–**

26. Pensions and other post-employment benefits continued

The movements in the net liability recognized in the balance sheet are as follows (excluding taxation arising on refund of surplus):

					Millions of yen
	Pension and early-retirement benefits				Post-retirement healthcare
	Japan	UK	Rest of world	Total	Total
At 31 March 2015	**(1,109)**	**8,039**	**(48,822)**	**(41,892)**	**(32,866)**
Total charge recognized in the income statement	(1,216)	(1,477)	(1,383)	(4,076)	(1,109)
Total credit/(charge) recognized in other comprehensive income	(1,355)	13,840	3,501	15,986	5,158
Employer's contributions	1,348	6,550	2,973	10,871	1,685
One-off employer contributions for financing terminations	–	19	–	19	–
Exchange differences	–	(2,861)	1,314	(1,547)	1,791
At 31 March 2016	**(2,332)**	**24,110**	**(42,417)**	**(20,639)**	**(25,341)**
Total charge recognized in the income statement	(1,322)	(615)	(1,557)	(3,494)	(964)
Total credit/(charge) recognized in other comprehensive income	(500)	(155)	840	185	136
Employer's contributions	1,329	5,089	1,902	8,320	1,266
One-off employer contributions for financing terminations	–	60	–	60	–
Exchange differences	–	(3,385)	2,352	(1,033)	397
At 31 March 2017	**(2,825)**	**25,104**	**(38,880)**	**(16,601)**	**(24,506)**

The principal actuarial assumptions (calculated as weighted averages over the various Group plans) were as follows:

	2017			2016		
	Japan	**UK**	**Rest of world**	Japan	UK	Rest of world
Discount rate	**0.80%**	**2.60%**	**2.80%**	0.50%	3.40%	2.60%
Future salary increases*	**2.40%**	**–**	**2.30%**	2.20%	–	2.00%
Future pension increases	**–**	**0.90%**	**1.70%**	–	0.80%	1.40%
Consumer Price inflation	**0.25%**	**2.10%**	**1.90%**	0.25%	1.80%	1.70%
Long-term increase in healthcare costs	**–**	**3.70%**	**4.50%**	–	3.70%	4.50%

* The weighted average future salary increases exclude frozen salaried plans; UK PSS, NGF and US salaried plan.

The Group uses appropriate mortality tables in each geographical location. The mortality assumptions used for the valuation of the PSS (which accounts for around 65 percent of the Group's total Defined Benefit Obligation) at 31 March 2017 are based on the 'SAPS2' standard UK mortality tables, with an adjustment to reflect actual mortality experience of members of that scheme based on recent experience investigations carried out by the scheme's Trustees. Future improvements in mortality have been allowed for in line with the CMI 2016 Proposed 2015 Core Projections with a long-term rate of mortality improvements of 1.25 percent per annum. Expected future lifetimes of pensioners using this mortality basis are shown below:

	31 March 2017
	Years
Expected future lifetime of a current pensioner aged 60	
- Men	**26.6**
- Women	**28.8**
Expected future lifetime, at age 60, of a future pensioner aged 60 in 20 years time	
- Men	**28.0**
- Women	**30.3**

26. Pensions and other post-employment benefits continued

The composition and fair value of the schemes' assets are:

	Millions of yen 2017					
	Japan		UK		Rest of world	
	Quoted	Unquoted	Quoted	Unquoted	Quoted	Unquoted
Domestic government bonds	13,380	–	132,029	–	272	–
Domestic corporate bonds	–	1,317	42,798	–	21,147	–
Overseas bonds	2,717	1,663	–	–	75	–
Domestic equities	5,885	–	4,797	–	565	–
Overseas equities	2,130	–	42,921	5,824	346	–
Property	–	–	323	2,863	–	–
Cash	–	1,317	24	8,285	325	–
Other	–	4,013	–	26,869*	126	–
	24,112	8,310	222,892	43,841	22,856	–

* Note: this includes ¥29,432 in respect of the buy-in assets and a negative asset of ¥2,563 in respect of the longevity swap.

	Millions of yen 2016					
	Japan		UK		Rest of world	
	Quoted	Unquoted	Quoted	Unquoted	Quoted	Unquoted
Domestic government bonds	8,577	–	171,795	–	228	–
Domestic corporate bonds	–	853	46,724	–	21,177	–
Overseas bonds	3,459	1,777	–	–	81	–
Domestic equities	5,515	–	4,858	–	2,127	–
Overseas equities	1,824	–	43,637	5,715	1,019	–
Property	–	–	297	5,394	–	–
Cash	–	800	48	1,336	121	–
Other	–	8,917	–	(3,445)*	131	–
	19,375	12,347	267,359	9,000	24,884	–

* Note: this is a negative asset in respect of the longevity swap transaction carried out during 2012

The principal assumptions used to determine the Defined Benefit Obligation (DBO) are the discount rate, inflation rate and the mortality basis. The sensitivity of the DBO to changes in each of these assumptions is set out below for the material plans in UK and Japan:

Assumption	Change in assumption	Impact on scheme liabilities (%) Japan	UK
Discount rate	Increase/decrease by 0.5%	Decrease/increase by 5.2% / 5.7%	Decrease/increase by 7.2% / 8.1%
Inflation rate	Increase/decrease by 0.5%	n/a	Increase/decrease by 3.7% / 3.1%
Mortality	Increase life expectancy by one year	n/a	Increase by 3.7%

Sensitivities in the above table consider only the impact of assumption changes on gross scheme liabilities. As discussed earlier in this note, changes in discount rates which would be reflected in changes in bond yields, would be partially offset by a change in the value of bond holdings within funded schemes.

A one percent reduction in healthcare cost trend rates would result in a decrease in the benefit obligation of ¥1,703 million and a decrease in the interest and service costs of ¥78 million. A one percent increase in healthcare cost trend rates would result in an increase in the benefit obligation of ¥529 million and an increase in the interest and service costs of ¥30 million. The above trend rate sensitivities take into account the fact that increases in employer costs are subject to an annual cap.

The above sensitivity analyses are generally based on a change in one assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and some changes of the assumptions may be correlated. Where relevant, the inflation sensitivity above includes changes to any inflation linked pension increases.

When calculating the sensitivity of the DBO to significant assumptions the same method has been applied as when calculating the pension liability recognized in the statement of financial position. The methods and types of assumptions used in preparing the sensitivity analysis did not change compared to previous periods.

27. Provisions

Millions of yen

	Note	Warranty	Redundancy and Restructuring	Bonus	Environmental	Claims and litigation	Other	Total
At 1 April 2016		**445**	**3,624**	**3,670**	**7,348**	**10,594**	**7,012**	**32,693**
Exchange differences		**(31)**	**(237)**	**(58)**	**(120)**	**(584)**	**(82)**	**(1,112)**
Charged to the income statement								
Charged to provisions		**92**	**3,615**	**9,972**	**1,430**	**1,456**	**1,490**	**18,055**
Effect of discounting	8	**–**	**–**	**–**	**216**	**–**	**–**	**216**
Released to the income statement in the period		**(86)**	**(1,396)**	**(403)**	**(307)**	**(1,509)**	**(322)**	**(4,023)**
Utilized in the period		**(24)**	**(2,756)**	**(6,064)**	**(288)**	**(5,278)**	**(425)**	**(14,835)**
At 31 March 2017		**396**	**2,850**	**7,117**	**8,279**	**4,679**	**7,673**	**30,994**
Current		**294**	**2,083**	**6,314**	**626**	**1,222**	**3,552**	**14,091**
Non-Current		**102**	**767**	**803**	**7,653**	**3,457**	**4,121**	**16,903**
		396	**2,850**	**7,117**	**8,279**	**4,679**	**7,673**	**30,994**

Millions of yen

	Note	Warranty	Redundancy and Restructuring	Bonus	Environmental	Claims and litigation	Other	Total
At 1 April 2015		429	3,582	4,908	7,568	6,756	7,092	30,335
Exchange differences		(19)	(178)	(28)	(378)	(812)	(257)	(1,672)
Charged to the income statement								
Charged to provisions		92	3,541	6,509	272	6,651	764	17,829
Effect of discounting	8	–	–	–	240	–	–	240
Released to the income statement in the period		–	(258)	(450)	(111)	(211)	(325)	(1,355)
Utilized in the period		(57)	(3,063)	(7,269)	(243)	(1,790)	(262)	(12,684)
At 31 March 2016		445	3,624	3,670	7,348	10,594	7,012	32,693
Current		239	2,148	3,609	460	6,770	2,955	16,181
Non-Current		206	1,476	61	6,888	3,824	4,057	16,512
		445	3,624	3,670	7,348	10,594	7,012	32,693

Warranty provisions are created where the Group has given a guarantee to cover the reliability and performance of products over an extended period. Warranty provisions are calculated based on historical claims levels. Future claim levels could be different to historical claims, although changes in claims levels are not expected to have a material effect on the amounts provided. Warranty provisions are expected to be utilized over the warranty periods granted, resulting in an average period of utilization of less than three years.

Redundancy and restructuring provisions relate to provisions set up in Architectural amounting to ¥1,539 million (2016: ¥2,613 million), Automotive ¥1,185 million (2016: ¥433 million), Technical Glass ¥84 million (2016: ¥572 million) and Other Operations ¥42 million (2016: ¥6 million). Redundancy and restructuring provisions are established when the Group has a detailed formal plan and has announced that plan to the employees affected. The eventual outcome of such restructuring programs is unlikely to be materially different to the amounts provided as the provision is calculated based on specific data on the number of employees affected and related employment termination costs. Redundancy and restructuring provisions are expected to be utilized mainly within the next financial period.

Bonus provisions are established on the accrued expected payment with respect to bonus schemes offered to employees. These are calculated with reference to the performance of the Group in comparison to the metrics within the bonus scheme. Where this relates to expectations of future performance, the Group compares its estimates of expected future performance with the metrics of the bonus scheme, to calculate an expected future bonus payment.

Environmental provisions cover the cost of remediating environmental issues where the Group has a constructive or legal obligation to do so. At 31 March 2017, ¥962 million (2016: ¥1,028 million) of this provision was recorded in Architectural, ¥59 million (2016: ¥81 million) was recorded in Automotive, ¥285 million (2016: ¥338 million) was recorded in Technical Glass and ¥6,973 million (2016: ¥5,901 million) was recorded in Other Operations. The environmental provision in Other Operations relates primarily to historic liabilities in North America.

Claims and litigation provisions cover a variety of claims and potential settlements. Included in this category are historic employee and public liability issues, some of which are the subject of litigation. Where appropriate this provision includes an element of Incurred But Not Reported (IBNR) liabilities.

Other provisions relate principally to immaterial pension provisions of ¥3,836 million (2016: ¥3,779 million), cumulative leave provisions of ¥2,979 million (2016: ¥2,934 million) and onerous lease and rental provisions of ¥101 million (2016: ¥86 million).

28. Deferred income

	2017	2016
		Millions of yen
Deferred income	**7,337**	8,068
Government grants	**4,366**	5,043
	11,703	13,111
Current	**2,733**	2,989
Non-current	**8,970**	10,122
	11,703	13,111

	Note	2017	2016
			Millions of yen
At 1 April		**13,111**	13,128
Exchange differences		**(605)**	(931)
Deferred income receivable		**2,433**	4,257
Released to income statement	2	**(3,236)**	(3,343)
At 31 March		**11,703**	13,111

Deferred income comprises of customer contributions to automotive tooling costs ¥6,835 million (2016: ¥7,822 million) and other deferred income of ¥502 million (2016: ¥246 million). The former principally comprises income received from automotive customers, whereby the tool (carried in property, plant and equipment within non-current assets) is depreciated over the same period as the related deferred income is amortized to the income statement.

Government grants mainly arise in the European Architectural and Automotive businesses and relate to capital expenditure grants in the UK, Germany and Poland. Government grants are recognized in the income statement on a straight-line basis over the period of the grant. There are no unfulfilled conditions or contingencies relating to government grants recognized as deferred income.

29. Share based payments

The Group operates a number of equity settled, share-based payment plans, under which the entity receives services from Directors, Executive Officers, Senior Corporate Officers or Corporate Officers as consideration for equity instruments (options) of the Group. The fair value of the employee services received in exchange for the grant of options is calculated using the Black-Scholes model. In accordance with IFRS 2 'Share-based Payment', the resulting cost is recognized in the income statement over the vesting period of the options, being the period in which the services are received. The value of the charge is adjusted to reflect expected and actual levels of vesting options, except where the failure to vest is as a result of not meeting a market condition. All plans are classified as equity settled.

The expense recognized for compensation type share options received during the period is shown below:

	Note	2017	2016
			Millions of yen
Total expenses arising from share-based payment transactions	7	**86**	71

There have been no cancellations or modifications to any of the plans during 2017 or 2016.

Each share option entitles the recipient to acquire one hundred shares of common stock. Movements in the number of stock compensation-type stock options outstanding and their related weighted average exercise price are as follows:

	2017		2016	
	Weighted average exercise price Yen/share	**Options**	Weighted average exercise price Yen/share	Options
At 1 April	**34**	**6,104**	74	5,901
Granted	**1**	**1,304**	1	952
Exercised	**1**	**(216)**	1	(254)
Expired	**578**	**(345)**	466	(495)
At 31 March	**1**	**6,847**	34	6,104

Out of the 6,847 outstanding options (2016: 6,104 options), 1,601 options (2016: 2,058 options) were exercisable. Options exercised in 2017 resulted in 21,600 shares (2016: 25,400 shares) being transferred at a price of 1 yen each (2016: 1 yen each). The related weighted average share price at the time of exercise was 834 yen (2016: 1,130 yen) per share.

On 1 October 2016, the Company conducted a share consolidation in which every ten common shares were consolidated into one common share. Numbers of shares and weighted average share price are calculated under the assumption that this share consolidation was conducted on 1 April 2015.

29. Share based payments continued

Share options outstanding at the end of the period have the following expiry date and exercise prices:

Stock option	Expiry date	Exercise price in yen/share	2017 Shares	2016 Shares
2006 Stock Options (i)	28 June 2016	578	–	34,500
2007 Stock Options (ii)	28 September 2037	1	**3,600**	4,500
2008 Stock Options (ii)	27 September 2038	1	**13,900**	15,200
2009 Stock Options (ii)	30 September 2039	1	**28,500**	31,100
2010 Stock Options (ii)	30 September 2040	1	**19,100**	21,300
2011 Stock Options (ii)	14 October 2041	1	**28,200**	40,200
2012 Stock Options (ii)	28 September 2042	1	**131,800**	134,400
2013 Stock Options (ii)	15 October 2043	1	**144,200**	144,200
2014 Stock Options (ii)	30 September 2044	1	**89,800**	89,800
2015 Stock Options (ii)	30 September 2045	1	**95,200**	95,200
2016 Stock Options (ii)	14 October 2046	1	**130,400**	–
			684,700	610,400

Conditions for vesting of stock options

(i) Those who hold these stock options must remain employees from the grant date of the option to the vesting date in order to be able to exercise the options except for holders' mandatory retirement, end of tenure or for other due reasons.

(ii) There are no vesting conditions for these stock options.

Method for estimating the fair value per share of stock options

The fair value of options granted during the period is determined using the Black-Scholes valuation model and the significant inputs into the model are listed below.

	Note	2016 plan	2015 plan
Share price at grant date (yen)		**809**	101
Exercise price (yen)		**1**	1
Expected volatility of the share price	i	**42.9%**	46.6%
Expected remaining life of the option	ii	**7 years**	8 years
Expected dividend	iii	**24.0 yen/share**	3.6 yen/share
Risk-free interest rate	iv	**(0.19)%**	0.17%

Notes:

i. The volatility of the share price for the 2016 plan is estimated by taking into account the actual share prices for seven years (from 16 October 2009 to 14 October 2016 (2015 plan: eight years (from 2 October 2007 to 30 September 2015)).

ii. The expected remaining life of the option is estimated reflecting the actual conditions of the option, taking into account that any person to whom the stock options were allotted may exercise the stock options five years after the holders' tenure as a Director, an Executive Officer, Senior Corporate Officer or a Corporate Officer had ended.

iii. Expected dividends for the 2016 plan is based on the actual dividends paid in the seven year period between 31 March 2010 and 31 March 2017 (2015 plan: based on the actual dividends paid in the eight year period between 31 March 2008 and 31 March 2016).

iv. The risk-free interest rate represents the yield on Government bonds for the period that corresponds to the expected remaining life of each option.

30. Called up shar e capital

	Number of shares	
	2017	2016 (restated)
Shares authorized		
Common shares	**177,500,000**	177,500,000
Class A shares	**40,000**	–
Shares issued		
Common shares of no par value each	**90,365,699**	90,355,099
Class A shares of JPY 1,000,000 per share	**40,000**	–
Treasury shares		
Common shares	**11,489**	19,494

	Millions of yen			
	2017		2016 (restated)	
	Number of shares	Value	Number of shares	Value
Issued and fully paid common shares				
At 1 April	**90,355,099**	**116,449**	90,355,099	116,449
Increase due to exercise of share options	**10,600**	**14**	–	–
At 31 March	**90,365,699**	**116,463**	90,355,099	116,449
Issued and fully paid class A (preferred) shares				
At 1 April	**–**	**–**	–	–
Issuance of Class A (preferred) shares	**40,000**	**20,000**	–	–
Transfer from share capital to capital surplus	**–**	**(20,000)**	–	–
At 31 March	**40,000**	**–**	–	–

On 1 October 2016, the Company conducted a share consolidation in which every ten common shares were consolidated into one common share. The number of common shares at 31 March 2016 in the above table has been restated as though this share consolidation had already happened at that date.

As at 31 March 2017, the Group issued class A shares with a resulting increase to issued share capital of ¥20,000 million and an increase to capital surplus of ¥20,000 million. The issuance of class A shares improves the strength of the Group's balance sheet providing funds to enable the repayment of debt and investment in VA capital equipment in the Group's businesses.

The preferred dividend rate of Class A Shares is set at 4.5% a year if the record date falls before 31 March2018, 5.5% a year if the record date falls between 1 April 2018 to 31 March 2020, and 6.5% a year if the record date falls on 1 April 2020 or thereafter. Class A Shareholders are entitled to receive dividends in priority to common shareholders. If preferred dividends for Class A Shareholders are insufficient in a business year, the said shortfall will be carried forward to the following business year and beyond. In principle, Class A Shareholders are not entitled to receive dividends of common shares of the Company in addition to the said preferred dividends.

For Class A Shares, call options for money and put options the consideration for which is common shares are attached.

Any time on or after 1 April 2018, the Company may acquire all or a part of Class A Shares in exchange for cash.

Class A shareholders are entitled to exercise put options, the consideration for which is common shares on or after 1 July 2020, as long as a Conversion Restriction Removal Reason has not occurred, as provided for in the Class A shares Agreement (the Agreement). The number of common shares to be delivered if the put options are exercised will be the number (excluding the total amount of the Amount Equivalent to Cumulative Accrued Dividends and Daily Prorated Accrued Preferred Dividend Amount) calculated by multiplying the amount equivalent to the amount to be paid in for the Class A Shares for which the put options are exercised by the following factor, depending on the day when the put options are exercised, and dividing that product by the acquisition price of the common shares.

From 1 April 2017 to 30 June 2017:	1.05
From 1 July 2017 to 30 June 2018:	1.08
From 1 July 2018 to 30 June 2019:	1.15
From 1 July 2019 to 30 June 2020:	1.22
From 1 July 2020 to 30 June 2021:	1.29
From 1 July 2021 to 30 June 2022:	1.36
From 1 July 2022 onward	1.43

30. Called up share capital continued

The acquisition price of common shares is 846.5 yen, which is equivalent to 95% (calculated to the second decimal place below one (1) yen and rounded to the first decimal place) of the average value of the Volume Weighted Average Price (VWAPs; calculated to the second decimal place below one (1) yen and rounded to the first decimal place) in ordinary trading of the common shares of the Company, publicly announced on the Tokyo Stock Exchange, Inc. over 30 consecutive trading days prior to 2 February 2017 (the signing date of the Agreement).

Class A Shares do not have voting rights and are subject to restrictions on transfer.

Capital management

The Group considers that called up share capital and capital surplus together constitutes its capital, and they are managed in such a way as to improve its financial strength consistent with its strategy. The directors will consider this position on an ongoing basis in line with the Group's performance. Capital may be issued where the directors consider that the beneficial impact of a strengthened balance sheet or the returns on investment that would be generated by investing such funds into new projects, would outweigh any potential dilutive effects from that new share issuance. When the Group issues share capital other than common shares, the directors consider the rights and obligations attaching to the shares issued and would prioritize repayment of such shares over and above other potential uses of its funds where appropriate to do so.

31. Capital surplus

		Millions of yen	
	Note	**2017**	2016
At 1 April		**127,511**	127,511
Issuance of Class A shares	30	**20,000**	–
Share issuance costs		**(946)**	–
Transfer from share capital to capital surplus	30	**20,000**	–
Issuance and purchase of treasury stock		**(12)**	(36)
Transfer from retained earnings to capital surplus	32	**25**	36
At 31 March		**166,578**	127,511

32. Retained earnings

		Millions of yen	
	Note	**2017**	2016
At 1 April		**(63,502)**	(25,082)
Profit/(loss) for the period		**5,605**	(49,838)
Retirement benefit obligations	26	**321**	21,148
Deferred taxation on retirement benefit obligations	19, 26	**(2,154)**	(8,945)
Share of comprehensive income of joint ventures and associates		**33**	(749)
Expiration of share options		**76**	–
Transfer from retained earnings to capital surplus	31	**(25)**	(36)
At 31 March		**(59,646)**	(63,502)
Retained earnings (translation adjustment at the IFRS transition date)		**(68,048)**	(68,048)
Total retained earnings at 31 March		**(127,694)**	(131,550)

Nippon Sheet Glass Co., Ltd is subject to The Corporation Law of Japan (the Law). The Law provides that an amount equal to 10 percent of the amount to be disbursed as distributions of capital surplus (other than the capital reserve) and retained earnings (other than the legal reserve) be transferred to the capital reserve and the legal reserve, respectively, until the sum of the capital reserve and the legal reserve equals 25 percent of the capital stock account. Such distributions can be made at any time by resolution of the shareholders, or by the Board of Directors if certain conditions are met.

33. Other reserves

Millions of yen

	Note	Hedging reserve	Fair value reserve	Exchange translation reserve	Treasury stock	Stock subscription rights	Total
At 1 April 2016		**(7,862)**	**6,117**	**(8,141)**	**(65)**	**650**	**(9,301)**
Currency translation differences		**–**	**–**	**(16,472)**	**–**	**–**	**(16,472)**
Loss on net investment hedges	17	**–**	**–**	**(2,506)**	**–**	**–**	**(2,506)**
Cash flow hedges							
fair value gains in the period		**2,324**	**–**	**–**	**–**	**–**	**2,324**
transferred to income statement		**1,887**	**–**	**–**	**–**	**–**	**1,887**
deferred tax on fair value gains in the period	19	**(1,051)**	**–**	**–**	**–**	**–**	**(1,051)**
Assets held at fair value through other comprehensive income							
fair value losses in the period	16	**–**	**(6,044)**	**–**	**–**	**–**	**(6,044)**
transferred to income statement	16	**–**	**(44)**	**–**	**–**	**–**	**(44)**
deferred tax on fair value gains in the period	19	**–**	**1**	**–**	**–**	**–**	**1**
Purchase of treasury stock		**–**	**–**	**–**	**(3)**	**–**	**(3)**
Share based payments		**–**	**–**	**–**	**37**	**(29)**	**8**
At 31 March 2017		**(4,702)**	**30**	**(27,119)**	**(31)**	**621**	**(31,201)**

Millions of yen

	Note	Hedging reserve	Fair value reserve	Exchange translation reserve	Treasury stock	Stock subscription rights	Total
At 1 April 2015		(4,862)	1,240	28,056	(150)	632	24,916
Currency translation differences		–	–	(33,069)	–	–	(33,069)
Loss on net investment hedges	17	–	–	(3,128)	–	–	(3,128)
Cash flow hedges							
fair value loss in the period		(4,732)	–	–	–	–	(4,732)
transferred to income statement		1,619	–	–	–	–	1,619
deferred tax on fair value loss in the period	19	113	–	–	–	–	113
Assets held at fair value through other comprehensive income							
fair value gains in the period	16	–	4,880	–	–	–	4,880
deferred tax on fair value gains in the period	19	–	(3)	–	–	–	(3)
Purchase of treasury stock		–	–	–	(4)	–	(4)
Share based payments		–	–	–	89	18	107
At 31 March 2016		(7,862)	6,117	(8,141)	(65)	650	(9,301)

Hedging reserve
This reserve is used to record the portion of the gain or loss on a hedging instrument that is determined to be an effective hedge.

Fair value reserve
This reserve records fair value changes on assets held at fair value through other comprehensive income.

Exchange translation reserve
This reserve is used to record exchange differences arising from the translation of the financial statements of foreign subsidiaries and the effect of hedging foreign net investments in foreign operations.

Of the net fair value gains of cash flow hedges transferred to the income statement of ¥1,887 million (2016: gains of ¥1,619 million), ¥nil million is credited to finance income (2016: ¥128 million), ¥331 million is charged to finance expenses (2016: ¥28 million), ¥70 million is credited (2016: charge of ¥82 million) to other expenses, and ¥2,148 million is credited (2016: credit of ¥1,601 million) to cost of sales.

Of the net fair value losses on assets held at fair value through other comprehensive income, ¥44 million is transferred to the income statement as a credit to other income (2016: ¥nil million).

34. Cash flow from operating activities

	Note	2017	2016
		Millions of yen	
Profit/(loss) for the period from continuing operations		**7,292**	(47,500)
Adjustments for			
taxation	9	**7,459**	10,061
depreciation	12	**26,742**	30,477
amortization	11	**5,447**	10,472
impairments		**3,970**	24,943
reversal of impairment of non-current assets	12	**(1,469)**	(41)
profit on sale of property, plant and equipment		**(8,177)**	(258)
gain from exit of business	6	**(855)**	–
gain on disposal of investments in associates	6	**(907)**	–
deemed disposal of share of associate	6	**–**	(96)
movements in grants and deferred income	28	**(803)**	914
finance income	8	**(1,380)**	(1,624)
finance expense	8	**20,554**	19,848
share of (profit)/loss from joint ventures and associates		**(1,142)**	3,435
other		**(1,064)**	(446)
Operating cash flows before movement in provisions and working capital		**55,667**	50,185
Decrease in provisions/retirement benefit obligations		**(7,728)**	(5,050)
Changes in working capital:			
inventories		**(9)**	(3,890)
construction work-in-progress		**22**	66
trade and other receivables		**3,410**	3,554
trade and other payables		**3,161**	(2,584)
Net change in working capital		**6,584**	(2,854)
At 31 March		**54,523**	42,281

In the cash flow statement, proceeds from the sale of property, plant and equipment, joint ventures and associates and investments are as follows:

	Property, plant and equipment	Joint ventures and associates	Assets held at fair value through other comprehensive income	Other	Total
					Millions of yen
					2017
Net book amount	**2,226**	**1,870**	**1,967**	**187**	**6,250**
Transfer from other comprehensive income	**–**	**(772)**	**(44)**	**–**	**(816)**
Profit/(loss) on sale	**8,177**	**907**	**44**	**(46)**	**9,082**
Proceeds from sale	**10,403**	**2,005**	**1,967**	**141**	**14,516**

	Property, plant and equipment	Joint ventures and associates	Assets held at fair value through other comprehensive income	Other	Total
					Millions of yen
					2016
Net book amount	350	–	82	282	714
Profit on sale	258	–	46	–	304
Proceeds from sale	608	–	128	282	1,018

There were no non-cash transactions in the period ended 31 March 2017 or 31 March 2016.

35. Earnings per share

Basic

Basic earnings per share is calculated by dividing the profit attributable to owners of the parent by the weighted average number of common shares in issue during the period excluding common shares purchased by the company and held as treasury shares.

	Millions of yen	
	2017	2016
Profit/(loss) attributable to owners of the parent	**5,605**	(49,838)
Weighted average number of shares (thousands)	**90,348**	90,326
Basic earnings per share (yen)	**62.04**	(551.75)

Note: Effective as from 1 October 2016, the Company conducted a share consolidation in which every ten common shares were consolidated into one share. Basic earnings per share is calculated under the assumption that this share consolidation was conducted on 1 April 2015.

Diluted

Diluted earnings per share is calculated by adjusting the weighted average number of ordinary shares outstanding to assume conversion of all dilutive potential ordinary shares, following the exercise of share options and exercise of put options, attached to Class A shares, for which the consideration is common shares. As for share options, a calculation is performed to determine the number of shares that could have been acquired at fair value (determined as the average annual market share price of the Company's shares) based on the monetary value of the subscription rights attached to the outstanding share options. The number of shares calculated as above is deducted from the number of shares that would have been issued assuming the exercise of the share options. As for Class A shares, a calculation is performed to determine the number of shares that would have been issued, assuming a conversion to common shares that is most advantageous for holders of the class shares. Conversion of Class A shares to common shares is reflected in the diluted earnings per share, using the factor applied to the case where the put options are exercised from 1 July 2022 onward.

	Millions of yen	
	2017	2016
Profit/(loss) attributable to owners of the parent	**5,605**	(49,838)
Profit/(loss) used to determine diluted earnings per share	**5,605**	(49,838)
Weighted average number of common shares in issue (thousands)	**90,348**	90,326
Adjusted for;		
share options (thousands)	**614**	–
Class A shares (thousands)	**185**	–
Weighted average number of common shares for diluted earnings per share (thousands)	**91,147**	90,326
Diluted earnings per share (yen)	**61.49**	(551.75)

Diluted earnings per share for the period ended 31 March 2016 does not include stock options due to the anti-dilutive effect caused by the loss during the period.

There have been no significant transactions involving common shares or potential common shares between the reporting date and the authorization of these financial statements.

Note: Effective as from 1 October 2016, the Company conducted a share consolidation in which every ten common shares were consolidated into one share. Diluted earnings per share is calculated under the assumption that this share consolidation was conducted on 1 April 2015.

36. Commitments

Capital commitments

Capital expenditure contracted for at the balance sheet date but not yet incurred is as follows:

	Millions of yen	
	2017	2016
Property, plant and equipment	**516**	831

Operating lease commitments

The Group leases various property, plant and equipment under non-cancellable operating lease agreements. The leases have varying terms, escalation clauses and renewal rights. The lease expenditure charged to the income statement during the period is disclosed in note 2.

The future aggregate minimum lease payments under non-cancellable operating leases which fall due are as follows:

	Millions of yen			
	2017		2016	
	Property	**Plant and equipment**	Property	Plant and equipment
Not later than one year	**4,395**	**2,373**	4,087	1,983
Later than one year and not later than five years	**9,045**	**2,829**	10,471	3,830
Later than five years	**10,823**	**288**	8,620	587
	24,263	**5,490**	23,178	6,400

37. Related party transactions

During the period, the Group entered into the following transactions with related parties, who are not members of the Group. Related parties have been identified as those businesses that act as joint ventures or had an associate relationship with Nippon Sheet Glass Co., Ltd and its subsidiaries.

Sales of goods and services

	Millions of yen	
	2017	2016
Sales of goods		
Joint ventures	**466**	565
Associates	**1,330**	1,417
Sales of services		
Joint ventures	**21**	9
Associates	**56**	75
	1,873	2,066

Goods and services are sold to joint ventures and associates on normal commercial terms, applicable to third parties. Additionally, services such as R&D support and the supply of on-line coating technology are provided to joint ventures. In 2017, these amounted to ¥21 million, of which related mainly to SP Glass Holdings BV and Cebrace (2016: ¥9 million of which related to Cebrace).

Purchase of goods and services

	Millions of yen	
	2017	2016
Purchase of goods		
Joint ventures	**6,657**	8,535
Associates	**846**	1,157
Purchase of services		
Joint ventures	**3**	185
Associates	**3,254**	3,237
	10,760	13,114

Goods are purchased from joint ventures by Nippon Sheet Glass Co., Ltd's subsidiaries as follows:

Cebrace – on normal trading conditions at prices agreed by both joint venture parties. Payments are made on 37 day terms from the invoice date.

37. Related party transactions continued

Technical assistance and license agreements to

	2017	2016
	Millions of yen	
Joint ventures	**370**	120

The Group has technical assistance agreements and license agreements with related parties. These agreements cover income received in respect of the use of technology and intellectual property used in the manufacture of float and automotive glass.

In addition, there is income in respect of royalties on patents, the provision of technical support and the use by the related party of know-how.

Royalties and fees are calculated as a percentage of the sales value or on the number of pieces produced (piece rates) depending upon the nature of the license and the normal commercial practice in that area. Agreements with related parties are made on commercial terms similar or identical to those with other licensees.

Period-end balances arising from sales and purchases of goods and services, technical assistance and license agreements

	Note	2017	2016
		Millions of yen	
Receivables from related parties	15		
Joint ventures		**1,668**	1,791
Associates		**99**	115
		1,767	1,906
Payables to related parties	25		
Joint ventures		**1,648**	2,361
Associates		**863**	911
		2,511	3,272

In relation to the receivables from related parties there are no provisions against their non-recovery either in 2017 or 2016. Similarly, there were no receivable balances from related parties, joint ventures or associates written off during the period.

Loans to related parties

	Note	2017	2016	2017	2016
		Millions of yen			
		Joint ventures		Associates	
At 1 April		**9,184**	9,005	**132**	152
Exchange differences		**(466)**	(304)	**(13)**	(8)
Loan repayments received		**(583)**	(54)	**(4)**	(16)
Interest charged		**444**	537	**4**	4
At 31 March	15	**8,579**	9,184	**119**	132

The loans to joint ventures and associates are unsecured.

Commitments and contingencies

There were no material commitments and contingencies of joint ventures and associates at 31 March 2017 or 2016.

At 31 March 2017 and 31 March 2016, the Group has not made any guarantees in the ordinary course of business in respect of joint ventures and associates.

Key management compensation

Details of the key management compensation are disclosed in note 7.

38. Group information

The consolidated financial statements of the Group include 217 entities in form of subsidiaries, joint ventures and associates. The following list of subsidiary undertakings comprises those companies that principally affect the financial statements of the Group. All subsidiary undertakings account to 31 March each year. Details of joint ventures and associates can be found in note 14.

Name	Proportion of issued ordinary shares held	Country of operation and incorporation	Principal activity
Japan			
NSG Building Products Co., Ltd.	100%	Japan	Architectural
Thanxs Corporation Co., Ltd.	92.5%	Japan	Architectural
NSG Win-Tec Co., Ltd.	99.3%	Japan	Architectural
Europe			
Pilkington United Kingdom Ltd.	100%	UK	Architectural
Pilkington Automotive Ltd.	100%	UK	Automotive
Pilkington Technology Management Ltd.	100%	UK	Architectural and Automotive
NGF Europe Ltd.	100%	UK	Technical Glass
Pilkington Deutschland AG	96.3%	Germany	Architectural
Pilkington Automotive Deutschland GmbH	100%	Germany	Automotive
Pilkington Austria GmbH	100%	Austria	Architectural
Pilkington Norge AS	100%	Norway	Architectural
Pilkington Automotive Finland OY	100%	Finland	Automotive
Pilkington IGP Sp. zo.o.	100%	Poland	Architectural
Pilkington Automotive Poland Sp. zo.o.	100%	Poland	Automotive
Pilkington Polska Sp. zo.o.	100%	Poland	Architectural
Pilkington Italia SpA	100%	Italy	Architectural and Automotive
North America			
Pilkington North America Inc.	100%	USA	Architectural and Automotive
L-N Safety Glass SA de CV	100%	Mexico	Automotive
Rest of the World			
Vidrieria Argentina S.A.	51%	Argentina	Architectural
Vidrios Lirquen S.A.*	51.6%	Chile	Architectural
Pilkington Automotive Argentina S.A.	100%	Argentina	Automotive
Pilkington Brasil Ltda.	100%	Brazil	Architectural and Automotive
Guilin Pilkington Safety Glass Co., Ltd.	100%	China	Automotive
Suzhou NSG Electronics Co., Ltd.	100%	China	Technical Glass
NSG Hong Kong Co., Ltd.	100%	Hong Kong	Technical Glass
Malaysian Sheet Glass Sdn. Bhd.	100%	Malaysia	Architectural and Automotive
Vietnam Float Glass Co., Ltd.	55%	Vietnam	Architectural
NSG Vietnam Glass Industries Ltd.	100%	Vietnam	Architectural and Technical
Holding and financing companies			
NSG Holding (Europe) Ltd.	100%	UK	Holding company
NSG UK Enterprises Ltd.	100%	UK	Holding company
Pilkington Group Ltd.	100%	UK	Holding company

*: Vidrios Lirquen S.A. is owned 51.6% by a 51% owned subsidiary of Pilkington Group Limited.

38. Group information continued

Parent company

The parent company of the Group, Nippon Sheet Glass Co., Ltd is incorporated and domiciled in Japan and has shares publicly traded on the Tokyo Stock Exchange.

Restrictions on accessing the assets of subsidiaries

The ability of NSG UK Enterprises Ltd, a significant subsidiary company of the Group, to pay cash dividends to its immediate parent company, and ultimately therefore to Nippon Sheet Glass Co., Ltd, is restricted by the external banking agreements entered into by NSG UK Enterprises Ltd, such that NSG UK Enterprises Ltd is only able to pay cash dividends to its immediate parent, to the extent that such a dividend would not cause it to be in breach of its banking covenants.

The cash and cash equivalent balances held by the Group's subsidiaries which are not generally available for use elsewhere amounted to ¥7,459 million (2016: ¥3,632 million).

39. Non-controlling interests

Name	Non-controlling shareholding	Country of operation and incorporation	Principal activity
Vidrieria Argentina S.A.	49%	Argentina	Architectural
Vidrios Lirquen S.A.*	48.4%	Chile	Architectural

*: Vidrios Lirquen S.A. is owned 51.6% by a 51% owned subsidiary of Pilkington Group Limited.

	Millions of yen	
	2017	2016
Accumulated balances of material non-controlling interests		
Vidrieria Argentina S.A.	**3,956**	3,315
Vidrios Lirquen S.A.	**2,962**	3,067
Others	**2,644**	2,520
Total	**9,562**	8,902
Profit/(loss) for the period allocated to material non-controlling interests		
Vidrieria Argentina S.A.	**684**	1,209
Vidrios Lirquen S.A.	**411**	592
Others	**592**	537
Total	**1,687**	2,338

The summarized financial information of these subsidiaries is provided below. This information is based upon amounts before intra-company eliminations.

Summarized income statements

	Millions of yen			
	2017		2016	
	Vidrieria Argentina S.A	**Vidrios Lirquen S.A**	Vidrieria Argentina S.A	Vidrios Lirquen S.A
Revenue	**16,422**	**6,211**	21,942	7,077
Profit for the period from continuing operations	**1,396**	**558**	2,468	803
Total comprehensive income	**1,254**	**382**	370	593
Dividends paid to non-controlling interests	**–**	**(354)**	–	(542)

39. Non-controlling interests continued

Summarized statements of financial position

Millions of yen

	2017		2016	
	Vidrieria Argentina S.A	**Vidrios Lirquen S.A**	Vidrieria Argentina S.A	Vidrios Lirquen S.A
Current assets	**8,831**	**2,836**	7,242	2,458
Non-current assets	**3,813**	**3,433**	4,023	3,616
Current liabilities	**(4,040)**	**(1,456)**	(4,032)	(1,133)
Non-current liabilities	**(531)**	**(794)**	(467)	(780)
Total equity	**8,073**	**4,019**	6,766	4,161
Attributable to owners of the parent	**4,117**	**1,057**	3,451	1,094
Attributable to non-controlling interests	**3,956**	**2,962**	3,315	3,067

Summarized cash flow statements

Millions of yen

	2017		2016	
	Vidrieria Argentina S.A	**Vidrios Lirquen S.A**	Vidrieria Argentina S.A	Vidrios Lirquen S.A
Cash flows from operating activities	**3,065**	**838**	2,199	639
Cash flows from investing activities	**(194)**	**(126)**	(1,653)	(124)
Cash flows from financing activities	**(137)**	**(354)**	121	(542)
Increase/(decrease) in cash and cash equivalents (net of bank overdrafts)	**2,734**	**358**	667	(27)
Cash and cash equivalents (net of bank overdrafts) at the beginning of the period	**1,485**	**793**	1,836	941
Effect of foreign exchange rates	**(81)**	**18**	(1,018)	(121)
Cash and cash equivalents (net of bank overdrafts) at the end of the period	**4,138**	**1,169**	1,485	793

CORPORATE DATA As of 31 March 2017

Company name	Nippon Sheet Glass Co., Ltd.
Head office	5-27, Mita 3-chome, Minato-ku, Tokyo 108-6321, Japan Telephone: +81-3-5443-9500
Established	22 November 1918
Number of permanent employees (consolidated)	26,950
Common shares	Authorized: 177,500,000 shares Issued: 90,365,699 shares
Class A shares	Authorized: 40,000 shares Issued: 40,000 shares
Number of shareholders	Common shares: 67,878 Class A shares: 3
Paid-in capital	¥116,463 million
Stock listing	Tokyo (Code: 5202)
Independent auditors	Ernst & Young ShinNihon LLC
Transfer agent	Sumitomo Mitsui Trust Bank, Limited 4-1, Marunouchi 1-chome, Chiyoda-ku, Tokyo, Japan

FORWARD-LOOKING STATEMENTS

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.

FURTHER INFORMATION

The following information is available from our corporate website: www.nsg.com
- Shareholder information
- Global operations and workforce

In addition to this report, we produce a regular flow of publications intended to provide current and potential investors with as much information about the Group, the industries in which we operate and the organization, strategy, targets and progress of the Group. All of this information is available from our website.