

ANNUAL
CONSOLIDATED
FINANCIAL
STATEMENTS

FISCAL YEAR ENDED 31 MARCH 2022

NIPPON SHEET GLASS COMPANY, LIMITED

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1. Management Policy, Business Environment and Issues to be Addressed

(1) Management Principle

NSG Group announced its new management principle "Our Vision" at the company's 100th anniversary in 2018. "Our Vision" comprises the Mission (core purpose), Aspiration (desired future position) and Core Values (the basis on which we work and conduct ourselves).

With "Our Vision," NSG Group is striving to realize a sustainable society by offering new values and services with glass swiftly and appropriately to meet the growing needs of our customers and society.

Management Principles — "Our Vision"



(2) Materiality

The following five items have been identified as Materiality to attain sustainable growth of the Group and contribute to a sustainable society in the medium- to long-term. The Group selected these five items according to their significance as assessed on the matrix measuring the axes of impacts on both society and the Group.

Materiality

Item	Aspiration
Environment	Contribute to the realization of a decarbonized society with GHG emissions reduction by eco-friendly manufacturing process and sales expansion of eco-friendly products
Society Shift and Innovation	Identify significant challenges to society and providing technology/product/service to their solution in a timely fashion
Safe and High-Quality Products and Services	Enhance both the products and service quality through improvement of quality and supply chain control
Ethics and Compliance	Carry off significant trust from stakeholders by constant address on Ethics and Compliance
Human Capital	Ensure sustainable growth of the Group and contribute employees' welfare through a variety of initiatives to enhance developing Change Leaders at global level, safety, health, and Inclusion and Diversity

"Corporate governance" and "Securing financial base" have extremely strong impact on the Group and are also the foundation of it, so they are set as the issues that the Group will focus on separated from the selection of materiality.

(3) NSG Group’s Medium-Term Vision

In order to fulfill its mission of “changing our surroundings, improving our world”, the NSG Group recently formulated a Medium-Term Vision to become “A global glass supplier contributing to the world with high value-added glass products and services” as the direction that the Group should be heading.

Based on this, the Group has set forth “Three Areas of Contribution” to be focused on as follows:

- 1) Safety & Comfort: To create people-friendly surroundings and a living space that is pleasant, safe and healthy
 - 2) Eco society: To create an eco-friendly world by various contributions such as a shift to renewable energy and lowering the usage of air-conditioning and heating
 - 3) Information and Telecommunication: To contribute to the development of Information and Telecommunication to make people’s lives more convenient and to support the advancement of the society
- Also, as our aspiration for the future state of the Group, we strive
- To never fail to take up challenges and follow through to deliver results, and
 - To continue to provide employees with opportunities to grow and find joy in working.

Medium Term Vision & Three Areas of Contribution

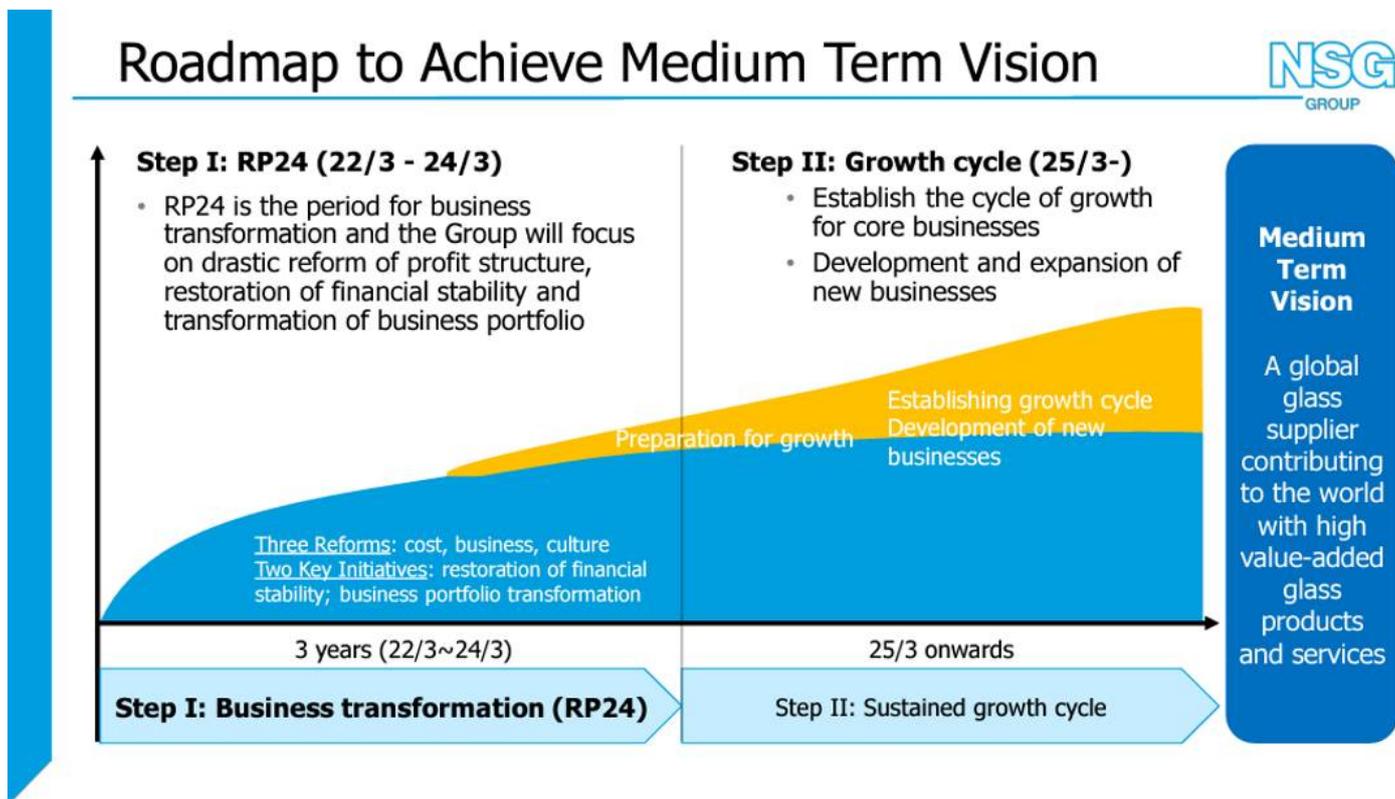
Mission: Changing our surroundings, improving our world
 Medium Term Vision: A global glass supplier contributing to the world with high value-added glass products and services



(4) Roadmap to achieve Medium Term Vision

In order to achieve Medium Term Vision, the Group developed "Revival Plan 24 (RP24)" as its Medium-Term Plan covering a three-year period from FY2022 to FY2024 aiming at building robust business for sustained growth.

In order to achieve the Medium-Term Vision, The Group will take actions in two steps, namely, Step I (RP24: FY2022 to FY2024) for business transformation and Step II (FY2025 and beyond) for sustained cycle of growth. RP24 is deemed as the period for business transformation during which time the Group will focus on drastic reform of profit structure, restoration of financial stability, and transformation of business portfolio so as to accomplish drastic and fundamental initiatives as a basic principle.



(5) Main Initiatives and Financial Target of RP24

1) Main Initiatives of RP24

In RP24, the Group will execute the following "Three Reforms" and "Two Key Initiatives" decisively and build business strength to sustain the cycle of growth.

Three Reforms:

① Cost structure reform	Fundamental cost structure reform including headcount reduction, fixed cost reduction and procurement cost reduction will be executed to lower the cost base further
② Business structure reform	Expansion of value-added business, development of new growth businesses, and emphasis on investment and asset efficiency to transform business structure and sustain the cycle of growth
③ Corporate culture reform	Value "customer focus", "swift decision making and action" and "overcoming difficulties," and transform into a company group that never fails to take up challenges and follow through to deliver results

Two Key Initiatives:

<p>① Restoration of financial stability</p>	<ul style="list-style-type: none"> ● Focus of growth investment on strategically core businesses and selectively allocate and prioritize other capital expenditure ● Thorough review of cost and improvement of productivity to build a robust business that can generate profit and free cash flow constantly ● Generation of free cashflow and net profit aiming to enhance equity, while proactively reviewing further enhancement of equity from a longer-term viewpoint
<p>② Transformation into more profitable business portfolio</p>	<ul style="list-style-type: none"> ● Bold strategic review of shrinking or exiting non-core businesses ● Focus of management resources on growth and high value-added areas, considering investment and asset efficiency ● Business profitability improvement and management cost reduction to establish the cycle of sustained growth

2) Financial Targets

NSG Group's most urgent task is to recover a sustainable financial base. To this end, the Group aims to restore its equity ratio to more than 10 percent quickly by steadily generating net profit and free cash flow every term. Meanwhile the Group will also proactively review further enhancement of equity from a longer-term viewpoint

- Improvement of OP margin via: Cost structure reform, business structure reform, business portfolio transformation
- Selective and focused investment: control of the total capital expenditure, prioritization according to asset efficiency, growth potential and added value

Financial targets (FY2024/3)

Operating Profit Margin*1	8%
Net profit*2	> JPY 30 bn (cumulatively for 3 years)
Equity ratio	> 10%
Free cash flow	> JPY 10 bn annually

*1 Operating profit after amortization

*2 Profit attributable to owners of the parent

(6) Progress of RP24

In FY2022, the first year of RP24, the Group implemented the following reforms and key initiatives.

1) Main Initiatives of RP24

Three Reforms :

① Cost structure reform	<ul style="list-style-type: none"> ● Direct Headcount reductions in line with the consolidation/closure of sites/production lines mainly in Automotive business in Europe and Americas. Approximately 1,000 reductions in FY2022, resulting in 2,340 headcount reductions since FY2020 end with JPY 13.6 bn annual labor cost reduction vs FY2020 ● Direct costs savings of JPY 5.0 bn in FY2022 via Kaikaku and Kakushin activities ● JPY 6.8 bn cost reduction above plan in additional initiatives in Automotive business in response to the severe business environment
② Business structure reform	<ul style="list-style-type: none"> ● Contribution to profit and CO2 emission by maximizing production at solar energy glass furnaces in the USA and Vietnam ● Verification test of transparent solar panels for use as windows began ● New float furnace construction in Argentina where strong demand continues, progressing to start full operations in H1 of FY2023 ● New division: Creative Technology Business Development Division established to accelerate the launch of new products ● Test of float glass production powered by 100% biofuel following 100 % hydrogen to achieve carbon neutrality
③ Corporate culture reform	<ul style="list-style-type: none"> ● Improving communication through frequent dialogue sessions (Town Hall meetings) with top management ● Enhancing Inclusion & Diversity (I&D) activities globally. Aiming to improve gender diversity (target: female manager increase at least 1% in each SBU and Function) and accelerate development of next generation. Encouraging more paternity leave in Japan ● Conducted an employee awareness survey for all employees of the Group companies and promoted communication based on the survey results ● Celebrated International Women's Day with various activities across the Group to provide a place where all employees can shine like "glass" in 2022, the International Year of Glass

Two Key Initiatives :

① Restoration of financial stability	<ul style="list-style-type: none"> ● Generated positive profit before tax and net profit with significant improvement of net profit of JPY 21.1 bn year-on-year ● Shareholders' equity ratio improved above 15%
② Transformation into a more profitable business portfolio	<ul style="list-style-type: none"> ● Disposal of Battery Separator business completed on 1st September 2021 ● Developed "MAGNAVI®", glass fiber with high elasticity and high strength and launched the "Botanical™" series with higher light transmission, aiming to provide new solutions for a sustainable society ● Discussing capacity increase for solar energy glass furnace in response to First Solar's capacity increase

2) Financial Results

Financial figures for FY2022, the first year of the RP24 period, are as follows. The Group achieved financial targets in shareholders' equity ratio and free cash flow as a single year. The Group will continue to work towards achieving its targets in operating profit margin and net profit for the final year of RP24 (FY2024)

Operating Profit Margin* ¹	3.3%
Net profit* ²	JPY 4.1 bn
Equity ratio	15.5%
Free cash flow	JPY 22.3 bn

*1 Operating profit after amortization

*2 Profit attributable to owners of the parent

(7) Business environment and issues to be addressed

1) Business environment surrounding the Group

During this term of FY2022, while the spread of the new coronavirus infection has calmed down globally to a certain extent and economic activities have resumed gradually, the recovery in demand related to the Group's businesses has been mixed. The Architectural Glass and Technical Glass markets have been favorable in general in response to the demand recovery in most regions. On the other hand, demand in the Automotive Glass market has remained weak as the Automotive makers had to limit car production due to a shortage of automotive components, particularly semiconductors. Also, in the latter half of the year, the market was significantly affected by the rising cost of raw materials and fuel, particularly natural gas. It is expected that the sharp rise in natural gas and other energy prices in Europe and the upward swing in materials and fuel costs due to the inflationary trend worldwide will linger for some time, and the Group needs to continue its efforts to push down production costs further and pass on the cost increase to selling prices in order to keep improving profitability. Moreover, the invasion of Ukraine by Russia is expected to have repercussions especially in Europe, where the Group operates broadly, and thus, reinforcement of the risk management is another major challenge.

2) Issues to be addressed

Major issues to be addressed by the Group include early recovery of profitability and acceleration of business structure reform amongst all.

In the process of economic recovery from the corona pandemic, the business environment has been changing with the confusion of supply chains and the surging prices of fuels and materials. The Group must adjust to such changes and recover profitability quickly. The Group will continue to drive forward the essential "cost structure reform" by streamlining the workforce, reducing fixed cost and procurement cost etc. as the first of Three Reforms set forth in RP24. Digital Transformation (DX) is seen as an integral part of this drive and will be pursued across the entire Group. Restoring the profitability of Automotive business is an urgent issue and the Group will work to improve asset utilization efficiency.

In order for the Group to keep growing sustainably, it is necessary to accelerate the second reform set forth in RP24, i.e. "Business structure reform". To this end, in the Architectural Glass business, the Group is shifting its focus from commodity window glass to a VA glass business by expanding the sales of PV panels for mega solar applications and developing BIPV (Building Integrated Photovoltaic Module) for buildings and housings. In the Technical Glass business, efforts are being made to promote the application of SELFOC® Lens Array for use in contact image sensors to industrial inspection machine. Also, as a new type of solution for the growing composite market driven by the decarbonization of society, the Group released a high-modulus and high-strength glass fiber called MAGNAVI™, aiming to capture the application to such areas as electronics and renewable energy. The Group continues to work on such new initiatives further into the future.

The third reform specified in RP24 is "Corporate culture reform", which focuses on changing employees' mindset and talent development to facilitate the cost structure reform and the business structure reform mentioned above. The Group will expedite business transformation through open communication and talent diversification.

By implementing these reforms, the Group strives to transform into a business structure equipped with robust earning power capable of achieving net profit and generating free cash flow in a stable manner.

The Group consider that the calls for businesses to tackle climate change and other environmental issues proactively will continue to gather momentum. The Group is committed to reducing its own CO2 emissions while also contributing to the reduction of CO2 emissions in society at large through the expanded sales of energy-saving and energy-creating glass products so as to attain the ultimate goal of carbon neutrality.

(8) Approach to Sustainability

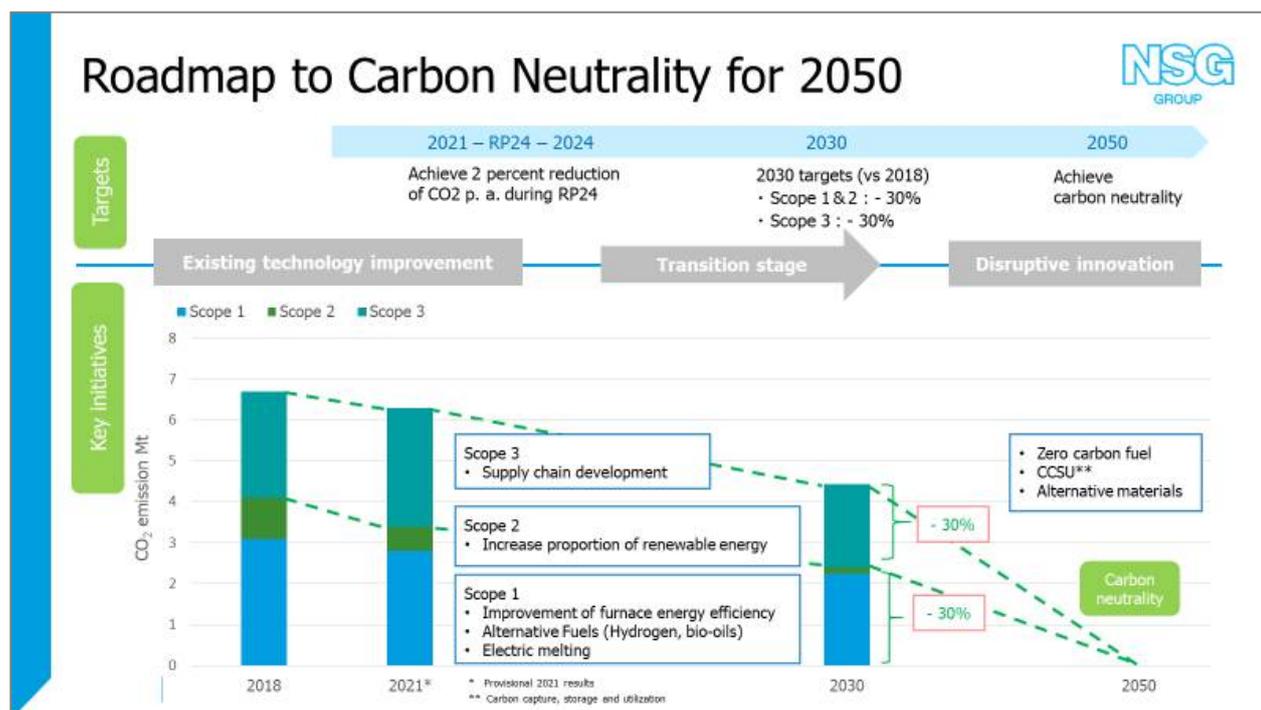
The Group has adopted "NSG Group Basic Policy on Sustainability" at the meeting of the Board of Directors to set out a basic stance and policy for sustainability as it aims to realize a sustainable society and world under the management policy "Our Vision". Based on this policy, the Group has adopted five Materiality categories to attain sustainable growth of the Group and contribute to a sustainable society in the medium- to long-term. They are "Ethics and Compliance", "Society Shift and Innovation", "Environment", "Safe and High-Quality Products and Services", and "Human Capital". The Group acknowledges that tackling climate change and other environmental issues is a major management challenge for realizing the sustainable growth of the Group.

In November 2021, the Group announced its support for the recommendations issued by the TCFD (Task force on Climate-related Financial Disclosures) and joined the TCFD Consortium. In the future, in line with the disclosure framework published by the TCFD, the Group plans to enhance the disclosure content by quantitatively evaluating the potential impacts based on climate-related risks and opportunities using Climate Scenario Analysis.

With regard to GHG emissions from the manufacturing processes, the Group already set a target in October 2019 of reducing GHG emissions (Scope 1 and Scope 2) by 21% compared to its 2018 levels by 2030 as a "Science Based Targets" certified by SBT Initiative (SBTi)*, and has been taking initiatives in line with the targets. At the same time, the Group has been working to achieve a 2% annual reduction in carbon emissions (Scope 1 and 2) during the RP24 period to 2024.

The Group now recognizes the achievement of carbon neutrality by 2050 as a goal that should be committed to inevitably and has decided to raise the carbon reduction target by 2030, which is more important for achieving carbon neutrality, from 21% to 30% for GHG emissions from the manufacturing processes (Scope 1 and Scope 2) so that it can set more concrete and feasible additional measures. In addition, GHG emission from Supply chain (Scope 3) is also newly targeted for reduction targets, the Group is certified of this new target as SBTi. In order to attain this target, the Group will work on disruptive innovations as well as development of existing technologies including optimization of glass manufacturing processes, development of energy saving technologies, introduction of alternative fuels and renewable energies, and development of supply chains.

* SBT (Science Based Targets) are a set of greenhouse gas reduction targets consistent with scientific knowledge



(2) Economic conditions

The Group operates in three principal regions around the world being, Asia including Japan, Europe, and the Americas. As a result, the Group's businesses may be affected by changes in the world economics such as currency inflation, energy cost increase and business environment of the Group's customers worldwide including as a result of the COVID-19 pandemic, together with geopolitical issues such as global supply chain disruptions, the US-China trade war and the invasion of Ukraine by Russia.

In addition, the Group believes that emerging markets such as South America will grow at a faster pace than developed countries or regions in the long run, but, compared to the developed countries or regions in which the Group operates, there is also a greater potential risk.

(3) 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 2022. In FY2022, the Group's Architectural and Automotive business accounted for 47 percent and 46 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. In the Group's Automotive business, FY2022 volumes have been severely impacted by supply-chain issues at vehicle manufacturers, particularly with respect to semi-conductor chips. Not only changes in demand but also customers' supply chains could affect the Group's business and financial performance 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 affected 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.

Further, there is a possibility that customers may change their strategies in such a way that is disadvantageous to the Group. In that case, the business results and financial condition of the Group may be affected, particularly with respect to value-added products that have been designed for such specific customers.

A significant level of consolidation in the automotive industry is leading to increased purchasing power for the Group's automotive customers and could mean that the Group's automotive customer base becomes more concentrated. Further, historic changes in the automotive industry such as CASE (Connected, Autonomous, Shared and Services, and Electric) might affect the supply chain significantly. The Group will further improve productivity, lower cost and review and refocus resources in order to adapt to these drastic changes in its markets. However, if such actions do not work effectively, the Group's business and financial performance could be affected.

(4) 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 requirements or due to the emergence of a manufacturer providing low-cost products, or due to the entry to one of the Group's markets of a manufacturer with a solid customer base and a high level of name recognition, or if its competitors receive governmental subsidies which are not available to it, there could be an adverse effect on the Group's financial performance and position.

(5) 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. Swift and adequate responses to rapid and significant technological changes in recent years are required for the Group to enhance and maintain the technological competitiveness of its products, services and manufacturing processes such as digitalization and automation. It is important for the Group to look ahead of customers' needs and technological developments in the relevant markets, manufacturing industries including the ones as required to address environmental issues such as climate change, and to allocate and focus its resources selectively on the areas where it has strengths so that new technologies, products and businesses can be developed effectively. However, the new product or technological 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 or realizing the contribution of the developed new technologies. Should any competitor develop new technology with its intellectual property such as patent properly secured, and successfully launch a new product in the target market using such technology 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 position.

(6) Funds necessary for future business operations

The Group might have to additionally 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 or redeem Class A Shares. Further, raising additional funds could be required at an unexpected timing, should an early repayment of debt be required as a result of a breach of certain terms and conditions of a loan agreement including that of financial covenants contained in such agreement. If the Group cannot raise necessary funds for the business or refinance with the intended conditions or at all, it might not be able to invest in the expansion, development or reinforcement of any product or service, capitalize on an opportunity for business development, ensure higher competitiveness to its competitors or maintain its finance expenses at a competitive level, or the Group's business and financial position could be negatively affected.

(7) 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 also has various joint venture operations, investments, alliances and subsidiary operations in emerging markets such as South America, Russia, and China. 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. However, there can be no assurance that there will not be a deterioration in the underlying markets faced by the Group's affiliates and subsidiaries in these regions. Due to the invasion of Ukraine by Russia, the Group suspended all glass trading arrangements between its Russian affiliate and the Group, any approval of significant new growth investment thereon and all other commercial trading with Russian companies in and from March 2022. Considering the uncertain outlook for investments in Russia, the Group has recorded in FY2022 a partial impairment for approx. JPY 3.4 billion of its equity investment in SP Glass Holding BV, a joint venture company registered in the Netherlands and wholly owning operating companies in Russia. In addition, it also recorded an impairment of a financial receivable owed by a subsidiary of SP Glass Holding BV of approx. JPY3.4 billion based on the imposition of capital controls in Russia restricting the ability of this company to repay financial indebtedness. A further deterioration in market conditions in these regions including in relation to Russia could mean that the Group will have to recognize further impairments 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.

(8) Risk involved in the suspension of production due to incidents including accidents and natural disasters

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. In addition to this, to minimize the potential adverse effects on production facilities due to a natural disaster or incident (including an earthquake, a typhoon, a flood, an electrical power outage or any other type of event that causes a suspension of the Group's or of its customers' production), business continuity plans (BCP) are formulated at major business locations. Nevertheless, a negative impact on its facilities as a consequence of a natural disaster, or other such incident including, for example, the COVID-19 pandemic, cannot always be 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 a natural disaster, the possibility of considerably reduced production capacity for certain specific product(s) could adversely affect the Group's financial performance and position. The Group insures against such events but there can be no guarantee that such insurance will fully compensate the Group in all circumstances or may not fully or partially cover an event. In such case the Group's financial performance and position could be adversely affected.

(9) 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 with such contracts as foreign exchange forward and interest rate swap, such fluctuations in foreign exchange and interest rates could adversely affect the Group's businesses, financial performance and position.

(10) Changes in supply of raw materials and fuel, and distribution of products

Specific raw materials, such as silica sand and soda ash, energy and fuels, such as fuel oil, natural gas and electricity, transportation and storage, and in some countries and regions, carbon emission rights, are critical to the glass manufacturing and distribution processes. The Group uses commodity derivatives and swap contracts to hedge the effect of fluctuations in the market prices of 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 energy. The Group experienced an increase in input costs during FY2022 mainly due to the spike of natural gas price in Europe, exacerbated by the war in Ukraine towards the end of the year, with the world trend of inflation as well. Such increases or fluctuations in their costs and prices may adversely affect the Group's financial performance and condition.

The Group has entered into purchase agreements with selected suppliers of raw materials and energy 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 condition being adversely affected.

(11) Retirement Benefit Obligations

The Group operates numerous corporate pension plans and healthcare benefit plans for retiring employees. In the event of large fluctuations in the market value of the assets backing such schemes, 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 or otherwise provide certain security for them.

While providing appropriate retirement benefit plans for its 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.

(12) Legal restrictions

The Company and its subsidiaries and affiliates are subject to local and international regulations regarding investments, imports and exports, fair competition rules, regulations for environmental conservation, and other laws regarding business transactions, labor, pension, intellectual property rights, income tax, currency control, payment or capital control, sanctions 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 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.

The "NSG Group Code of Ethics" applies to employees in all Group businesses and its Ethics and Compliance function continuously provides communications and trainings of the ethics and compliance program to its directors, officers and employees to ensure their compliance with laws, regulations and its Articles of Incorporation as well as ethical behavior. However, should an act by the Group companies or a director, officer or employee thereof be non-compliant with laws or regulations, the Group's reputation, business or financial performance or position could be adversely affected.

(13) Business strategies

The Group's business strategies are affected by a variety of factors, including the economic or legal environment, the terms of binding agreements in effect or to be entered into in future, 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 intended results of the business strategies 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 develops and invests in new technology and products with the aim of transitioning from relatively low margin products to value-added products in order to keep its competitive advantages. However, there can be no assurance that the Group can succeed in development and commercialization of higher technology earlier than its competitors, or, as a result, can ensure higher competitiveness than its competitors. The Group will focus on drastic reform of profit structure, restoration of financial stability and transformation of business portfolio under the "Revival Plan (RP24)" as stated in the "Issues to be addressed." Digital transformation or "DX" is a crucial part for the drastic cost structure reform such as personnel efficiency and reduction of fixed expenses and purchasing costs. However, should the business strategy fail to be executed as planned, the need for additional restructuring or disposals, and incidental additional funding or financial support, could arise.

(14) 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 its intellectual property rights. The competitive advantages of such rights could be lost in future. In addition, the Group conducts its 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 condition.

(15) 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 insures against such liabilities but there can be no guarantee that such insurance will fully compensate the Group in all circumstances or may not fully or partially cover a liability.

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 position may be adversely affected.

(16) Laws, regulations and other requirements regarding environment and climate change

The Group is focusing on efforts to build a sustainable society such as measuring its performance against targets aimed at contributing to the mitigation of climate change. The Group makes efforts to work on environmental issues such as greenhouse gas reduction, energy saving and generation, waste reduction and non-use or removal of harmful substances in order to have a beneficial environmental impact and comply with all relevant laws and regulations. However, any change to environmental laws and regulations or operation thereof, could adversely affect the Group's reputation, financial performance and position through limitation of the Group's business activities or imposition of expenses to be disbursed regarding legal compliance or penalty fees charged to the Group by reason of infringement of any relevant laws and regulations. Further, the Group operates against a backdrop of increasing requirements by stakeholders and society in general for companies to take actions to protect the environment and to reduce climate change, and to disclose those actions. A failure to take such actions and disclose them appropriately, may adversely affect the Group's reputation, financial performance and position.

(17) 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, or in response to a negative event. 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. There can be no assurance that goodwill or intangible assets held with respect to each cash generating unit will not be impaired 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. Further, should the Group decide to reduce the size of, or exit certain businesses in response to changes in

the economic situation, other assets could also be impaired. The impairments of debt and equity investment in Russian business recorded in FY2022 are as explained in the section (7) above.

The Group reviews the realization profile of deferred tax assets annually and there can be no assurance that there will not be write-downs in the future. Write-downs could arise in the future as a result of the application of reduced tax rates to the deferred tax assets recognized on the Group's balance sheet. Balance sheet values could be affected by factors such as a reduction in profit, the volatility of foreign exchange markets, causing a reduction in consolidated asset values, and the write-downs and write-offs of assets. Such factors could reduce shareholders' equity and adversely affect funding and business transactions and as a result the Group's business and financial performance and position.

(18) 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, inclusive of adequate updates to the system. The Group makes strenuous efforts to protect such confidential information and its information systems by way of a number of measures including the use of an external professional service and providing IS security training to the Group employees, but in case the information system 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 or unavailability of any existing material software, it could have a material adverse effect on the Group's financial performance and position.

(19) Employing and retaining talents

The Group's development and future growth depends largely on employing and developing capable employees. The Group has been taking actions to employ, develop and retain talented people. However, competition to attract talented employees is increasingly intense, especially regarding those with technical and scientific backgrounds. Should the Group be unable to employ, develop or retain required people in a timely manner, it could affect the Group's business and financial performance adversely.

(20) Class A Shares

The right to request that the Company should acquire Class A Shares in exchange for ordinary shares granted to the holders of those Class A Shares may be exercised by such shareholders only on or after 1 July 2020, as provided in a subscription agreement entered into by and among the Company and Class A shareholders. However, due to the occurrence of a Conversion Restriction Removal Reason, the shareholders may exercise such right on or after 22 May 2020. Should all or part of Class A Shares be converted into ordinary shares, the number of ordinary shares issued would increase, which could dilute the value attributable on a per-share basis as well as adversely affect the trading and price of the Company's shares. Further, in such a case, one or more shareholders of Class A Shares could become a Major Shareholder(s) and their voting or disposals of shareholding could affect the Company's business activities and the demand and supply of the Company's shares.

3. Analysis of Financial Position, Operating Results and Cash Flow by Management

(1) Business results

(JPYm)

	Revenue	Operating profit before exceptional items	Profit / (Loss) before taxation	Profit/(loss) for the period	Profit/(loss) attributable to owners of the parent
FY2022	600,568	19,980	11,859	6,759	4,134
FY2021	499,224	13,067	(17,171)	(16,316)	(16,930)
Change (%)	20.3	52.9	-	-	-

1) Background to Results

The Group's markets experienced contrasting conditions during FY2022. Consistent with earlier quarters, the final quarter reflected positive Architectural and Technical Glass markets, offset by low levels of activity in Automotive markets. Architectural Glass markets were generally strong with buoyant levels of construction and refurbishment activity across many regions. Demand for Solar Energy glass was also positive. In addition, Technical Glass markets also benefitted from high levels of consumer demand in a variety of areas. Automotive markets however remained at a low level, with a shortage of computer chip components causing the Group's large automotive customers to restrict production.

2) Review by Business Segment

The Group's business lines cover three core product sectors: Architectural, Automotive, and Technical Glass.

Architectural, representing 47 percent of cumulative revenues, includes the manufacture and sale of flat glass and various interior and exterior glazing products within the commercial and residential markets. It also includes glass for the Solar Energy sector.

Automotive, with 46 percent of cumulative revenues, supplies a wide range of automotive glazing for new vehicles and for replacement markets.

Technical Glass, representing 7 percent of cumulative revenues, comprises several discrete businesses, including the manufacture and sale of very thin glass used as cover glass for displays, lenses and light guides for printers, and glass fiber components for engine timing belts.

Other operations include 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.

The table below shows a summary of cumulative results by business segment.

(JPYm)

	Revenue		Operating profit before exceptional items	
	FY2022	FY2021	FY2022	FY2021
Architectural	281,816	215,501	28,130	15,670
Automotive	276,246	245,184	(7,908)	1,802
Technical Glass	39,770	36,818	9,907	6,707
Other operations	2,736	1,721	(10,149)	(11,112)
Total	600,568	499,224	19,980	13,067

Architectural

The Architectural business recorded cumulative revenues of ¥ 281,816 million (4Q FY2021: ¥ 215,501 million) and an operating profit of ¥ 28,130 million (4Q FY2021: ¥ 15,670 million).

Architectural revenues and profits increased from the previous year which had been significantly impacted by the COVID-19 pandemic during the first quarter. Revenues were robust reflecting strong volumes and increased selling prices, mitigating the impact of rising input costs.

In Europe, representing 41 percent of the Group's architectural sales, revenues improved with buoyant demand, which resulted in positive volumes and rising price levels. Profits were also improved as a strong operational performance and tight cost control continued to mitigate the impact of high input costs, particularly for energy, and also increasing logistics and raw material costs.

In Asia, representing 31 percent of the Group's architectural sales, revenues and profits were above the previous year. Revenues in Japan continued to improve from the previous year, and other South East Asia markets were also positive, helped by an easing of lockdown restrictions. Demand for glass for Solar Energy was robust.

In the Americas, representing 28 percent of the Group's architectural sales, revenues and profits were ahead of the previous year. Volumes rebounded from the previous year although they were constrained by low levels of inventory due to a planned cold repair, and also shortages of transportation capacity. Sales of glass for Solar Energy continued to be positive.

Automotive

The Automotive business recorded cumulative revenues of ¥ 276,246 million (4Q FY2021: ¥ 245,184 million) and an operating loss of ¥ 7,908 million (4Q FY2021: profit of ¥ 1,802 million).

In the Automotive business, cumulative revenues were higher than the previous year which had been badly affected by the COVID-19 pandemic during the first quarter. Despite strong underlying consumer demand, volumes continued to be affected by the Group's customers restricting production in response to a shortage of computer chip components. As a consequence of the restricted demand and also increasing input costs, the automotive business recorded an operating loss for the year.

Europe represents 42 percent of the Group's automotive sales. Cumulative revenues improved from the previous year, due to a collapse in demand during the first quarter of FY2021 as a result of the COVID-19 pandemic. Revenues were, however, badly affected by restrictions in volumes caused by computer chip component shortages at the Group's customers. Profitability was negatively impacted by increasing input costs and a low level of asset utilization.

In Asia, representing 22 percent of the Group's automotive sales, cumulative revenues were similar to the previous year. In Japan, vehicle sales continued to be relatively weak, impacted by shortages of computer chips restricting vehicle production. Demand in Malaysia was hit by lockdowns earlier in the year, leading to a suspension of production at the Group's automotive customers.

In the Americas, representing 36 percent of the Group's automotive sales, cumulative revenues increased strongly from the previous year. The positive impact of removing COVID-19 restrictions was partly offset by the impact of component shortages on vehicle production.

Technical Glass

The Technical Glass business recorded cumulative revenues of ¥ 39,770 million (4Q FY2021: ¥ 36,818 million) and an operating profit of ¥ 9,907 million (4Q FY2021: ¥ 6,707 million).

Revenues and profits continued to be robust in the Technical Glass business with improving market conditions in the current year contrasting with the impact of COVID-19 in the previous year.

In the fine glass business, continued cost reduction efforts and a better sales mix provided a strong foundation for a further improvement in results. In the information devices business, volumes of printer lenses continued to be boosted by work from home and school from home demand. Demand in replacement markets for glass cord used in engine timing belts was also strong. Metashine sales continued to recover, after a long period of difficult market conditions for automotive and cosmetic applications.

The Group disposed of its Battery Separator business during the second quarter of the year. For further details, please refer to the press release "Transfer of Battery Separator Business to Wholly-owned Subsidiary through Company Split (Simple Absorption-type Split) and Sale of Shares in Such Subsidiary" issued on 1 September 2021. The gain arising on this transaction has been classified as an exceptional item. Please refer to the summary of exceptional items within note 7 "Exceptional items".

Other

The Other Operations and Eliminations recorded revenues of ¥ 2,736 million (Q4 FY21 ¥ 1,721 million) and operating costs of ¥ 10,149 million (Q4 FY21 cost of ¥ 11,112 million).

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.

Joint Ventures and Associates

The Group's share of joint ventures and associates' profits after tax was ¥ 7,498 million (4Q FY2021: ¥ 2,194 million).

The Group's share of joint ventures and associate's results was above the previous year, largely due to an improving performance at Cebrace, the Group's architectural joint venture in Brazil.

As a consequence of the invasion of Ukraine by Russia, the Group has considered the recoverable amount of its joint venture investment in SP Glass Holdings BV, a company registered in the Netherlands and owning operating companies in Russia. Considering the uncertain outlook for investments in Russia, the Group concluded that a partial impairment of its equity investment in this company of ¥ 3,422 million was appropriate. In addition the Group recorded an impairment of a financial receivable owed by a subsidiary of SP Glass Holdings BV of ¥ 3,374 million. These two items are presented separately in the consolidated income statement as other gains/(losses) on equity method investments and as impairment of financial receivables owed by joint ventures and associates respectively.

(2) Accounting principles, and critical accounting estimates and assumptions

The significant accounting principles applied by the Group in the preparation of the consolidated financial statements are as explained in note 1 of the consolidated financial statements. The preparation of consolidated financial statements may require management to make certain estimates or judgments deemed reasonable in view of current circumstances of trading, past results and other factors in determining the amounts of the assets, liabilities, revenues and expenses reported in the consolidated financial statements and accompanying notes in accordance with these accounting principles.

Please refer to note 12 "Goodwill" for the impairment test for the goodwill at the year-end date and calculation of the impairment loss and refer to note 17 "Investments accounted for using the equity method" for the recoverability of long-term investments in joint ventures, including loans receivable.

(3) Financial position

The Group's forecasts and projections show that the Group is able to continue to operate within existing financial facilities. The Group will enter renewal negotiations with its providers of finance before such facilities fall due. In discussions with its bankers on future borrowing requirements, no matters have been drawn to the Group's attention to suggest that renewal would not be forthcoming on acceptable terms. After making enquiries, the directors have reasonable expectation that the Group will have adequate resources to continue in operational existence for the foreseeable future. Accordingly, the Group continues to apply the going concern basis in preparing these financial statements.

1) Total assets

Total assets at the end of March 2022 were ¥ 939,281 million, representing an increase of ¥ 114,318 million from the end of March 2021. The increase in total assets was largely due to positive movements on derivative balances and also and the translational impact of a weakened Japanese yen. Derivative assets increased in value due mainly to the positive revaluation of the Group's energy-hedging contracts reflecting the increasing price of natural gas.

2) Net debt

Net financial indebtedness decreased by ¥ 46,598 million from 31 March 2021 to ¥ 365,173 million at the period end. The decrease in indebtedness arose largely from the increasing value of financial derivative assets, but was also aided by a positive free cash flow performance. Gross debt was ¥ 467,885 million at the period end. As of 31 March 2022, the Group had un-drawn, committed revolving credit facilities of ¥ 53,225 million and, in addition, the Group also had an undrawn amount of ¥ 24,800 million on a committed term loan.

3) Net assets

Total equity was ¥ 169,355 million, representing an increase of ¥ 89,593 million from the March 2021 figure of ¥ 79,762 million. The increase in total equity was due to a combination of the profit recorded for the period, positive movements on derivative balances, reduced retirement benefit obligations, and the translational impact of a weakened Japanese yen. Derivative assets increased in value due mainly to the positive revaluation of the Group's energy-hedging contracts reflecting the increasing price of natural gas.

(4) Operating results

1) Revenue

Cumulative Group revenues increased by 20 percent to ¥ 600,568 million (4Q FY2021 ¥ 499,224 million), with COVID-19-related lockdowns having a particularly significant impact on revenues during the first quarter of the previous year. At constant exchange rates, cumulative revenues would have increased by 16 percent.

2) Operating profit before exceptional items

The Group recorded Operating profits of ¥ 19,980 million (4Q FY2021 ¥ 13,067 million).

3) Profit before taxation

Profit before taxation improved by ¥ 29,030 million to ¥ 11,859 million (4Q FY2022 loss of ¥ 17,171 million). Net exceptional gains were ¥ 3,646 million. Net exceptional gains included a gain recorded on the disposal of the Group's Battery Separator business during the second quarter. The previous year included net exceptional losses of ¥ 21,951 million due largely to costs arising from the COVID-19 pandemic. The share of joint ventures and associates' profit of ¥ 7,498 million was much improved from the previous year (4Q FY2021 ¥ 2,194 million), although the Group recorded an impairment of financial receivables owed by its joint venture in Russia of ¥ 3,374 million and a partial impairment of its investment in this joint venture of ¥ 3,422 million accounted for separately in the consolidated income statement as impairment of financial receivables owed by joint ventures and associates, and as other gains/(losses) on equity method investments respectively.

4) Profit attributable to equity shareholders

As a consequence of the improved profit before taxation, the Group recorded a positive profit attributable to owners of the parent of ¥ 4,134 million (4Q FY2021 loss attributable of ¥ 16,930 million).

5) Other indices

Basic net profits or losses per share improved from a loss of ¥ 208.32 in the previous year, to a profit of ¥ 24.07 in FY2022. Earnings per share are calculated by taking the profit attributable to owners of the parent and deducting dividends and redemption premiums paid relating to Class A shares, and dividing this by the weighted average number of ordinary shares in issue during the year. In FY2022, dividends relating to Class A shares of ¥ 1,950 million have been included in this calculation (FY2021: dividends of ¥ 1,950 million).

(5) Cash flow

Cash inflows from operating activities were ¥ 45,061 million. Cash outflows from investing activities were ¥ 22,787 million, including capital expenditure on property, plant, and equipment of ¥ 33,080 million and proceeds on the disposal of the Battery Separator business of ¥ 6,191 million. As a result, free cash flow was an inflow of ¥ 22,274 million (4Q FY2021 free cash outflow of ¥ 4,536 million).

After taking into account the effect of financing cash flows and movements in exchange rates, cash and cash equivalents at the end of the year, net of bank overdrafts, increased by ¥ 6,515 million year-on-year to ¥ 60,015 million.

4. Financial Information

CONSOLIDATED INCOME STATEMENT

Nippon Sheet Glass Company, Limited and consolidated subsidiaries
For the period ended 31 March 2022

	Note	Millions of yen	
		2022	2021 (restated)
Revenue	2	600,568	499,224
Cost of sales		(465,139)	(382,085)
Gross profit		135,429	117,139
Other income	4	2,214	1,814
Distribution costs		(53,089)	(43,665)
Administrative expenses		(59,532)	(56,406)
Other expenses	5	(5,042)	(5,815)
Operating profit before exceptional items	3	19,980	13,067
Exceptional items (gains)	7	6,027	14,277
Exceptional items (losses)	7	(2,381)	(36,228)
Operating loss after exceptional items		23,626	(8,884)
Finance income	9	2,117	2,044
Finance expenses	9	(14,586)	(13,080)
Impairment of financial receivables owed by joint ventures and associates	17	(3,374)	-
Share of post-tax profit of joint ventures and associates accounted for using the equity method	17	7,498	2,194
Other gains/(losses) on equity method investments	17	(3,422)	555
Profit/(loss) before taxation		11,859	(17,171)
Taxation	10	(5,100)	855
Profit/(loss) for the period		6,759	(16,316)
Profit attributable to non-controlling interests	42	2,625	614
Profit/(loss) attributable to owners of the parent		4,134	(16,930)
		6,759	(16,316)
Earnings per share attributable to owners of the parent:			
Basic earnings per share (yen)	37	24.07	(208.32)
Diluted earnings per share (yen)	37	23.92	(208.32)

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

Nippon Sheet Glass Company, Limited and consolidated subsidiaries
For the period ended 31 March 2022

	Note	Millions of yen	
		2022	2021
Profit/(loss) for the period		6,759	(16,316)
Other comprehensive income:			
Items that will not be reclassified to profit or loss:			
Re-measurement of retirement benefit obligations (net of taxation)	28	12,498	(13,184)
Revaluation of Assets held at Fair Value through Other Comprehensive Income – equity investments (net of taxation)		1,354	(60)
Sub total		13,852	(13,244)
Items that may be reclassified to profit or loss:			
Foreign currency translation adjustments		25,945	9,632
Revaluation of Assets held at Fair Value through Other Comprehensive Income – other investments (net of taxation)		(344)	(439)
Cash flow hedges – fair value gains (net of taxation)		33,145	5,072
Sub total		58,746	14,265
Other comprehensive income for the period (net of taxation)		72,598	1,021
Total comprehensive income for the period		79,357	(15,295)
Attributable to non-controlling interests		1,990	(1,884)
Attributable to owners of the parent		77,367	(13,411)
		79,357	(15,295)

CONSOLIDATED BALANCE SHEET

Nippon Sheet Glass Company, Limited and consolidated subsidiaries

As at 31 March 2022

	Note	2022	Millions of yen 2021
Assets			
Non-current assets			
Goodwill	12	104,737	99,016
Intangible assets	13	50,256	48,761
Property, plant and equipment	14	341,736	316,788
Investment property	15	163	214
Investments accounted for using the equity method	17	20,410	18,870
Retirement benefit asset	28	32,349	23,335
Contract assets	2	554	988
Trade and other receivables	18	13,176	14,204
Financial assets			
assets held at fair value through other comprehensive income	19	23,022	18,439
derivative financial instruments	20	17,291	362
Deferred tax assets	22	33,115	33,816
Tax receivables		223	185
		637,032	574,978
Current assets			
Inventories	23	132,242	111,910
Contract assets	2	1,270	1,322
Trade and other receivables	18	72,816	64,037
Financial assets			
derivative financial instruments	20	24,957	904
Cash and cash equivalents	24	60,464	58,673
Tax receivables		3,266	1,773
		295,015	238,619
Assets held for sale or included in a disposal group held for sale	25	7,234	11,366
		302,249	249,985
Total assets		939,281	824,963

CONSOLIDATED BALANCE SHEET

	Note	Millions of yen	
		2022	2021
Liabilities and equity			
Current liabilities			
Financial liabilities			
borrowings	26	114,347	120,994
derivative financial instruments	20	1,501	729
Trade and other payables	27	163,114	136,233
Contract liabilities	2	7,132	5,749
Taxation liabilities		3,843	2,294
Provisions	29	13,621	17,860
Deferred income	30	499	504
		304,057	284,363
Liabilities related to assets held for sale	25	2,674	3,450
		306,731	287,813
Non-current liabilities			
Financial liabilities			
borrowings	26	352,017	349,146
derivative financial instruments	20	20	841
Trade and other payables	27	457	477
Contract liabilities	2	5,347	6,037
Deferred tax liabilities	22	22,608	16,176
Taxation liabilities		3,061	3,233
Retirement benefit obligations	28	55,459	61,002
Provisions	29	21,196	17,391
Deferred income	30	3,030	3,085
		463,195	457,388
Total liabilities		769,926	745,201
Capital and reserves attributable to the owners of the parent			
Called up share capital	32	116,709	116,643
Capital surplus	33	155,312	155,245
Retained earnings	34	(60,121)	(81,692)
Retained earnings (translation adjustment at the IFRS transition date)		(68,048)	(68,048)
Other reserves	35	1,439	(59,211)
Total shareholders' equity		145,291	62,937
Non-controlling interests	42	24,064	16,825
Total equity		169,355	79,762
Total liabilities and equity		939,281	824,963

The financial statements on page 20 to 82 were approved by the Executive Officers on 30 June 2022.

Executive Officers

Shigeki Mori

Representative Executive Officer
President and Chief Executive Officer

Reiko Kusunose

Senior Executive Officer
Chief Financial Officer

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

Nippon Sheet Glass Company, Limited and consolidated subsidiaries

For the period ended 31 March 2022

Millions of yen

(restated)	Note	Called up share capital 32	Capital surplus 33	Retained earnings 34	Retained earnings (translation adjustment at the IFRS transition date)	Other reserves 35	Total shareholders' equity	Non- controlling interests 42	Total equity
Balance at 1 April 2020		116,607	155,222	(54,276)	(68,048)	(75,893)	73,612	14,582	88,194
Loss for the period		—	—	(16,930)	—	—	(16,930)	614	(16,316)
Other comprehensive income		—	—	(13,184)	—	16,703	3,519	(2,498)	1,021
Total comprehensive income		—	—	(30,114)	—	16,703	(13,411)	(1,884)	(15,295)
Hyperinflation adjustment		—	—	4,399	—	—	4,399	3,476	7,875
Transactions with owners									
Dividends paid		—	—	(1,650)	—	—	(1,650)	(392)	(2,042)
Share-based compensation with restricted shares		26	13	—	—	—	39	—	39
Stock options		10	10	—	—	(20)	—	—	—
Purchase of treasury stock		—	—	—	—	(1)	(1)	—	(1)
Equity transaction with non-controlling interests		—	—	(51)	—	—	(51)	1,043	992
Balance at 31 March 2021		116,643	155,245	(81,692)	(68,048)	(59,211)	62,937	16,825	79,762
Profit for the period		—	—	4,134	—	—	4,134	2,625	6,759
Other comprehensive income		—	—	12,498	—	60,735	73,233	(635)	72,598
Total comprehensive income		—	—	16,632	—	60,735	77,367	1,990	79,357
Hyperinflation adjustment		—	—	6,889	—	—	6,889	6,039	12,928
Transactions with owners									
Dividends paid		—	—	(1,950)	—	—	(1,950)	(790)	(2,740)
Share-based compensation with restricted shares		24	25	—	—	—	49	—	49
Stock options		42	42	—	—	(84)	—	—	—
Purchase of treasury stock		—	—	—	—	(1)	(1)	—	(1)
Balance at 31 March 2022		116,709	155,312	(60,121)	(68,048)	1,439	145,291	24,064	169,355

CONSOLIDATED STATEMENT OF CASH FLOWS

Nippon Sheet Glass Company, Limited and consolidated subsidiaries

For the period ended 31 March 2022

		Millions of yen	
	Note	2022	2021
Cash flows from operating activities			
Cash generated from operations	36	58,295	31,954
Interest paid		(12,589)	(10,696)
Interest received		4,231	3,201
Income tax paid		(4,876)	(3,406)
Net cash generated from operating activities		45,061	21,053
Cash flows from investing activities			
Dividends received from joint ventures and associates		5,682	3,400
Purchase of joint ventures and associates		—	(3,403)
Proceeds on disposal of joint ventures and associates		1	566
Purchase of subsidiaries, net of cash balances held by subsidiaries upon acquisition		—	(72)
Proceeds on disposal of subsidiaries, net of cash balances held by subsidiaries on disposal		6,191	(376)
Purchases of property, plant and equipment		(33,080)	(39,201)
Proceeds on disposal of property, plant and equipment		1,354	15,952
Purchases of intangible assets		(1,400)	(1,437)
Proceeds on disposal of intangible assets		6	10
Purchases of assets held at fair value through other comprehensive income		(1,785)	(1,122)
Proceeds on disposal of assets held at fair value through other comprehensive income		2	640
Loans advanced to joint ventures, associates and third parties		(4,051)	(671)
Loans repaid from joint ventures, associates and third parties		4,293	125
Net cash used in investing activities		(22,787)	(25,589)
Cash flows from financing activities			
Dividends paid to owners of the parent		(1,959)	(1,653)
Dividends paid to non-controlling interests		(790)	(392)
Repayment of borrowings	26	(119,962)	(73,324)
Proceeds from borrowings	26	101,889	87,915
Increase in treasury stock		(1)	(1)
Capital contribution from non-controlling interests		—	992
Net cash generated from financing activities		(20,823)	13,537
Increase/(decrease) in cash and cash equivalents (net of bank overdrafts)			
Cash and cash equivalents (net of bank overdrafts) at the beginning of the period	24	53,500	40,512
Effect of foreign exchange rate changes		3,787	2,670
Hyperinflation adjustment	40	1,277	1,317
Cash and cash equivalents (net of bank overdrafts) at the end of the period	24	60,015	53,500

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.

Reporting entity

Nippon Sheet Glass Company, Limited (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 discrete technical glass businesses, operating in high technology areas.

The parent company of the Group, Nippon Sheet Glass Company, Limited 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, 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 such as investment property, derivative financial instruments and assets held at fair value through other comprehensive income that have been measured at fair value, and also except for the application of hyperinflationary accounting at the Group's subsidiaries in Argentina.

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, and 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 2022 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 17 "Insurance Contracts" addresses accounting for insurance contracts and will be effective from the Group's financial period commencing 1 April 2023. 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 than 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 joint ventures and 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 joint ventures and 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.

Impairments, and reversals of previous impairments, of financial receivables, deemed to be net investments, and equity in joint ventures and associates are accounted for separately in the consolidated income statement as impairment of financial receivables owed by joint ventures and associates or as other gains/(losses) on equity method investments as appropriate. In addition, gains or losses on the disposal of any such investments are also accounted for as other gains/(losses) on equity method investments. These line items are presented in the consolidated income statement adjacent to the Group's share of the net profit of such investments.

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 Group entities with a functional currency different from the Group's presentation currency, except for subsidiary companies in Argentina which have a functional currency considered to be hyperinflationary, 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.

The results and transactions of subsidiaries in Argentina are translated into the Group's presentational currency using closing year-end rates of exchange as a result of the use of hyperinflationary accounting.

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 – owned by the Group

Land and buildings comprise mainly the Group's manufacturing facilities. Land is shown at historical cost less impairment. 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
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.

For the right-of-use assets representing the Group's right to use an underlying asset according to a contract including a lease, see 'Leases'.

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

Impairment of assets

Assets that have an indefinite useful life are not subject to amortization (or depreciation) and are tested annually for impairment. Assets that are subject to amortization (or depreciation) 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 12.

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 ¥4,000 million (2021: ¥3,100 million). Based on the financial results for the year to 31 March 2022, a 1% increase in the value of the yen would result in a decrease in the profit for the period of ¥100 million (2021: a decrease in the loss for the period of ¥100 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 ¥2,870 million (2021: ¥2,759 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 39, 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 instruments at initial recognition and re-evaluates this designation at every reporting date. The evaluation considers the characteristics of the cash flows generated by the instruments and the Group's business model rationale for holding the instruments.

(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. 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. With the exception of derivatives not qualifying for hedge accounting, 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 nor receiving one from its customers. Where no financing arrangement exists then the asset or liability, classified as a receivable or payable, is held at amortized cost.

Borrowings consist of bonds payable, loans payable, lease liabilities 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 considers individual provisions for specific balances where appropriate. This involves considering likely credit losses for a group 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 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 group 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. Same methodology is also applied to contract assets balances.

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 which are not held for trading and irrevocably elected to be measured at fair value through other comprehensive income, or investments that are expected to generate fixed or determinable payments by collecting contracted cash flows and selling financial assets.

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 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.

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 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.

Unlisted equities are valued using forward-looking projections where available, however in most cases forward-looking projections are not available. Therefore, fair value is determined based on net asset values at the balance sheet date.

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.

The incremental costs of obtaining a contract with a customer are recognized as inventory if the Group expects such cost will be recovered. Such costs are amortized by the straight-line method over the length of the contract they relate to.

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

The Group as a lessee

At inception of a contract, the Group assesses whether the contract is or contains a lease, with a focus on whether the fulfilment of the contract depends on the use of an identified asset. The assessment involves judgement of whether the Group obtains substantially all the economic benefits from the use of the identified asset and whether it has the right to direct the use of the asset. If the criteria are met, the Group will recognize a right-of-use asset and a lease liability in its balance sheet on the commencement date.

The Group has more than 3,000 leases with a wide range of different terms and conditions in accordance with local regulations and business practices. Some leases contain extension and termination options, which provide the Group with operational flexibility. Such options are taken into account when determining the lease term if the Group is reasonably certain to exercise an extension option and reasonably certain not to exercise a termination option.

Right-of-use assets

Right-of-use assets are initially measured at the discounted value of future lease payments, adjusted by initial direct costs, prepaid lease payments and estimates of future dismantling or clean-up costs. Subsequently, right-of-use assets are measured at cost less accumulated depreciation and impairment losses, and adjusted for any remeasurements of lease liabilities.

Right-of-use assets are presented as 'Property, plant and equipment' in the Group's consolidated balance sheet. Depreciation is charged on a straight-line basis over the shorter of the lease term or remaining estimated life of the asset.

In the event of impairment, an asset's carrying amount is written down immediately to its recoverable amount (see 'Impairment of assets').

Lease liabilities

Lease liabilities are measured at the present value of future lease payments at the reporting date, using the practical expedient to apply consistent discount rates to portfolios of leases with similar characteristics.

The discount rate used for the measurement of a lease liability is the interest rate implicit in the lease, equating the future lease payments with the present value of the leased asset. Where this cannot be readily determined the Group will use its incremental borrowing rate, as adjusted to take account of factors such as the term and currency of the lease, the financial position of the NSG Group lessee, and the security inherently provided to the lessor in a lease arrangement.

Lease liabilities are presented as 'Borrowings' in the Group's consolidated balance sheet. Lease liabilities are subsequently measured based on the effective interest method, and interest expenses are charged to the income statement.

Sale and lease back

If the Group sells an asset and immediately reacquires the use of the asset by entering into a lease with the buyer, this will be considered as a sale and lease back transaction. The Group will consider whether it has entered into a genuine lease arrangement or whether the arrangement is simply a method of securing finance for an existing asset.

In the event that a sale of the asset has taken place, the Group would account for the transaction as a sale and lease back. A right-of-use asset and related lease liability would be created based on the future payments and any other relevant factors. The initial right-of-use asset value is limited to the previous carrying value of the owned asset, then multiplied by the ratio of the lease liability arising over the fair value of the asset. This restriction ensures that the resulting asset value reflects the remaining Group interest in the asset based on the original historic cost of that asset.

In the event that a genuine sale for accounting purposes is not considered to have taken place, then the transaction is considered to be a form of secured financing. The asset would still be recognized as property, plant and equipment on the Group's balance sheet, and its value would not be amended by the sale, unless the sale was considered to be an indicator of impairment. A financial liability would be created with respect to the discounted future lease payments, although this would not be considered to be a lease liability and instead would be recorded with other borrowings.

Short-term leases and low value leases

The Group has elected not to recognize right-of-use assets and lease liabilities for short-term leases with terms within 12 months, and leases for which the underlying asset is of low value. In such cases, the Group will recognize the payments associated with those leases as an expense on a straight-line basis over the lease term.

The Group as a lessor

The Group may enter into contracts to sublease vacant leasehold or freehold properties, to offset or mitigate the unavoidable costs associated with such properties. In these cases, the Group classifies each sublease as a finance lease whenever the sublease transfers substantially all the economic benefits from the use of the asset and the right to direct the use of the asset to the tenant. All other subleases are classified as operating leases.

The Group recognizes a net investment asset for all subleases, considered as finance leases, based on the present value of future sublease payments at the sublease commencement date. This net investment is included in trade receivables in the Group's consolidated balance sheet. Subsequently, the net investment asset is measured on an amortized cost basis using the effective interest method.

Sublease payments received from operating subleases are recognized in the income statement on a straight-line basis over the lease term.

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 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 from contracts with customers

In accordance with IFRS 15, the Group's revenue is recognized based on the following five-step model:

- Step 1: Identify the contract with a customer
- Step 2: Identify the performance obligation in the contract
- Step 3: Determine the transaction price
- Step 4: Allocate the transaction price to the performance obligations in the contract
- Step 5: Recognize revenue when the entity satisfies a performance obligation

The Group has three primary strategic business units (SBUs) -Architectural, Automotive and Technical Glass. Each SBU is organized on a worldwide basis.

The Architectural Glass SBU 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. Customers of this SBU include manufacturers which process the glass products which are supplied into their own products, construction and house building companies, distributors and merchants.

The Automotive Glass SBU supplies a wide range of automotive glazing for new vehicles and for replacement markets. Customers include major global automotive manufacturers and aftermarket glazing distributors.

The Technical Glass SBU comprises a number of discrete business es, including the manufacture and sale of very thin glass used as cover glass for displays, lenses and light guide for printers, glass components for engine timing belts. Customers are mainly manufacturers which process the glass-related products which are supplied into their own products.

The revenue streams derived from the three SBUs are analyzed into the

following categories based on the nature and circumstances of the contracts:

(a) Sales of glass and glass-related products

The majority of the Group's revenue is derived from sales of glass and glass-related products. The Group usually considers specific purchase orders to be a contract with a customer, which in some cases is governed by a framework agreement. In cases where purchase orders are governed by a framework agreement, the terms and conditions within both the framework agreement and the purchase order would together form the basis for determining how revenue would be recognized. Contracts with customers are considered to be short-term when the time between order confirmation and satisfaction of the performance obligations is equal to or less than one year.

In most cases, revenue is recognized as the customer obtains control over the glass and glass-related products upon delivery. This is based on the judgement that the performance obligation had been satisfied upon transfer of control. Unless there is a specific reason to use an alternative assumption, the Group considers the control over the glass and glass-related products to rest with the customer once the customer has either accepted the glass at their premises or has collected the glass themselves from the Group's premises.

(b) Sales of services

Revenue in relation to sales of services is recognized when services have been rendered and obligations under the terms of a contract have been satisfied. This may be at a point in time or over time depending on the conditions of the contract.

(c) Engineering revenue

The Group's engineering contracts usually relates to a building, construction and supply of float glass lines or a material asset for an external customer or a related party, such as a joint venture. Contracts in this category represent performance obligation satisfied over time, as it creates or enhances an asset that the customer controls as the asset is created or enhanced. This is because the asset would usually be such of a size that it is physically located at the customer's premises with no realistic prospect of being relocated. The Group's revenue in relation to the engineering contracts is recognized based on the actual service provided to the end of the reporting period as a proportion of the total services to be provided. This is determined by the input method, except for cases where specific milestones are clearly set in the contract against which the revenue could be reliably measured.

Estimates of revenues, costs or extent of progress toward completion are revised if circumstances change. Any resulting increases or decreases in estimated revenues or costs are reflected in profit or loss in the period in which the circumstance arises.

(d) Royalty and licensing contracts

The Group enters into licensing agreements with customers under which it licenses its intellectual property, such as patents and developed technologies. Revenue in relation to royalty and licensing contracts is recognized at a point in time or over time depending on the nature of the technology rights that the Group has granted to its customer.

If the license is to use a certain technology which the Group owns as it exists at the start of the contract, revenue will be recognized in full at the point in time when the license is granted.

If the license is to use a certain technology which the Group owns as it exists at the start of the contract and as it develops over the life of the license, revenue will be recognized over time through the life of the contract.

Revenues arising from licenses that contain an ongoing support obligation from the Group are recognized over time through the contract, as the obligation to provide support is not usually distinct from the obligation to grant a license.

(e) Tooling

The Group constructs tooling in order to manufacture glass products to the customers' specification. Revenue from sale of tooling is recognized based on judgement of specific facts and circumstances of related contracts.

If the construction of tooling is a separate performance obligation from the sale of glass and glass-related products, the Group recognizes inventory as the tooling is constructed. Revenue is recognized based on the stand-alone selling price (SSP) of the tooling when the control of tooling passes to the customer. Any shortfall between the invoiced amount and the SSP of the tooling is accounted for as a contract asset. Revenue will be adjusted based on the input or output method over the life of the contract.

If the construction of tooling is not a separate performance obligation from the sale of glass products glass-related products, and the control remains with the Group, tooling will be included in property, plant and equipment in the Group's balance sheet. Any customer contribution in relation to tooling will be held as deferred income and released to the revenue over the life of the contract based on the output method.

Group's considerations in relation to revenue recognition

The transaction price includes estimates of variable consideration, such as rebates and price discounts, which are accounted for as reductions in revenue. All estimates are based on the Group's historical experience and the Group's best judgement at the time the estimate is made. Variable considerations included in the transaction price are estimated using the expected value method or most likely amount depending on the nature of the variable considerations. These estimates are reassessed each reporting period and are included in the transaction price to the extent it is highly probable that a significant reversal will not occur.

The majority of contracts have a single performance obligation of which the transaction price is stated in the contract. For contracts with multiple performance obligations, the Group allocates the transaction price to each performance obligation based on the stand-alone selling price, which is the price the Group would sell a promised good or service to the customer.

The Group does not expect to have any contracts where the period between the transfer of the promised goods or services to the customer and payment by the customer exceeds one year. Consequently, the Group has elected to use the practical expedient not to adjust transaction prices for the effects of a significant financing component.

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.

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 fair valued customers' contributions to automotive tooling that continues to be recognized in the Group's balance sheet following the adoption of IFRS 15. 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 CO2 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, senior executive officers, 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. 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, judgements 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 eventual actual results. The estimates, judgements 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. In each case, unexpected changes in estimates and assumptions could cause a material change in balance sheet assets and liabilities, particularly in the areas noted below.

(Estimating the future trading environment)

When assessing the recoverability of certain balance sheet assets such as goodwill and investments in affiliated entities, the Group makes predictions of future trading conditions over a number of years.

Sales volumes are a key input into expectations of future trading conditions. The Group experienced extremely challenging conditions during FY2021 as a result of the COVID-19 pandemic, followed by a steady recovery from the pandemic during FY2022. However, in the Automotive business, FY2022 volumes have been severely impacted by supply-chain issues at vehicle manufacturers, particularly with respect to semi-conductor chips. The Group expects such issues to be gradually resolved during FY2023.

Sales prices and input costs are also key factors. The Group has experienced an increase in input costs during FY2022, exacerbated by the invasion of Ukraine by Russia towards the end of the year. The Group protects against volatility of input costs through hedging techniques, although this does not provide complete protection from all cost increases, particularly over the longer term. The Group expects to recover input costs increases through higher selling prices. The extent of this recovery is likely to vary by business and region. This reflects Group's expected ability to raise selling prices, based on legal terms of trading and market forces generally.

(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) Estimated impairment of property, plant and equipment

Property, plant and equipment are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable, in accordance with the accounting policy stated above. This will include typically property, plant and equipment that is currently not in use either as result of technological change or lack of demand in the relevant market.

(c) 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.

Deferred tax assets and liabilities may be impaired or otherwise amended either as a result of a change in the future expectations of taxable profits or the outlook for the reversal of other timing differences, or as a consequence of a change in prevailing tax rates.

(d) 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.

(e) 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.

(f) 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.

(g) The recoverability of long-term investments in joint ventures

The recoverability of long-term investments in joint ventures, including loans receivable, is based on the current and expected future trading environment together with any relevant legal restrictions. The expected future trading environment is assessed using reasonable estimates of possible future trading conditions.

1.2. Changes in accounting policies and disclosures

Presentation change of gains and losses arising from equity investments in, and loans receivable from, joint ventures and associates

From the financial year to 31 March 2022, the Group has changed its presentation of other gains/(losses) relating to joint ventures and associates accounted for using the equity method. Impairments, and reversals of previous impairments, of financial receivables, deemed to be net investments, and equity in joint ventures and associates are now accounted for separately in the consolidated income statement as impairment of financial receivables owed by joint ventures and associates or as other gains/(losses) on equity method investments as appropriate. In addition, gains or losses on the disposal of any such investments are also accounted for as other gains/(losses) on equity method investments. The Group will present these line items in the consolidated income statement adjacent to its share of the net profit of such investments.

The Group believes that this revised approach is more consistent with the presentation of its share of net profits of its joint ventures and associates, enabling a clear presentation of overall gains and losses with respect to its joint ventures and associates and avoiding an inconsistency in accounting treatment, whereby profits and losses of joint ventures or associates are then reversed with an impairment, or gains/losses on disposal, recorded elsewhere within the income statement. This change of accounting policy is applied retroactively. The opening balance of retained earnings as at 1 April 2021 was not affected by this change.

2. Revenue from contracts with customers

Disaggregation of revenue

The Group's revenue is disaggregated by geographical markets, revenue categories and timing of revenue recognition in the table below. Geographical markets are based on the location where revenues were recognized. This table also includes a reconciliation of the disaggregated revenue with the Group's three strategic business units, which are also its reportable segments.

	Millions of yen				
	2022				
	Architectural	Automotive	Technical Glass	Other	Total
Geographical markets					
Europe	116,038	116,683	7,908	1,788	242,417
Asia	86,241	60,405	30,553	948	178,147
Americas	79,537	99,158	1,309	—	180,004
	281,816	276,246	39,770	2,736	600,568
Revenue category					
Sale of glass and glass related products	275,955	268,681	39,657	487	584,780
Sale of services	85	2,145	—	71	2,301
Engineering contracts	—	1	—	1,254	1,255
Royalty and licensing contracts	20	54	21	429	524
Tooling	—	3,497	—	—	3,497
Other sundry sales	5,756	1,868	92	495	8,211
	281,816	276,246	39,770	2,736	600,568
Timing of revenue recognition					
Products and services transferred at a point in time	277,401	275,188	39,770	1,031	593,390
Products and services transferred over time	4,415	1,058	—	1,705	7,178
	281,816	276,246	39,770	2,736	600,568

	Millions of yen				
	2021				
	Architectural	Automotive	Technical Glass	Other	Total
Geographical markets					
Europe	85,167	103,587	6,428	941	196,123
Asia	77,203	60,641	29,309	780	167,933
Americas	53,131	80,956	1,081	—	135,168
	215,501	245,184	36,818	1,721	499,224
Revenue category					
Sale of glass and glass related products	208,826	237,199	36,651	461	483,137
Sale of services	64	1,520	—	74	1,658
Engineering contracts	—	2	—	642	644
Royalty and licensing contracts	43	43	18	269	373
Tooling	—	4,802	—	—	4,802
Other sundry sales	6,568	1,618	149	275	8,610
	215,501	245,184	36,818	1,721	499,224
Timing of revenue recognition					
Products and services transferred at a point in time	210,550	244,247	36,818	780	492,395
Products and services transferred over time	4,951	937	—	941	6,829
	215,501	245,184	36,818	1,721	499,224

Assets and liabilities related to contracts with customers

The following table provides information about receivables, contract assets and contract liabilities from contracts with customers.

	Millions of yen		
	31 March 2022	31 March 2021	1 April 2020
Trade receivables, net of provision for impairment of receivables	45,102	42,928	34,135
Contract assets	1,824	2,310	2,739
Contract liabilities	(12,479)	(11,786)	(10,657)

Contract assets can be separated into two categories. Firstly, contract assets include the Group's rights to consideration for glass products dispatched or works related to engineering contracts and other minor Architectural projects, which are not billed at the balance sheet date. The contract assets in this category are transferred to trade receivables when the rights become unconditional. Secondly, contract assets also include balances arising upon recognition of revenue on automotive tooling, which is included in the transaction price of glass and glass-related products. The contract assets in this category are amortized over the length of the related supply contract.

Contract liabilities include amounts with respect to customer contributions on automotive tooling and other prepayments received from customers. Contract liabilities are classified as current or non-current based on the timing of when the Group expects to recognize revenue for contributions on automotive tooling and other prepayments.

Changes in the contract assets and the contract liabilities balances during the period are as follows.

	Millions of yen	
	Contract assets	Contract liabilities
At 1 April 2021	2,310	(11,786)
Exchange differences	91	(551)
Cumulative catch-up adjustments to revenue	(62)	(1)
Impairment of contract assets	(30)	—
Contract assets transferred to receivables	(1,556)	—
Satisfaction of performance obligations not yet invoiced	1,076	—
Opening contract liabilities recognized as revenue in the period	—	2,968
Cash received, excluding amounts recognized as revenue during the period	31	(2,955)
Transfers to assets held for sale	111	11
Other	(147)	(165)
At 31 March 2022	1,824	(12,479)

	Millions of yen	
	Contract assets	Contract liabilities
At 1 April 2020	2,739	(10,657)
Exchange differences	166	(1,174)
Cumulative catch-up adjustments to revenue	(70)	3
Impairment of contract assets	(243)	—
Contract assets transferred to receivables	(920)	—
Satisfaction of performance obligations not yet invoiced	1,402	—
Opening contract liabilities recognized as revenue in the period	—	2,695
Cash received, excluding amounts recognized as revenue during the period	(30)	(2,506)
Transfers to assets held for sale	(509)	62
Other	(225)	(209)
At 31 March 2021	2,310	(11,786)

Transaction price allocated to the remaining performance obligations

The following table includes revenue expected to be recognized in the future related to performance obligations that are unsatisfied (or partially unsatisfied) at the balance sheet date.

	Millions of yen		
	Within one year	After one year	Total
At 31 March 2022	241	357	598
At 31 March 2021	232	346	578

As permitted under the practical expedient in IFRS15 para 121, the Group does not disclose information about remaining performance obligations that have an original expected duration of one year or less. No consideration from contracts with customers is excluded from the amounts presented above.

Capitalized costs of obtaining a contract

The costs of obtaining a contract are capitalized on the premise that these incremental costs would not have been incurred if the Group had not attempted to win the contract. The Group considers the amount of capitalized costs to be recoverable, as they do not exceed the overall level of profit expected from the contract.

These assets are included in inventory in the Group's balance sheet and are amortized over the life of the contract. The amount of amortization was ¥559 million (2021: ¥445 million).

Applying the practical expedient in IFRS 15 para 94, the Group recognizes the incremental costs of obtaining contracts as an expense when incurred if the amortization period of the assets that the Group otherwise would have recognized is one year or less.

3. 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 used as cover glass for displays, lenses and light guides for printers, as well as glass fiber products, such as glass components for engine timing belts.

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

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

The amortization arising from the acquisition of Pilkington plc was ¥ 1,035 million (FY2021: ¥1,674 million).

The segmental results for the periods ended 31 March 2022 and 2021 are as follows:

	Millions of yen				Total
	Architectural	Automotive	Technical Glass	Other	
Revenue					2022
External revenue	281,816	276,246	39,770	2,736	600,568
Inter-segmental revenue	10,427	2,589	2,131	2,813	17,960
Total revenue	292,243	278,835	41,901	5,549	618,528
Operating profit/(loss) before exceptional items (segmental profit)	28,130	(7,908)	9,907	(10,149)	19,980
Exceptional items (gains)	939	626	4,407	55	6,027
Exceptional items (losses)	(442)	(775)	(67)	(1,097)	(2,381)
Operating loss after exceptional items					23,626
Finance costs – net					(12,469)
Impairment of financial receivables owed by joint ventures and associates					(3,374)
Share of post-tax profits from joint ventures and associates					7,498
Other gains/(losses) on investments in joint ventures & associates					(3,422)
Profit before taxation					11,859
Taxation					(5,100)
Profit for the period					6,759

	Millions of yen				Total
	(restated)				
	Architectural	Automotive	Technical Glass	Other	2021
Revenue					
External revenue	215,501	245,184	36,818	1,721	499,224
Inter-segmental revenue	10,882	1,324	2,786	2,794	17,786
Total revenue	226,383	246,508	39,604	4,515	517,010
Operating profit/(loss) before exceptional items (segmental profit)	15,670	1,802	6,707	(11,112)	13,067
Exceptional items (gains)	1,342	4,578	953	7,404	14,277
Exceptional items (losses)	(12,397)	(19,319)	(628)	(3,884)	(36,228)
Operating loss after exceptional items					(8,884)
Finance costs – net					(11,036)
Share of post-tax profits from joint ventures and associates					2,194
Other gains/(losses) on investments in joint ventures & associates					555
Loss before taxation					(17,171)
Taxation					855
Loss for the period					(16,316)

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 based on internationally recognized tax principles regarding Base Erosion and Profit Shifting (BEPS) as well as 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 that would impact the allocation of revenues and profits by primary operating segment.

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.

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
						2022
	Note	Architectural	Automotive	Technical Glass	Other	Total
Depreciation	14	(15,708)	(15,512)	(1,752)	(1,033)	(34,005)
Amortization	13	(202)	(438)	(13)	(2,012)	(2,665)
Net impairment of property, plant and equipment	14	(410)	(53)	(28)	(25)	(516)
(Loss)/profit on sale of property, plant and equipment		(4)	(14)	(8)	0	(26)
Research and development expenditure		(2,366)	(2,252)	(853)	(2,235)	(7,706)
Lease costs not included in lease liabilities		(426)	(633)	(28)	(155)	(1,242)
Bad debts written off		(6)	(32)	—	—	(38)
Net (charge)/credit for doubtful debt provision		(121)	(37)	—	—	(158)
Amortization of deferred income		132	350	1	7	490

						Millions of yen
						2021
	Note	Architectural	Automotive	Technical Glass	Other	Total
Depreciation	14	(13,764)	(13,404)	(1,928)	(1,425)	(30,521)
Amortization	13	(198)	(408)	(14)	(2,628)	(3,248)
Net impairment of property, plant and equipment	14	(236)	(313)	(46)	(829)	(1,424)
(Loss)/profit on sale of property, plant and equipment		247	(14)	—	(23)	210
Research and development expenditure		(2,253)	(2,275)	(864)	(2,864)	(8,256)
Lease costs not included in lease liabilities		(231)	(635)	(24)	(143)	(1,033)
Bad debts written off		(58)	(41)	—	—	(99)
Net (charge)/credit for doubtful debt provision		(110)	(184)	—	(1)	(295)
Amortization of deferred income		611	315	—	—	926

Segmental net trading assets at 31 March 2022 and 2021 and capital expenditure for the periods then ended are as follows:

						Millions of yen
						2022
		Architectural	Automotive	Technical Glass	Other	Total
Segmental net trading assets		157,030	164,299	28,555	3,708	353,592
Capital expenditure (including intangibles)		12,954	13,617	1,238	820	28,629

						Millions of yen
						2021
		Architectural	Automotive	Technical Glass	Other	Total
Segmental net trading assets		154,110	155,740	27,710	3,512	341,072
Capital expenditure (including intangibles)		27,028	14,653	979	687	43,347

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

Capital expenditure comprises additions to property, plant and equipment (owned), note 14, and intangible assets, note 13.

Secondary reporting format – geographical location of customers

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

	Millions of yen	
	2022	2021
Japan	118,072	116,672
Europe	236,408	191,331
North America	123,738	102,224
Rest of World	122,350	88,997
	600,568	499,224

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, contract assets, trade and tax receivables, located in Japan is ¥60,961 million (2021: ¥59,065 million), UK ¥187,472 million (2021: ¥182,996 million) and the total of these non-current assets located in other countries is ¥268,869 million (2021: ¥241,588 million).

4. Other income

	Millions of yen	
	2022	2021
Dividend income on assets held at fair value through other comprehensive income	341	135
Profit on disposals	134	433
Foreign exchange gains	213	6
Others	1,526	1,240
	2,214	1,814

5. Other expenses

	Note	Millions of yen	
		2022	2021
Amortization of intangibles	13	(2,665)	(3,248)
Impairment of property, plant and equipment	14	(918)	(1,443)
Reversal of prior period impairments of property, plant and equipment	14	401	19
Impairment of intangible assets	13	(6)	(13)
Impairment of assets held for sale		(26)	—
Research and development costs expensed in the period		(497)	(837)
Write-off of lease liabilities		140	1,209
Bad debts written off		(38)	(100)
Doubtful debt provision increase		(439)	(535)
Reversal of previously held doubtful debt provision		281	240
Float tank repair costs		(142)	(69)
Net foreign exchange on other expense items		(157)	(780)
Decrease in fair value of investment properties	15	(100)	(112)
Redundancy and restructuring		(291)	(181)
Loss on disposal		(91)	(148)
Others		(494)	183
		(5,042)	(5,815)

6. 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 loss of ¥78 million (2021: a loss of ¥1,237 million).

7. Exceptional items

	Millions of yen	
	2022	2021 (restated)
Exceptional Items (gains):		
Gain on disposal of Battery Separator business (a)	4,405	—
Reversal of previous impairments (b)	767	754
Reversal of surplus provisions (c)	424	—
COVID-19 government support (d)	400	2,640
Gain on disposal of property, plant and equipment (e)	—	7,063
Settlement of litigation matters (f)	—	3,424
Gain on disposal of subsidiaries (g)	—	142
Others	31	254
	6,027	14,277
Exceptional Items (losses):		
Restructuring costs, including employee termination payments (c)	(660)	(14,709)
Impairment of non-current assets (h)	(630)	(1,947)
Settlement of litigation matters (f)	(617)	(425)
Suspension and other costs caused by COVID-19 (i)	—	(18,700)
Retirement benefit obligations – past service cost (j)	—	(217)
Impairment of intangible assets (k)	—	(97)
Suspension of facilities (l)	—	(94)
Others	(474)	(39)
	(2,381)	(36,228)
	3,646	(21,951)

(a) The Group has recognized an exceptional gain as a consequence of the disposal of its Battery Separator business during the second quarter of the year. On 10 May 2021, the Group and ENTEK Technology Holdings LLC (Head Office in Lebanon, Oregon, USA; "ENTEK") concluded a share transfer contract with the Group agreeing to sell its Battery Separator business to a new wholly-owned subsidiary of ENTEK that was to be established in Japan. Subsequently, the Group has completed the transfer of this business on 1 September 2021.

(b) Reversal of previous impairments mainly relate to property, plant, and equipment assets in Architectural Asia

In the prior year, the reversal of impairment of non-current assets was also related to assets in the Architectural business in Asia.

(c) The reversal of the surplus provisions in the current year is related to restructuring provisions established in the previous year. Restructuring costs principally include the cost of compensating redundant employees for the termination of their contracts of employment.

The previous year costs mainly related to the Group's business transformation initiative aimed at achieving a transformation in the Group's cost base, including a significant improvement in fixed overhead costs and also improved operational efficiency.

(d) In both the current and previous year, the Group has received financial support from various governments to assist with the costs of maintaining its facilities and workforce during the COVID-19 pandemic. Such support has been recognized as an exceptional gain.

(e) The previous year gain on disposal of property, plant and equipment related to the sale of assets in Japan with lease-back contract as separately announced on 30 March 2021.

(f) The previous year gain, included within exceptional items – gains, on the settlement of litigation matters related to the conclusion of a legal challenge regarding the calculation of sales-based taxes borne by the Group in Brazil in previous years.

In both the current and prior year, the settlement of litigation matters, included within exceptional items – losses, relates to legal claims arising as a result of transactions that were previously recorded as exceptional items.

(g) The previous year gain on disposal of subsidiaries related to subsidiaries in Japan.

(h) The impairment of non-current assets relates mainly to assets expected to be disposed within the following financial year and included on the Group's balance sheet as Assets Held for Sale.

The prior year impairment of non-current assets related to Architectural and Automotive assets in South East Asia and Europe.

(i) During the previous year the Group recorded the direct costs and also unrecovered operating costs arising from the COVID-19 pandemic as exceptional items. Such costs include payments to employees not engaged in productive activities due to the COVID-19 pandemic, costs of

maintaining idle facilities, and direct costs such as the deep cleaning of facilities to promote a safe operating environment .

- (j) The previous year past service cost on retirement benefit obligations related to a court ruling in the U.K. regarding Guaranteed Minimum Pensions (GMP's) as applied to former members of the Group's UK pension scheme who have transferred their pension entitlement out of the scheme. GMP's represent an element of the Group's pension liability which was designed to substitute for pension benefits that would otherwise have been provided by the state, with the state-provided pension benefits being unequal between men and women resulting in inequality of the scheme-provided benefit.
- (k) The previous year impairment of intangible assets related to the impairment of intangible assets in Europe.
- (l) The previous year suspension of facilities related mainly to the repair of facilities in Architectural Japan following a Typhoon.

8. Employee benefit expenses

		Millions of yen	
	Note	2022	2021
Wages and salaries		(119,524)	(111,695)
Redundancy and termination benefits		(128)	(10,918)
Social security costs		(15,422)	(13,722)
Share options granted to directors and employees	31	(49)	(39)
Pension costs, excluding those classed as exceptional items			
defined contribution schemes		(8,295)	(8,372)
defined benefit schemes		(3,226)	(3,152)
Other short-term employee benefits		(6,003)	(5,606)
		(152,647)	(153,504)

Key management compensation (included above) comprises:

		Millions of yen	
		2022	2021
Short-term employee benefits		(941)	(920)
Post-employment benefits		(33)	(62)
Termination benefits		(12)	—
Share-based payments		(48)	(39)
		(1,034)	(1,021)

Key management compensation comprises the remuneration of those 28 (2021: 31) key employees who have responsibility for planning, controlling and directing the activities of the Group and includes all the members of the Group's Board of Directors, Executive Officers and Corporate Officers. Included within key management remuneration are post-employment benefits based on the IFRS operating cost charge in respect of service costs.

9. Finance income and expenses

		Millions of yen	
	Note	2022	2021
Finance income			
Interest income		1,461	1,566
Foreign exchange transaction gains		39	24
Hyperinflation - gain on net monetary position	40	617	454
		2,117	2,044
Finance expenses			
Interest expense – bank and other borrowings		(12,926)	(11,766)
Dividend on non-equity preference shares due to minority shareholders		(258)	(247)
Foreign exchange transaction losses		(71)	(461)
Other interest and similar charges		(1,083)	(540)
		(14,338)	(13,014)
Unwinding of discounts on provisions	29	(180)	(177)
Retirement benefit obligations – net finance charge	28	(68)	111
		(14,586)	(13,080)

10. Income tax

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

	Note	Millions of yen	
		2022	2021
Current tax			
Charge for the period		(4,887)	(4,363)
Adjustment in respect of prior periods		315	(204)
		(4,572)	(4,567)
Deferred tax			
Charge for the period		1,102	5,138
Adjustment in respect of prior periods		(183)	306
Adjustment in respect of rate changes		(1,447)	(22)
	22	(528)	5,422
		(5,100)	855

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 of joint ventures and associates) is 92.49 percent (2021: 14.07 percent).

Excluding the partial impairment of the Group's equity investment in SP Glass Holdings BV, and also the impairment of a loan receivable from Pilkington Glass LLC, a subsidiary of SP Glass Holdings BV, both as described in note 17, and finally also excluding the gain on disposal of the Group's Battery Separator business as described in note 7, this would have been 60.64 per cent.

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 2022 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 30.62 percent (2021: 30.62 percent) and this consists of corporate income tax, inhabitants' taxes and enterprise tax.

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

	Millions of yen	
	2022	2021
Profit/(loss) before taxation	11,859	(17,171)
Deduct share of post-tax profits of joint ventures and associates	(7,498)	(2,194)
Profit/(loss) before tax of Group companies	4,361	(19,365)
Tax credit calculated at the statutory tax rates applicable to (losses)/profits in the respective countries	(4,033)	2,726
Expenses not deductible for tax purposes	(4,890)	(4,064)
Income not subject to tax	3,615	3,964
Non-deductible impairment of equity investment in joint ventures and associates	(679)	—
Other items giving rise to local tax adjustments	712	(1,060)
Adjustment to tax in respect of prior periods		
current tax	315	(204)
deferred tax	(183)	306
Adjustment to tax as a result of changes in tax rates	(1,447)	(22)
Tax losses and other temporary differences for which no deferred tax asset is recognized	2,958	(1,744)
Other local, non-corporate and withholding taxes suffered	(1,468)	953
Total taxation charge – continuing operations	(5,100)	855

11. Dividends

	Millions of yen	
	2022	2021
Dividends on ordinary shares declared and paid during the period:		
Final dividend for the previous year		
Dividend total (¥ millions)	—	—
Dividend per share (¥)	—	—
Interim dividend for the year		
Dividend total (¥ millions)	—	—
Dividend per share (¥)	—	—
Dividends on ordinary shares declared after the end of the reporting period and not recognized as a liability:		
Final dividend for the year		
Dividend total (¥ millions)	—	—
Dividend per share (¥)	—	—

	Millions of yen	
	2022	2021
Dividends on Class A Shares declared and paid during the period:		
Final dividend for the previous year		
Dividend total (¥ millions)	1,950	1,650
Dividend per share (¥)	65,000.00	55,000.00
Dividends on Class A Shares declared after the end of the reporting period and not recognized as a liability:		
Final dividend for the year		
Dividend total (¥ millions)	1,950	1,950
Dividend per share (¥)	65,000.00	65,000.00

12. Goodwill

	Millions of yen	
	2022	2021
Cost		
At 1 April	113,988	105,649
Additions	75	55
Exchange differences	7,614	8,284
At 31 March	121,677	113,988
Accumulated impairment		
At 1 April	14,972	14,450
Exchange differences	1,968	522
At 31 March	16,940	14,972
Net book amount at 31 March	104,737	99,016

In accordance with IAS 36, goodwill has been tested for impairment at 31 March 2022. This testing involved comparing the value-in-use of the Group's identified Cash Generating Units (CGUs) with the accounting value of assets within each CGU. The value in use for this purpose is considered to be the capitalized current value of the future cash flows of each CGU as calculated by discounting the projected future operating cash flows of each cash-generating unit, using the discount rates in the table below. Future operating cash flows were considered for the financial periods from FY2023 to FY2026, except for the Automotive Europe CGU where financial periods from FY2023 to FY2027 were considered, with a perpetuity thereafter. Critical assumptions included discount rates, perpetuity growth rates, projected sales volumes and prices, and input costs.

The key assumptions used in this process were as follows:

Assumption	Value
Period used for discounted cash flow calculations	Maximum of five years from the balance sheet date with perpetuity thereafter
Perpetuity growth rate	1.4% to 2.0%
Pre-tax discount rate used	6.8% to 17.5%

The pre-tax discount rate for each cash-generating unit is determined by adding weighted average country-specific risk premiums to prevailing risk-free rates for the currencies predominantly used within each business unit. The resulting discount rates ranged from 6.8 percent applied to Architectural Europe to 17.5 percent applied to Architectural Rest of World.

A general perpetuity growth rate of 1.4 percent was included in the cash flow projections for CGU's in Europe. For CGU's in North America and Rest of World, a perpetuity growth rate of 2.0 percent was used.

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 periods 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 the regulatory environment. The Group utilizes independent market forecasts where available. In the Automotive business, demand for glass for new vehicles is estimated based on predictions of regional light-vehicle build, produced by independent forecasting agencies. Based on these predictions, the Group expects a recovery in Automotive volumes from the year to 31 March 2023 as vehicle manufacturers resolve supply chain issues, particularly with respect to semi-conductor chips, and are therefore able to increase their production levels.

Input prices are estimated based on recent negotiations with suppliers and also generally available industry forecasts. The Group takes account of existing hedging contracts when assessing future input costs. Input cost increases have been particularly material in Europe. In the Architectural business the Group has generally been able to recover the increased costs through higher sales prices, and expects this to continue to be the case. In the Automotive business, sales contracts with vehicle manufacturers are typically agreed at prices that are pre-defined for the duration of the contract. The Group is making efforts to recover increased input costs from its automotive customers. Input cost increases have been particularly material in Europe, and the Group assumes that the majority of its increased input costs in its Automotive business in that region will be recovered by agreement with customers.

In the year to 31 March 2022, the risk-adjusted value-in-use calculation indicated no impairment was necessary.

The remaining value of goodwill included on the balance sheet with an indefinite useful life is allocated to cash-generating units as set out in the table below.

	Millions of yen	
	2022	2021
Architectural Europe	43,452	41,482
Architectural Japan	12	12
Architectural North America	9,004	8,179
Architectural Rest of World	1,647	1,625
Automotive Europe	35,260	33,705
Automotive North America	14,167	12,869
Others	1,195	1,144
Total	104,737	99,016

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.

With respect to the remaining balances of goodwill, the cash-generating unit with the least amount of headroom was Automotive Europe. This is also the CGU which the Group considers would be the most likely to experience a shortfall of headroom of value in use in response to a reasonably likely change in underlying assumptions. The impairment test for this CGU was assessed using a discount rate of 6.92 percent. Keeping all other assumptions unchanged, an increase in the discount rate of 0.08 percent to 7.00 percent would result in this CGU having no residual headroom. Each additional one percent increase in the discount rate applied to this CGU over and above this level would result in an additional goodwill impairment of ¥17,200 million. This sensitivity considers changes in the discount rate in isolation. The Group considers that the economic conditions that may be likely to be associated with an increased discount rate may also be consistent with an improvement in the Group's markets, and therefore taken together may not necessarily result in further impairment.

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

13. Intangible assets

	Millions of yen				
	Trademark and licenses	Development costs	Computer software	Other	Total
Cost					
At 1 April 2021	317	21,012	16,589	139,823	177,741
Exchange differences	8	1,028	789	9,917	11,742
Additions	—	1,153	247	—	1,400
Disposals	(13)	(1,176)	(633)	(281)	(2,103)
At 31 March 2022	312	22,017	16,992	149,459	188,780
Accumulated amortization and impairment					
At 1 April 2021	317	15,253	14,278	99,132	128,980
Exchange differences	8	757	617	7,592	8,974
Amortization charge for the period	—	899	725	1,041	2,665
Impairment losses arising in the period	—	—	2	4	6
Eliminated on disposals	(13)	(1,176)	(633)	(279)	(2,101)
At 31 March 2022	312	15,733	14,989	107,490	138,524
Net book amount at 31 March 2022	—	6,284	2,003	41,969	50,256

	Millions of yen				
	Trademark and licenses	Development costs	Computer software	Other	Total
Cost					
At 1 April 2020	303	17,458	15,714	131,544	165,019
Exchange differences	24	2,393	830	8,910	12,157
Additions	—	1,161	226	50	1,437
Disposals	(10)	—	(63)	(145)	(218)
Transfer to assets held for sale	—	—	(118)	(536)	(654)
At 31 March 2021	317	21,012	16,589	139,823	177,741
Accumulated amortization and impairment					
At 1 April 2020	302	12,505	13,050	91,772	117,629
Exchange differences	24	1,774	665	5,985	8,448
Amortization charge for the period	1	911	646	1,690	3,248
Impairment losses arising in the period	—	63	33	14	110
Transfer to assets held for sale	—	—	(53)	(187)	(240)
Eliminated on disposals	(10)	—	(63)	(142)	(215)
At 31 March 2021	317	15,253	14,278	99,132	128,980
Net book amount at 31 March 2021	—	5,759	2,311	40,691	48,761

Amortization of ¥2,665 million has been charged to other expenses, note 5 (2021: ¥3,248 charged to other expenses, note 5). Impairment of ¥6 million has been charged to other expenses (2021: ¥97 million to exceptional items and ¥13 million to other expenses).

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.

'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 2021	23,962	40,430	44,035	4,284	22,178	395	135,284
Exchange differences	2,014	2,847	2,793	487	1,504	21	9,666
At 31 March 2022	25,976	43,277	46,828	4,771	23,682	416	144,950
Accumulated amortization and impairment							
At 1 April 2021	19,944	40,430	9,110	4,284	21,939	395	96,102
Exchange differences	1,812	2,847	790	487	1,504	21	7,461
Amortization charge for the period	796	—	—	—	239	—	1,035
At 31 March 2022	22,552	43,277	9,900	4,771	23,682	416	104,598
Net book amount at 31 March 2022	3,424	—	36,928	—	—	—	40,352

	Millions of yen						
	Customer relationships	Know-how	Pilkington brand	Other brands	Developed technology	Other	Total
Cost							
At 1 April 2020	22,584	37,823	41,027	4,133	20,694	346	126,607
Exchange differences	1,378	2,607	3,008	151	1,484	49	8,677
At 31 March 2021	23,962	40,430	44,035	4,284	22,178	395	135,284
Accumulated amortization and impairment							
At 1 April 2020	18,107	37,823	8,604	4,133	19,595	346	88,608
Exchange differences	1,077	2,607	506	151	1,430	49	5,820
Amortization charge for the period	760	—	—	—	914	—	1,674
At 31 March 2021	19,944	40,430	9,110	4,284	21,939	395	96,102
Net book amount at 31 March 2021	4,018	—	34,925	—	239	—	39,182

Intangible assets arising on the acquisition of the Pilkington Group have been tested for impairment as part of the exercise to test goodwill for potential impairment. Details of this testing are set out in note 12, Goodwill.

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 ¥1,617 million (2021: ¥1,509 million). Amortization charged in the period on these other intangible assets amounted to ¥6 million (2021: ¥16 million) and impairments on these other intangible assets amounts to ¥4 million (2021: ¥14 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.

For the purposes of testing for potential impairment, 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.

	Millions of yen	
	2022	2021
Architectural Europe	18,337	17,567
Architectural North America	3,796	3,448
Automotive Europe	9,441	9,046
Automotive North America	5,354	4,864
Total	36,928	34,925

14. Property, plant and equipment

Millions of yen

	Owned			Right-of-use assets			Total Property, plant and equipment
	Land and buildings	Plant, equipment, and vehicles	Sub-total	Land and buildings	Plant, equipment, and vehicles	Sub-total	
Cost							
At 1 April 2021	209,971	581,647	791,618	32,962	11,867	44,829	836,447
Exchange differences	3,413	32,152	35,565	1,731	787	2,518	38,083
Hyperinflation adjustment	7,098	8,942	16,040	—	35	35	16,075
Transfer to assets held for sale	(90)	(245)	(335)	(10)	—	(10)	(345)
Additions	2,634	24,595	27,229	2,729	1,721	4,450	31,679
Disposals	(532)	(8,702)	(9,234)	(2,247)	(1,409)	(3,656)	(12,890)
Other movements	—	—	—	—	—	—	—
At 31 March 2022	222,494	638,389	860,883	35,165	13,001	48,166	909,049
Accumulated depreciation and impairment							
At 1 April 2021	99,596	406,407	506,003	9,250	4,406	13,656	519,659
Exchange differences	1,388	19,937	21,325	644	316	960	22,285
Hyperinflation adjustment	380	3,968	4,348	—	—	—	4,348
Charge for the period	3,158	23,108	26,266	5,255	2,489	7,744	34,010
Impairment losses arising in the period	26	799	825	300	55	355	1,180
Reversal of impairment losses from prior periods	(5)	(1,163)	(1,168)	—	—	—	(1,168)
Transfer to assets held for sale	(96)	(101)	(197)	—	—	—	(197)
Eliminated on disposals	(510)	(8,638)	(9,148)	(2,238)	(1,418)	(3,656)	(12,804)
At 31 March 2022	103,937	444,317	548,254	13,211	5,848	19,059	567,313
Net book amount at 31 March 2022	118,557	194,072	312,629	21,954	7,153	29,107	341,736

Millions of yen

	Owned			Right-of-use assets			Total Property, plant and equipment
	Land and buildings	Plant, equipment, and vehicles	Sub-total	Land and buildings	Plant, equipment, and vehicles	Sub-total	
Cost							
At 1 April 2020	195,571	561,760	757,331	24,725	10,050	34,775	792,106
Exchange differences	4,511	19,792	24,303	1,680	648	2,328	26,631
Hyperinflation adjustment	7,469	2,173	9,642	—	19	19	9,661
Transfer to assets held for sale	(6,494)	(14,342)	(20,836)	(135)	(13)	(148)	(20,984)
Additions	14,077	27,833	41,910	9,005	2,075	11,080	52,990
Disposals	(5,163)	(15,576)	(20,739)	(2,313)	(912)	(3,225)	(23,964)
Other movements	—	7	7	—	—	—	7
At 31 March 2021	209,971	581,647	791,618	32,962	11,867	44,829	836,447
Accumulated depreciation and impairment							
At 1 April 2020	99,352	390,830	490,182	5,022	2,357	7,379	497,561
Exchange differences	1,338	16,473	17,811	443	239	682	18,493
Hyperinflation adjustment	334	2,967	3,301	—	—	—	3,301
Charge for the period	2,996	21,769	24,765	5,208	2,547	7,755	32,520
Impairment losses arising in the period	936	1,312	2,248	956	186	1,142	3,390
Reversal of impairment losses from prior periods	(191)	(773)	(964)	—	—	—	(964)
Transfer to assets held for sale	(4,227)	(10,771)	(14,998)	(68)	(9)	(77)	(15,075)
Eliminated on disposals	(942)	(15,400)	(16,342)	(2,311)	(914)	(3,225)	(19,567)
At 31 March 2021	99,596	406,407	506,003	9,250	4,406	13,656	519,659
Net book amount at 31 March 2021	110,375	175,240	285,615	23,712	7,461	31,173	316,788

Land and buildings including assets with a carrying amount of ¥11 million (2021: ¥12 million), and plant and machinery including assets with a carrying amount of ¥13,214 million (2021: ¥13,076 million), are subject to specific charges to secure Group borrowings.

Capitalized borrowing costs of ¥nil million have been included within additions of land and buildings (2021: ¥26 million) and ¥nil million have been included within plant, equipment and vehicles (2021: ¥284 million). The average rate used to calculate borrowing costs capitalized during the year was nil% (2021: 1.58%).

Depreciation charged in the period all relates to continuing operations, this has been charged to cost of sales ¥28,042 million (2021: ¥24,901 million), distribution costs ¥1,430 million (2021: ¥1,530 million), administrative expenses ¥4,533 million (2021: ¥4,091 million) and exceptional items ¥5 million (2021: ¥1,998 million), note 7. Impairments in the period have been charged to exceptional items ¥262 million (2021: ¥1,947 million) and other expenses ¥918 million (2021: ¥1,443 million). The reversal of previous period impairments has been credited to exceptional items ¥767 million (2021: ¥945 million) and other expenses ¥401 million (2021: ¥19 million).

Property, plant and equipment includes ¥6,032 million (2021: ¥2,804 million) in respect of assets in the course of construction.

15. Investment property

	Note	Millions of yen	
		2022	2021
Fair value			
At 1 April		214	303
Exchange differences		49	23
Net increase/(decrease) in fair value	5	(100)	(112)
At 31 March		163	214

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 ¥175 million (2021: ¥181 million). Direct operating expenses arising on the investment properties in the period amounted to ¥110 million (2021: ¥178 million).

The Group has no restrictions on the realizability of its investment properties and there were no commitments at 31 March 2022 or 2021.

Fair value measurement disclosures for investment properties are provided in note 21.

16. Leases

The Group as a lessee

The Group leases land and buildings for its manufacturing facilities, offices and warehouses at various locations worldwide. The Group also leases equipment and vehicles used in the ordinary course of the business, along with housing and cars which are provided as employee benefits.

The weighted-average lease term is approximately 9 years for land and buildings, and 7 years for plant, equipment and vehicles.

The following amounts are included in the consolidated income statement:

	Millions of yen	
	2022	2021
Interest expense on lease liabilities	1,159	1,075
Expenses relating to short-term leases	565	463
Expenses relating to leases of low-value assets	605	498
Expenses related to variable lease payments not included in the measurement of lease liabilities	73	72

The following amount are included in the consolidated statement of cash flow:

	Millions of yen	
	2022	2021
Cash outflow for leases	10,265	9,737

The cash outflow for leases in the chart above includes; the principal portion and interest of lease liabilities, payments for short-term leases, leases of low-value assets and variable lease payments not included in the measurement of lease liabilities.

The leases recognized as at 31 March 2022, includes options such as extension and termination options, that were not considered to be reasonably certain as at that date and therefore are not included in the measurement of lease liabilities. These options may result in potential future cash outflows in the future years, once it becomes reasonably certain that they will be exercised.

In the prior year the Group recognized a gain of ¥7,029 million, as a result of sale and lease back transactions related to properties in Japan which were executed on 30 March 2021, see note 7.

As at 31 March 2022 or 2021, there are no leases which the Group has committed but have not yet commenced.

For the depreciation charge, additions and the carrying amount of right-of-use assets at the end of the reporting period, see note 14.

For the maturity analysis of lease liabilities, see note 26.

The Group as a lessor

The Group leases out right-of-use assets to third parties in cases where the Group no longer requires the assets for its own use. As at 31 March 2022, the Group recognized a net investment asset of ¥46 million (as at 31 March 2021: ¥59 million), in relation to a finance lease arrangement where the Group leases out an industrial unit not occupied by the Group.

The Group also leases out its investment property to third parties under operating lease arrangements (see note 15).

17. 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	62.5%	Russia/Netherlands	Glass manufacturing

There were no material additions to joint ventures in the period ended 31 March 2022 (31 March 2021 – none).

The Group has legal ownership of 62.5 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 and also other potential shareholder transactions, the Group recognizes profits in this investment using a beneficial shareholding percentage of 43.75 percent for the period ending 31st March 2022.

As a consequence of the invasion of Ukraine by Russia, the Group has considered a value-in-use based recoverable amount of its joint venture investment in SP Glass Holdings BV, a company registered in the Netherlands and owning operating architectural glass companies in Russia. As at 31 March 2022, SP Glass Holdings BV was still able to receive dividends from its subsidiaries in Russia, including Pilkington Glass LLC, which continued to trade profitably through the year to 31 March 2022, even after the commencement of the invasion of Ukraine by Russia. However, the outlook for the Russian architectural glass market is uncertain. Exports of glass from Russia into Western Europe are expected to cease following the imposition of sanctions by the European Union. In addition, domestic demand for glass in Russia is expected to be impacted by difficult economic conditions following the imposition of sanctions generally. Considering the uncertain outlook for the domestic glass market in Russia, the Group could not determine a recoverable amount of its investment in SP Glass Holdings BV based on a reliable future set of cash flow projections that could be used in the preparation of a discounted cash-flow based valuation. The recoverable amount was instead determined using an EBITDA multiple-based valuation methodology. This used an estimated EBITDA, determined using a stress-tested scenario for the following financial year, applied to a multiple that could be considered reasonable for a market with a high inherent level of uncertainty. The Group concluded that a partial impairment of its equity investment in SP Glass Holdings BV of ¥3,422 million was appropriate. In addition the Group recorded an impairment of a financial receivable owed by Pilkington Glass LLC, a wholly owned subsidiary of SP Glass Holdings BV of ¥ 3,374 million. These two items are accounted for separately in the consolidated income statement as other gains/(losses) on equity method investments and as impairment of financial receivables owed by joint ventures and associates respectively.

During the year to 31 March 2021, the Group recognized a gain on disposal of a joint venture relating to the recycling into the income statement of foreign exchange gains and losses recognized during previous years within the Statement of Comprehensive Income, following the disposal of the Group's shares in Jiangsu Pilkington SYP Glass Co., Ltd a float glass manufacturing entity in China. The Group has restated the comparative period to 31 March 2021 to reclassify this gain of ¥ 555 million as other gains/(losses) on equity method investments as set out in note 1.2. Changes in accounting policies and disclosures. This gain had originally been recorded as an exceptional gain within operating profit.

Of the joint ventures above, Cebrace reports 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.

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

	Millions of yen			
				2022
	Cebrace	SP Glass Holdings BV	Others	Total
Current assets	10,395	12,865	18	23,278
Non-current assets	26,446	8,813	416	35,675
Current liabilities	(15,930)	(8,211)	—	(24,141)
Non-current liabilities	(8,810)	(9,442)	(58)	(18,310)
Total equity	12,101	4,025	376	16,502
NSG Group interest in total equity	6,051	1,761	126	7,938
Goodwill	—	3,308	—	3,308
Impairment	—	(3,422)	—	(3,422)
Carrying amount of the Group's investment	6,051	1,647	126	7,824
The total equity above includes:				
Cash and cash equivalents	859	8,863	18	9,740
Current financial liabilities	(6,176)	(5,044)	—	(11,220)
Non-current financial liabilities	(2,828)	(8,961)	—	(11,789)

	Millions of yen			
				2021
	Cebrace	SP Glass Holdings BV	Others	Total
Current assets	7,291	5,505	21	12,817
Non-current assets	16,525	8,396	410	25,331
Current liabilities	(11,481)	(3,515)	(2)	(14,998)
Non-current liabilities	(3,170)	(10,160)	(60)	(13,390)
Total equity	9,165	226	369	9,760
NSG Group interest in total equity	4,583	99	123	4,805
Goodwill	—	3,190	—	3,190
Carrying amount of the Group's investment	4,583	3,289	123	7,995
The total equity above includes:				
Cash and cash equivalents	2,408	2,189	19	4,616
Current financial liabilities	(4,712)	(1,121)	—	(5,833)
Non-current financial liabilities	(92)	(9,886)	—	(9,978)

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:

	Millions of yen			
	2022			
	Cebrace	SP Glass Holdings BV	Others	Total
Revenue	55,491	17,347	—	72,838
Profit/(loss) for the period from continuing operations	11,128	2,705	(7)	13,826
Other comprehensive income	(54)	920	—	866
Total comprehensive income	11,074	3,625	(7)	14,692
NSG Group's share of profit/(loss) for the period	5,564	1,183	(2)	6,745
Dividends received by NSG Group	5,584	—	—	5,584
The profit/(loss) for the period includes the following:				
Depreciation and amortization	(1,845)	(778)	—	(2,623)
Interest expense	29	(983)	2	(952)
Taxation	(4,728)	(859)	(1)	(5,588)

	Millions of yen			
	2021			
	Cebrace	SP Glass Holdings BV	Others	Total
Revenue	37,136	11,484	—	48,620
Profit/(loss) for the period from continuing operations	4,341	(301)	(6)	4,034
Other comprehensive income	51	(2,400)	2	(2,347)
Total comprehensive income	4,392	(2,701)	(4)	1,687
NSG Group's share of profit/(loss) for the period	2,171	(132)	(2)	2,037
Dividends received by NSG Group	3,305	—	5	3,310
The profit/(loss) for the period includes the following:				
Depreciation and amortization	(1,910)	(931)	—	(2,841)
Interest expense	(221)	(900)	2	(1,119)
Taxation	(2,265)	223	(3)	(2,045)

Associates

The Group's interest in 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
Holding Concorde S.A.S.	22.2%	Colombia	Glass manufacturing
SYP Kangqiao Autoglass Company Limited	20%	China	Glass manufacturing

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				
	2022				
	Flachglas Wernberg GmbH	Holding Concorde S.A.S.	SYP Kangqiao Autoglass Company Limited	Others	Total
Current assets	4,832	9,892	21,012	6,970	42,706
Non-current assets	5,983	10,328	19,795	4,736	40,842
Current liabilities	(2,569)	(2,303)	(14,736)	(2,737)	(22,345)
Non-current liabilities	(3,748)	(6,162)	(1,667)	(2,836)	(14,413)
Total equity	4,498	11,755	24,404	6,133	46,790
NSG Group interest in total equity	2,204	2,609	4,881	1,837	11,531
Goodwill	—	—	1,037	18	1,055
Carrying amount of the Group's investment	2,204	2,609	5,918	1,855	12,586

	Millions of yen				2021
	Flachglas Wernberg GmbH	Holding Concorde S.A.S.	SYP Kangqiao Autoglass Company Limited	Others	Total
Current assets	4,454	5,578	16,420	5,845	32,297
Non-current assets	5,926	9,959	17,549	4,962	38,396
Current liabilities	(2,599)	(1,567)	(11,749)	(2,476)	(18,391)
Non-current liabilities	(3,700)	(4,655)	(1,064)	(2,854)	(12,273)
Total equity	4,081	9,315	21,156	5,477	40,029
NSG Group interest in total equity	2,000	2,068	4,231	1,649	9,948
Goodwill	—	—	911	16	927
Carrying amount of the Group's investment	2,000	2,068	5,142	1,665	10,875

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

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

	Millions of yen				2022
	Flachglas Wernberg GmbH	Holding Concorde S.A.S.	SYP Kangqiao Autoglass Company Limited	Others	Total
Revenue	18,344	7,601	23,843	14,051	63,839
Profit for the period from continuing operations	396	1,411	289	775	2,871
Other comprehensive income	(39)	—	—	—	(39)
Total comprehensive income	357	1,411	289	775	2,832
NSG Group's share of profit for the period	194	313	58	188	753
Dividends received by NSG Group	64	—	—	34	98

	Millions of yen				2021
	Flachglas Wernberg GmbH	Holding Concorde S.A.S.	SYP Kangqiao Autoglass Company Limited	Others	Total
Revenue	16,847	5,717	20,474	14,594	57,632
Profit for the period from continuing operations	(217)	418	293	474	968
Other comprehensive income	83	—	—	117	200
Total comprehensive income	(134)	418	293	591	1,168
NSG Group's share of profit for the period	(106)	93	59	111	157
Dividends received by NSG Group	61	—	—	28	89

18. Trade and other receivables

	Note	Millions of yen	
		2022	2021
Trade receivables		47,338	44,978
Less provision for impairment of receivables		(2,236)	(2,050)
Trade receivables – net		45,102	42,928
Amounts due from customers for contract work		436	455
Amounts owed by related parties (trading)	39	146	567
Loans to related parties	39	5,426	8,471
Other receivables		30,540	22,140
Prepayments and accrued income		4,342	3,680
		85,992	78,241
Current		72,816	64,037
Non-current		13,176	14,204
		85,992	78,241

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 ¥16,721 million (2021: ¥17,911 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 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 2022, trade receivables at nominal value of ¥2,236 million, (2021: ¥2,050 million) were impaired and fully provided for.

Movements in the provision for impairment of receivables were as follows:

	Note	Millions of yen	
		2022	2021
At 1 April		(2,050)	(2,156)
Exchange differences		(134)	(142)
Charge for the period		(439)	(537)
Unused amounts reversed		281	459
Utilized		106	326
At 31 March		(2,236)	(2,050)

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) are considered neither past due nor impaired.

	Total	Neither past due nor impaired	Past due but not impaired			
			Less than 3 months overdue	Between 3 and 6 months overdue	Between 6 and 12 months overdue	More than 12 months overdue
2022	68,873	67,823	935	19	45	51
2021	60,739	58,877	1,247	231	153	231

19. Assets held at fair value through other comprehensive income

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 generally expects to retain its investments in these entities, although may consider disposals on an opportunistic basis if appropriate. The Group considers gains and losses arising from fluctuations in valuations of investments to be unrealized. On adoption of IFRS 9 the Group elected to classify such investments at fair value through other comprehensive income with subsequent gains and losses recorded in other comprehensive income.

		Millions of yen	
	Note	2022	2021
At 1 April		18,439	18,032
Exchange differences		1,749	1,610
Acquisitions		1,785	1,122
Original value of assets disposed		(2)	(573)
Transferred to investments accounted for using the equity method		—	(1,158)
Revaluation surplus			
transferred to equity	35	1,051	(527)
transferred to income statement	35	—	(67)
At 31 March		23,022	18,439
Current		—	—
Non-current		23,022	18,439
		23,022	18,439

The acquisitions in the period ended 31 March 2022 and 31 March 2021 mainly relates to the Group's additional investment in UK Government gilts and the partial acquisition of shares in the company to which the Battery Separator business was transferred.

The Group's investment in SYP Kangqiao Autoglass Company Limited (SYPKA), a company registered and operating in China, was transferred to investments accounted for using the equity method, as a result of further increase in the Group's shareholdings during the year ended 31 March 2021.

The disposals in the period ended 31 March 2022 and 31 March 2021 mainly related to the sale of unlisted shares.

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

	Millions of yen	
	2022	2021
UK Government gilts	6,694	5,636
Listed equities	12,400	9,642
Unlisted equities	3,572	2,810
Bond funds	306	303
Other	50	48
	23,022	18,439

Included within assets held at fair value through comprehensive income is the Group's 13.26 percent investment in Shanghai Yaohua Pilkington Glass Group Co., Limited, a company listed on the Shanghai Stock Exchange and engaged in both Automotive and Architectural glass businesses, predominantly in China. At 31 March 2021, the fair value of this investment as included in the table above as a listed equity, was ¥12,166 million (2021 ¥9,397 million). The Group also holds other listed and unlisted equity investments for strategic purposes which are individually immaterial.

Fair value measurement disclosures are provided in note 21.

20. Derivative financial instruments

	Millions of yen			
	2022		2021	
	Assets	Liabilities	Assets	Liabilities
Interest rate swaps				
not qualifying as hedges	—	95	—	92
cash flow hedges	645	1	7	825
Forward foreign exchange contracts				
not qualifying as hedges	16	9	8	17
cash flow hedges	239	142	32	124
net investment hedges	12	1,101	144	338
Commodity hedges				
cash flow hedges	41,336	173	1,075	174
	42,248	1,521	1,266	1,570
Current	24,957	1,501	904	729
Non-current	17,291	20	362	841
	42,248	1,521	1,266	1,570
Derivatives at fair value through income statement	16	103	8	109
Derivatives at fair value through other comprehensive income	42,232	1,418	1,258	1,461
	42,248	1,521	1,266	1,570
Maturity				
within one year	24,957	1,501	904	729
between one and two years	5,762	7	255	54
between two and three years	3,718	13	75	187
between three and four years	1,327	—	32	600
over four years	6,484	—	—	—
	42,248	1,521	1,266	1,570

Of the above financial instruments, gross cash flows are exchanged for forward foreign exchange contracts only. The contractual liabilities are ¥91,659 million (2021: ¥89,108 million), falling due within one year.

Gains and losses in equity on forward foreign exchange contracts as of 31 March 2022 will be released to the income statement at various dates up to 12 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 2022 were ¥54,589 million (2021: ¥59,772 million). At 31 March 2022, the fixed interest rates on interest rate swaps vary from (0.453) percent to 1.826 percent (2021: (0.453) percent to 1.826 percent) and the main floating rates are EURIBOR and USD 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 2022 was ¥149,453 million (2021: ¥109,059 million). The fair value of the derivatives as at 31 March 2022 was a loss of ¥1,094 million (2021: a loss of ¥159 million). The foreign exchange loss of ¥2,528 million (2021: gain of ¥4,911 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 35.

Fair value measurement disclosures for derivative assets and liabilities are provided in note 21.

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.

21. 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
					2022
	Note	Level 1	Level 2	Level 3	Total
Investment properties	15				
rental properties		–	–	163	163
		–	–	163	163
Assets held at fair value through other comprehensive income	19				
UK Government gilts		6,694	–	–	6,694
listed equities		12,400	–	–	12,400
unlisted equities		–	–	3,572	3,572
bond funds		306	–	–	306
other		–	–	50	50
		19,400	–	3,622	23,022
Derivative assets	20				
interest rate swaps		–	645	–	645
forward foreign exchange contracts		–	267	–	267
commodity swaps		–	41,336	–	41,336
		–	42,248	–	42,248

					Millions of yen
					2021
	Note	Level 1	Level 2	Level 3	Total
Investment properties	15				
rental properties		–	–	214	214
		–	–	214	214
Assets held at fair value through other comprehensive income	19				
UK Government gilts		5,636	–	–	5,636
listed equities		9,642	–	–	9,642
unlisted equities		–	–	2,810	2,810
bond funds		303	–	–	303
other		–	–	48	48
		15,581	–	2,858	18,439
Derivative assets	20				
interest rate swaps		–	7	–	7
forward foreign exchange contracts		–	184	–	184
commodity swaps		–	1,075	–	1,075
		–	1,266	–	1,266

					Millions of yen
					2022
	Note	Level 1	Level 2	Level 3	Total
Derivative liabilities	20				
interest rate swaps		–	96	–	96
forward foreign exchange contracts		–	1,252	–	1,252
commodity swaps		–	173	–	173
		–	1,521	–	1,521

					Millions of yen
					2021
	Note	Level 1	Level 2	Level 3	Total
Derivative liabilities	20				
interest rate swaps		–	917	–	917
forward foreign exchange contracts		–	480	–	480
commodity swaps		–	173	–	173
		–	1,570	–	1,570

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 15. 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 reasonably likely 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 19.

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 ¥173 million was recognized in operating profit (2021: a loss of ¥7 million) in relation to derivatives classed as fair value through profit or loss. A gain of ¥40,730 million was recognized directly in the statement of comprehensive income (2021: a gain of ¥4,148 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.

Transfer 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 2021 and 2022, 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	
	2022	2021
At 1 April	2,858	4,583
Acquisitions	700	–
Disposals	–	(253)
Transfer to investments accounted for using the equity method	–	(1,158)
Movements in fair value recognized in comprehensive income within "Revaluation of assets held at fair value through other comprehensive income – equity investments (net of taxation)"	53	(396)
Exchange differences recognized in other comprehensive income	11	82
At 31 March	3,622	2,858

The Group's investment in SYP Kangqiao Autoglass Company Limited (SYPKA), a company registered and operating in China, was transferred to investments accounted for using the equity method, as a result of further increase in the Group's shareholdings during the year ended 31 March 2021.

Management have assessed that fair value of assets and liabilities such as 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.

22. Deferred income tax

	Millions of yen	
	2022	2021
Deferred tax assets	33,115	33,816
Deferred tax liabilities	(22,608)	(16,176)
Net deferred tax assets	10,507	17,640

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

		Millions of yen	
	Note	2022	2021
At 1 April		17,640	12,553
Exchange differences		2,178	785
Credit/(Charge) to the income statement for the period	10	(528)	5,422
Deferred tax transferred to assets held for sale		(2)	(47)
Deferred tax of new subsidiaries		–	100
(Charge)/Credit to other comprehensive income for the period		(8,781)	(1,173)
At 31 March		10,507	17,640

The charge of ¥8,781 million (2021: a charge of ¥1,173 million) to other comprehensive income in the year comprises a charge to the hedging reserve of ¥6,883 million (2021: a charge of ¥1,728 million), note 35, and a charge to the fair value reserve of ¥41 million (2021: a credit of ¥95 million), and also a charge to other comprehensive income in respect of retirement benefit obligations in retained earnings of ¥ 1,857 million (2021: a credit of ¥460 million), note 28.

On 24 May 2021 the U.K government substantially enacted an increase in the headline rate of U.K. corporation tax from 19 per cent to 25 percent with effect from 1 April 2023. The effect of this tax rate change is to increase deferred tax assets by ¥ 954 million and to increase deferred tax liabilities by ¥ 2,382 million. The net effect of this change is an increase in the Group's tax charge of ¥ 1,428 million.

The deferred tax credit for the period includes the recognition of deferred tax assets of ¥1,697 million, considered to be recoverable based on the expected timing of reversal of corresponding deferred taxation liabilities recognized with respect to transactions recorded in the consolidated statement of comprehensive income. The corresponding deferred taxation liabilities relate to derivative financial assets for which hedge accounting is applied. The deferred tax credit relates to previously unrecognized deferred tax assets, now expected to be utilized on the unwind of the recognized derivative assets.

The following movement in the Group's deferred tax assets and liabilities took place during the periods ended 31 March 2022 and 31 March 2021.

		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 2021		2,803	11,428	402	10,635	9,820	1,911	36,999
Exchange differences		149	1,989	18	557	683	71	3,467
(Charge)/credit to the income statement in the period	10	274	4	–	(191)	1,194	98	1,379
Transfer to assets held for sale		6	–	–	–	10	(19)	(3)
Deferred tax of new subsidiaries		–	–	–	–	–	5	5
(Charge)/credit to other comprehensive income for the period		–	–	–	(1,857)	–	330	(1,527)
Gross deferred tax assets		3,232	13,421	420	9,144	11,707	2,396	40,320
Offset of deferred tax assets and liabilities relating to income taxes levied by the same taxation authority		(303)	(2,379)	(419)	(239)	(2,623)	(1,242)	(7,205)
At 31 March 2022		2,929	11,042	1	8,905	9,084	1,154	33,115

		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 2020		3,229	7,176	367	9,893	7,417	2,600	30,682
Exchange differences		171	703	35	580	265	104	1,858
(Charge)/credit to the income statement in the period	10	(591)	3,551	–	(298)	2,159	114	4,935
Transfer to assets held for sale		(6)	(2)	–	–	(42)	(31)	(81)
Deferred tax of new subsidiaries		–	–	–	–	21	79	100
(Charge)/credit to other comprehensive income for the period		–	–	–	460	–	(955)	(495)
Gross deferred tax assets		2,803	11,428	402	10,635	9,820	1,911	36,999
Offset of deferred tax assets and liabilities relating to income taxes levied by the same taxation authority		(1,047)	(320)	(401)	(279)	(463)	(673)	(3,183)
At 31 March 2021		1,756	11,108	1	10,356	9,357	1,238	33,816

Tax losses

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 and reviewed in the territories in which it operates. The recognized amount of losses is calculated with reference to the availability of future taxable profits.

At 31 March 2022, the Group has tax losses which it is able to carry forward of ¥211,170 million (2021: ¥214,845 million), in respect of which it is recognizing a deferred tax asset of ¥13,421 million (2021: ¥11,428 million).

A significant part of this deferred tax asset arises in the USA and a deferred tax asset of ¥4,505 million (2021: ¥4,608 million) has been recognized based on management-approved financial forecasts, taking into account the date of expiry of tax losses under US tax laws and these are expected to be utilized by 2026.

There are tax credits recognized in Poland which give rise to a deferred tax asset of ¥904 million (2021: ¥979 million). The group has reviewed the latest forecasted results for the Polish business and based on these believe it is probable that this asset will be utilized by 2026.

The tax credits in Italy which are recognized have a deferred tax asset of ¥2,004 million (2021: ¥1,582 million). These are not subject to time expiry.

Tax losses of ¥20,606 million (2021: ¥25,563 million) are being carried forward in Japan, on which a deferred tax asset of ¥14 million is recognized (2021: ¥111 million). ¥5,417 million of tax losses have timed expired in the current year. The remaining tax losses have no deferred tax recognized and are subject to time expiry between 2023 and 2027, with ¥19,744 million expiring within the next 5 years.

A further ¥5,141 million (2021: ¥2,981 million) of the deferred tax asset relates to tax losses arising in the UK, based on management-approved financial forecasts. These tax losses are not subject to time expiry. Further tax losses of ¥87,448 million (2021: ¥95,506 million) are being carried forward in the UK. The Group does not consider it probable that there will be sufficient future taxable profits against which these losses may be utilized and therefore no deferred tax asset is being recognized.

A deferred tax asset of ¥853 million (2021: ¥1,167 million), in respect of tax losses arising in other territories, is being recognized, 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 considers it appropriate not to recognize a deferred tax asset in respect of other tax losses of ¥40,710 million (2021: ¥40,329 million) arising in other countries, of which ¥4,923 million is subject to time expiry under local tax laws. The balance of unrecognized tax losses, of ¥35,788 million, are not subject to time expiry.

Retirement Benefit obligations

The deferred tax asset in respect of the Group's retirement benefit obligations arises partly in USA, where a deferred tax asset of ¥3,049 million (2021: ¥4,217 million) is being recognized. The other significant deferred tax asset recognized relates to Germany, being ¥5,688 million (2021: ¥5,993 million).

There are unrecognized deferred tax assets in relation to retirement benefit obligations of ¥983 million (2021 ¥1,014 million) of which ¥843 million relates to the UK (2021: ¥872 million).

Other unrecognized deferred tax assets

The Group has other assets on which no deferred tax is recognized amounting to ¥20,034 million (2021: ¥19,580 million), of which ¥9,504 million relates to Japan and ¥8,455 million to the UK.

The Group has tax losses amounting to ¥3,320 million (2021: ¥900 million) which are only available for offset against future capital gains in the UK. Since it is uncertain whether these losses will be utilized, no deferred tax is recognized.

Millions of yen

	Note	Property, plant and equipment	Fair value gains	Provisions	Other	Total
Deferred tax liabilities						
At 1 April 2021		8,487	9,278	75	1,519	19,359
Exchange differences		347	913	2	27	1,289
Charge/(Credit) to the income statement in the period	10	(459)	2,111	1	254	1,907
Charge/(credit) transferred to other group companies		–	–	–	(3)	(3)
Transfer to assets held for sale		4	–	–	3	7
(Credit)/charge to other comprehensive income for the period		–	7,319	–	(65)	7,254
Gross deferred tax liabilities		8,379	19,621	78	1,735	29,813
Offset of deferred tax assets and liabilities relating to income taxes levied by the same taxation authority		(2,382)	(3,323)	(26)	(1,474)	(7,205)
At 31 March 2022		5,997	16,298	52	261	22,608

Millions of yen

	Note	Property, plant and equipment	Fair value gains	Provisions	Other	Total
Deferred tax liabilities						
At 1 April 2020		7,910	9,045	160	1,014	18,129
Exchange differences		352	647	8	66	1,073
Charge/(Credit) to the income statement in the period	10	259	(318)	(93)	(335)	(487)
Transfer to assets held for sale		(34)	–	–	–	(34)
(Credit)/charge to other comprehensive income for the period		–	(96)	–	774	678
Gross deferred tax liabilities		8,487	9,278	75	1,519	19,359
Offset of deferred tax assets and liabilities relating to income taxes levied by the same taxation authority		(2,034)	(401)	(17)	(731)	(3,183)
At 31 March 2021		6,453	8,877	58	788	16,176

Deferred taxation is being provided on unremitted earnings of joint ventures and associates at 31 March 2022 of ¥260 million (2021: ¥218 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.

The deferred tax on fair value gains have increased significantly this year due to fair value of energy derivatives, the amount also includes the recognition of intangible assets on acquisition of the Pilkington Group by NSG UK Enterprises Limited in June 2006.

23. Inventories

Millions of yen

	2022	2021
Raw materials	29,167	25,047
Work-in-progress	22,103	19,316
Finished goods	75,711	62,317
Capitalized costs of obtaining a contract	5,261	5,230
	132,242	111,910

The cost of inventories recognized as an expense and included in cost of sales amounted to ¥384,072 million (2021: ¥316,498 million) and includes the write down of inventories totaling ¥4,970 million (2021: ¥4,103 million) and the reversal of inventory write-downs made in previous periods amounting to ¥3,218 million (2021: ¥871 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 ¥65 million (2021: ¥299 million) has been charged to exceptional items, note 7.

The carrying amount of inventories carried at fair value less cost to sell (net realizable value) amount to ¥11,564 million (2021: ¥12,252 million).

24. Cash and cash equivalents

Millions of yen

	2022	2021
Cash at bank and in hand	37,741	48,431
Short-term deposits	22,723	10,242
	60,464	58,673

The effective interest rate on the Group's short-term bank deposits was 4.05 percent (2021: 5.74 percent) with an average maturity of 21 days (2021: 35 days).

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

The Group's cash flow statement includes the following:

Millions of yen

	Note	2022	2021
Cash and cash equivalents		60,464	58,673
Bank overdrafts	26	(449)	(5,173)
		60,015	53,500

25. Assets held for sale

	Millions of yen	
	2022	2021
Assets held for sale within a disposal group		
Intangible assets	430	445
Property, plant and equipment	4,274	7,471
Investments accounted for using the equity method	-	465
Deferred tax assets	71	69
Inventories	1,276	1,576
Trade and other receivables	787	885
Contract assets and liabilities	396	455
	7,234	11,366
Liabilities related to assets held for sale within a disposal group		
Deferred tax liabilities	(47)	(20)
Borrowings	(50)	(74)
Trade and other payables	(2,574)	(3,161)
Defined benefit obligations	-	(88)
Provisions	(3)	(103)
Deferred income	-	(4)
	(2,674)	(3,450)
Assets held for sale within a disposal group held for sale (net)	4,560	7,916

At 31 March 2022, assets and liabilities held within a disposal group mainly relate to Architectural businesses in Europe, and Automotive businesses in Asia (2021: mainly related to Architectural businesses in Europe, and Automotive and Technical Glass businesses in Asia). They are expected to be disposed within one year from the balance sheet date.

26. Borrowings

a. Borrowings and net debt

		Millions of yen	
	Note	2022	2021
Current			
Bank overdrafts	24	449	5,173
Bank borrowings		106,353	108,124
Other long-term loans		17	84
Lease liabilities		7,252	7,347
Non-equity non-controlling interest preference shares		276	266
		114,347	120,994
Non-current			
Bank borrowings		320,764	316,362
Other long-term loans		296	303
Lease liabilities		26,076	27,804
Non-equity non-controlling interest preference shares		4,881	4,677
		352,017	349,146
Total borrowings		466,364	470,140

Group borrowings include secured liabilities of ¥12,106 million (2021: ¥12,739 million). Borrowings are secured by fixed and floating charges over certain assets of undertakings in the Group. Bank borrowings in the above table include liabilities of ¥12,106 million (2021: ¥12,739 million) as a consequence of the finance lease contracts from sale and leaseback transactions undertaken by the Group in Japan.

		Millions of yen	
	Note	2022	2021
Summary of net debt			
Financial liabilities			
borrowings		466,364	470,140
derivative financial instruments	20	1,521	1,570
Financial assets			
derivative financial instruments	20	(42,248)	(1,266)
Cash and cash equivalents	24	(60,464)	(58,673)
Net debt		365,173	411,771

Net debt includes commodity hedges within derivative financial instruments.

b. Movements of total borrowings

Millions of yen				
2022				
	Borrowings, other long term loans and bank overdrafts	Lease liabilities (IFRS16)	Non-equity non-controlling interest preference shares	Total
At 1 April 2021	430,046	35,151	4,943	470,140
Exchange differences and other movements	4,319	1,706	215	6,240
Repayment of borrowings	(110,940)	(9,022)	—	(119,962)
Proceeds from borrowings	101,889	—	—	101,889
Addition of lease liabilities	—	4,450	—	4,450
Interest on lease liabilities	—	1,159	—	1,159
Write-offs of lease liabilities	—	(140)	—	(140)
Amortization of arrangement fees	2,564	—	—	2,564
Transfer to assets held for sale	—	24	—	24
At 31 March 2022	427,878	33,328	5,158	466,364

Millions of yen				
2021				
	Borrowings, other long term loans and bank overdrafts	Lease liabilities (IFRS16)	Non-equity non-controlling interest preference shares	Total
At 1 April 2020	394,877	28,333	4,518	427,728
Exchange differences and other movements	10,311	2,138	425	12,874
Repayment of borrowings	(64,621)	(8,703)	—	(73,324)
Proceeds from borrowings	87,915	—	—	87,915
Addition of lease liabilities	—	13,573	—	13,573
Interest on lease liabilities	—	1,075	—	1,075
Write-offs of lease liabilities	—	(1,209)	—	(1,209)
Amortization of arrangement fees	2,264	—	—	2,264
Transfer to assets held for sale	(700)	(56)	—	(756)
At 31 March 2021	430,046	35,151	4,943	470,140

c. Interest rate exposure

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

Millions of yen				
2022				
	Less than one year	One to five years	Over five years	Total
Total borrowings	417,855	36,749	11,760	466,364
Effect of interest rate swaps	(54,895)	54,895	—	—
	362,960	91,644	11,760	466,364

Millions of yen				
2021				
	Less than one year	One to five years	Over five years	Total
Total borrowings	375,237	82,188	12,715	470,140
Effect of interest rate swaps	(47,106)	47,106	—	—
	328,131	129,294	12,715	470,140

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

Interest rate %					
2022					
	Yen	£	US\$	Euro	Other
Bank overdrafts	—	2.69	3.91	0.10	0.81
Bank borrowings	1.92	3.26	2.98	1.57	2.01
Other long-term loans	—	—	—	1.64	—
Lease liabilities (IFRS 16)	1.61	4.18	4.63	3.15	4.72

Interest rate %					
2021					
	Yen	£	US\$	Euro	Other
Bank overdrafts	—	1.58	—	0.10	0.18
Bank borrowings	1.49	2.55	2.51	2.43	9.00
Other long-term loans	—	—	—	1.94	—
Lease liabilities (IFRS 16)	1.65	4.25	4.88	3.14	4.70

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.

d. Fair value of borrowings

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

	Millions of yen			
	2022		2021	
	Carrying amounts	Fair values	Carrying amounts	Fair values
Bank borrowings	320,764	301,014	316,362	297,393
Other long-term loans	296	268	303	273
Non-equity non-controlling interest preference shares	4,881	4,881	4,677	4,677
Non-current borrowings excluding lease liabilities	325,941	306,163	321,342	302,343
Lease liabilities	26,076	–	27,804	–
Non-current borrowings	352,017	–	349,146	–

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 21.

e. Currency of borrowings

	Millions of yen	
	2022	2021
Japanese yen	256,928	282,117
Euro	119,018	121,446
Sterling	(4,935)	4,525
Polish zloty	14,154	7,785
US dollar	74,141	49,465
Swedish krona	645	2,695
Other currencies	6,413	2,107
	466,364	470,140

The Group uses currency denominated derivatives as hedges of the net investment in the Group's overseas subsidiaries, and these are accounted for in a similar way to cash flow hedges, as explained in note 1, significant accounting policies. The figures above include the gross contracted amounts of those derivatives.

f. Maturity profile of committed borrowings

The Group has the following undrawn borrowing facilities:

	Millions of yen	
	2022	2021
Floating rate		
maturing within one year	1,076	55,200
maturing after one year	76,929	19,734

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

	Millions of yen	
	2022	2021
Within one year	114,347	120,994
One to two years	157,213	161,521
Two to three years	77,643	97,406
Three to four years	72,814	65,584
Four to five years	25,132	4,696
After five years	19,215	19,939
	466,364	470,140

The maturity profile of the Group's lease liabilities is as follows:

	Millions of yen	
	2022	2021
Within one year	7,252	7,347
One to two years	5,634	5,818
Two to three years	3,624	4,418
Three to four years	2,812	2,751
Four to five years	2,246	2,214
After five years	11,760	12,603
	33,328	35,151

27. Trade and other payables

		Millions of yen	
	Note	2022	2021
Trade payables		97,044	77,960
Amounts owed to related parties (trading)	39	2,629	2,031
Social security and other taxes		6,507	5,568
Other payables		33,163	30,334
Accruals		24,228	20,817
		163,571	136,710
Current		163,114	136,233
Non-current		457	477
Trade payables		163,571	136,710

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

28. 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 also leaving indemnity arrangements in Italy and Austria.

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 95% 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 453 active employees, 2,221 deferred members and 8,972 pensioners as at 31 March 2022. 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 six member nominated directors and six employer nominated directors. Of the employer nominated directors, two are independent and four 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 2020, no funding plan was required therefore no further deficit contributions are payable. The Company holds an escrow account in favor of the scheme which will provide further security to the scheme should it be required in the future in order to meet the scheme's funding targets or in the unlikely event of a company insolvency. The balance in the escrow account at 31 March 2022 was £28.8 million (¥4,605 million). 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. The Company and Trustee continue to investigate jointly any potential opportunities to de-risk the PSS including but not limited to the composition of the investment portfolio and further use of buy-in policies when this becomes financially attractive.

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 (although plan participants with service over 20 years can choose if they receive their benefit as an annuity or a lump sum). 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 Company, Limited and NSG Co Ltd (Tsu). The latest funding valuation for this plan was carried out as at 31 March 2019 and showed a surplus of ¥2,725 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	
	2022	2021
Recognized in non-current (assets):		
Pension and early-retirement benefit schemes in surplus	(32,349)	(23,335)
Recognized in Pension and other long-term benefit obligations:		
Pension and early-retirement benefit schemes in deficit	44,613	45,120
Post-retirement healthcare benefits	10,846	15,882
Total recognized in Pension and other long-term benefit obligations	55,459	61,002
Net liability in the balance sheet	23,110	37,667

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

	Millions of yen					
	2022			2021		
	Operating profit	Finance costs	SoCI*	Operating profit	Finance costs	SoCI*
Pension and early-retirement benefits	(3,339)	221	12,657	(3,152)	541	(23,286)
Post-retirement healthcare benefits	(25)	(289)	5,881	(24)	(430)	2,108
Deferred income and other taxes**	—	—	(6,040)	—	—	7,994
At 31 March	(3,364)	(68)	12,498	(3,176)	111	(13,184)

*: Statement of comprehensive income

** : Of the deferred income and other taxes in the Statement of Comprehensive Income, a charge of ¥1,857 million (2021: a credit of ¥460 million) is included within deferred tax (note 22). Other taxes of ¥4,183 million are included as a charge (2021: ¥7,534 million as a credit) to the pension asset.

The amounts recognized in the balance sheet are determined as follows:

	Millions of yen				
	Pension and early retirement benefits				2022 Post-retirement healthcare
	Japan	UK	Rest of World	Total	Total
Present value of the funded benefit obligation	29,874	236,020	22,089	287,983	—
Fair value of assets of the plans	(29,782)	(284,232)	(20,260)	(334,274)	—
Deficit/(surplus) in the funded plans	92	(48,212)	1,829	(46,291)	—
Present value of the unfunded benefit obligation	—	4,640	37,041	41,681	10,846
Net liability/(asset) in the balance sheet	92	(43,572)	38,870	(4,610)	10,846
Taxes relating to refund of pension fund surplus	—	16,874	—	16,874	—
Net liability/(asset) in the balance sheet after tax on refund	92	(26,698)	38,870	12,264	10,846
Included in non-current assets	(1,011)	(31,338)	—	(32,349)	—
Included in pension and other long-term benefit obligations	1,103	4,640	38,870	44,613	10,846

	Millions of yen				
	Pension and early retirement benefits				2021 Post-retirement healthcare
	Japan	UK	Rest of World	Total	Total
Present value of the funded benefit obligation	32,269	248,697	22,744	303,710	—
Fair value of assets of the plans	(32,478)	(282,628)	(20,490)	(335,596)	—
Deficit/(surplus) in the funded plans	(209)	(33,931)	2,254	(31,886)	—
Present value of the unfunded benefit obligation	—	5,016	36,780	41,796	15,882
Net liability/(asset) in the balance sheet	(209)	(28,915)	39,034	9,910	15,882
Taxes relating to refund of pension fund surplus	—	11,875	—	11,875	—
Net liability/(asset) in the balance sheet after tax on refund	(209)	(17,040)	39,034	21,785	15,882
Included in non-current assets	(1,279)	(22,056)	—	(23,335)	—
Included in pension and other long-term benefit obligations	1,070	5,016	39,034	45,120	15,882

The weighted average duration of the pension obligations across all plans was 13 years as at 31 March 2022 (31 March 2021: 13 years).

The amounts recognized in the income statement are determined as follows:

	Millions of yen				
	Pension and early retirement benefits				Post-retirement healthcare
	Japan	UK	Rest of World	Total	Total
Current service cost	(1,202)	(1,306)	(354)	(2,862)	(25)
Past service cost	(17)	—	—	(17)	—
Settlements and terminations losses	—	(245)	—	(245)	—
Administration expenses	(13)	—	(202)	(215)	—
Operating profit charge	(1,232)	(1,551)	(556)	(3,339)	(25)
Net interest on the net defined benefit liability	4	594	(377)	221	(289)
Finance costs – (charge)/credit	4	594	(377)	221	(289)
Total income statement charge	(1,228)	(957)	(933)	(3,118)	(314)

	Millions of yen				
	Pension and early retirement benefits				Post-retirement healthcare
	Japan	UK	Rest of World	Total	Total
Current service cost	(1,273)	(1,099)	(309)	(2,681)	(24)
Past service cost	—	(217)	—	(217)	—
Administration expenses	(12)	—	(242)	(254)	—
Operating profit charge	(1,285)	(1,316)	(551)	(3,152)	(24)
Net interest on the net defined benefit liability	(8)	1,182	(633)	541	(430)
Finance costs – (charge)/credit	(8)	1,182	(633)	541	(430)
Total income statement charge	(1,293)	(134)	(1,184)	(2,611)	(454)

Of the total charge to operating profit of ¥3,364 million (2021: a charge of ¥3,176 million), a charge of ¥1,287 million (2021: a charge of ¥1,248 million) is included in cost of sales, a charge of ¥187 million (2021: a charge of ¥125 million) is included within distribution costs, a charge of ¥1,890 million (2021: a charge of ¥1,586 million) is included within administrative expenses, and a charge of ¥nil million (2021: a charge of ¥217 million) is included within exceptional items.

The actual return on the various plan assets was a loss of ¥1,125 million (2021: a gain of ¥13,838 million). The Group expects to contribute ¥4,365 million to pension plans (excluding contributions to the escrow account) during the next financial period and ¥768 million to post-retirement healthcare plans.

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

	Millions of yen				
	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	(826)	(5,821)	(723)	(7,370)	—
Experience gains arising on schemes' liabilities	174	(2,336)	484	(1,678)	5,185
Changes in the financial assumptions underlying the present value of the schemes' liabilities	544	19,983	1,038	21,565	750
Changes in the demographic assumptions underlying the present value of the schemes' liabilities	—	195	(55)	140	(54)
Changes in tax on surplus in the funded plans	—	(4,183)	—	(4,183)	—
	(108)	7,838	744	8,474	5,881

	Millions of yen				
	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	2,663	2,262	2,134	7,059	—
Experience gains arising on schemes' liabilities	10	48	(28)	30	2,513
Changes in the financial assumptions underlying the present value of the schemes' liabilities	308	(23,617)	(5,364)	(28,673)	(618)
Changes in the demographic assumptions underlying the present value of the schemes' liabilities	(51)	(1,847)	196	(1,702)	213
Changes in tax on surplus in the funded plans	—	7,534	—	7,534	—
	2,930	(15,620)	(3,062)	(15,752)	2,108

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 2020	34,004	204,709	52,743	291,456	17,992
Current service cost	1,273	1,099	309	2,681	24
Past service cost	—	334	—	334	—
Interest cost on the schemes' liabilities	132	4,965	1,142	6,239	430
Members' contributions	—	15	—	15	—
Actuarial losses/(gains)	(267)	25,416	5,196	30,345	(2,108)
Benefits paid	(1,840)	(13,758)	(3,658)	(19,256)	(882)
Exchange differences	—	30,933	3,792	34,725	426
Other movements	(1,033)	—	—	(1,033)	—
At 31 March 2021	32,269	253,713	59,524	345,506	15,882
Current service cost	1,202	1,306	354	2,862	25
Past service cost	17	—	—	17	—
Interest cost on the schemes' liabilities	156	4,970	913	6,039	289
Members' contributions	—	21	—	21	—
Settlements and terminations	—	245	—	245	—
Actuarial losses/(gains)	(710)	(17,841)	(1,467)	(20,018)	(5,881)
Benefits paid	(2,709)	(13,953)	(3,798)	(20,460)	(509)
Exchange differences	—	12,199	3,604	15,803	1,040
Other movements	(351)	—	—	(351)	—
At 31 March 2022	29,874	240,660	59,130	329,664	10,846

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 2020	31,315	251,259	18,892	301,466	—
Members' contributions	—	15	—	15	—
Return on plan assets (excluding amount included in interest income)	2,663	2,262	2,134	7,059	—
Benefits paid	(1,840)	(13,758)	(3,658)	(19,256)	(882)
Expenses paid	(12)	—	(242)	(254)	—
Employer's contributions	1,174	1,197	2,158	4,529	882
Interest income on assets	124	6,147	509	6,780	—
Exchange differences	—	35,506	697	36,203	—
Other movements	(946)	—	—	(946)	—
At 31 March 2021	32,478	282,628	20,490	335,596	—
Members' contributions	—	21	—	21	—
Settlements and terminations	—	131	—	131	—
Return on plan assets (excluding amount included in interest income)	(841)	(5,821)	(723)	(7,385)	—
Benefits paid	(2,709)	(13,953)	(3,798)	(20,460)	(509)
Expenses paid	(13)	—	(202)	(215)	—
Employer's contributions	1,058	1,366	2,075	4,499	509
Interest income on assets	160	5,564	536	6,260	—
Exchange differences	—	14,296	1,882	16,178	—
Other movements	(351)	—	—	(351)	—
At 31 March 2022	29,782	284,232	20,260	334,274	—

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 2020	(2,689)	46,550	(33,851)	10,010	(17,992)
Total charge recognized in the income statement	(1,293)	(251)	(1,184)	(2,728)	(454)
Total credit/(charge) recognized in other comprehensive income	2,930	(23,154)	(3,062)	(23,286)	2,108
Employer's contributions	1,174	1,197	2,158	4,529	882
Exchange differences	—	4,573	(3,095)	1,478	(426)
Other movements	87	—	—	87	—
At 31 March 2021	209	28,915	(39,034)	(9,910)	(15,882)
Total charge recognized in the income statement	(1,228)	(957)	(933)	(3,118)	(314)
Total credit/(charge) recognized in other comprehensive income	(131)	12,020	744	12,633	5,881
Employer's contributions	1,058	1,366	2,075	4,499	509
One-off employer contributions for financing terminations	—	131	—	131	—
Exchange differences	—	2,097	(1,722)	375	(1,040)
Other movements	—	—	—	—	—
At 31 March 2022	(92)	43,572	(38,870)	4,610	(10,846)

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

	2022			2021		
	Japan	UK	Rest of World	Japan	UK	Rest of World
Discount rate	0.70%	2.80%	2.30%	0.50%	2.0%	1.60%
Future salary increases*	2.40%	—	3.10%	2.40%	—	2.30%
Future pension increases	—	1.30%	2.60%	—	1.10%	1.70%
Consumer Price inflation	0.25%	3.00%	2.50%	0.25%	2.60%	1.90%
Long-term increase in healthcare costs	—	—	4.50%	—	—	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 66 percent of the Group's total Defined Benefit Obligation) at 31 March 2022 are based on the 'SAPS S3' 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 2020 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 2022
	Years
Expected future lifetime of a current pensioner aged 65	
- Men	21.9
- Women	23.5
Expected future lifetime, at age 65, of a future pensioner aged 65 in 20 years-time	
- Men	23.4
- Women	25.5

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

Millions of yen						
2022						
	Japan		UK		Rest of World	
	Quoted	Unquoted	Quoted	Unquoted	Quoted	Unquoted
Domestic government bonds	8,672	—	146,144	—	1,303	—
Domestic corporate bonds	—	910	20,393	—	11,569	—
Overseas bonds	5,198	720	21,808	—	339	—
Domestic equities	6,482	—	6,744	—	2,203	—
Overseas equities	1,833	—	49,766	1,840	1,950	—
Property	—	—	7,476	80	165	—
Cash	—	1,838	4,608	—	1,392	—
Other	—	4,129	3,325	22,048	—	1,339
	22,185	7,597	260,264	23,968	18,921	1,339

* Note: this includes ¥29,536 million in respect of the buy-in assets and a negative asset of ¥7,568 million in respect of the longevity swap.

Millions of yen						
2021						
	Japan		UK		Rest of World	
	Quoted	Unquoted	Quoted	Unquoted	Quoted	Unquoted
Domestic government bonds	9,926	—	147,759	—	997	—
Domestic corporate bonds	—	1,115	21,387	—	12,165	—
Overseas bonds	6,061	550	22,450	—	287	—
Domestic equities	7,425	—	5,775	—	2,672	—
Overseas equities	2,173	—	44,718	5,974	2,257	—
Property	—	—	6,416	365	—	—
Cash	—	1,069	1,860	—	934	—
Other	—	4,159	2,881	23,043*	—	1,178
	25,585	6,893	253,246	29,382	19,312	1,178

* Note: this includes ¥30,324 million in respect of the buy-in assets and a negative asset of ¥7,281 million in respect of the longevity swap.

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 of scheme liabilities (%)	
		Japan	UK
Discount rate	Increase/decrease by 0.5%	Decrease/increase by 4.3% / 4.6%	Decrease/increase by 6.8% / 7.5%
Inflation rate	Increase/decrease by 0.5%	n/a	Increase/decrease by 4.1% / 3.6%
Mortality	Increase life expectancy by one year	n/a	Increase by 4.9%

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 ¥1,073 million and a decrease in the interest and service costs of ¥29 million. A one percent increase in healthcare cost trend rates would result in an increase in the benefit obligation of ¥1,226 million and an increase in the interest and service costs of ¥33 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.

29. Provisions

Millions of yen

	Note	Redundancy and Restructuring				Environmental	Claims and litigation	Other	Total
		Warranty	Restructuring	Bonus					
At 1 April 2021		514	10,737	3,493	8,522	3,075	8,910	35,251	
Exchange differences		16	332	213	559	244	270	1,634	
Charged to the income statement									
Charged to provisions		263	837	6,608	—	1,858	1,111	10,677	
Effect of discounting	9	—	—	—	180	—	—	180	
Transferred to assets held for sale		—	—	(22)	—	—	(9)	(31)	
Released to the income statement in the period		(247)	(521)	(647)	(401)	(525)	(723)	(3,064)	
Utilized in the period		(20)	(3,821)	(3,837)	(436)	(1,132)	(584)	(9,830)	
At 31 March 2022		526	7,564	5,808	8,424	3,520	8,975	34,817	
Current		323	2,606	5,488	334	1,330	3,540	13,621	
Non-current		203	4,958	320	8,090	2,190	5,435	21,196	
		526	7,564	5,808	8,424	3,520	8,975	34,817	

Millions of yen

	Note	Redundancy and Restructuring				Environmental	Claims and litigation	Other	Total
		Warranty	Restructuring	Bonus					
At 1 April 2020		373	1,249	2,561	7,013	3,427	8,061	22,684	
Exchange differences		27	633	105	206	139	345	1,455	
Charged to the income statement									
Charged to provisions		487	13,535	6,016	1,916	1,676	1,820	25,450	
Effect of discounting	9	—	—	—	177	—	—	177	
Transferred to assets held for sale		—	—	(25)	—	—	(81)	(106)	
Released to the income statement in the period		(240)	(40)	(1,778)	(204)	(1,032)	(492)	(3,786)	
Utilized in the period		(133)	(4,640)	(3,386)	(586)	(1,135)	(743)	(10,623)	
At 31 March 2021		514	10,737	3,493	8,522	3,075	8,910	35,251	
Current		337	9,226	3,111	375	1,090	3,721	17,860	
Non-current		177	1,511	382	8,147	1,985	5,189	17,391	
		514	10,737	3,493	8,522	3,075	8,910	35,251	

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 more than one year.

Redundancy and restructuring provisions relate to provisions set up in Architectural amounting to ¥2,202 million (2021: ¥3,305 million), Automotive ¥5,041 million (2021: ¥6,680 million), Technical Glass ¥nil million (2021: ¥12 million) and Other Operations ¥321 million (2021: ¥740 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 2022, ¥652 million (2021: ¥907 million) of this provision was recorded in Architectural, ¥nil million (2021: ¥25 million) was recorded in Automotive, ¥82 million (2021: ¥151 million) was recorded in Technical Glass and ¥7,690 million (2021: ¥7,439 million) was recorded in Other Operations. The environmental provision in Other Operations relates primarily to historic liabilities in North America and Japan.

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 ¥4,566 million (2021: ¥4,445 million), cumulative leave provisions of ¥3,260 million (2021: ¥3,446 million) and onerous lease and rental provisions of ¥81 million (2021: ¥106 million).

30. Deferred income

	Millions of yen	
	2022	2021
Deferred income	550	453
Government grants	2,979	3,136
	3,529	3,589
Current	499	504
Non-current	3,030	3,085
	3,529	3,589

	Millions of yen	
	2022	2021
At 1 April	3,589	4,164
Exchange differences	176	270
Deferred income receivable	254	85
Released to income statement	(490)	(926)
Transferred to liabilities related to assets held for sale	—	(4)
At 31 March	3,529	3,589

Deferred income comprises of customer contributions to automotive tooling costs ¥242 million (2021: ¥324 million) and other deferred income of ¥308 million (2021: ¥129 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, Italy 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.

31. Share-based payments

The Group operates a number of equity settled, share-based payment plans, under which the entity receives services from Directors, Senior Executive Officers, Executive Officers, Senior Corporate Officers or Corporate Officers as consideration for equity instruments of the Group. In accordance with IFRS 2 'Share-based Payment', the resulting cost of the fair value of the employee services received in exchange for the grant of equity instruments is recognized in the income statement over the vesting period of the options, being the period in which the services are received. All plans are classified as equity settled.

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

		Millions of yen	
	Note	2022	2021
Restricted share compensation	8	49	39

Restricted share compensations

In accordance with the restricted share compensation plan to be introduced by the Company, Executive officers will receive share of common stock to be newly issued by the Company by making contributions in kind of the monetary compensation claims which are granted in order to allot the shares of restricted shares to the persons. In addition, with respect to the issuance under the compensation plan, the Company and each person executes an agreement on allotment of restricted shares.

Outline of the allotment agreement

- (a) Transfer restriction period
30 years after share allotment date
- (b) Acquisition by the company without consideration
If the target person retires from either position as a Director or Executive Officer of the Company after the start date of the transfer restriction period and by the date of the first Ordinary General Meeting of Shareholders of the Company, the Board of Directors of the Company shall be justified unless there is a reason to approve, the shares shall be acquired without consideration at the time of retirement.
- (c) Lifting of transfer restrictions
Transferred on condition that the Target person has been in the position of either a Director or Executive Officer of the Company from the start date of the transfer restriction period until the date of the first Ordinary General Meeting of Shareholders of the Company. The transfer restriction will be lifted when the restriction period expires.

The outline of the issuance in the period are as follows.

	2022	2021
Share allotment date	26 July 2021	12 August 2020
Number of share issuance	72,900	133,000
Issue price per share (Yen) *	665	389

* Note: The issue price for the current period is the closing price per share for the Company's common stock on 28 June 2021 (preceding business day of the date upon the decision by the President regarding the issuance of new shares) in the Tokyo Stock Exchange. The issue price for the prior period is the closing price per share for the Company's common stock on 15 July 2020 (preceding business day of the date upon the decision by the President regarding the issuance of new shares) in the Tokyo Stock Exchange.

Stock options

From the prior period, the Company has introduced a restricted share compensation plan in place of the stock option plan, so new stock options were not granted.

There have been no cancellations or modifications to any of the plans during 2022 or 2021.

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:

	Millions of yen			
	2022		2021	
	Weighted average exercise price Yen/share	Options	Weighted average exercise price Yen/share	Options
At 1 April	1	6,585	1	6,939
Exercised	1	(1,164)	1	(354)
At 31 March	1	5,421	1	6,585

Out of the 5,421 outstanding options (2021: 6,585 options), 2,485 options (2021: 2,193 options) were exercisable. Options exercised in 2022 resulted in 116,400 shares (2021: 35,400 shares) being transferred at a price of 1 yen each (2021: 1 yen each). The related weighted average share price at the time of exercise was 531 yen (2021: 477 yen) per share.

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	2022	2021
			Shares	Shares
2008 Stock Options	27 September 2038	1	5,200	5,200
2009 Stock Options	30 September 2039	1	10,300	10,300
2010 Stock Options	30 September 2040	1	6,600	6,600
2011 Stock Options	14 October 2041	1	9,800	12,400
2012 Stock Options	28 September 2042	1	37,600	43,800
2013 Stock Options	15 October 2043	1	57,200	57,200
2014 Stock Options	30 September 2044	1	35,700	49,700
2015 Stock Options	30 September 2045	1	56,500	83,500
2016 Stock Options	14 October 2046	1	57,200	103,800
2017 Stock Options	29 September 2047	1	82,900	91,700
2018 Stock Options	26 July 2048	1	89,300	91,700
2019 Stock Options	24 July 2049	1	93,800	102,600
			542,100	658,500

There are no vesting conditions for these stock options.

32. Called up share capital

	Number of shares	
	2022	2021
Shares authorized		
Common shares	177,500,000	177,500,000
Class A Shares	40,000	40,000
Shares issued		
Common shares of no par value each	91,000,199	90,810,899
Class A Shares of JPY 1,000,000 per share	30,000	30,000
Treasury shares		
Common shares	25,700	23,785

	Millions of yen			
	2022		2021	
	Number of shares	Value	Number of shares	Value
Issued and fully paid common shares				
At 1 April	90,810,899	116,643	90,642,499	116,607
Restricted share compensation	72,900	24	133,000	26
Increase due to exercise of share options	116,400	42	35,400	10
At 31 March	91,000,199	116,709	90,810,899	116,643
Issued and fully paid Class A (preferred) Shares				
At 1 April	30,000	-	30,000	-
At 31 March	30,000	-	30,000	-

As at 31 March 2017, the Group issued Class A Shares. 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 was set at 4.5% a year if the record date falls before 31 March 2018, 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. Please refer to note 11 for information regarding dividends on Class A Shares.

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.

The right to request that the Company should acquire Class A Shares in exchange for ordinary shares granted to the holders of those Class A Shares may be exercised by such shareholders only on or after 1 July 2020, as provided in a subscription agreement entered into by and among the Company and Class A shareholders. However, due to the occurrence of a Conversion Restriction Removal Reason, the shareholders may exercise such right on or after 22 May 2020. 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

On 7 December 2018 and on 6 June 2019, the Company acquired and then retired 5,000 Class A Shares respectively.

The acquisition price of common shares at 6 June 2019 was 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 constitute 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. During FY2017, the Group issued Class A Shares improving the strength of the Group's balance sheet and providing funds to enable the repayment of debt and investment in VA capital equipment in the Group's businesses. The Company intends to redeem the remaining Class A Shares in a timely and flexible manner, while maintaining financial stability, in order to ultimately redeem all of the Class A Shares in future for money.

33. Capital surplus

	Note	Millions of yen	
		2022	2021
At 1 April		155,245	155,222
Restricted share compensation		25	13
Issuance and purchase of treasury stock		42	10
At 31 March		155,312	155,245

34. Retained earnings

	Note	Millions of yen	
		2022	2021
At 1 April		(81,692)	(54,276)
(Loss)/profit for the period		4,134	(16,930)
Retirement benefit obligations	28	18,538	(21,178)
Deferred and other taxes on retirement benefit obligations	28	(6,040)	7,994
Hyperinflation adjustment	40	6,889	4,399
Dividends paid		(1,950)	(1,650)
Equity transaction with non-controlling interests		—	(51)
At 31 March		(60,121)	(81,692)
Retained earnings (translation adjustment at the IFRS transition date)		(68,048)	(68,048)
Total retained earnings at 31 March		(128,169)	(149,740)

Nippon Sheet Glass Company, Limited 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.

35. Other reserves

	Note	Millions of yen					Total
		Hedging reserve	Fair value reserve	Exchange translation reserve	Treasury stock	Stock subscription rights	
At 1 April 2021		(3,169)	(8,641)	(47,917)	(40)	556	(59,211)
Currency translation differences		—	—	29,108	—	—	29,108
Gain on net investment hedges	20	—	—	(2,528)	—	—	(2,528)
Cash flow hedges							
fair value losses in the period		40,730	—	—	—	—	40,730
transferred to income statement		(702)	—	—	—	—	(702)
deferred tax on fair value gains in the period	22	(6,883)	—	—	—	—	(6,883)
Assets held at fair value through other comprehensive income							
fair value losses in the period	19	—	1,051	—	—	—	1,051
deferred tax on fair value gains in the period	22	—	(41)	—	—	—	(41)
Purchase of treasury stock		—	—	—	(1)	—	(1)
Share based payments		—	—	—	—	(84)	(84)
At 31 March 2022		29,976	(7,631)	(21,337)	(41)	472	1,439

	Note	Millions of yen					Total
		Hedging reserve	Fair value reserve	Exchange translation reserve	Treasury stock	Stock subscription rights	
At 1 April 2020		(8,240)	(8,142)	(60,048)	(39)	576	(75,893)
Currency translation differences		—	—	7,220	—	—	7,220
Gain on net investment hedges	20	—	—	4,911	—	—	4,911
Cash flow hedges							
fair value losses in the period		4,147	—	—	—	—	4,147
transferred to income statement		2,652	—	—	—	—	2,652
deferred tax on fair value gains in the period	22	(1,728)	—	—	—	—	(1,728)
Assets held at fair value through other comprehensive income							
fair value losses in the period	19	—	(527)	—	—	—	(527)
transferred to income statement	19	—	(67)	—	—	—	(67)
deferred tax on fair value gains in the period	22	—	95	—	—	—	95
Purchase of treasury stock		—	—	—	(1)	—	(1)
Share based payments		—	—	—	—	(20)	(20)
At 31 March 2021		(3,169)	(8,641)	(47,917)	(40)	556	(59,211)

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.

Of the net fair value losses of cash flow hedges transferred to the income statement of ¥702 million (2021: gains of ¥2,652 million), ¥35 million is charged to finance expenses (2021: ¥12 million), ¥23 million is credited (2021: charge of ¥14 million) to other expenses, and ¥690 million is charged (2021: credit of ¥2,678 million) to cost of sales.

Fair value reserve

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

Of the net fair value losses of Assets held at fair value through other comprehensive income transferred to the other revenue in income statement of ¥nil million (2021: ¥67 million).

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.

36. Cash flow from operating activities

	Note	2022	Millions of yen 2021 (restated)
(Loss)/profit for the period from continuing operations		6,759	(16,316)
Adjustments for			
taxation	10	5,100	(855)
depreciation	14	34,010	32,520
amortization	13	2,665	3,248
impairments		1,535	2,290
reversal of impairment of non-current assets		(1,295)	(964)
(profit)/loss on sale of property, plant and equipment		26	(7,274)
(profit)/loss on sale of subsidiaries, joint ventures, associates and businesses		(4,404)	50
movements in grants and deferred income	30	(236)	(841)
finance income	9	(2,117)	(2,044)
finance expense	9	14,586	13,080
Impairment of financial receivables owed by joint ventures and associates	17	3,374	-
share of profit from joint ventures and associates	17	(7,498)	(2,194)
other (gains)/losses on equity method investments	17	3,422	(555)
other		309	(350)
Operating cash flows before movement in provisions and working capital		56,236	19,795
Decrease in provisions and retirement benefit obligations		(3,642)	7,043
Changes in working capital:			
inventories		(14,033)	9,231
trade and other receivables		(6,197)	(11,094)
trade and other payables		25,156	6,879
contract balances		775	100
Net change in working capital		5,701	5,116
Cash flows generated from operations		58,295	31,954

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

	Millions of yen 2022						
	Subsidiaries	Joint ventures and associates	Property, plant and equipment	Intangible assets	Assets held at fair value through other comprehensive income	Other	Total
Net book amount	3,141	1	1,323	1	2	—	4,468
Profit/(loss) on sale	4,404	—	(26)	5	—	—	4,383
Transfer from other comprehensive income	(124)	—	—	—	—	—	(124)
Cash balances held by subsidiaries on disposal	(350)	—	—	—	—	—	(350)
Other receivables	(880)	—	—	—	—	—	(880)
Other	—	—	57	—	—	—	57
Proceeds from sale	6,191	1	1,354	6	2	—	7,554

	Millions of yen 2021						
	Subsidiaries	Joint ventures and associates	Property, plant and equipment	Intangible assets	Assets held at fair value through other comprehensive income	Other	Total
Net book amount	78	174	4,397	3	573	—	5,225
Profit/(loss) on sale	(50)	555	7,274	7	67	—	7,853
Profit on sale allocated to right-of-use assets as a result of sale and lease back transaction	—	—	4,281	—	—	—	4,281
Transfer from other comprehensive income	—	(555)	—	—	—	—	(555)
Cash balances held by subsidiaries on disposal	(404)	—	—	—	—	—	(404)
Financial receivables repaid	—	392	—	—	—	—	392
Proceeds from sale	(376)	566	15,952	10	640	—	16,792

There were no non-cash transactions in the period ended 31 March 2022 or 31 March 2021.

37. Earnings per share

Basic

Basic earnings per share is calculated by dividing the profit attributable to owners of the parent, after deducting dividends paid to holders of Class A shares, by the weighted average number of ordinary shares in issue during the year. The dividends related to Class A shares are calculated by the dividend rate defined in the terms and conditions of the shares. The weighted average number of ordinary shares excludes ordinary shares purchased by the company and held as treasury shares, and restricted shares which have not been satisfied the conditions to lift the restriction.

	2022	2021
Profit/(loss) attributable to owners of the parent (millions of yen)	4,134	(16,930)
Adjustment for;		
– Dividends on Class A Shares (millions of yen)	(1,950)	(1,950)
Profit/(loss) used to determine basic earnings per share (millions of yen)	2,184	(18,880)
Weighted average number of shares (thousands)	90,726	90,631
Basic earnings per share (yen)	24.07	(208.32)

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. Also Restricted shares which have not met the condition to lift the restriction are treated as dilutive potential ordinary 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. Restricted shares are treated as dilutive potential ordinary shares until the conditions for lifting the restrictions are met. 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, if the conversion has dilutive effect.

	2022	2021
Profit/(loss) attributable to owners of the parent (millions of yen)	4,134	(16,930)
Adjustment for;		
– Dividends on Class A Shares (millions of yen)	(1,950)	(1,950)
Profit/(loss) used to determine diluted earnings per share (millions of yen)	2,184	(18,880)
Weighted average number of shares (thousands)	90,726	90,631
Adjustments for;		
– Share options	541	—
– Preferred shares	—	—
– Restricted shares	23	—
Weighted average number of common shares for diluted earnings per share (thousands)	91,290	90,631
Diluted earnings per share (yen)	23.92	(208.32)

As at 31 March 2022, there are 50,679 thousand shares of Class A shares that are anti-dilutive, which are not included in the calculation of diluted earnings per share. Diluted earnings per share for the prior period do not include stock options, restricted shares, and Class A shares due to the anti-dilutive effect caused by the loss during the period.

38. Commitments

Capital commitments

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

	2022	2021
Property, plant and equipment	2,269	4,628

39. 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 Company, Limited and its subsidiaries.

Sales of goods and services

	Millions of yen	
	2022	2021
Sales of goods		
Joint ventures	1,643	814
Associates	1,801	1,594
Sales of services		
Joint ventures	—	2
Associates	24	24
	3,468	2,434

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 are provided to joint ventures. In 2022, these amounted to ¥nil million (2021: ¥2 million of which related mainly to SP Glass Holdings BV and Cebrace).

Purchase of goods and services

	Millions of yen	
	2022	2021
Purchase of goods		
Joint ventures	5,709	4,466
Associates	670	591
Purchase of services		
Associates	2,483	2,673
	8,862	7,730

Goods are purchased from joint ventures by Nippon Sheet Glass Company, Limited'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.

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

		Millions of yen	
	Note	2022	2021
Receivables from related parties			
Joint ventures		27	462
Associates		119	105
	18	146	567
Payables to related parties			
Joint ventures		1,840	1,267
Associates		789	764
	27	2,629	2,031

During the period ended 31 March 2022, trading receivable balances from related parties of ¥nil million were written off (2021: ¥nil million).

There are no restrictions in place which would prevent the related parties fulfilling their trading obligations to the Group.

Loans to related parties

		Millions of yen			
		2022		2021	
	Note	Joint ventures	Associates	Joint ventures	Associates
At 1 April		8,353	118	7,200	106
Exchange differences		364	7	693	12
Loans advanced in period		3,521	–	192	–
Loan repayments received		(4,046)	(1)	(192)	–
Impairment of loan		(3,374)	–	–	–
Interest charged		484	–	460	–
At 31 March	18	5,302	124	8,353	118

During the period ended 31 March 2022, receivable balances from related parties of ¥3,374 million were written off (2021: ¥nil million). The loan impairment relates to a loan receivable from Pilkington Glass LLC, a subsidiary of SP Glass Holdings BV, operating in Russia. Capital controls in Russia in place at the balance sheet date, prevent the legal repayment of this receivable to the Group. A loan receivable from SP Glass Holdings BV of ¥5,302 million has not been written off. With regard to unimpaired receivables there are no restrictions in place to prevent these obligations being fulfilled"

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 2022 or 2021.

At 31 March 2022 and 31 March 2021, 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 8.

Post-employment benefit plans

Details of contributions into post-employment benefit plans are included in note 8. The assets (including details of the Group's right to surplus) and liabilities of post-employment benefit plans are detailed in note 28.

40. Hyperinflationary accounting adjustments

As from the second quarter of FY2019, the wholesale price index in Argentina indicated that cumulative 3-year inflation had exceeded 100 percent. Consequently the Group has concluded that its subsidiaries in Argentina, each of which has the Argentine Peso as a functional currency, are currently operating in a hyperinflationary environment. The Group has therefore applied accounting adjustments to the underlying financial results and position of its subsidiaries in Argentina as required by IAS 29 'Financial Reporting in Hyperinflationary Economies'.

As required by IAS 29, the Group's consolidated financial statements will include the results and financial position of its Argentinian subsidiaries, restated in terms of the measuring unit current at the period end date.

For the restatement of results and financial positions of its Argentinian subsidiaries, the Group will apply the conversion coefficient derived from the Internal Wholesale Price Index (IPIM) published by Instituto Nacional de Estadística y Censos de la República Argentina (INDEC). IPIM and corresponding conversion coefficients from June 2006 are presented below.

Balance sheet date	Internal Wholesale Price Index (IPIM) (30 June 2016 = 100)	Conversion coefficient
30 June 2006	100.0	31.621
31 March 2007	103.9	30.444
31 March 2008	120.2	26.305
31 March 2009	128.7	24.569
31 March 2010	146.5	21.585
31 March 2011	165.5	19.107
31 March 2012	186.7	16.934
31 March 2013	211.1	14.976
31 March 2014	265.6	11.907
31 March 2015	305.7	10.342
31 March 2016	390.6	8.095
31 March 2017	467.2	6.768
31 March 2018	596.1	5.305
31 March 2019	970.9	3.257
31 March 2020	1,440.8	2.195
31 March 2021	2,046.4	1.545
30 April 2021	2,156.8	1.466
31 May 2021	2,228.4	1.419
30 June 2021	2,299.2	1.375
31 July 2021	2,368.1	1.335
31 August 2021	2,426.5	1.303
30 September 2021	2,512.6	1.258
31 October 2021	2,600.9	1.216
30 November 2021	2,666.7	1.186
31 December 2021	2,769.1	1.142
31 January 2022	2,876.5	1.099
28 February 2022	3,011.5	1.050
31 March 2022	3,162.1	1.000

The Group's subsidiaries in Argentina have restated their non-monetary items held at historical cost, namely property, plant and equipment, by applying the conversion coefficient based on when the items were initially recognized. Monetary items and non-monetary items held at current cost will not be restated, as they are considered to be expressed in terms of the measuring unit current at the period end date. The effect of inflation on the net monetary position of the Group's Argentinian subsidiaries is presented in the finance income or finance expenses section of the income statement.

The Argentinian subsidiaries' income statement and cash flow statement will also be restated, applying the conversion coefficient for the current financial year as shown in the above table.

For the purpose of consolidation, the results and financial position of the Group's Argentinian subsidiaries are translated using the closing exchange rates at the period end date. Comparative financial statements are not restated based on IAS 21 'The Effects of Changes in Foreign Exchange Rates' para 42(b).

41. Group information

The consolidated financial statements of the Group include 209 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 17.

Name	Proportion of issued ordinary shares held	Country of operation and incorporation	Principal activity
Europe			
Pilkington United Kingdom Ltd.	100%	UK	Architectural
Pilkington Automotive Ltd.	100%	UK	Automotive
Pilkington Technology Management Ltd.	100%	UK	Architectural and Automotive
Pilkington Deutschland AG	96.3%	Germany	Architectural
Pilkington Automotive Deutschland GmbH	100%	Germany	Automotive
Pilkington Automotive Poland Sp. zo.o.	100%	Poland	Automotive
Pilkington Italia SpA	100%	Italy	Architectural and Automotive
Asia			
NSG Building Products Co., Ltd.	100%	Japan	Architectural
NSG Vietnam Glass Industries Ltd.	100%	Vietnam	Architectural
Americas			
NSG Glass North America, Inc.	100%	USA	Architectural
Pilkington North America Inc.	100%	USA	Architectural and Automotive
Vidrieria Argentina S.A.	51%	Argentina	Architectural
Pilkington Brasil Ltda.	100%	Brazil	Architectural and Automotive
Vidrios Lirquen S.A.*	51.6%	Chile	Architectural
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.

Parent company

The parent company of the Group, Nippon Sheet Glass Company, Limited, 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 Company, Limited, 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.

In general, the Group's subsidiaries in Europe, North America, and South America are also subsidiaries of NSG UK Enterprises Ltd, although there are several examples of subsidiaries in these regions that are not also subsidiaries of NSG UK Enterprises Ltd, and also examples of subsidiaries in other regions that are subsidiaries of NSG UK Enterprises Ltd.

The cash and cash equivalent balances held by the Group's subsidiaries which are not generally available for use elsewhere amounted to ¥3,905 million (2021: ¥4,716 million).

42. 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	
	2022	2021
Accumulated balances of material non-controlling interests		
Vidrieria Argentina S.A.	17,666	12,136
Vidrios Lirquen S.A.*	2,461	2,099
Others	3,937	2,590
Total	24,064	16,825
Profit for the period allocated to material non-controlling interests		
Vidrieria Argentina S.A.	541	91
Vidrios Lirquen S.A.*	1,036	308
Others	1,048	215
Total	2,625	614

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			
	2022		2021	
	Vidrieria Argentina S.A.	Vidrios Lirquen S.A.	Vidrieria Argentina S.A.	Vidrios Lirquen S.A.
Revenue	22,896	8,227	12,736	5,490
Profit for the period from continuing operations	1,103	1,406	187	418
Total comprehensive income	12,343	1,182	4,283	415
Dividends paid to non-controlling interests	-	(486)	-	(253)

Summarized statements of financial position

	Millions of yen			
	2022		2021	
	Vidrieria Argentina S.A.	Vidrios Lirquen S.A.	Vidrieria Argentina S.A.	Vidrios Lirquen S.A.
Current assets	8,334	3,451	6,573	2,588
Non-current assets	36,874	2,593	23,083	2,440
Current liabilities	(8,026)	(2,165)	(4,129)	(1,572)
Non-current liabilities	(1,130)	(540)	(760)	(608)
Total equity	36,052	3,339	24,767	2,848
Attributable to owners of the parent	18,386	878	12,631	749
Attributable to non-controlling interests	17,666	2,461	12,136	2,099

Summarized cash flow statements

	Millions of yen			
	2022		2021	
	Vidrieria Argentina S.A.	Vidrios Lirquen S.A.	Vidrieria Argentina S.A.	Vidrios Lirquen S.A.
Cash flows from operating activities	3,993	1,229	1,476	663
Cash flows from investing activities	(3,578)	(323)	(2,949)	(93)
Cash flows from financing activities	882	(505)	1,839	(311)
Increase/(decrease) in cash and cash equivalents (net of bank overdrafts)	1,297	401	366	259
Cash and cash equivalents (net of bank overdrafts) at the beginning of the period	1,947	899	2,208	509
Effect of foreign exchange rates	(169)	45	(627)	131
Cash and cash equivalents (net of bank overdrafts) at the end of the period	3,075	1,345	1,947	899

43. Significant subsequent events

Subsequent to the balance sheet date, the Group has agreed an additional settlement with its insurer and broker following damage to the Group's facility at Ottawa, Illinois, U.S.A, as a consequence of a Tornado on 28 February 2017. The Group has been engaged in a dispute with its insurer and its broker regarding the value of insurance coverage following this event, and on 9 June 2022 reached a settlement that results in an additional amount of \$20 m (¥2,443 million; converted to 122 yen to the dollar exchange rate) being paid to the Group. This is expected to be recorded as exceptional income in the year to 31 March 2023.

INDEPENDENT AUDITOR'S REPORT

The Board of Directors
Nippon Sheet Glass Company, Limited

Opinion

We have audited the accompanying consolidated financial statements of Nippon Sheet Glass Company, Limited (the Company) and its subsidiaries (the Group), which comprise the consolidated balance sheet as at 31 March 2022, 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.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at 31 March 2022, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards (IFRSs).

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in Japan. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with the ethical requirements that are relevant to our audit of the consolidated financial statements in Japan, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of the audit of the consolidated financial statements as a whole, and in forming the auditor's opinion thereon, and we do not provide a separate opinion on these matters.

INDEPENDENT AUDITOR'S REPORT

The Board of Directors
Nippon Sheet Glass Company, Limited

Valuation of goodwill and intangible assets with an indefinite useful life for Automotive Europe	
Description of Key Audit Matter	Auditor's Response
<p>The Company performs impairment testing on an annual basis on goodwill and intangible assets with an indefinite useful life. In the year ended 31 March 2022, no impairment loss was recognized because the value in use exceeds the carrying amount of assets within the respective Cash Generating Unit (CGU) as a result of the impairment test.</p> <p>As disclosed in Note 12. Goodwill and Note 13. Intangible Assets to the consolidated financial statements, as at 31 March 2022, goodwill in the amount of ¥35,260 million and the Pilkington brand, intangible assets with an indefinite useful life, in the amount of ¥9,441 million are allocated to the Automotive Europe CGU, which has the least amount of headroom. As disclosed, it is sensitive where an increase in the discount rate of 1.08 percent would result in a goodwill impairment of ¥17,200 million.</p> <p>The value in use is considered to be the current value of the future cash flows as calculated by discounting the projected future operating cash flows, based on future forecast for the next five years with a perpetuity thereafter.</p> <p>The key assumptions in estimating the value in use are glass prices, growth in market volumes, input prices, in the period used for discounted cash flow calculation, perpetuity growth rate, and discount rate. The input prices estimate is based on recent negotiations with suppliers and also generally available industry forecasts including price increase in material. The glass price estimate includes the Group's expectation that the majority of its increased input costs will be recovered through higher sales prices by agreement with customers.</p> <p>With respect to the valuation of goodwill and intangible assets with an indefinite useful life for Automotive Europe, the CGU has the least amount of headroom and the assumption used in the calculation involves high uncertainty at 31 March 2022. The estimates of the key assumptions include judgements by management, including the input cost increases and the outlook for the sales price negotiation with customers.</p> <p>Therefore, we deemed the estimate of the value in use of Automotive Europe CGU as key audit matter.</p>	<p>We have primarily performed the following audit procedures regarding the valuation of goodwill and intangible assets with an indefinite useful life.</p> <ul style="list-style-type: none"> - With respect to the assumption of glass prices, we obtained a schedule regarding the progress of the negotiations with customers to recover increased input costs and discussed with management. We obtained and inspected agreements and invoices for the price increases agreed. - With respect to the assumption of the growth in market volumes, we discussed with management, including the expected recovery of the market volumes in the period used for discounted cash flow calculations, and compared with available information from external sources regarding the outlook for market size. - With respect to the estimate of input prices, we discussed with management particularly whether the increasing cost in material are reflected in the budgets, and how proportionate compared to corresponding selling price noted above. We also compared the estimated efficiencies of the operational cost savings with actual achievement in the past. With respect to the impact of cost reduction from restructuring programs, we assessed consistency with the progress of respective initiatives and assessed that benefits associated with initiatives that have not been approved by 31 March 2022 are not included. We compared return on sales percentage in the period used for discounted cash flow calculations to the historic performance achieved. - With respect to the perpetuity growth rate, we reviewed and compared available information from external sources, including an Organization for Economic Co-operation and Development (OECD) report on the forecast for GDP growth. - With respect to the discount rate, we compared with an estimate using available information from external sources prepared by a valuation specialist in our network firm. - With respect to future operating cash flows, we evaluated the consistency with the underlying budgets approved by the management. - To evaluate the effectiveness of management's estimation process, we assessed the historic variance of actual results to budgets. - To evaluate the effectiveness of management's estimation process, we assessed the historic variance of actual results to budgets.

INDEPENDENT AUDITOR'S REPORT

The Board of Directors
Nippon Sheet Glass Company, Limited

Valuation of investment in and loan receivable from joint venture operating in Russia	
Description of Key Audit Matter	Auditor's Response
<p>As disclosed in Note 21. Investments accounted for using the equity method and Note 39. Related party transactions, the Company has a joint venture investment in SP Glass Holdings BV ("SPGH"), a company registered in the Netherlands and owning an operating architectural glass company in Russia (the "JV's subsidiary in Russia"). The Company has loan receivables (financial receivables) from SPGH and the JV's subsidiary in Russia at 31 March 2022.</p> <p>As a consequence of the invasion of Ukraine by Russia, the Company announced suspension of all glass trading arrangements with the JV's subsidiary in Russia, suspension of approval of significant new growth investment in it and suspension of all other commercial trading with Russian companies from March 2022.</p> <p>Considering these circumstances, the Group has assessed a recoverable amount of the investment and the financial receivables as at 31 March 2022, based on the future trading environment together with any relevant legal restrictions.</p> <p>As a result of the assessment, the Group recorded an impairment of a financial receivable owed by the JV's subsidiary in Russia of ¥3,374 million as "Impairment of financial receivables owed by joint ventures and associates", given that capital controls in Russia in place prevent the legal repayment of this receivable to the Group. The Group recorded a partial impairment of its equity investment in SPGH in the Netherlands of ¥3,422 million as "Other losses on equity method investments".</p> <p>As the balance of investment and financial receivables related to the business in Russia after the valuation, investment in SPGH of ¥1,647 million and the financial receivables, deemed to be net investments, from SPGH of ¥5,302 million are recorded in the consolidated balance sheet at 31 March 2022.</p> <p>The recoverability of the financial receivables from and the investment in SPGH is based on the management's assessment with respect to the future trading environment of the JV's subsidiary in Russia together with relative presence of legal restrictions and feasibilities relevant to repayments of receivables and dividends from the JV's subsidiary in Russia as at 31 March 2022. The expected future trading environment is assessed using reasonable estimates of possible future trading conditions. The JV's subsidiary in Russia continued to trade profitably through the year to 31 March 2022, however, there is uncertainty where the outlook for the Russian architectural glass market is uncertain, exports of glass from Russia into Western Europe are expected to cease following the imposition of sanctions by the European Union. Domestic demand for glass in Russia is expected to be impacted by difficult economic conditions. Therefore, the Group calculated the recoverable amount using an EBITDA multiple-based valuation methodology. This estimated EBITDA determined using a stress-tested scenario for the following financial year and multiplier is applied that is considered reasonable for a market with a high inherent level of uncertainty. As at 31 March 2022, the Group assessed that SPGH was still able to receive dividends from the JV's subsidiary in Russia.</p> <p>The Group has changed its accounting policies to present "Impairment of financial receivables owed by joint ventures and associates" and "Other losses on equity method investments" in the consolidated income statement adjacent to "Share of post-tax profit of joint ventures and associates accounted for using the equity method".</p>	<p>We have primarily performed the following audit procedures regarding the valuation of the investment in and the financial receivable from SPGH, the joint venture owning an operating company in Russia and the financial receivable from the JV's subsidiary in Russia, and the disclosure in the consolidated financial statements.</p> <ul style="list-style-type: none"> • We discussed with management about the impact of the conflict and related sanctions in Ukraine and Russia on the operating activities and occurrence or change in business risks. • With respect to the legal restrictions and feasibilities relevant to repayments of receivables and dividend payment as at 31 March 2022, we inquired of management, obtained and inspected the related documents. We discussed these with a legal expert in our network firm. • With respect to the estimated EBITDA used, we assessed the consistency with the underlying future forecast approved by SPGH and compared with the historical trade performance. • With respect to the stress-tested scenario of EBITDA, we discussed with management and assessed the consistency with the latest material of the management meeting of the JV's subsidiary in Russia, held after 31 March 2022. In the meeting material, we inspected the trade profitability of JV's subsidiary in Russia through the year to 31 March 2022. We assessed whether the impact from the export suspension of glass from Russia into Western Europe and economic conditions in Russia are considered in the stress-tested scenario, based on available information from external sources. We assessed whether the scenario is consistent with the regarding suspension of all glass trading arrangements between the JV's subsidiary in Russia and the Group. • With respect to the estimate of the multiple applied, we inquired of management whether it is considered reasonable for a market with a high inherent level of uncertainty and assessed the consistency with the Group's announcement of suspension of approval of significant new growth investment in the JV's subsidiary in Russia. We also discussed with a valuation specialist in our network firm. • We assessed whether the change in accounting policies result in information that is relevant and reliable, as required by the accounting standard. • We assessed the disclosures in the related notes.

INDEPENDENT AUDITOR'S REPORT

The Board of Directors
Nippon Sheet Glass Company, Limited

Valuation of investment in and loan receivable from joint venture operating in Russia	
Description of Key Audit Matter	Auditor's Response
The valuation of the investment and financial receivables related to the business in Russia are subject to uncertainty, including the cease of exports of glass from Russia into Western Europe and the domestic demand for glass in Russia at 31 March 2022. And the elements in calculating recoverable amount, including determining the valuation methodology, reflecting future trading environment to the EBITDA, estimate of the multiple and the rationale required by the accounting standard for the change in accounting policies, include judgements by management. Therefore, we deemed the estimate of the value in use of goodwill as key audit matter.	

Other Information

The other information comprises the information included in the annual consolidated financial statements that contains audited consolidated financial statements but does not include the consolidated financial statements and our audit report thereon. Management is responsible for preparation and disclosure of the other information. The Audit Committee is responsible for overseeing the Group's reporting process of the other information.

Our opinion on the consolidated financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in this regard.

Responsibilities of Management and the Audit Committee for the Consolidated Financial Statements

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

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern and disclosing, as required by IFRSs, matters related to going concern.

The Audit Committee is responsible for overseeing the Group's financial reporting process.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with auditing standards generally accepted in Japan, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion.
- Consider internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances for our risk assessments, while the purpose of the audit of the consolidated financial statements is not expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation in accordance with IFRSs.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

INDEPENDENT AUDITOR'S REPORT

The Board of Directors
Nippon Sheet Glass Company, Limited

We communicate with the Audit Committee regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Audit Committee with a statement that we have complied with the ethical requirements regarding independence that are relevant to our audit of the consolidated financial statements in Japan, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the Audit Committee, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Interest Required to Be Disclosed by the Certified Public Accountants Act of Japan

Our firm and its designated engagement partners do not have any interest in the Group which is required to be disclosed pursuant to the provisions of the Certified Public Accountants Act of Japan.

Ernst & Young ShinNihon LLC
Tokyo, Japan
30 June 2022

Tomohiro Miyagawa
Designated Engagement Partner
Certified Public Accountant

Ryuichiro Umano
Designated Engagement Partner
Certified Public Accountant

Tomohiro Hazama
Designated Engagement Partner
Certified Public Accountant