AGC

Financial Review 2016

For the year ended December 31, 2016

CONTENTS

CONSOLIDATED ELEVEN-YEAR SUMMARY

Asahi Glass Co., Ltd. and Consolidated Subsidiaries
For the years ended December 31

(Unit: Millions of yen)

	Note	**2016/12** IFRS	2015/12 IFRS	2014/12 IFRS	2013/12 IFRS	2012/12 IFRS
Operating Results						
Net sales		**¥1,282,570**	¥1,326,293	¥1,348,308	¥1,320,006	¥1,189,952
Operating profit		**96,292**	71,172	62,131	79,894	101,751
Profit before tax		**67,563**	84,522	41,163	44,381	74,998
Profit for the year attributable to owners of the parent	3	**47,438**	42,906	15,913	16,139	48,433
Segment Information	4					
Sales to customers						
Glass Operations		**¥ 679,071**	¥ 691,411	¥ 684,607	¥ 664,239	¥ 562,140
Electronics Operations		**257,069**	286,858	317,378	334,710	341,407
Chemicals Operations		**314,392**	315,636	314,694	287,960	254,086
Ceramics/Other Operations		**32,037**	32,388	31,628	33,096	32,316
Financial Position						
Total assets		**¥1,981,451**	¥1,991,262	¥2,077,338	¥2,120,629	¥1,916,394
Total current assets		**673,436**	637,546	627,178	682,179	638,873
Property, plant and equipment		**937,869**	982,296	1,066,193	1,059,946	956,806
Total current liabilities		**377,490**	346,157	355,999	448,018	368,852
Total equity/Total net assets		**1,168,743**	1,163,767	1,180,490	1,145,145	960,747
Total shareholders' equity		**—**	—	—	—	—
Non-controlling interests in consolidated subsidiaries		**73,305**	69,594	67,364	57,929	52,443
Per Share Data (Yen)						
Basic — EPS	5	**¥ 41.03**	¥ 37.12	¥ 13.77	¥ 13.97	¥ 41.90
Diluted — EPS	6	**40.85**	36.97	13.58	13.73	39.45
Cash dividends		**18.00**	18.00	18.00	18.00	26.00
Equity/Net assets	7	**947.32**	946.48	963.04	940.69	786.01
Other Data						
Return on equity (ROE)	8	**4.3%**	3.9%	1.4%	1.6%	5.8%
Interest-bearing debt	9	**¥ 433,968**	¥ 468,733	¥ 499,257	¥ 575,014	¥ 538,600
Depreciation and amortization		**121,803**	137,381	137,199	135,751	117,856
Capital expenditures		**126,025**	125,103	118,169	138,480	155,329
Research and development expenses		**39,212**	38,927	44,758	46,882	47,074
Number of shares issued and outstanding (Thousands of shares)		**1,186,075**	1,186,705	1,186,705	1,186,705	1,186,705
Number of employees		**50,963**	50,852	51,114	51,448	49,961

Notes: 1. The Company maintains its accounting records in Japanese yen. The U.S. dollar amounts included in this consolidated eleven-year summary represent the arithmetical results of translating Japanese yen to U.S. dollars on the basis of ¥116=US$1, the approximate exchange rate as of December 31, 2016. The inclusion of such U.S. dollar amounts is solely for convenience and is not intended to imply that Japanese yen amounts have been or could be converted, realized or settled in U.S. dollars at ¥116=US$1 or at any other rate.

2. The Company has prepared consolidated financial statements in accordance with International Financial Reporting Standards ("IFRS") from the fiscal year ended December 31, 2013 instead of Japanese Generally Accepted Accounting Principles ("JGAAP"). The date of transition to IFRS was January 1, 2012.

3. (IFRS): Under IFRS, profit for the year is presented before deducting non-controlling interests. For comparison, the Company shows profit for the year attributable to owners of the parent.

				(Unit: Millions of yen)				(Unit: Thousands of U.S. dollars)
2013/12	2012/12	2011/12	2010/12	2009/12	2008/12	2007/12	2006/12	**2016/12**
JGAAP	JGAAP	JGAAP	JGAAP	JGAAP	JGAAP	JGAAP	JGAAP	IFRS
¥1,320,006	¥1,189,956	¥1,214,672	¥1,288,947	¥1,148,198	¥1,444,317	¥1,681,238	¥1,620,540	**$11,056,638**
70,725	92,945	165,663	229,205	86,682	154,013	197,452	136,611	**830,103**
36,653	68,970	143,359	192,158	40,499	70,078	102,227	38,291	**582,440**
10,333	43,790	95,290	123,184	19,985	39,178	69,634	44,997	**408,948**
¥ —	¥ 562,140	¥ 553,339	¥ 555,999	¥ 522,143	¥ 738,082	¥ 861,348	¥ 806,325	**$ 5,854,060**
—	341,412	385,041	445,917	368,559	370,576	463,690	475,786	**2,216,112**
—	254,086	245,056	256,654	230,932	299,874	315,601	302,649	**2,710,276**
—	32,316	31,235	30,376	26,562	35,783	40,598	35,779	**276,181**
¥2,119,664	¥1,899,373	¥1,691,556	¥1,764,038	¥1,781,875	¥1,832,846	¥2,108,089	¥2,149,546	**$17,081,474**
695,240	651,248	606,774	626,916	558,509	592,704	677,119	722,824	**5,805,483**
1,060,777	957,661	842,563	861,395	928,285	958,588	1,053,158	1,008,116	**8,085,078**
457,928	372,816	419,410	402,237	335,583	631,524	644,637	618,041	**3,254,224**
1,151,870	996,949	850,460	849,815	808,312	780,864	1,027,341	991,751	**10,075,371**
—	—	—	—	—	—	—	—	**—**
58,295	53,243	41,444	40,296	52,436	49,815	72,512	81,263	**631,940**
¥ 8.94	¥ 37.88	¥ 81.90	¥ 105.52	¥ 17.12	¥ 33.53	¥ 59.35	¥ 38.37	**$ 0.35**
8.58	35.12	75.88	97.84	17.04	33.52	56.16	36.61	**0.35**
18.00	26.00	26.00	26.00	16.00	24.00	20.00	16.00	**0.16**
944.47	815.04	698.51	692.59	646.53	625.51	813.28	776.26	**8.17**
1.0%	5.0%	11.8%	15.8%	2.7%	4.7%	7.5%	5.1%	**4.3%**
¥ —	¥ 540,846	¥ 483,297	¥ 508,509	¥ 600,678	¥ 597,612	¥ 531,233	¥ 574,879	**$ 3,741,103**
—	117,856	110,056	109,966	136,672	135,317	134,747	125,915	**1,050,026**
—	155,334	152,705	117,439	124,937	252,147	231,131	252,731	**1,086,422**
—	48,360	46,442	39,399	44,958	37,700	33,943	30,781	**338,034**
—	1,186,705	1,186,705	1,186,705	1,186,705	1,186,705	1,186,682	1,186,013	**1,186,075**
—	49,961	50,957	50,399	47,618	47,770	49,710	54,228	**50,963**

4. Beginning from fiscal year 2011, the Company adopted the "Accounting Standard for Disclosures about Segments of an Enterprise and Related Information" (ASBJ Statement No. 17, March 27, 2009) and the "Guidance on the Accounting Standard for Disclosures about Segments of an Enterprise and Related Information" (ASBJ Guidance No. 20, March 21, 2008) and restated the amount of the previous year.
5. (IFRS): Based on profit for the year attributable to owners of the parent.
6. (IFRS): Based on profit for the year attributable to owners of the parent.
7. (IFRS): Based on equity attributable to owners of the parent.
8. (IFRS): Return on equity attributable to owners of the parent.
9. Interest-bearing debt comprises short-term bank loans, long-term bank loans due within one year, commercial paper, bonds, long-term bank loans, and lease obligations.

The discussion and analysis herein of sales and operating profit are based on reportable segment information. Sales for reportable segments include all inter-segment transactions.

Scope of Consolidation

Number of consolidated subsidiaries: 204
Major subsidiaries:
AGC Techno Glass Co., Ltd., Ise Chemicals Corporation, AGC Glass Europe S.A. and AGC Flat Glass North America, Inc.

Currency Fluctuations

The Japanese yen strengthened against the U.S. dollar and the euro during fiscal year 2016. The year-end yen-U.S. dollar rate was ¥116.5=US$1.00, compared with ¥120.6=US$1.00 in fiscal year 2015, and the year-end yen-euro rate was ¥122.7=€1.00, compared with ¥131.8=€1.00 in the previous fiscal year.

Overview of the Period Ended December 31, 2016

■ Overview

In fiscal year 2016, the global economic environment surrounding the AGC Group remained on a gradual recovery track on the whole. In Japan, the economy showed a gradual upward trend thanks to factors such as economic measures taken by the government although some sections were lagging behind the recovery trend. The European economy made a gradual recovery and the United States continued its economic recovery along with increased consumer spending and other factors. The economy was picking up in China and other emerging countries.

In such a business environment, the AGC Group posted net sales of ¥1,282.6 billion, down ¥43.7 billion, or a 3.3% decrease, from the previous fiscal year, due to such reasons as the strong yen. Operating profit increased by ¥25.1 billion, or 35.3%, year on year to ¥96.3 billion, owing to positive factors including increased shipments of automotive glass and chemical products, the price hike of architectural glass and the cost decrease mainly from the decline of raw materials and fuel prices. Profit before tax was ¥67.6 billion, down ¥17.0 billion or a 20.1% decrease on a year-on-year basis, mainly due to the impact on income from revision of the defined benefit corporate pension plan posted in the previous year, and profit for the year attributable to owners of the parent was ¥47.4 billion, up ¥4.5 billion or a 10.6% increase on a year-on-year basis, due to such as the decrease in income tax expenses.

■ Consolidated Net Sales

Consolidated net sales were ¥1,282.6 billion in fiscal year 2016.

By reportable segment, the Glass Operations recorded sales of ¥680.0 billion in the year under review. In the flat glass business, shipments of architectural glass remained robust in Europe and North America and stayed at the same level as the same period of the previous year in Japan and other Asian countries. Sales decreased on a year-on-year basis, mainly affected by the strong yen, although selling prices increased mainly in Europe and North America.

In the automotive glass business, both shipments and sales increased from the same period of the previous year owing to increased auto production in Europe, China and North America. Consequently, AGC Group's sales increased on a year-on-year basis.

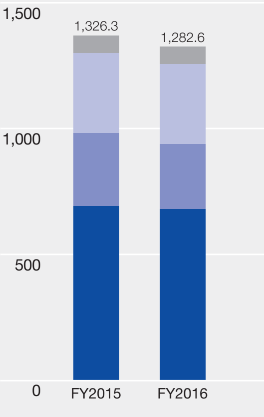
Sales in the Electronics Operations were ¥258.1 billion. Regarding LCD glass substrates, the selling prices decreased but shipments increased year on year. Shipments of specialty glass for display applications decreased in the field of electronic device applications on a year-on-year basis while the shipments of cover glass for car-mounted displays increased. Shipments of glass for solar power systems decreased from the previous year.

Regarding electronic materials, shipments of optoelectronic materials decreased on a year-on-year basis despite a recovery in the second half of the year.

Sales in the Chemicals Operations were ¥316.6 billion. Sales of chlor-alkali products and urethane materials increased year on year as shipments in Southeast Asia were strong and new facilities in Indonesia started operation. In the categories of fluorine products and specialty products, sales decreased year on year mainly because shipments of some products decreased and the Japanese yen remained strong.

Sales by Reportable Segment

(Billions of yen)



Sales by Reportable Segment

(Unit: Millions of yen)

	FY2015	FY2016
Glass Operations	¥ 692,906	**¥ 680,007**
Electronics Operations	288,582	**258,139**
Chemicals Operations	318,457	**316,599**
Ceramics/Other Operations	68,132	**70,765**
Corporate or Elimination	(41,785)	**(42,940)**
Net sales	¥1,326,293	**¥1,282,570**

■ Profit and Expenses

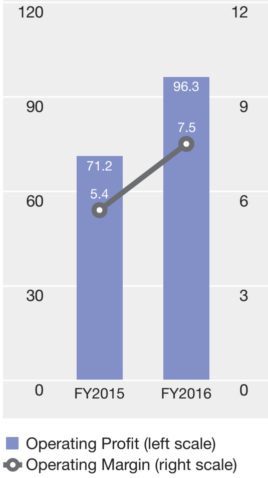
Cost of sales decreased by ¥59.1 billion or 6.0% to ¥933.6 billion from the previous fiscal year. The cost-to-sales ratio stood at 72.8% mainly due to the declines in raw material and fuel prices.

Cost of Sales and SG&A Expenses

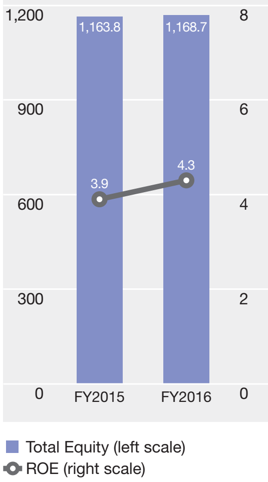
(Unit: Millions of yen)

	FY2015	FY2016
Cost of sales	¥992,728	**¥933,623**
Cost-to-sales ratio	74.8%	**72.8%**
Gross profit	333,565	**348,946**
SG&A expenses	264,750	**254,469**
SG&A expenses as a percentage of net sales	20.0%	**19.8%**

Operating Profit and Operating Margin
(Billions of yen/%)



Total Equity and ROE
(Billions of yen/%)



Operating profit, the net result of gross profit minus selling, general and administrative (SG&A) expenses and share of profit (loss) of associates and joint ventures accounted for using equity method, was ¥96.3 billion, up ¥25.1 billion or 35.3% year on year. The operating margin increased from 5.4% to 7.5%.

Other expenses were ¥31.5 billion, compared with ¥31.2 billion in fiscal year 2015.

Expenses for restructuring programs of ¥11.3 billion and impairment loss of ¥10.3 billion were recorded, mainly because of the restructuring of electronic materials areas and impairment loss on some of fixed assets such as several business units included in Electronics segment and automotive.

In addition, the AGC Group recorded a foreign exchange loss, net of ¥0.2 billion, compared to a ¥3.5 billion foreign exchange loss in the previous fiscal year.

Profit before tax decreased by ¥17.0 billion year on year to ¥67.6 billion, mainly due to the impact on income from revision of the defined benefit corporate pension plan in the previous fiscal year.

Consequently, net profit for the year attributable to owners of the parent was ¥47.4 billion, up ¥4.5 billion or a 10.6% from ¥42.9 billion in the previous fiscal year. Basic earnings per share increased by 10.5% year on year from ¥37.12 to ¥41.03. ROE increased by 0.4 percentage points to 4.3%.

Profit

(Unit: Millions of yen)

	FY2015	**FY2016**
Operating profit	¥71,172	**¥96,292**
Operating margin	5.4%	**7.5%**
Profit before tax	84,522	**67,563**
Profit for the year attributable to owners of the parent	42,906	**47,438**
Percentage of net sales	3.2%	**3.7%**
Per share data (yen)		
—Net income—basic	37.12	**41.03**
—Net income—diluted	36.97	**40.85**
Return on equity (ROE)	3.9%	**4.3%**

Performance by Reportable Segment

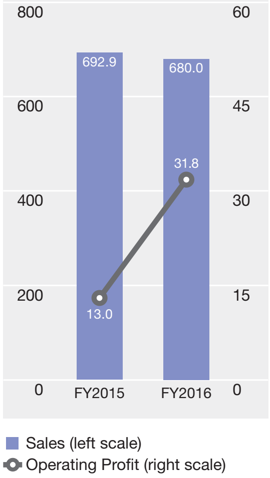
■ Glass Operations

In the flat glass business, shipments of architectural glass remained robust in Europe and North America and stayed at the same level as the same period of the previous year in Japan and other Asian countries. Sales decreased on a year-on-year basis, mainly affected by the strong yen, although selling prices increased mainly in Europe and North America.

In the automotive glass business, both shipments and sales increased from the same period of the previous year owing to increased auto production in Europe, China and North America. Consequently, AGC Group's sales increased on a year-on-year basis.

As a result, net sales from the Glass Operations for the fiscal year were ¥680.0 billion, down ¥12.9 billion or a 1.9% decrease from the previous fiscal year. Operating profit was ¥31.8 billion, up ¥18.8 billion or a 143.9% increase, mainly due to strong shipments of automotive glass, the increased selling prices of architectural glass products, and the declines in raw material and fuel prices.

Sales and Operating Profit of Glass Operations
(Billions of yen)



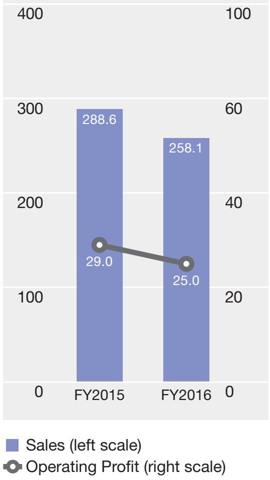
■ Electronics Operations

Regarding LCD glass substrates, the selling prices decreased but shipments increased year on year. Shipments of specialty glass for display applications decreased in the field of electronic device applications on a year-on-year basis while the shipments of cover glass for car-mounted displays increased. Shipments of glass for solar power systems decreased from the previous fiscal year.

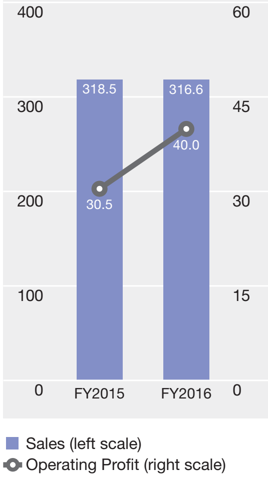
Regarding electronic materials, shipments of optoelectronic materials decreased on a year-on-year basis despite a recovery in the second half of the year.

As a result, net sales from the Electronics Operations for the fiscal year were ¥258.1 billion, down ¥30.4 billion or a 10.5% decrease, and operating profit was ¥25.0 billion, down ¥4.1 billion or a 14.0% decrease from the previous fiscal year.

Sales and Operating Profit of Electronics Operations
(Billions of yen)



Sales and Operating Profit of Chemicals Operations
(Billions of yen)



Chemicals Operations

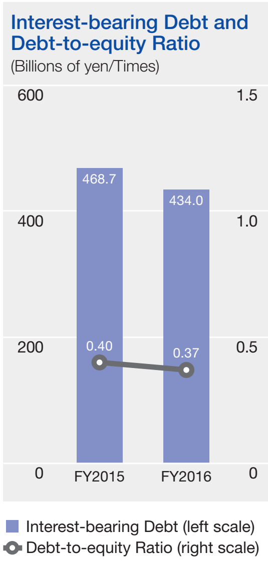
Sales of chlor-alkali products and urethane materials increased year on year as shipments in Southeast Asia were strong and new facilities in Indonesia started operation. In the categories of fluorine products and specialty products, sales decreased year on year mainly because shipments of some products decreased and the Japanese yen remained strong.

As a result, net sales from the Chemicals Operations for the fiscal year were ¥316.6 billion, down ¥1.9 billion or a 0.6% decrease from the previous fiscal year. Operating profit was ¥40.0 billion, up ¥9.5 billion or a 31.0% increase from the previous fiscal year, mainly due to an increase in the sales volume and declines in raw material and fuel prices.

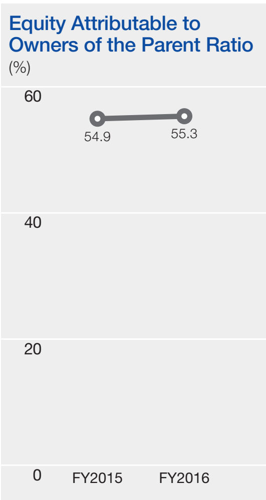
Sales and Operating Profit by Reportable Segment

(Unit: Millions of yen)

	FY2015	**FY2016**
Glass Operations		
Sales	¥692,906	**¥680,007**
Operating profit	13,046	**31,825**
Operating margin	1.9%	**4.7%**
Electronics Operations		
Sales	288,582	**258,139**
Operating profit	29,043	**24,985**
Operating margin	10.1%	**9.7%**
Chemicals Operations		
Sales	318,457	**316,599**
Operating profit	30,528	**39,998**
Operating margin	9.6%	**12.6%**



* Debt-to-equity Ratio = Interest-bearing Debt/Total Equity



Assets, Liabilities and Equity

We continue to adhere to a policy of maintaining appropriate liquidity, securing the funds necessary to conduct our operations and ensuring the soundness of our balance sheet. With the aim of facilitating the stable procurement of long-term funds, we have obtained an A– rating from Standard & Poor's, an A2 rating from Moody's Investors Service and an AA– rating from Rating and Investment Information, Inc.

Total assets as of the end of the fiscal year under review were ¥1,981.5 billion, down ¥9.8 billion from the end of the previous fiscal year. This decrease was mainly due to a decrease in property, plant and equipment stemming from the appreciation of the yen compared to the end of the previous fiscal year.

Total liabilities as of the end of the fiscal year under review were ¥812.7 billion, down ¥14.8 billion from the end of the previous fiscal year. This decrease was mainly due to repayment or redemption of interest-bearing debt.

Total equity as of the end of the fiscal year under review was ¥1,168.7 billion, up ¥5.0 billion from the end of the previous fiscal year. This remained at the same level as the end of the previous fiscal year.

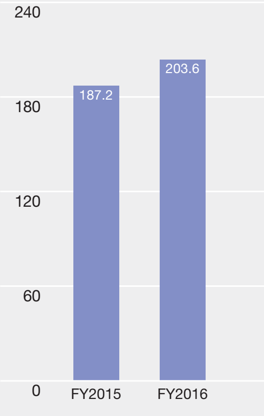
As a consequence of the above, the equity attributable to owners of the parent ratio for fiscal year 2016 increased by 0.4 percentage points from 54.9% to 55.3%. Equity attributable to owners of the parent per share increased from the previous fiscal year to ¥947.32.

Summary of Assets, Liabilities and Equity

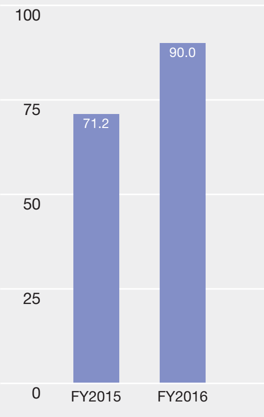
(Unit: Millions of yen)

	FY2015	**FY2016**
Total assets	¥1,991,262	**¥1,981,451**
Total current assets	637,546	**673,436**
Inventories	235,374	**227,284**
Property, plant and equipment	982,296	**937,869**
Total current liabilities	346,157	**377,490**
Interest-bearing debt	468,733	**433,968**
Total equity	1,163,767	**1,168,743**
Equity attributable to owners of the parent ratio	54.9%	**55.3%**
Equity attributable to owners of the parent per share (Yen)	946.48	**947.32**
Debt-to-equity ratio (Times)	0.40	**0.37**

Net Cash from Operating Activities
(Billions of yen)



Free Cash Flow
(Billions of yen)



Cash Flows

The free cash flow for the fiscal year under review, which is the sum of cash flows from operating activities and investing activities, increased ¥18.8 billion or 26.4% from the previous fiscal year to ¥90.0 billion mainly due to an increase in operating profit.

Cash and cash equivalents as of the end of the period (net cash) increased ¥42.5 billion or 40.5% from the end of the previous fiscal year to ¥147.3 billion mainly due to the increase in free cash flow, despite the repayment or redemption of long-term interest-bearing debt and payment of dividends in financing activities.

■ Cash Flows from Operating Activities

Net cash from operating activities was ¥203.6 billion for the fiscal year under review, up ¥16.5 billion or 8.8% from the previous fiscal year.

■ Cash Flows from Investing Activities

Net cash used in investing activities decreased by ¥2.4 billion or 2.0% year on year to ¥113.6 billion. This expenditure includes capital investment with a focus on growth areas and industries.

■ Cash Flows from Financing Activities

Net cash used in financing activities for the fiscal year under review was ¥46.5 billion, up ¥11.0 billion or 31.2% from the previous fiscal year. This expenditure is mainly due to repayment or redemption of long-term interest-bearing debt and payment of dividends.

Summary of Cash Flow Statements

(Unit: Millions of yen)

	FY2015	**FY2016**
Net cash from operating activities	¥ 187,170	**¥ 203,637**
Profit before tax	84,522	**67,563**
Depreciation and amortization	137,381	**121,803**
Net cash used in investing activities	(115,951)	**(113,596)**
Purchase of property, plant and equipment and intangible assets	(126,491)	**(118,379)**
Free cash flow	71,218	**90,041**
Net cash used in financing activities	(35,417)	**(46,450)**
Effect of exchange rate changes on cash and cash equivalents	(623)	**(1,098)**
Net increase (decrease) in cash and cash equivalents	35,176	**42,493**
Cash and cash equivalents at beginning of year	69,655	**104,831**
Cash and cash equivalents at end of year	104,831	**147,325**

Business Risks

Set out below are risks associated with the AGC Group's operations and other risks that may materially influence the decisions of investors to invest in the AGC Group. However, this section does not include all possible risks relating to the AGC Group; there may exist additional risks not stated below. Any such risks are also likely to influence investors' decisions.

Forward-looking statements in this section are based on information available as of March 30, 2017.

(1) Economic conditions in markets in which the AGC Group's products are sold

Demand for the AGC Group's products is impacted by trends in industries such as construction and building materials, automobiles, electronics, displays, and chemicals. The AGC Group's products are supplied throughout the world, for example in Asia, the United States and Europe, as well as in Japan, and sales are therefore influenced by local economic conditions. Although the AGC Group is working hard to build an earnings structure that is resilient to changes in the business environment by improving productivity and reducing fixed and variable costs, its performance and financial position are susceptible to declining demand from the industries mentioned as well as economic downturns in the regions where its products are primarily sold.

(2) Expansion of operations overseas

The AGC Group has substantial operations overseas through exports of products and manufacturing abroad. The risks associated with operating abroad include deteriorating political and economic conditions, the imposition of regulations on imports and foreign investments, unexpected changes in laws, the worsening of public security, economic sanctions between countries, and the occurrence of terrorist attacks and war. These events may hinder the AGC Group's operations overseas and have a serious effect on its performance and financial position.

(3) Competitive edge, and development and commercialization of new technologies and products

In every field in which the AGC Group operates, there are competitors supplying products similar to those of the AGC Group. Accordingly, to maintain its competitive edge, the AGC Group is striving to identify the needs of customers, and to develop and commercialize new technologies and products. However, should the AGC Group fail to appropriately respond to technical changes and customer needs or take too long to develop and commercialize new technologies and products, growth could be hampered and profitability could decline. This may significantly impact the AGC Group's performance and financial position.

(4) Procurement of production materials and resources

Because the AGC Group partially uses special materials of which suppliers are limited, if supply tightens or is delayed, the AGC Group's performance and financial position may be greatly affected.

(5) Government regulations

In the countries and regions where it operates, the AGC Group is subject to the local government approval and authorization of investments, regulations on exports and imports, and laws governing commercial transactions, labor, patents, taxation, foreign exchange, and other issues. Consequently, amendments to these regulations and laws may significantly influence the AGC Group's performance and financial position.

(6) Environmental regulations

The AGC Group engages primarily in glass and chemicals operations, which are characterized by a heavy environmental impact because they consume a great quantity of resources and energy. Recognizing this, the AGC Group is making great efforts to reduce its environmental impact by improving facilities, establishing related management systems, and raising production efficiency by decreasing unit resource consumption and unit energy consumption. However, if environmental regulations become more stringent and public calls for greater corporate responsibility in environmental protection grow louder as greenhouse gas, soil pollution, chemical substance and other problems widen, the AGC Group's performance and financial position may be significantly impacted.

(7) Product liability

The AGC Group is making every effort to ensure that products are of the highest quality, according to their individual characteristics. Despite these efforts, the possibility remains that quality problems may occur because of unanticipated factors, prompting a major recall, for example. This could substantially influence the AGC Group's performance and financial position.

(8) Intellectual property rights

The AGC Group endeavors to acquire intellectual property rights that are useful for its present business activities and future operations alike, while investigating the rights and business conditions of third parties, in order to prevent intellectual property issues from arising. However, there is the possibility that the AGC Group will have disputes with third parties over intellectual property or that third parties will infringe the AGC Group's intellectual property rights. This has the potential to materially influence the AGC Group's performance and financial position.

(9) Litigation and legal procedures

There is always a risk that other firms, corporate groups, or individuals may take legal actions against the AGC Group with respect to its operations at home and abroad. As of March 30, 2017, there were some lawsuits and legal proceedings pending. If these lawsuits and proceedings result in a disadvantageous outcome for the AGC Group, its performance and financial position may be significantly impacted.

(10) Effect of natural disasters and accidents

To minimize the adverse impact on business caused by the suspension of production, the AGC Group regularly conducts inspections of all facilities for maintenance purposes and to prevent potential damage from a disaster. However, there is no guarantee that the effects of disasters (including earthquakes, power outages, and other disruptions) occurring at manufacturing facilities can be completely prevented or mitigated.

Given that some of the AGC Group's products cannot be replaced by alternatives, should production cease at some facilities temporarily or for an extended period because of a major earthquake or other occurrence, the AGC Group's ability to manufacture such products is likely to sharply decline. Should this occur, the AGC Group's performance and financial position may be greatly affected.

(11) Exchange rate fluctuations

The AGC Group manufactures and sells products worldwide, and converts transaction accounts in local currencies, including sales, costs, and assets, into Japanese yen when preparing its consolidated financial statements. Even if the values of these items remain unchanged in local currency terms, they may change when converted into Japanese yen depending on exchange rates.

The AGC Group also manufactures products at its facilities worldwide, including Japan, and exports the products to a number of countries. The AGC Group generally procures raw materials and sells products in the local currency of each country/region, but there are some product sales and material purchases denominated in foreign currencies. Accordingly, fluctuations in exchange rates influence the prices of materials the AGC Group procures and the pricing for its products, and this impacts the AGC Group's performance and financial position.

(12) Retirement benefit obligations

The AGC Group calculates costs for employee retirement benefits and obligations based on actuarial assumptions of the returns on pension funds and a specific discount rate. If the actuarial assumptions and results diverge substantially because of deterioration in the market environment for pension fund management, future costs for retirement benefits will increase, and this may seriously impact the AGC Group's performance and financial position.

(13) Decline in fixed asset values

If the values of the AGC Group's fixed assets were to decline because of a drop in market values or profitability, the AGC Group's performance and financial position may be substantially impacted.

(14) Information security

Information systems are now playing an extremely important role in the AGC Group's business activities, and the AGC Group strives to protect its information assets, such as systems and data. Nevertheless, if important operations are interrupted or confidential data is leaked and so forth due to a disaster, attack by a hacker or computer virus, unauthorized access, or other unforeseen situation, it may have a significant impact on the AGC Group's performance and financial position.

1 FINANCIAL STATEMENTS (IFRS)

Consolidated Financial Statements (IFRS)

i) Consolidated Statements of Financial Position

(Unit: Millions of yen)

	Note	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
ASSETS			
Current assets			
Cash and cash equivalents	5, 25	¥ 104,831	**¥ 147,325**
Trade receivables	6, 25	241,294	**241,476**
Inventories	7	235,374	**227,284**
Other receivables	6, 25	36,733	**37,972**
Income tax receivables		6,448	**7,201**
Other current assets	25	12,863	**12,176**
Total current assets		637,546	**673,436**
Non-current assets			
Property, plant and equipment	8	982,296	**937,869**
Goodwill	9	34,231	**34,859**
Intangible assets	9	27,456	**27,400**
Investments accounted for using equity method	10	38,850	**36,889**
Other financial assets	25	232,877	**232,216**
Deferred tax assets	11	30,108	**29,421**
Other non-current assets		7,896	**9,358**
Total non-current assets		1,353,716	**1,308,015**
Total assets		¥1,991,262	**¥1,981,451**

	Note	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
		(Unit: Millions of yen)	
LIABILITIES AND EQUITY			
LIABILITIES			
Current liabilities			
Trade payables	12, 25	¥ 126,956	**¥ 137,590**
Short-term interest-bearing debt	13, 25	34,989	**36,689**
Long-term interest-bearing debt due within one year	13, 25	61,709	**66,669**
Other payables	12, 25	98,678	**110,829**
Income tax payables		4,737	**10,173**
Provisions	14	1,887	**4,259**
Other current liabilities	25	17,198	**11,279**
Total current liabilities		346,157	**377,490**
Non-current liabilities			
Long-term interest-bearing debt	13, 25	372,034	**330,609**
Deferred tax liabilities	11	32,666	**22,110**
Post-employment benefit liabilities	15	58,057	**66,865**
Provisions	14	12,821	**10,701**
Other non-current liabilities	25	5,758	**4,929**
Total non-current liabilities		481,338	**435,216**
Total liabilities		827,495	**812,707**
EQUITY			
Share capital	17	90,873	**90,873**
Capital surplus	17	100,802	**101,237**
Retained earnings	17	663,874	**690,890**
Treasury shares	17	(29,576)	**(29,259)**
Other components of equity	17	268,198	**241,696**
Total equity attributable to owners of the parent		1,094,172	**1,095,438**
Non-controlling interests		69,594	**73,305**
Total equity		1,163,767	**1,168,743**
Total liabilities and equity		¥1,991,262	**¥1,981,451**

ii) Consolidated Statements of Profit or Loss and Consolidated Statements of Comprehensive Income (Consolidated Statements of Profit or Loss)

(Unit: Millions of yen)

	Note	FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
Net sales	19	¥1,326,293	**¥1,282,570**
Cost of sales	20	(992,728)	**(933,623)**
Gross profit		333,565	**348,946**
Selling, general and administrative expenses	20	(264,750)	**(254,469)**
Share of profit (loss) of associates and joint ventures accounted for using equity method	10	2,357	**1,815**
Operating profit		71,172	**96,292**
Other income	20	46,009	**4,078**
Other expenses	20	(31,231)	**(31,534)**
Business profit		85,949	**68,837**
Finance income	22	6,021	**6,127**
Finance costs	22	(7,449)	**(7,401)**
Net finance costs		(1,427)	**(1,274)**
Profit before tax		84,522	**67,563**
Income tax expenses	23	(38,235)	**(14,200)**
Profit for the year		¥ 46,287	**¥ 53,362**
Attributable to owners of the parent		¥ 42,906	**¥ 47,438**
Attributable to non-controlling interests		3,380	**5,923**
Earnings per share			
Basic earnings per share (yen)	24	¥ 37.12	**¥ 41.03**
Diluted earnings per share (yen)	24	36.97	**40.85**

(Consolidated Statements of Comprehensive Income)

(Unit: Millions of yen)

	Note	FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
Profit for the year		¥ 46,287	**¥ 53,362**
Other comprehensive income			
Components of other comprehensive income that will not be reclassified to profit or loss, net of tax			
Remeasurement of the net defined benefit liability (asset)	18	6,138	**(10,335)**
Net gain (loss) on revaluation of financial assets measured at FVTOCI(Note)	18	5,011	**4,996**
Share of other comprehensive income of associates and joint ventures accounted for using equity method	10, 18	(12)	**97**
Total		11,137	**(5,241)**
Components of other comprehensive income that may be reclassified to profit or loss, net of tax			
Net gain (loss) in fair value of cash flow hedges	18	(1,872)	**2,757**
Exchange differences on translation of foreign operations	18	(53,308)	**(24,716)**
Share of other comprehensive income of associates and joint ventures accounted for using equity method	10, 18	43	**31**
Total		(55,138)	**(21,927)**
Other comprehensive income, net of tax		(44,000)	**(27,169)**
Total comprehensive income for the year		¥ 2,286	**¥ 26,193**
Attributable to owners of the parent		¥ 1,596	**¥ 21,452**
Attributable to non-controlling interests		690	**4,740**

Note: FVTOCI: Fair Value Through Other Comprehensive Income

iii) Consolidated Statements of Changes in Equity

(Unit: Millions of yen)

FY2015 (Jan. 1 through Dec. 31, 2015)	Note	Share capital	Capital surplus	Retained earnings	Treasury shares	Remeasurement of net defined benefit liability (asset)	Net gain (loss) on revaluation of financial assets measured at FVTOCI(Note)
		Equity attributable to owners of the parent				Other components of equity	
Balance as of January 1, 2015		¥90,873	¥100,670	¥641,866	¥(29,784)	¥(40,859)	¥86,402
Changes in equity							
Comprehensive income							
Profit for the year		—	—	42,906	—	—	—
Other comprehensive income	18	—	—	—	—	5,856	4,998
Total comprehensive income for the year		—	—	42,906	—	5,856	4,998
Transactions with owners							
Dividends	17	—	—	(20,806)	—	—	—
Increase through treasury share transactions	17	—	—	—	(57)	—	—
Decrease through treasury share transactions	17	—	(0)	(84)	265	—	—
Transfer from other components of equity to retained earnings		—	—	(7)	—	—	7
Share-based payment transactions	16	—	132	—	—	—	—
Others (business combinations and others)		—	—	—	—	—	—
Total transactions with owners		—	131	(20,898)	208	—	7
Balance as of December 31, 2015		¥90,873	¥100,802	¥663,874	¥(29,576)	¥(35,003)	¥91,408

Note: FVTOCI: Fair Value Through Other Comprehensive Income

(Unit: Millions of yen)

FY2015 (Jan. 1 through Dec. 31, 2015)	Note	Net gain (loss) in fair value of cash flow hedges	Exchange differences on translation of foreign operations	Total	Total	Non-controlling interests	Total equity
		Equity attributable to owners of the parent					
		Other components of equity					
Balance as of January 1, 2015		¥ (734)	¥264,693	¥309,501	¥1,113,126	¥67,364	¥1,180,490
Changes in equity							
Comprehensive income							
Profit for the year		—	—	—	42,906	3,380	46,287
Other comprehensive income	18	(1,829)	(50,336)	(41,310)	(41,310)	(2,690)	(44,000)
Total comprehensive income for the year		(1,829)	(50,336)	(41,310)	1,596	690	2,286
Transactions with owners							
Dividends	17	—	—	—	(20,806)	(763)	(21,570)
Increase through treasury share transactions	17	—	—	—	(57)	—	(57)
Decrease through treasury share transactions	17	—	—	—	180	—	180
Transfer from other components of equity to retained earnings		—	—	7	—	—	—
Share-based payment transactions	16	—	—	—	132	—	132
Others (business combinations and others)		—	—	—	—	2,303	2,303
Total transactions with owners		—	—	7	(20,550)	1,539	(19,010)
Balance as of December 31, 2015		¥(2,563)	¥214,357	¥268,198	¥1,094,172	¥69,594	¥1,163,767

(Unit: Millions of yen)

FY2016 (Jan. 1 through Dec. 31, 2016)	Note	Equity attributable to owners of the parent: Share capital	Capital surplus	Retained earnings	Treasury shares	Other components of equity: Remeasurement of net defined benefit liability (asset)	Net gain (loss) on revaluation of financial assets measured at FVTOCI(Note)
Balance as of January 1, 2016		¥90,873	¥100,802	¥663,874	¥(29,576)	¥(35,003)	¥91,408
Changes in equity							
Comprehensive income							
Profit for the year		—	—	47,438	—	—	—
Other comprehensive income	18	—	—	—	—	(10,102)	4,998
Total comprehensive income for the year		—	—	47,438	—	(10,102)	4,998
Transactions with owners							
Dividends	17	—	—	(20,811)	—	—	—
Increase through treasury share transactions	17	—	—	—	(24)	—	—
Decrease through treasury share transactions	17	—	—	(126)	341	—	—
Changes in ownership interests in subsidiaries that do not result in loss of control		—	323	—	—	—	—
Transfer from other components of equity to retained earnings		—	—	515	—	—	(515)
Share-based payment transactions	16	—	112	—	—	—	—
Others (business combinations and others)		—	—	—	—	—	—
Total transactions with owners		—	435	(20,422)	316	—	(515)
Balance as of December 31, 2016		¥90,873	¥101,237	¥690,890	¥(29,259)	¥(45,106)	¥95,891

Note: FVTOCI: Fair Value Through Other Comprehensive Income

(Unit: Millions of yen)

FY2016 (Jan. 1 through Dec. 31, 2016)	Note	Equity attributable to owners of the parent: Other components of equity: Net gain (loss) in fair value of cash flow hedges	Exchange differences on translation of foreign operations	Total	Total	Non-controlling interests	Total equity
Balance as of January 1, 2016		¥(2,563)	¥214,357	¥268,198	¥1,094,172	¥69,594	¥1,163,767
Changes in equity							
Comprehensive income							
Profit for the year		—	—	—	47,438	5,923	53,362
Other comprehensive income	18	2,788	(23,671)	(25,986)	(25,986)	(1,182)	(27,169)
Total comprehensive income for the year		2,788	(23,671)	(25,986)	21,452	4,740	26,193
Transactions with owners							
Dividends	17	—	—	—	(20,811)	(542)	(21,354)
Increase through treasury share transactions	17	—	—	—	(24)	—	(24)
Decrease through treasury share transactions	17	—	—	—	214	—	214
Changes in ownership interests in subsidiaries that do not result in loss of control		—	—	—	323	(620)	(297)
Transfer from other components of equity to retained earnings		—	—	(515)	—	—	—
Share-based payment transactions	16	—	—	—	112	—	112
Others (business combinations and others)		—	—	—	—	132	132
Total transactions with owners		—	—	(515)	(20,185)	(1,030)	(21,216)
Balance as of December 31, 2016		¥ 225	¥190,686	¥241,696	¥1,095,438	¥73,305	¥1,168,743

iv) Consolidated Statements of Cash Flows

(Unit: Millions of yen)

	Note	FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
Cash flows from operating activities			
Profit before tax		¥ 84,522	**¥ 67,563**
Depreciation and amortization		137,381	**121,803**
Interest and dividend income		(5,921)	**(6,039)**
Interest expenses		6,477	**6,400**
Share of profit (loss) of associates and joint ventures accounted for using equity method		(2,357)	**(1,815)**
Loss (gain) on sale or disposal of non-current assets		(912)	**3,627**
Decrease (increase) in trade receivables		16,901	**(5,427)**
Decrease (increase) in inventories		(6,015)	**2,457**
Increase (decrease) in trade payables		64	**15,039**
Others		(23,502)	**19,614**
Subtotal		206,637	**223,223**
Interest and dividends received		6,365	**6,495**
Interest paid		(5,451)	**(7,080)**
Income taxes paid		(20,380)	**(19,001)**
Net cash from operating activities		187,170	**203,637**
Cash flows from investing activities			
Purchase of property, plant and equipment and intangible assets		(126,491)	**(118,379)**
Proceeds from sale of property, plant and equipment		11,884	**4,195**
Purchase of other financial assets		(1,089)	**(3,418)**
Proceeds from sale and redemption of other financial assets		2,406	**7,007**
Others		(2,662)	**(3,001)**
Net cash from investing activities		(115,951)	**(113,596)**
Cash flows from financing activities			
Changes in short-term interest-bearing debt		(26,399)	**5,114**
Proceeds from borrowing or issuing long-term interest-bearing debt		43,379	**31,030**
Repayment or redemption of long-term interest-bearing debt		(32,085)	**(59,985)**
Payment from purchase of shares in subsidiaries from non-controlling interests		—	**(402)**
Acquisition of treasury shares		(57)	**(24)**
Dividends paid	17	(20,806)	**(20,811)**
Others		551	**(1,371)**
Net cash from financing activities		(35,417)	**(46,450)**
Effect of exchange rate changes on cash and cash equivalents		(623)	**(1,098)**
Net increase (decrease) in cash and cash equivalents		35,176	**42,493**
Cash and cash equivalents at beginning of year	5	69,655	**104,831**
Cash and cash equivalents at end of year	5	¥ 104,831	**¥ 147,325**

Note 1: Reporting entity

Asahi Glass Co., Ltd. (the "Company") is a company domiciled in Japan. The consolidated financial statements of the Company as of and for the year ended December 31, 2016 comprise the Company and its subsidiaries (the "Group"), and interests in associates and jointly controlled entities, etc. (the "Group entities").

The Group is engaged in business activities primarily in the areas of Glass Operations, Electronics Operations, and Chemicals Operations. Please see Note 4 "Segment information" for details on the Group's businesses.

Note 2: Basis of preparations

(a) Statement of compliance with IFRS

The Group's consolidated financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRS"), based on the stipulations of Article 93 of the Ordinance on Consolidated Financial Statements. The Group's consolidated financial statements satisfy all of the requirements for a "Specified Company" prescribed by Article 1-2 of the Ordinance on Consolidated Financial Statements.

On March 30, 2017, the consolidated financial statements were approved by President & CEO Takuya Shimamura and Director & CFO Shinji Miyaji.

(b) Basis of measurement

The consolidated financial statements have been prepared on a historical cost basis, except for the following significant items on the consolidated statements of financial position:

— Derivative financial instruments are measured at fair value.
— Equity instruments are measured at fair value.
— Defined benefit pension plan assets and liabilities are measured at the present value of defined benefit obligations less the fair value of the plan assets.

(c) Presentation currency

The consolidated financial statements are presented in Japanese yen. The currency unit is millions of yen, with figures less than one million yen rounded down.

(d) Use of estimates and judgments

The preparation of consolidated financial statements in accordance with IFRS requires management to make judgments, estimates and assumptions that affect the adoption of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results could differ from these estimates.

The estimates and their underlying assumptions are reviewed continuously. Changes in accounting estimates will affect the period in which the estimates are changed and future periods.

Judgments and estimates made by management that have a significant effect on the amounts recognized in the consolidated financial statements in the reporting period and subsequent periods are as follows:

— Inventory valuation (See Note 7 "Inventories")
— Estimates of useful lives and residual values of property, plant and equipment and intangible assets (See Note 8 "Property, plant and equipment" and Note 9 "Goodwill and intangible assets")
— Calculation of the value in use in cash-generating units, the smallest unit of measurement for impairment of property, plant and equipment, goodwill and intangible assets (See Note 8 "Property, plant and equipment" and Note 9 "Goodwill and intangible assets")
— The recoverability of deferred tax assets (See Note 11 "Deferred tax assets and liabilities")
— Actuarial assumptions for defined benefit pension plans (See Note 15 "Employee benefits")
— The recoverable amount of trade receivables (See Note 25 "Financial instruments")

(e) Changes in accounting policies

The significant accounting policies adopted for the Group's consolidated financial statements are the same as those for the consolidated financial statements for the fiscal year ended December 31, 2015.

(f) Early adoption of new standards

The Group has early adopted IFRS 9 *Financial Instruments* (amended in November 2013).

Note 3: Significant accounting policies

(a) Basis of consolidation

i) Business combinations

Business combinations are accounted for using the acquisition method when control is obtained. The Group recognizes goodwill as any excess of the aggregate of the consideration transferred, the amount of any non-controlling interest and, in the case of a business combination achieved in stages, the acquisition-date fair value of the equity interest of the acquiree previously held by the acquirer, over the net of the acquisition-date amounts of the identifiable assets acquired from the acquiree and the liabilities assumed.

If the consideration transferred is lower than the latter net amount, the acquirer immediately recognizes the difference as profit or loss.

Impairment test of goodwill is conducted annually, regardless of any indication of impairment. (See (i) "Impairment for non-financial assets").

Business combinations of entities under common control are accounted for based on carrying amounts. These business combinations are those in which all the combining entities or businesses are ultimately controlled by the same party or parties both before and after the business combination, and that control is not transitory.

ii) Subsidiaries

Subsidiaries are entities controlled by the Group. If a subsidiary is controlled, the Group has exposure or rights to variable returns from involvement with the investee, and has the ability to use power over the investee to affect those returns. The accounting policies of subsidiaries have been adjusted in order to ensure conformity with the accounting policies adopted by the Group, as necessary.

iii) Non-controlling interests

The components of profit or loss and other comprehensive income are attributed to owners of the parent and non-controlling interests. Of transactions giving rise to a change in the interest between the Company and the non-controlling interests of a subsidiary, for transactions that do not result in a loss of control, changes in the non-controlling interests in the subsidiary and the net amount of consideration paid (or received), are recognized directly in equity, and are not recognized as goodwill or as profit or loss.

iv) Investments in associates and joint ventures (Investments accounted for using equity method)

An associate is an entity over which the Company and its subsidiaries have significant influence over its financial and operating policies, but do not exercise control of it. Significant influence is presumed to exist when the Company and its subsidiaries hold 20% or more of the voting rights in another entity. Considering not only the ratio of the voting rights, but also other elements, such as participation in management, an associate is included if the Company and its subsidiaries can exercise significant influence.

A joint venture is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the arrangement.

Investments in associates and joint ventures are recognized at acquisition cost on acquisition and are subsequently accounted for using the equity method. Any differences between the investment on the investment date and the corresponding equity of the investee are included in the carrying amount of the investment as goodwill. The consolidated financial statements reflect the investments in associates and joint ventures' share of profit or loss and other comprehensive income of the investee from the date on which the Company and its subsidiaries obtain significant influence until the end of the reporting period. In the event that the Company and its subsidiaries' burden of loss exceed the investment in the investee, the carrying amount of the Company and its subsidiaries' share is reduced to zero. Except for when the Company and its subsidiaries incur obligations or make payments on behalf of the equity-accounted investee, the Company and its subsidiaries shall recognize no further loss.

Goodwill that forms part of the carrying amount of investments in associates and joint ventures is not separately recognized, and therefore is not tested for impairment separately. Instead, whenever there is any objective evidence that an investment in an associate or joint venture may be impaired, the entire carrying amount of the investment is tested for impairment as a single asset.

v) Transactions eliminated on consolidation

All intergroup balances, transactions and unrealized gains and losses arising from intragroup transactions are eliminated in preparing the consolidated financial statements.

Unrealized losses are eliminated only to the extent that there is no evidence of impairment.

(b) Foreign currency

i) Foreign currency transactions

Foreign currency transactions are translated into functional currencies of the individual Group entities by applying the rates of exchange prevailing at the dates of transactions. Monetary assets and liabilities denominated in foreign currencies are translated into the respective functional currencies at the prevailing exchange rates at the reporting date. Exchange differences are recognized as profit or loss. Exchange differences for any gains or losses on the assets and liabilities recognized in other comprehensive income are recognized in other comprehensive income.

Non-monetary assets and liabilities measured in terms of historical cost in foreign currencies are translated at the exchange rate at the date of the transaction.

ii) Foreign operations

Assets and liabilities of foreign operations, including goodwill and fair value adjustments arising on the acquisition of foreign operations, are translated into Japanese yen at the exchange rates prevailing at the reporting date. Income and expenses of foreign operations are translated into Japanese yen at the average exchange rate for the period.

(c) Financial instruments

The Group had early adopted IFRS 9 *Financial Instruments* (amended in November 2013).

The Group recognizes financial instruments on the contract date when the Group becomes a party to the contractual provisions of the instrument.

The Group derecognizes a financial asset in the following circumstances:

— When the contractual rights to receive the cash flows from the financial asset expire; or

— When the contractual rights to receive the cash flows from the financial asset in transactions in which substantially all the risks and rewards of ownership of the financial asset are transferred to another entity.

In regard to transferred financial assets, the Group recognizes any retained interest of the transferred financial asset as a separate asset or liability.

Financial assets and financial liabilities are offset and presented as a net amount on the consolidated statements of financial position only when the Group has a legally enforceable right to set off the recognized amounts and intends either to settle on a net basis or to realize the asset and settle the liability simultaneously.

i) Non-derivative financial assets

The Group holds non-derivative financial assets that are classified into financial assets measured at amortized cost and financial assets measured at fair value through other comprehensive income.

Financial assets measured at amortized cost

Financial assets are classified as financial assets measured at amortized cost if the following two conditions are met:

— The foregoing financial assets are held within a Group business model whose objective is to hold the assets in order to collect contractual cash flows from the assets; and

— The contractual terms of the foregoing financial assets give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

The foregoing financial assets are initially recognized at fair value plus directly attributable transaction costs. After initial recognition, the financial assets are measured at amortized cost using the effective interest method.

Financial assets that are measured at amortized cost are assessed for any objective evidence of impairment at each reporting date.

Objective evidence of impairment of financial assets includes: a default or delinquency by the borrower, a concession granted to the borrower that the Group would not have otherwise considered, significant financial difficulty of the issuer or obligor, and the disappearance of an active market.

An individually significant financial asset is individually assessed for impairment. Financial assets that are not individually significant are collectively assessed for impairment in a group of financial assets with similar credit risk characteristics. In assessing collective impairment, the Group evaluates historical loss experience and other factors.

Impairment loss is measured as the difference between the financial asset's carrying amount and the present value of estimated future cash flows discounted at the financial asset's original effective interest rate. Cash flows relating to short-term receivables are not discounted due to the immaterial effect of discounting.

Impairment loss is recognized in profit or loss.

Financial assets measured at fair value through other comprehensive income

The Group designates equity instruments as financial assets measured at fair value through other comprehensive income when an irrevocable election has been made on initial recognition to measure the gains and losses arising from changes in the fair value of such instruments in other comprehensive income, and when such instruments are not classified as financial assets measured at amortized cost.

When the foregoing financial assets measured at fair value through other comprehensive income are derecognized through sale, etc., the cumulative gains or losses are reclassified from other components of equity to retained earnings.

ii) Non-derivative financial liabilities

The Group recognizes the following as non-derivative financial liabilities: trade payables, other payables, and interest-bearing debt (borrowings, commercial paper, corporate bonds, bonds with subscription rights to shares (excluding share subscription rights), and lease obligations), among other items.

The foregoing financial liabilities are initially recognized at fair value less directly attributable transaction costs. After initial recognition, non-derivative financial liabilities are measured at amortized cost using the effective interest method.

The Group derecognizes financial liabilities when the obligation specified in the contract is exempted, cancelled or expired.

iii) Bonds with subscription rights to shares

The Group classifies proceeds from the issue of bonds with subscription rights to shares into a liability component and an equity component based on the issuing conditions.

Upon initial recognition, the liability component of bonds with subscription rights to shares is initially recognized at the fair value of similar liabilities without equity conversion options. The equity component is initially recognized as the total fair value of the bonds with subscription rights to shares less the fair value of the liability component. The transaction cost related to the issue of the bonds with subscription rights to shares is prorated according to the ratio of the initial carrying amounts of the liability and equity components on initial recognition, and deducted from the amounts of the liability and equity components.

After initial recognition, the liability component of the bonds with subscription rights to shares is measured at amortized cost using the effective interest method. The equity component of the bonds with subscription rights to shares is not remeasured.

iv) Derivative financial instruments (including hedge accounting)

The Group holds derivative financial instruments to hedge foreign currency exchange risk, interest rate risk, and commodity price risk.

The Group initially recognizes derivative financial instruments at fair value, with the related transaction costs recognized in profit or loss when incurred. After initial recognition, derivative financial instruments are measured at fair value, with changes in fair value accounted for as follows, depending on whether or not derivatives qualify for hedge accounting:

(Derivative not qualifying for hedge accounting)

Changes in the fair value of derivative financial instruments which do not qualify for hedge accounting are recognized in profit or loss.

(Derivative qualifying for hedge accounting)

When applying hedge accounting, at the inception of hedges, the Group formally designates and documents hedging relationships to which hedge accounting is applied and the objectives and strategies of risk management for undertaking hedges.

At the inception of hedges, the Group evaluates whether or not the hedging instrument can be predicted to be effective. Thereafter, the Group continuously evaluates whether the derivative is highly effective in offsetting changes in future cash flows from the hedged items.

The Group applies cash flow hedges in designated qualifying derivative financial instruments as hedging instruments. Cash flow hedges are designed to hedge exposure to variations in cash flows that are attributable to a particular risk associated with recognized assets or liabilities or highly probable forecast transactions which will affect profit or loss.

The effective portion of gains or losses on hedging instruments is recognized in other comprehensive income. The amounts recognized in other comprehensive income are reclassified to profit or loss in the consolidated reporting periods when the cash flows of the hedged items affect profit or loss. The ineffective portion of changes in the fair value of hedging instruments is recognized in profit or loss.

Hedge accounting is discontinued prospectively when: the hedging instrument expires or is sold, terminated, or exercised; the hedge no longer meets the criteria for hedge accounting; a forecast transaction is no longer expected to occur; or the hedging designation is revoked. A hedge designation may not be voluntarily revoked unless there is a change in the risk management objective. Therefore, if a hedging relationship ceases to meet the hedge effectiveness requirement relating to the hedge ratio, but the risk management objective for that designated hedging relationship remains the same, the Group adjusts the hedge ratio of the hedging relationship so that it meets the hedge effectiveness requirement again.

v) Equity

Ordinary shares

Ordinary shares are classified as equity. Incremental costs (net of tax) directly attributable to the issue of ordinary shares or stock options are deducted from equity.

Treasury shares

If the Company purchases treasury shares, the consideration paid, including net of directly attributable transaction costs and tax, is recognized as a deduction from equity. If the Company disposes of treasury shares, any gains or losses arising from the disposal of treasury shares are recognized in equity.

(d) Cash and cash equivalents

Cash and cash equivalents comprises cash on hand, bank deposits available for withdrawal on demand, and short-term investments due within three months or less, which are readily convertible into cash and subject to insignificant risk of changes in value.

(e) Inventories

Inventories are measured at the lower of cost and net realizable value. The cost of inventories is measured based on the moving average method, and includes costs of purchase and costs of conversion (including fixed and variable manufacturing overheads). Net realizable value is the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale.

(f) Property, plant and equipment

i) Recognition and measurement

Property, plant and equipment is presented at cost less accumulated depreciation and accumulated impairment losses.

Cost of property, plant and equipment includes any costs directly attributable to the acquisition of the asset. The cost of self-constructed assets includes material costs, direct labor costs, direct costs attributable to bringing the asset to the location and conditions necessary for its intended use, and the cost of dismantling, removing, and restoring the asset, as well as borrowing costs that satisfy the requirements for being capitalized.

After acquisition of property, plant and equipment, the Group recognizes costs as the carrying amount of an asset only if it is probable that future economic benefits associated with the item will flow to the Group and the cost can be measured reliably.

Differences between the carrying amount and the consideration received for the disposal of property, plant and equipment are recognized in profit or loss.

ii) Depreciation

Depreciation of property, plant and equipment excluding non-depreciable property, plant and equipment, such as land, is computed under the straight-line method over the estimated useful lives of each item and the depreciable amount which is the cost of the asset less its residual value.

The estimated useful lives of major property, plant and equipment are as follows:

— Buildings and structures: 10 to 50 years
— Machinery, equipment and vehicles: 4 to 15 years
— Tools, fixtures and fittings: 2 to 15 years

The depreciation methods, estimated useful lives and residual values are reviewed at the end of each reporting period, and changed when necessary.

(g) Goodwill and intangible assets

i) Goodwill

Goodwill may be recognized on the acquisition of a subsidiary. The measurement of goodwill on initial recognition is shown in (a) i) “Business combinations.”

After initial recognition, goodwill is measured at cost less any accumulated impairment losses. Measurement of goodwill impairment is shown in (i) “Impairment of non-financial assets.”

ii) Research and development expenses

Expenditure related to research activities to obtain new scientific or technical knowledge and understanding are recognized as an expense when incurred.

Expenditure on development activities is capitalized as an intangible asset if it is reliably measurable, products or processes are technically and commercially feasible, it is highly probable to generate future economic benefits, and the Group has an intention and adequate resources to complete those assets and use or sell them. Other expenditure is recognized as an expense when incurred.

Capitalized development expenditure is presented at cost less any accumulated amortization and accumulated impairment losses.

iii) Other intangible assets

Other intangible assets are initially recognized at cost. After initial recognition, intangible assets with finite useful lives are presented at cost less any accumulated amortization and accumulated impairment losses. Intangible assets with indefinite useful lives are presented at cost less any accumulated impairment losses.

iv) Amortization

Amortization of intangible assets with finite useful lives is recognized as an expense under the straight-line method over their estimated useful lives from the date when the assets are available for use. The estimated useful lives of major intangible assets with finite useful lives are as follows:

— Patents and trademarks: 5 to 10 years
— Software: 5 years

The amortization methods and useful lives are reviewed at the end of each reporting period and changed when necessary.

(h) Leased assets

The Group classifies lease arrangements as finance leases when the lessor transfers substantially all the risks and rewards incidental to ownership of an asset to the Group. Leased assets are initially recognized at the lower of the fair value of the asset and the present value of the minimum lease payments.

Leased assets are depreciated or amortized over their useful lives when it is reasonably certain that the Group will acquire ownership of a leased asset by the end of the lease agreement, or leased assets are depreciated over the shorter of the lease term and their useful lives when it is not reasonably certain that the Group will obtain ownership of the leased asset by the end of the lease agreement.

All other lease arrangements are classified as operating leases and are not reported in the Group's consolidated statements of financial position. Lease payments under an operating lease are recognized in profit or loss on a straight-line basis over the lease term.

Whether an arrangement contains a lease or not is based on the substance of the arrangement, even if the arrangement does not take the legal form of a lease.

(i) Impairment of non-financial assets

At the end of each reporting period, the Group assesses the carrying amounts of non-financial assets, excluding inventories and deferred tax assets, to determine whether there is any indication of impairment of each asset or each cash-generating unit to which an asset belongs. If any such indication exists, impairment of each asset or each cash-generating unit is tested. Goodwill is tested annually, regardless of any indication of impairment.

Assets that are not individually tested are integrated into the smallest identifiable group of assets that generates cash inflows from continuing use that are largely independent of the cash inflows from other assets or groups of assets (cash-generating unit). When testing for impairment of goodwill, the goodwill is allocated to cash-generating units which are not larger than an operating segment and represent the lowest level at which the goodwill is monitored for internal management purposes.

The recoverable amount of an asset or a cash-generating unit is the higher of its fair value less costs to sell and its value in use. In calculating an asset's value in use, estimated future cash flows are discounted to the present value using a pre-tax discount rate that reflects the time value of money and the risks specific to the asset.

If the carrying amount of an asset or a cash-generating unit exceeds the recoverable amount, an impairment loss is recognized. The impairment loss recognized with respect to a cash-generating unit is allocated first to reduce the carrying amount of any goodwill allocated to the cash-generating unit, and then to the other assets of the unit on a pro-rata basis based on the carrying amount of each asset in the unit.

An impairment loss on other non-financial assets recognized in prior periods is reversed if there are indications of the possibility of reversing such an impairment loss and if the recoverable amount exceeds the carrying amount as a result of an estimation of the recoverable amount. An impairment loss is reversed up to the carrying amount that would have been determined if there had been no impairment loss recognized for the asset in prior years and depreciation or amortization had been continuously recognized up to the reversal. An impairment loss for goodwill is not reversed in subsequent periods.

(j) Non-current assets held for sale

The Group classifies an asset or asset group which is expected to be recovered through a sale transaction rather than through continuous use as a non-current asset or disposal group held for sale when the following conditions are met: it is highly probable that the asset or asset group will be sold within one year, the asset or asset group is available for immediate sale in its present condition, and there is assurance of a plan to sell the asset or asset group. In such cases, the non-current asset is not depreciated or amortized and is measured at the lower of its carrying amount and its fair value less costs to sell.

(k) Employee benefits

Employee benefits include post-employment benefit plans, short-term employee benefits, and share-based payments. Post-employment benefit plans comprise defined benefit plans and defined contribution plans.

i) Defined benefit plans

Obligations for defined benefit plans are recognized as the present value of defined benefit obligations less the fair value of any plan assets.

The present value of defined benefit obligations is calculated annually by qualified actuaries using the projected unit credit method. The discount rates are based on the market yields of high quality corporate bonds at the end of each reporting period that have terms consistent with the discount period, which is established as the estimated term of the post-employment benefit obligations through to the estimated dates for payments of future benefits in every fiscal year.

Actuarial gains and losses are recognized immediately in other comprehensive income when incurred, while past service costs and gains or losses on settlement are recognized in profit or loss.

ii) Defined contribution plans

Expenses related to post-employment benefits for defined contribution plans are recognized as expenses at the time of contribution.

iii) Short-term employee benefits

Short-term employee benefit obligations are measured on an undiscounted basis and are recognized as expenses as the related service is provided.

For bonus payments, a liability is recognized for the amount expected to be paid under short-term cash bonuses or profit-sharing plans if the Group has a present legal or constructive obligation to pay this amount as a result of past service provided by the employee, and the obligation can be estimated reliably.

iv) Share-based payments

The Company provides the Group's directors, executive officers, and other employees with stock options, which grant the holder the right to purchase the Company's stock. The fair value of stock options at the grant date is recognized as an expense over the vesting period from the grant date, with a corresponding increase in equity.

The Group has elected to adopt the exemptions of IFRS 1. Accordingly, the Group has elected not to retrospectively apply IFRS 2 *Share-based Payment* ("IFRS 2") to stock options granted after November 7, 2002 that vested before the transition date to IFRS.

(l) Provisions

A provision is recognized when the Group has a reasonably estimable legal or constructive obligation as a result of a past event, and it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation. Where the effect of the time value of money is material, the estimated future cash flows are discounted to the present value using a pre-tax rate that reflects the time value of money and the risks specific to the liability. The unwinding of the discount is recognized as finance costs.

The Group has established a provision for restructuring costs arising from restructuring actions to improve the business structure and the reorganization of certain operations. Such costs are recognized when they can be reasonably estimated and include an expansion in the severance compensation program.

(m) Revenue

Revenue from the sale of goods in the course of ordinary activities is measured at the fair value of the consideration received or receivable, less returns, trade discounts and volume rebates. The Group recognizes revenue from the sale of goods when: the Group has transferred to the buyer the significant risks and rewards of ownership of the goods; it is probable that the economic benefits associated with the transaction will flow to the Group; the costs incurred or to be incurred in respect of the transaction and the possibility of product returns can be estimated reasonably; and the Group does not retain continuing managerial involvement over the goods sold; and the amount of revenue can be measured reliably.

(n) Operating profit and business profit

"Operating profit" in the Group's consolidated statements of profit or loss is an indicator that facilitates continuous comparisons and evaluations of the Group's business performance. Main items of "other income" and "other expenses" are foreign exchange gains and losses, gains on sale of non-current assets, losses on disposal of non-current assets, impairment losses and expenses for restructuring programs. "Business profit" includes all income and expenses before finance income, finance costs and income tax expenses.

(o) Finance income and finance costs

Finance income mainly comprises interest income, dividend income and gains on hedging instruments that are not recognized in other comprehensive income. Interest income is recognized as incurred using the effective interest method. Dividend income is recognized as of the date when the Group's right to receive payment is established.

Finance costs mainly comprise interest expenses and losses on hedging instruments that are not recognized in other comprehensive income.

(p) Income tax

Income tax comprises current income tax and deferred income tax. These are recognized in profit or loss, except for items which are recognized directly in equity or other comprehensive income.

Current income tax is measured at the amount that is expected to be paid to or refunded from the taxation authorities using the tax rates enacted or substantively enacted at the end of the reporting period.

Deferred income tax is recognized on temporary differences between the carrying amounts of assets and liabilities for accounting purposes and their tax basis, using the tax rates that are expected to apply to the period when the temporary differences will reverse, based on tax laws that have been enacted or substantively enacted by the end of the reporting period. Deferred tax assets are recognized for all deductible temporary differences, and the carry forward of unused tax losses and unused tax credits to the extent that it is probable that future taxable profit will be available against which they can be utilized. Deferred tax assets are reviewed at the end of each reporting period and are recognized only to the extent that it is probable that the tax benefits can be realized.

However, deferred tax assets are not recognized if the initial recognition of an asset or liability in a transaction that is not a business combination affects neither accounting profit nor taxable profit at the time of the transaction.

Deductible temporary differences associated with investments in subsidiaries, associates and interests in joint arrangements are recognized only to the extent of the following circumstances:

— The temporary difference will reverse in the foreseeable future; and
— Taxable profit will be available against which the temporary difference can be utilized.

Deferred tax liabilities are recognized for all taxable temporary differences, in principle.

However, deferred tax liabilities are not recognized in the following circumstances:

— On the initial recognition of goodwill.
— On the initial recognition of an asset or liability in a transaction that is not a business combination affects neither accounting profit nor taxable profit at the time of the transaction.
— There are taxable temporary differences associated with investments in subsidiaries, associates and interests in joint arrangements to the extent that the parent company is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future.

Deferred tax assets and deferred tax liabilities are offset when there is a legally enforceable right to offset current tax assets against current tax liabilities and in either of the following circumstances:

— Income taxes are levied by the same taxation authority on the same taxable entity; or
— Different taxable entities intend either to settle current tax assets and liabilities on a net basis, or to realize the current tax assets and settle the current tax liabilities simultaneously.

(q) Earnings per share

Basic earnings per share is calculated by dividing profit for the year attributable to owners of the parent by the weighted average number of ordinary shares outstanding during the period, adjusted by the number of treasury shares during the period.

Diluted earnings per share is calculated by adjusting the effects of all dilutive potential ordinary shares.

(r) New standards and interpretations not yet adopted

New standards, interpretations, and amendments to standards and interpretations that have not been adopted in the consolidated reporting period ended December 31, 2016, and which the Group has yet to apply to the preparation of the consolidated financial statements, are mainly as follows. The potential impacts for the application of the abovementioned which will have on the consolidated financial statements are currently being evaluated and cannot be estimated as of the date of the report.

IFRS	Title	Effective date (annual periods beginning on or after)	Adoption by the Group (annual periods ending)	Summaries of new IFRS and amendments
IAS 7 (amended in January 2016)	Statement of Cash Flows	January 1, 2017	Fiscal year ending December 2017	Additional disclosure of changes in liabilities arising from financing activities
IAS 12	Income Taxes	January 1, 2017	Fiscal year ending December 2017	Clarification of recognition of deferred tax assets related unrealized loss
IFRS 2 (amended in June 2016)	Share-based Payment	January 1, 2018	Fiscal year ending December 2018	Clarifications of classification and measurement of share-based payment transactions
IFRS 9 (amended in July 2014)	Financial Instruments	January 1, 2018	Fiscal year ending December 2018	Changes in classification and measurement of financial instruments, and introduction of impairment requirements based on a forward-looking expected loss impairment model
IFRS 15	Revenue from Contracts with Customers	January 1, 2018	Fiscal year ending December 2018	Establishment of accounting treatment and disclosure of revenue recognition
IFRIC 22	Foreign Currency Transactions and Advance Consideration	January 1, 2018	Fiscal year ending December 2018	Clarification of exchange rate to use on initial recognition of the related assets, expenses or income, when an entity has received or paid advance consideration in a foreign currency
IFRS 16	Leases	January 1, 2019	Fiscal year ending December 2019	Definitions and changes in accounting treatment of leases
IFRS 10 IAS 28	Consolidated Financial Statements Investments in Associates and Joint Ventures	—	—	Clarification of accounting treatment of the sale or contribution of assets between an investor and its associate or joint venture

Note 4: Segment information

The Group's reportable segments are components of the Group for which discrete financial information is available, and whose operating results are reviewed regularly by the Group's chief operating decision maker to make decisions about resources to be allocated to the segment and assess performance.

The Group has three in-house companies by product and service: Glass, Electronics, and Chemicals. Each in-house company operates worldwide, formulating comprehensive domestic and overseas strategies for its products and services.

Thus, the Group has three reportable segments: Glass, Electronics, and Chemicals.

The main products of each reportable segment are as follows:

Reportable segment	Main products
Glass	Float flat glass, Figured glass, Polished wired glass, Low-E glass, Decorative glass, Fabricated glass for architectural use (Heat Insulating/shielding glass, Disaster-resistant/Security glass, Fire-resistant glass, etc.), Automotive glass, etc.
Electronics	LCD glass substrates, Specialty glass for display applications, Cover glass for car-mounted displays, Display related materials, Glass for solar power systems, Fabricated glass for industrial use, Semiconductor process materials, Optoelectronics materials, Lighting glass products, Laboratory use ware, etc.
Chemicals	Polyvinyl chloride, Vinyl chloride monomer, Caustic soda, Urethane, Fluorinated resins, Water and oil repellents, Gases, Solvents, Pharmaceutical and agrochemical intermediates and active ingredients, Iodine-related products, etc.

(1) Reportable segments

FY2015 (Jan. 1 through Dec. 31, 2015)

(Unit: Millions of yen)

	Reportable segment						
	Glass	Electronics	Chemicals	Ceramics/ Others	Total	Adjustments	Amount reported on consolidated financial statements
Sales to external customers	¥691,411	¥286,858	¥315,636	¥32,388	¥1,326,293	¥ —	¥1,326,293
Inter-segment sales or transfers	1,495	1,723	2,821	35,744	41,785	(41,785)	—
Total sales	692,906	288,582	318,457	68,132	1,368,079	(41,785)	1,326,293
Segment profit [Operating profit]	13,046	29,043	30,528	(1,557)	71,061	110	71,172
Profit for the year	—	—	—	—	—	—	46,287
Other items							
Depreciation and amortization	48,269	64,692	22,034	2,524	137,520	(139)	137,381
Impairment losses [Non-financial assets]	85	11,614	—	—	11,699	—	11,699
Capital expenditure	42,328	29,375	52,664	764	125,133	(29)	125,103
Investments accounted for using equity method	31,424	1,848	2,796	2,780	38,850	—	38,850

The amounts of inter-segment sales or transfers are primarily based on market prices and manufacturing costs.

"Ceramics/Others" mainly handles ceramics products, logistics and financial services.

FY2016 (Jan. 1 through Dec. 31, 2016)

(Unit: Millions of yen)

	Reportable segment						
	Glass	Electronics	Chemicals	Ceramics/ Others	Total	Adjustments	Amount reported on consolidated financial statements
Sales to external customers	¥679,071	¥257,069	¥314,392	¥32,037	¥1,282,570	¥ —	¥1,282,570
Inter-segment sales or transfers	936	1,069	2,207	38,727	42,940	(42,940)	—
Total sales	680,007	258,139	316,599	70,765	1,325,511	(42,940)	1,282,570
Segment profit [Operating profit]	31,825	24,985	39,998	(217)	96,591	(298)	96,292
Profit for the year	—	—	—	—	—	—	53,362
Other items							
Depreciation and amortization	42,553	55,675	21,535	2,159	121,924	(120)	121,803
Impairment losses [Non-financial assets]	2,242	11,562	—	—	13,805	—	13,805
Capital expenditure	50,275	42,866	32,449	532	126,124	(99)	126,025
Investments accounted for using equity method	30,763	1,881	1,696	2,547	36,889	—	36,889

The amounts of inter-segment sales or transfers are primarily based on market prices and manufacturing costs.
“Ceramics/Others” mainly handles ceramics products, logistics and financial services.

(2) Products and services

Disclosure is omitted as the same information is shown in segment information.

(3) Major customers

Disclosure is omitted as sales to external customers did not exceed 10% to any single external customer.

(4) Geographical segments

The analysis of sales by geographical area for the years ended December 31, 2015 and 2016 is as follows:

(Unit: Millions of yen)

	FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
Japan	¥ 383,833	**¥ 381,006**
Asia	471,101	**446,295**
Europe	255,382	**286,898**
Others	215,976	**168,369**
Total	¥1,326,293	**¥1,282,570**

Note: Sales are based on the location of customers.

The analysis of non-current assets by geographical area as of December 31, 2015 and 2016 is as follows:

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
Japan	¥ 306,026	**¥ 284,034**
Asia	478,506	**470,048**
Europe	194,057	**184,266**
Others	73,290	**71,137**
Total	¥1,051,880	**¥1,009,487**

Notes: 1. Non-current assets do not include “investments accounted for using equity method,” “other financial assets” and “deferred tax assets.”
2. Non-current assets are based on the location of assets.

Note 5: Cash and cash equivalents

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
Cash on hand and deposits	¥105,374	**¥147,695**
Negotiable certificates of deposit	6	**5**
Time deposits due over three months	(549)	**(376)**
Total	¥104,831	**¥147,325**

The balances of cash and cash equivalents on the consolidated statements of financial position as of the previous year-end and the current year-end agree to the respective balances on the consolidated statements of cash flows.

Note 6: Trade and other receivables

Trade receivables

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
Notes receivable	¥ 14,970	**¥ 16,412**
Accounts receivable	228,527	**227,071**
Allowance account for credit losses	(2,203)	**(2,007)**
Total	¥241,294	**¥241,476**

The Group’s exposure to currency risk with respect to trade and other receivables, and impairment losses, are presented in Note 25 “Financial instruments.”

Other receivables

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
Other accounts receivable	¥21,094	**¥22,050**
Others	15,638	**15,922**
Total	¥36,733	**¥37,972**

Note 7: Inventories

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
Merchandise and finished goods	¥109,755	**¥ 100,852**
Work in progress	44,883	**46,087**
Raw materials and supplies	80,734	**80,344**
Total	¥235,374	**¥227,284**

The amount of write-downs of inventories recognized as expenses and the amount of reversal of write-downs are as follows:

(Unit: Millions of yen)

	FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
Amount of write-downs of inventories recognized as expenses	¥(6,889)	**¥(7,670)**
Amount of reversal of write-downs	6,854	**5,349**

Note 8: Property, plant and equipment

(1) Reconciliation

"Construction in progress" includes expenditures on property, plant and equipment under construction.

The amount in "additions" for each "property, plant and equipment" includes the amount which is transferred from "Construction in progress."

Depreciation is recorded in "cost of sales" and "selling, general and administrative expenses" on the consolidated statements of profit or loss.

FY2015 (Jan. 1 through Dec. 31, 2015)

Cost

(Unit: Millions of yen)

	Buildings and structures	Machinery, equipment and vehicles	Tools, fixtures and fittings	Land	Construction in progress	Total
Balance as of January 1	¥667,092	¥2,012,776	¥127,584	¥102,617	¥98,510	¥3,008,580
Additions	13,963	86,559	9,160	501	6,923	117,108
Acquisitions due to business combinations	2,428	2,141	6	113	52	4,743
Disposals	(13,589)	(65,569)	(7,368)	(2,901)	(3,127)	(92,557)
Net foreign exchange differences on translation	(28,156)	(91,975)	(3,064)	(2,473)	(3,431)	(129,102)
Transfers and other movements	8	342	29	(18)	(352)	9
Balance as of December 31	¥641,747	¥1,944,273	¥126,347	¥ 97,838	¥98,574	¥2,908,782

Accumulated depreciation and impairment losses

(Unit: Millions of yen)

	Buildings and structures	Machinery, equipment and vehicles	Tools, fixtures and fittings	Land	Construction in progress	Total
Balance as of January 1	¥(367,592)	¥(1,451,154)	¥(106,129)	¥(14,981)	¥(2,529)	¥(1,942,386)
Depreciation	(18,730)	(102,510)	(8,977)	—	—	(130,219)
Impairment losses	(5,852)	(4,331)	(211)	(0)	(910)	(11,306)
Disposals	10,556	62,271	6,563	1,246	2,572	83,210
Net foreign exchange differences on translation	12,214	60,440	2,410	(0)	35	75,101
Transfers and other movements	2	(885)	(2)	—	0	(885)
Balance as of December 31	¥(369,402)	¥(1,436,171)	¥(106,346)	¥(13,734)	¥ (831)	¥(1,926,485)

Carrying amounts

(Unit: Millions of yen)

	Buildings and structures	Machinery, equipment and vehicles	Tools, fixtures and fittings	Land	Construction in progress	Total
Balance as of January 1	¥299,500	¥561,621	¥21,455	¥87,635	¥95,981	¥1,066,193
Balance as of December 31	¥272,345	¥508,102	¥20,001	¥84,103	¥97,743	¥ 982,296

FY2016 (Jan. 1 through Dec. 31, 2016)

Cost

(Unit: Millions of yen)

	Buildings and structures	Machinery, equipment and vehicles	Tools, fixtures and fittings	Land	Construction in progress	Total
Balance as of January 1	**¥641,747**	**¥1,944,273**	**¥126,347**	**¥97,838**	**¥98,574**	**¥2,908,782**
Additions	**29,963**	**104,951**	**9,820**	**376**	**(26,372)**	**118,739**
Acquisitions due to business combinations	**424**	**311**	**103**	**402**	**—**	**1,241**
Disposals	**(7,728)**	**(57,082)**	**(4,885)**	**(554)**	**(1,232)**	**(71,484)**
Net foreign exchange differences on translation	**(9,486)**	**(49,001)**	**(2,466)**	**(1,513)**	**(5,517)**	**(67,985)**
Transfers and other movements	**(4,949)**	**(1,173)**	**(1)**	**—**	**(2,523)**	**(8,648)**
Balance as of December 31	**¥649,971**	**¥1,942,279**	**¥128,917**	**¥96,549**	**¥62,928**	**¥2,880,645**

Accumulated depreciation and impairment losses

	(Unit: Millions of yen)					
	Buildings and structures	Machinery, equipment and vehicles	Tools, fixtures and fittings	Land	Construction in progress	Total
Balance as of January 1	¥(369,402)	¥(1,436,171)	¥(106,346)	¥(13,734)	¥(831)	¥(1,926,485)
Depreciation	(18,043)	(89,413)	(7,382)	—	—	(114,839)
Impairment losses	(3,634)	(9,160)	(91)	(124)	(241)	(13,252)
Disposals	4,793	56,338	2,947	—	282	64,362
Net foreign exchange differences on translation	5,808	37,197	1,940	0	0	44,947
Transfers and other movements	2,476	(342)	(41)	—	399	2,491
Balance as of December 31	¥(378,002)	¥(1,441,550)	¥(108,973)	¥(13,858)	¥(390)	¥(1,942,775)

Carrying amounts

	(Unit: Millions of yen)					
	Buildings and structures	Machinery, equipment and vehicles	Tools, fixtures and fittings	Land	Construction in progress	Total
Balance as of January 1	¥272,345	¥508,102	¥20,001	¥84,103	¥97,743	¥982,296
Balance as of December 31	¥271,969	¥500,728	¥19,944	¥82,690	¥62,537	¥937,869

(2) Impairment losses

Property, plant and equipment is grouped into a cash-generating unit, based on business units. The cash-generating unit is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflow from other assets or groups of assets.

The recoverable amount of a cash-generating unit is recorded as the higher of its fair value less costs of disposal and its value in use. Value in use is calculated based on the following major assumptions.

On an annual basis, future cash flows for each cash-generating unit are based on the most recent budgets and medium-term business forecasts, while future cash flows for subsequent periods take into account the growth potential of businesses. The cash flow projection periods are set appropriately according to the business of each cash-generating unit.

The discount rate applied to each cash-generating unit is calculated mainly based on the pre-tax weighted average cost of capital, and adjusted to properly reflect risks and other factors related to the business using information from external and internal sources.

During the year ended December 31, 2015, the Group recognized indications of impairment, due to significant decrease in profitability in groups of assets such as electronic materials areas. This was mainly due to sluggish market conditions and other market developments. Due to the downturn of market conditions and changes, the Group recognized an impairment loss of ¥11,306 million. The majority of the recoverable amount based on the value in use is calculated as zero as a result of being calculated by using above future cash flows and discount rates.

During the year ended December 31, 2016, the Group recognized indications of impairment, due to significant decrease in profitability in groups of assets such as several business units included in Electronics segment and automotive glass. This was mainly due to sluggish market conditions and other market developments. Due to the downturn of market conditions and changes, the Group recognized an impairment loss of ¥13,252 million. The recoverable amounts are based on value in use and calculated by discounting estimated future cash flows to the present value. The discount rates used to calculate value in use are 8 to 10% and do not change significantly compared with that of the fiscal year ended December 31, 2015.

Impairment losses are included in and shown as “other expenses” on the consolidated statements of profit or loss.

(3) Leased assets

The Group leases certain production facilities, which are accounted for based on the contractual terms. The carrying amounts of these leased assets less accumulated depreciation and accumulated impairment losses, as of December 31, 2015 and 2016 are as follows:

	(Unit: Millions of yen)	
	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
Buildings and structures	¥1,517	**¥1,170**
Machinery, equipment and vehicles	2,218	**707**
Tools, fixtures and fittings	354	**360**
Total	¥4,090	**¥2,238**

Several lease contracts contain renewal or purchase options. There are no sublease contracts, escalation clauses or restrictions imposed by lease contracts (restrictions concerning dividends, additional borrowings and further leasing, etc.).

Note 9: Goodwill and intangible assets

(1) Reconciliation

Cost

(Unit: Millions of yen)

	FY2015 (Jan. 1 through Dec. 31, 2015)				**FY2016 (Jan. 1 through Dec. 31, 2016)**		
	Goodwill	Intangible assets	Total		Goodwill	Intangible assets	Total
Balance as of January 1	¥60,659	¥120,950	¥181,609	Balance as of January 1	**¥56,485**	**¥126,076**	**¥182,561**
Additions	—	7,995	7,995	Additions	**—**	**7,286**	**7,286**
Additions through business combinations	569	2,114	2,684	Additions through business combinations	**1,432**	**1,457**	**2,889**
Disposals	—	(966)	(966)	Disposals	**—**	**(3,880)**	**(3,880)**
Net foreign exchange differences on translation	(4,744)	(4,062)	(8,806)	Net foreign exchange differences on translation	**(2,888)**	**(3,100)**	**(5,988)**
Other changes	—	44	44	Other changes	**575**	**121**	**696**
Balance as of December 31	¥56,485	¥126,076	¥182,561	Balance as of December 31	**¥55,605**	**¥127,960**	**¥183,565**

Accumulated amortization and impairment losses

(Unit: Millions of yen)

	FY2015 (Jan. 1 through Dec. 31, 2015)				**FY2016 (Jan. 1 through Dec. 31, 2016)**		
	Goodwill	Intangible assets	Total		Goodwill	Intangible assets	Total
Balance as of January 1	¥(24,390)	¥(95,105)	¥(119,496)	Balance as of January 1	**¥(22,254)**	**¥ (98,619)**	**¥(120,874)**
Amortization	—	(7,161)	(7,161)	Amortization	**—**	**(6,964)**	**(6,964)**
Impairment losses	(320)	(72)	(393)	Impairment losses	**—**	**(552)**	**(552)**
Disposals	—	849	849	Disposals	**—**	**3,753**	**3,753**
Net foreign exchange differences on translation	2,457	2,865	5,322	Net foreign exchange differences on translation	**1,508**	**1,955**	**3,464**
Other changes	—	6	6	Other changes	**—**	**(132)**	**(132)**
Balance as of December 31	¥(22,254)	¥(98,619)	¥(120,874)	Balance as of December 31	**¥(20,745)**	**¥(100,560)**	**¥(121,305)**

Carrying amounts

(Unit: Millions of yen)

	FY2015 (Jan. 1 through Dec. 31, 2015)				**FY2016 (Jan. 1 through Dec. 31, 2016)**		
	Goodwill	Intangible assets	Total		Goodwill	Intangible assets	Total
Balance as of January 1	¥36,269	¥25,844	¥62,113	Balance as of January 1	**¥34,231**	**¥27,456**	**¥61,687**
Balance as of December 31	¥34,231	¥27,456	¥61,687	Balance as of December 31	**¥34,859**	**¥27,400**	**¥62,259**

Amortization is recorded in "cost of sales" and "selling, general and administrative expenses" on the consolidated statements of profit or loss.

(2) Impairment test of cash-generating unit including goodwill

The total carrying amount of goodwill allocated to each cash-generating unit is as follows:

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
Glass	¥24,050	**¥23,460**
Electronics	6,964	**6,698**
Chemicals	3,216	**4,700**
Total	¥34,231	**¥34,859**

The recoverable amount of goodwill allocated to each cash-generating unit is calculated based on value in use.

Assumptions for value in use are presented in Note 8 “Property, plant and equipment.” The main discount rate (pre-tax) used for impairment test for cash-generating unit including goodwill ranged from 6 to 9% during the years ended December 31, 2015 and December 31, 2016.

During the year ended December 31, 2015, the amounts of value in use measured for a cash-generating unit of a part of electronic business areas were less than its carrying amounts due to sluggish market conditions and other market developments. Due to the downturn of market conditions and changes, the Group recognized an impairment loss. An impairment loss is firstly allocated to reduce the carrying amount of any goodwill, and then to other assets of the cash-generating unit pro rata on the basis of the carrying amount of each asset. As a result, the Group recognized an impairment loss of ¥320 million, which is included in and shown as “other expenses” on the consolidated statements of profit or loss.

There were no impairment losses recognized during the year ended December 31, 2016. Goodwill for which impairment has not occurred is at risk of impairment if the major assumptions behind the test of impairment change. If the discount rate increases by 5 percentage points, there is a possibility that impairment losses would be incurred.

(3) Impairment losses of intangible assets

There were no significant impairment losses recognized during the year ended December 31, 2015.

During the year ended December 31, 2016, the Group recognized an impairment loss of ¥552 million on intangible assets of several business units included in Electronics segment. Impairment losses are included in and shown as “other expenses” on the consolidated statements of profit or loss. Assumptions for value in use and circumstances that resulted in recognition of impairment loss are presented in Note 8 “Property, plant and equipment.”

Note 10: Equity method affiliates

The carrying amounts of investments accounted for using the equity method are as follows:

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
Investments accounted for using equity method	¥38,850	**¥36,889**

Share of profit and other comprehensive income of associates and joint ventures accounted for using the equity method are as follows:

(Unit: Millions of yen)

	FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
Share of profit (loss) of associates and joint ventures accounted for using equity method	¥2,357	**¥1,815**
Share of other comprehensive income of associates and joint ventures accounted for using equity method	31	**128**
Total	¥2,389	**¥1,944**

During the years ended December 31, 2015 and 2016, there was no individually significant associate or joint venture accounted for using the equity method.

Note 11: Deferred tax assets and liabilities

(1) Unrecognized deferred tax assets

The Group recognizes deferred tax assets, taking into account deductible temporary differences, projected future taxable profit and tax planning. However, deferred tax assets have not been recognized for the following items:

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
Carry-forwards of unused tax losses	¥404,206	**¥373,728**
Deductible temporary differences	235,601	**231,764**
Total	¥639,808	**¥605,493**

The amounts of carry-forwards of unused tax losses, for which deferred tax assets have not been recognized, and the expiries of the carry-forwards, are as follows:

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
1st year	¥ 2,209	**¥ 1,396**
2nd year	1,270	**1,705**
3rd year	1,878	**1,745**
4th year	1,179	**29,605**
5th year and thereafter	397,668	**339,275**
Total	¥404,206	**¥373,728**

(2) Unrecognized deferred tax liabilities

As of December 31, 2015 and 2016, the total amounts of taxable temporary differences for which deferred tax liabilities have not been recognized, which relate to equity in subsidiaries, associates and interest in joint arrangements, were ¥306,257 million and ¥337,942 million, respectively.

The Group has not recognized deferred tax liabilities relating to the preceding taxable temporary differences because it is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future.

(3) Recognized deferred tax assets and liabilities

Deferred tax assets and liabilities were attributable to the following items:

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
Deferred tax assets		
Post-employment benefit liabilities	¥ 22,389	**¥ 24,329**
Depreciation	7,628	**7,766**
Impairment losses	3,194	**2,346**
Carry-forwards of unused tax losses	19,883	**24,019**
Others	22,867	**26,762**
Total deferred tax assets	75,963	**85,225**
Deferred tax liabilities		
Financial assets measured at fair value through other comprehensive income	(42,307)	**(41,316)**
Gain on establishment of trust for retirement benefits	(8,296)	**(7,882)**
Depreciation	(10,476)	**(11,299)**
Deferred capital gain reserve	(5,471)	**(4,831)**
Others	(11,969)	**(12,584)**
Total deferred tax liabilities	(78,521)	**(77,914)**
Net deferred tax assets	¥ (2,558)	**¥ 7,311**

The difference between the net amount of deferred tax assets and liabilities recognized in the years ended December 31, 2015 and 2016, less the respective amounts of deferred tax assets and liabilities recognized directly in equity and other comprehensive income, and the change in deferred tax expenses over these years is mainly attributable to the impact of changes in scope of consolidation and foreign exchange movements. During the year ended December 31, 2016, the amount of net deferred tax assets arising from changes in scope of consolidation decreased by ¥363 million.

Note 12: Trade and other payables

Trade payables

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
Notes payable	¥ 1,750	**¥ 3,225**
Trade accounts payable	125,205	**134,364**
Total	¥126,956	**¥137,590**

Other payables

	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
	(Unit: Millions of yen)	
Other accounts payable	¥44,983	**¥ 54,103**
Accrued expenses	32,716	**34,856**
Others	20,977	**21,869**
Total	¥98,678	**¥110,829**

Note 13: Interest-bearing debt

	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
	(Unit: Millions of yen)	
Short-term bank loans	¥ 33,059	**¥ 36,689**
Commercial paper	1,929	**—**
Long-term bank loans due within one year	60,794	**45,953**
Corporate bonds due within one year	—	**20,000**
Short-term lease obligations	915	**715**
Total current liabilities	96,699	**103,359**
Long-term bank loans	298,894	**277,838**
Corporate bonds	69,889	**49,918**
Long-term lease obligations	3,250	**2,852**
Total non-current liabilities	372,034	**330,609**
Total interest-bearing debt	¥468,733	**¥433,968**

Please see Note 25 "Financial instruments" for further information on the Group's interest rate risk, currency risk, and liquidity risk. Assets pledged as collateral are presented in Note 27 "Collateral."

(1) Bonds

Company	Name of bond	Date of issuance	As of January 1, 2016 (Millions of yen)	As of December 31, 2016 (Millions of yen)	Interest rate (% annum) (Note 2)	Collateral	Date of maturity
Asahi Glass Co., Ltd.	12th straight bond	Jan. 29, 2009	**¥29,966**	**¥29,970**	1.94	None	Jan. 29, 2019
Asahi Glass Co., Ltd.	13th straight bond	Dec. 20, 2012	**19,979**	**20,000**	0.31	None	Dec. 20, 2017
Asahi Glass Co., Ltd.	14th straight bond	Jun. 3, 2013	**19,943**	**19,948**	1.01	None	Jun. 2, 2023
Total (Note 1)	—	—	**¥69,889**	**¥69,918**	—	—	—
			(—)	**(20,000)**			

Notes: 1. The component figures disclosed in parentheses in the "As of January 1, 2016" and "As of December 31, 2016" columns represent balances due within one year.
2. The interest rate column shows the coupon rates applicable to each bond as of December 31, 2016. Accordingly, these rates are different from the effective annual interest rates.

(2) Borrowings

As of December 31, 2016, the weighted average effective interest rate for "short-term bank loans," "long-term bank loans due within one year," and "long-term bank loans" are 1.7%, 1.5% and 1.2% per annum, respectively.

The maturities of "long-term bank loans" are from 2018 to 2030.

(3) Finance lease obligations

The balances by due date and present value of finance lease obligations are as follows:

	FY2015 (as of December 31, 2015)		**FY2016 (as of December 31, 2016)**	
	Balances by due date	Present value	Balances by due date	Present value
	(Unit: Millions of yen)			
Due within one year or less	¥1,047	¥ 915	**¥ 808**	**¥ 715**
Due between one and five years	2,288	1,880	**2,045**	**1,755**
Due after five years	1,812	1,370	**1,332**	**1,096**
Total	¥5,149	¥4,166	**¥4,187**	**¥3,568**

Note 14: Provisions

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
Provisions for restructuring costs	¥ 679	**¥ 3,023**
Other provisions	1,207	**1,235**
Total current liabilities	¥ 1,887	**¥ 4,259**
Provisions for restructuring costs	¥ 4,017	**¥ 1,775**
Other provisions	8,803	**8,925**
Total non-current liabilities	¥12,821	**¥10,701**

"Other provisions" consists of various provisions for undetermined liabilities related to identifiable risks, such as asset retirement obligations and environment-related provisions.

There is no significant balance of asset retirement obligations as of December 31, 2015 and 2016.

A reconciliation of opening and closing balances for each class of provision is as follows:

(Unit: Millions of yen)

	FY2016 (Jan. 1 through Dec. 31, 2016)		
	Provisions for restructuring costs	Other provisions	Total
Balance as of January 1	**¥ 4,697**	**¥10,011**	**¥14,709**
Amounts increased during the year	**2,817**	**3,585**	**6,402**
Amounts used during the year	**(2,539)**	**(2,689)**	**(5,229)**
Unused amounts reversed during the year	**(10)**	**(319)**	**(329)**
Others	**(166)**	**(425)**	**(591)**
Balance as of December 31	**¥ 4,799**	**¥10,161**	**¥14,960**

During the year ended December 31, 2016, the Group recognized a reserve for restructuring programs measured at estimated future losses arising from restructuring actions such as an expansion in the additional severance compensation program to improve the business structure and the reorganization of certain operations. The timing of the payment may be affected by future business plan.

Note 15: Employee benefits

The Group has the following retirement benefit plans: defined benefit corporate pension plans, employees' pension fund plans, lump-sum severance payment plans, and defined contribution pension plans.

The Company partially shifted from defined benefit corporate pension plans to defined contribution pension plans on April 21, 2015. In addition, during the year ended December 31, 2016, some subsidiaries in the U.S. amended their defined benefit pension plans to offer certain participants, who had not begun to receive plan benefits, the opportunity to receive their benefits in an immediate lump-sum distribution.

The level of defined benefit pension plans is determined based on a certain number of points conferred according to an individual employee's contribution during his or her period of service. Asset administration, investment, and benefits are provided mainly by corporate pension funds. The investment yield of the corporate pension is set in consideration of the sustainability of the plan.

(1) Defined benefit plans

The amounts for defined benefit plans recognized on the consolidated statements of financial position are as follows:

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
Present value of defined benefit obligations	¥(367,919)	**¥(377,430)**
Fair value of plan assets	311,976	**310,969**
Total	¥ (55,943)	**¥ (66,461)**
Prepaid pension expenses(Note)	¥ 2,113	**¥ 403**
Post-employment benefit liabilities	(58,057)	**(66,805)**

Note: Prepaid pension expenses are included in "other non-current assets" on the consolidated statements of financial position.

(Corporate Pension Plan of the Company (Asahi Glass Co., Ltd.))

The Company's pension plan is managed through a legally independent entity AGC Corporate Pension Fund ("Fund"). The Fund has a Board of Representatives split evenly between representatives selected by the Company and representatives elected by the pension plan members through mutual vote. The representatives elect directors and a controller through mutual vote. After that, the president (the chairman of the Board of Representatives) is selected.

Under the Defined-Benefit Corporate Pension Act, the Company is obligated to make pension contributions to the Fund which provides pension benefits. The directors of the Fund are responsible for faithfully executing operations related to the administration and investment of pension reserves for the Fund in compliance with laws and regulations, any orders issued by the Minister of Health, Labour and Welfare, and the director-generals of Regional Bureaus of Health and Welfare based on laws and regulations, as well as the rules of the Fund and the resolutions of the Board of Representatives. Furthermore, directors are prohibited from engaging in any actions that could hinder proper administration and investment of the pension reserves for the purpose of furthering their own interests or the interests of third parties other than the Fund.

i) Changes in the present value of defined benefit obligations

(Unit: Millions of yen)

	FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
As of January 1	¥(423,678)	**¥(367,919)**
Benefits paid by the plan	16,676	**15,393**
Current service cost	(11,012)	**(9,852)**
Interest cost	(5,768)	**(5,544)**
Past service cost and settlement	48,643	**8,633**
Actuarial gains and losses	5,115	**(19,093)**
Due to changes in demographic assumptions	1,114	**(1,340)**
Due to changes in financial assumptions	6,141	**(14,461)**
Others	(2,140)	**(3,291)**
Foreign exchange differences	2,506	**839**
Others	(403)	**111**
As of December 31	¥(367,919)	**¥(377,430)**

The weighted average duration of defined benefit obligations was mainly 16 years as of December 31, 2015 and 2016.

ii) Changes in the fair value of plan assets

(Unit: Millions of yen)

	FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
As of January 1	¥324,181	**¥311,976**
Employer contributions	7,714	**9,633**
Benefits paid by the plan	(14,353)	**(13,834)**
Interest income(Note)	4,174	**3,729**
Settlement	(12,364)	**(5,381)**
Income related to plan assets (excluding interest income)	3,858	**5,122**
Foreign exchange differences	(1,705)	**(98)**
Others	469	**(176)**
As of December 31	¥311,976	**¥310,969**

Note: Interest income is measured as the fair value of plan assets multiplied by the discount rate.

The Group plans to contribute ¥9,636 million to retirement benefit plans during the year ending December 31, 2017.

In accordance with the rules of the Fund, every five years the Company is required to recalculate the amount of pension contributions, with the end of the Fund's business year set as the record date. This is to maintain the Fund's financial stability into the future.

In the recalculation process, the Company reviews the base rates related to the pension contributions (assumed interest rate, assumed mortality rate, assumed withdrawal rate, assumed salary increase rate, assumed number of new pension plan members, etc.) in order to re-examine the appropriateness of the pension contributions.

iii) Components of plan assets

Plan assets are invested with the aim of ensuring the sustainability of the defined benefit plans. Plan assets are invested mainly in bonds and equities, and are exposed to market risk in each area. The Group has formulated a policy on risk and return targets for the investment of plan assets. The Group properly monitors investment performance, and regularly reviews this policy, taking into account the funding status and market developments surrounding investments.

The components of plan assets are as follows:

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)			**FY2016 (as of December 31, 2016)**		
	Assets with quoted market prices in an active market	Assets without quoted market prices in an active market	Subtotal	Assets with quoted market prices in an active market	Assets without quoted market prices in an active market (Note)	Subtotal
Equity securities	¥ 89,005	¥ 46,807	¥135,813	**¥ 85,340**	**¥ 49,613**	**¥ 134,953**
Bonds	58,322	75,374	133,697	**60,993**	**79,898**	**140,891**
Others	2,845	39,620	42,465	**1,371**	**33,752**	**35,123**
Total	¥150,173	¥161,802	¥311,976	**¥147,705**	**¥163,263**	**¥ 310,969**

Note: Equity securities include privately placed investment trusts that do not have quoted market prices in an active market, and comprise publicly traded shares in Japan and overseas. Others include cash equivalents.

iv) Analysis of post-employment benefit expenses

Amounts recognized as expenses related to post-employment benefit are as follows:

(Unit: Millions of yen)

	FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
Current service cost	¥(11,012)	**¥(9,852)**
Interest cost	(5,768)	**(5,544)**
Interest income	4,174	**3,729**
Past service cost and gains or losses on settlement	36,278	**3,252**
Total	¥ 23,672	**¥(8,415)**

The foregoing expenses are included in "cost of sales," "selling, general and administrative expenses" and certain other accounts on the consolidated statements of profit or loss.

On April 21, 2015, the Company revised its defined benefit corporate pension plan. As a result, the Company recognized "income from revision of the defined benefit corporate pension plan" as "other income."

v) Actuarial assumptions

Principal actuarial assumptions as of December 31, 2015 and 2016 are as follows:

	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
Discount rate (%)	1.0	**0.7**

In addition to the above, actuarial assumptions include future salary increases, the mortality rate and the expected retirement rate.

vi) Sensitivity analysis of actuarial assumptions

The followings are changes in defined benefit obligations that would result from the changes below in the discount rate as of December 31, 2016. This analysis assumes that all other variables are held constant.

(Unit: Millions of yen)

	FY2016 (as of December 31, 2016)
Discount rate (0.5% increase)	**¥ 24,919**
Discount rate (0.5% decrease)	**(28,256)**

(2) Defined contribution plans

Amounts recognized as expenses related to defined contribution plans are as follows:

(Unit: Millions of yen)

	FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
Expenses related to defined contribution plans	¥(1,653)	**¥(1,973)**

The abovementioned expenses are included in "cost of sales" and "selling, general and administrative expenses" on the consolidated statements of profit or loss.

Note 16: Share-based payments

(1) Description of share-based payments

The Company grants the Group's directors, executive officers and other employees with stock options, which confer the right to purchase the Company's shares. Under the plan, 1,000 shares of common stock per one stock acquisition right are granted to the grantees. Stock options that are not exercised during the exercisable period will expire.

The general terms and conditions for stock options are as follows. The presentation is based on the numbers when the shares were granted.

Grant date	Number of shares granted	Vesting conditions	Exercisable period	Exercise price (Yen)
July 2, 2007 (Compensation-type)	266,000	(Note)	From July 3, 2007 to July 2, 2037(Note)	1
July 1, 2008 (Compensation-type)	265,000	(Note)	From July 2, 2008 to July 1, 2038(Note)	1
July 1, 2009 (Compensation-type)	647,000	(Note)	From July 2, 2009 to July 1, 2039(Note)	1
July 1, 2009 (Ordinary-type)	80,000	An option holder must remain in continued service from the grant date (July 1, 2009) to the vesting date (June 30, 2011).	From July 1, 2011 to June 30, 2015	776
July 1, 2010 (Compensation-type)	432,000	(Note)	From July 2, 2010 to July 1, 2040(Note)	1
September 1, 2010 (Ordinary-type)	205,000	An option holder must remain in continued service from the grant date (September 1, 2010) to the vesting date (August 31, 2013).	From September 1, 2013 to August 31, 2019	862
March 1, 2011 (Compensation-type)	31,000	(Note)	From March 2, 2011 to March 1, 2041(Note)	1
July 1, 2011 (Compensation-type)	430,000	(Note)	From July 2, 2011 to July 1, 2041(Note)	1
July 1, 2011 (Ordinary-type)	176,000	An option holder must remain in continued service from the grant date (July 1, 2011) to the vesting date (June 30, 2014).	From July 1, 2014 to June 30, 2020	964
July 2, 2012 (Compensation-type)	1,020,000	(Note)	From July 3, 2012 to July 2, 2042(Note)	1
July 2, 2012 (Ordinary-type)	308,000	An option holder must remain in continued service from the grant date (July 2, 2012) to the vesting date (July 1, 2015).	From July 2, 2015 to July 1, 2021	562
March 26, 2013 (Compensation-type)	278,000	(Note)	From March 27, 2013 to March 26, 2043(Note)	1
July 1, 2013 (Compensation-type)	592,000	(Note)	From July 2, 2013 to July 1, 2043(Note)	1
July 1, 2013 (Ordinary-type)	331,000	An option holder must remain in continued service from the grant date (July 1, 2013) to the vesting date (June 30, 2016).	From July 1, 2016 to June 30, 2022	761
July 1, 2014 (Compensation-type)	644,000	(Note)	From July 2, 2014 to July 1, 2044(Note)	1
July 1, 2014 (Ordinary-type)	330,000	An option holder must remain in continued service from the grant date (July 1, 2014) to the vesting date (June 30, 2017).	From July 1, 2017 to June 30, 2023	607
December 26, 2014 (Compensation-type)	84,000	(Note)	From December 27, 2014 to December 26, 2044(Note)	1
January 27, 2015 (Compensation-type)	24,000	(Note)	From January 28, 2015 to January 27, 2045(Note)	1
July 1, 2015 (Compensation-type)	451,000	(Note)	From July 2, 2015 to July 1, 2045(Note)	1
July 1, 2015 (Ordinary-type)	376,000	An option holder must remain in continued service from the grant date (July 1, 2015) to the vesting date (June 30, 2018).	From July 1, 2018 to June 30, 2024	800
February 22, 2016 (Compensation-type)	61,000	(Note)	From February 23, 2016 to February 22, 2046(Note)	1
July 1, 2016 (Compensation-type)	696,000	(Note)	From July 2, 2016 to July 1, 2046(Note)	1
July 1, 2016 (Ordinary-type)	380,000	An option holder must remain in continued service from the grant date (July 1, 2016) to the vesting date (June 30, 2019).	From July 1, 2019 to June 30, 2025	652

Note: Vesting conditions and exercisable period

Within the abovementioned exercisable periods, option holders may exercise their subscription rights within 10 years from the day after they lose their position as a director or an executive officer of the Company.

(2) Number and average exercise price of stock options

The number and weighted average exercise prices of stock options granted during the year are as follows. The number of stock options is shown after conversion into the number of shares.

	FY2015 (Jan. 1 through Dec. 31, 2015)		**FY2016 (Jan. 1 through Dec. 31, 2016)**	
	Number (Shares)	Weighted average exercise price (Yen)	Number (Shares)	Weighted average exercise price (Yen)
Outstanding as of January 1	5,702,000	¥178	**6,201,000**	**¥197**
Granted during the period	851,000	354	**1,137,000**	**219**
Forfeited during the period	12,000	723	**4,000**	**800**
Exercised during the period	270,000	124	**349,000**	**50**
Expired during the period	70,000	776	**—**	**—**
Outstanding as of December 31	6,201,000	197	**6,985,000**	**207**
Exercisable as of December 31	5,176,000	92	**5,911,000**	**120**

The weighted average remaining contractual period was 21.2 years and 20.4 years as of December 31, 2015 and 2016, respectively.

The weighted average share price on the exercise dates of stock options exercised in the years ended December 31, 2015 and 2016 were ¥768 and ¥632, respectively.

(3) Fair value of stock options

The fair value of stock options granted during the year ended December 31, 2015 is estimated using the Black-Scholes formula, taking into account the following assumptions:

	Grant date		
	January 27, 2015 (Compensation-type)	July 1, 2015 (Compensation-type)	July 1, 2015 (Ordinary-type)
Fair value as of the measurement date (Yen)	¥396	¥518	¥142
Stock price (Yen)	615	745	745
Exercise price (Yen)	1	1	800
Expected volatility	36%	35%	30%
Remaining contractual period	15 years	15 years	6 years
Expected dividends	18 yen/share	18 yen/share	18 yen/share
Risk-free interest rate	0.64%	0.84%	0.17%

The expected volatility is estimated based on the historical share price over the most recent period commensurate with the remaining contractual period.

The fair value of stock options granted during the year ended December 31, 2016 is estimated using the Black-Scholes formula, taking into account the following assumptions:

	Grant date		
	February 22, 2016 (Compensation-type)	**July 1, 2016** (Compensation-type)	**July 1, 2016** (Ordinary-type)
Fair value as of the measurement date (Yen)	**¥331**	**¥342**	**¥ 82**
Stock price (Yen)	**545**	**557**	**557**
Exercise price (Yen)	**1**	**1**	**652**
Expected volatility	**35%**	**35%**	**31%**
Remaining contractual period	**15 years**	**15 years**	**6 years**
Expected dividends	**18 yen/share**	**18 yen/share**	**18 yen/share**
Risk-free interest rate	**0.32%**	**(0.11)%**	**(0.35)%**

The expected volatility is estimated based on the historical share price over the most recent period commensurate with the remaining contractual period.

(4) Equity-settled share-based payment transactions for which IFRS 2 is not applied

Out of the description in (1) above, due to optional exemptions by IFRS 1, details of stock options for which IFRS 2 has not been applied are as follows:

Grant date	Number of shares granted	Vesting conditions	Exercisable period	Exercise price (Yen)
July 2, 2007 (Compensation-type)	266,000	(Note)	From July 3, 2007 to July 2, 2037(Note)	1
July 1, 2008 (Compensation-type)	265,000	(Note)	From July 2, 2008 to July 1, 2038(Note)	1
July 1, 2009 (Compensation-type)	647,000	(Note)	From July 2, 2009 to July 1, 2039(Note)	1
July 1, 2009 (Ordinary-type)	80,000	An option holder must remain in continued service from the grant date (July 1, 2009) to the vesting date (June 30, 2011).	From July 1, 2011 to June 30, 2015	776
July 1, 2010 (Compensation-type)	432,000	(Note)	From July 2, 2010 to July 1, 2040(Note)	1
March 1, 2011 (Compensation-type)	31,000	(Note)	From March 2, 2011 to March 1, 2041(Note)	1
July 1, 2011 (Compensation-type)	430,000	(Note)	From July 2, 2011 to July 1, 2041(Note)	1

Note: Vesting conditions and exercisable period

Within the abovementioned exercisable periods, option holders may exercise their subscription rights within 10 years from the day after they lose their position as a director or an executive officer of the Company.

(5) Expenses related to share-based payments

Expenses related to share-based payments were ¥289 million and ¥306 million during the years ended December 31, 2015 and 2016, respectively.

These expenses were included in “cost of sales” and “selling, general and administrative expenses” on the consolidated statements of profit or loss.

Note 17: Equity

(1) Share capital and share premium

(Unit: Thousands of shares)

	Fully paid issued shares (No par value ordinary shares) FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
As of January 1	1,186,705	**1,186,705**
Increase and decrease	—	**—**
As of December 31	1,186,705	**1,186,705**
Number of authorized shares	2,000,000	**2,000,000**

Out of the amount generated from the equity transaction, capital surplus consists of the amount which is not included in share capital.

Under the Companies Act of Japan, at least 50% of the proceeds of certain issues of common shares shall be credited to share capital.

(2) Retained earnings

Retained earnings include amounts transferred from accumulated gains or losses recognized in other components of equity upon the sale of financial assets measured at fair value through other comprehensive income.

Furthermore, retained earnings include the amount of accumulated foreign currency translation adjustments that had been recognized based on previous standards (JGAAP), and transferred to retained earnings as of the transition date to IFRS.

(3) Treasury shares

(Unit: Thousands of shares)

	Treasury shares FY2015 (Jan. 1 through Dec. 31, 2015)	Treasury shares **FY2016 (Jan. 1 through Dec. 31, 2016)**
As of January 1	30,863	**30,665**
Decrease due to sales of less-than-one-unit shares	(5)	**(4)**
Increase due to purchases of less-than-one-unit shares	77	**35**
Decrease due to exercise of stock options	(270)	**(349)**
As of December 31	30,665	**30,347**

(4) Other components of equity

The following is a breakdown of other components of equity:

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
Remeasurement of the net defined benefit liability (asset)	¥ (35,003)	**¥ (45,106)**
Net gain (loss) on revaluation of financial assets measured at FVTOCI	91,408	**95,891**
Net gain (loss) in fair value of cash flow hedges	(2,563)	**225**
Exchange differences on translation of foreign operations	214,357	**190,686**
Total	¥268,198	**¥241,696**

Remeasurement of the net defined benefit liability (asset)

Remeasurement of the net defined benefit liability (asset) includes the effects of differences between the actuarial assumptions at the beginning of the period and the actual numbers at the end of the period, and differences between actual income from plan assets and projected interest income from plan assets.

Net gain (loss) on revaluation of financial assets measured at FVTOCI

This includes the cumulative amount of net gain (loss) on revaluation of financial assets measured at FVTOCI.

Net gain (loss) in fair value of cash flow hedges

This is the effective portion of the cumulative amount of the net gain (loss) in fair value of cash flow hedges relating to hedge transactions that have not yet been realized.

Exchange differences on translation of foreign operations

These are foreign currency differences arising from the translation of the financial statements of foreign operations.

(5) Dividends

Dividends paid during the years ended December 31, 2015 and 2016 are as follows:

(Year ended December 31, 2015)

Date of approval	Type of share	Total amount of dividends (Millions of yen)	Dividends per share (Yen)	Record date	Effective date
Shareholders' meeting held on March 27, 2015	Ordinary shares	¥10,402	¥9.00	December 31, 2014	March 30, 2015
Board of Directors meeting held on July 31, 2015	Ordinary shares	10,403	9.00	June 30, 2015	September 8, 2015

(Year ended December 31, 2016)

Date of approval	Type of share	Total amount of dividends (Millions of yen)	Dividends per share (Yen)	Record date	Effective date
Shareholders' meeting held on March 30, 2016	Ordinary shares	**¥10,404**	**¥9.00**	December 31, 2015	March 31, 2016
Board of Directors meeting held on August 1, 2016	Ordinary shares	**10,406**	**9.00**	June 30, 2016	September 8, 2016

Dividends for which the effective date falls in the following period are as follows:

(Year ended December 31, 2015)

Date of approval	Type of share	Total amount of dividends (Millions of yen)	Dividends per share (Yen)	Record date	Effective date
Shareholders' meeting held on March 30, 2016 . . .	Ordinary shares	¥10,404	¥9.00	December 31, 2015	March 31, 2016

(Year ended December 31, 2016)

Date of approval	Type of share	Total amount of dividends (Millions of yen)	Dividends per share (Yen)	Record date	Effective date
Shareholders' meeting held on March 30, 2017 . . .	Ordinary shares	**¥10,407**	**¥9.00**	December 31, 2016	March 31, 2017

Note 18: Other comprehensive income

Changes in other comprehensive income during the years ended December 31, 2015 and 2016 are as follows:

(Unit: Millions of yen)

	FY2015 (Jan. 1 through Dec. 31, 2015)			**FY2016 (Jan. 1 through Dec. 31, 2016)**		
	Before tax effects	Tax effects	Net amount	Before tax effects	Tax effects	Net amount
Remeasurement of the net defined benefit liability (asset) . . .	¥ 8,974	¥(2,836)	¥ 6,138	**¥(13,970)**	**¥ 3,635**	**¥(10,335)**
Financial assets measured at FVTOCI . . .	808	4,203	5,011	**4,141**	**855**	**4,996**
Net gain (loss) in fair value of cash flow hedges . . .	(2,819)	946	(1,872)	**4,156**	**(1,399)**	**2,757**
Exchange differences on translation of foreign operations . . .	(53,308)	—	(53,308)	**(23,261)**	**(1,455)**	**(24,716)**
Share of other comprehensive income of associates and joint ventures accounted for using equity method . . .	45	(14)	31	**140**	**(11)**	**128**
Total . . .	¥(46,299)	¥ 2,298	¥(44,000)	**¥(28,794)**	**¥ 1,624**	**¥(27,169)**

As of December 31, 2015, the reclassification adjustments of exchange differences on translation of foreign operations were ¥(546) million (before tax effects) and ¥307 million (tax effects). As of December 31, 2016, the reclassification adjustments of exchange differences on translation of foreign operations were ¥(260) million (before tax effects) and deferred tax related to these adjustments has not been recognized.

Amounts attributable to non-controlling interests are as follows:

(Unit: Millions of yen)

	FY2015 (Jan. 1 through Dec. 31, 2015)			**FY2016 (Jan. 1 through Dec. 31, 2016)**		
	Before tax effects	Tax effects	Net amount	Before tax effects	Tax effects	Net amount
Remeasurement of the net defined benefit liability (asset) . . .	¥ 167	¥102	¥ 270	**¥ (180)**	**¥45**	**¥ (135)**
Financial assets measured at FVTOCI . . .	16	(4)	12	**(3)**	**1**	**(1)**
Exchange differences on translation of foreign operations . . .	(2,972)	—	(2,972)	**(1,045)**	**—**	**(1,045)**
Total . . .	¥(2,788)	¥ 98	¥(2,690)	**¥(1,230)**	**¥47**	**¥(1,182)**

Note 19: Revenue

(Unit: Millions of yen)

	FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
Sales of goods and products . . .	¥1,306,523	**¥1,262,886**
Others . . .	19,770	**19,684**
Total . . .	¥1,326,293	**¥1,282,570**

Note 20: Classification of expenses by nature

The classification of expenses by nature and reconciliation with business profit are as follows:

(Unit: Millions of yen)

	FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
Net sales	¥1,326,293	**¥1,282,570**
Personnel expenses	(274,708)	**(263,079)**
Depreciation and amortization	(137,381)	**(121,803)**
Others	(843,031)	**(801,395)**
Operating profit	71,172	**96,292**
Gains on sale of non-current assets	6,133	**1,251**
Income from revision of the defined benefit corporate pension plan	36,071	**—**
Others	3,804	**2,827**
Other income	46,009	**4,078**
Foreign exchange loss	(3,460)	**(196)**
Losses on disposal of non-current assets	(5,220)	**(4,878)**
Impairment loss	(5,107)	**(10,318)**
Expenses for restructuring programs	(13,058)	**(11,315)**
Others	(4,384)	**(4,826)**
Other expenses	(31,231)	**(31,534)**
Business profit	¥ 85,949	**¥ 68,837**

The total amounts of research and development expenses were ¥38,927 million and ¥39,212 million during the years ended December 31, 2015 and 2016, respectively. There was no capitalization of research and development expenses on the consolidated statements of financial position as of December 31, 2015 and 2016.

The total amounts of impairment losses included in expenses for restructuring programs were ¥6,591 million and ¥3,487 million during the years ended December 31, 2015 and 2016, respectively.

Note 21: Operating leases

Leases as lessee

The Group leases certain buildings and other assets under operating leases.

Several lease contracts contain renewal or purchase options. There are no sublease contracts, escalation clauses or restrictions imposed by lease contracts (restrictions concerning dividends, additional debt and further leasing, etc.).

Future minimum lease payments under non-cancelable operating leases are as follows:

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
Due within one year or less	¥ 1,880	**¥ 1,955**
Due after one year through five years	5,011	**4,977**
Due after five years	4,163	**3,584**
Total	¥11,055	**¥10,517**

The total amounts of minimum lease payments recognized in profit and loss are ¥2,133 million and ¥1,964 million during the years ended December 31, 2015 and 2016, respectively.

Note 22: Finance income and finance costs

(1) Finance income

(Unit: Millions of yen)

	FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
Interest income	¥1,702	**¥1,922**
Dividend income	4,219	**4,117**
Others	100	**88**
Total	¥6,021	**¥6,127**

(2) Finance costs

	FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
	(Unit: Millions of yen)	
Interest expense	¥(6,477)	**¥(6,400)**
Others	(971)	**(1,001)**
Total	¥(7,449)	**¥(7,401)**

Interest income and interest expense are generated primarily from financial assets and financial liabilities measured at amortized cost. Dividend income is generated mainly from financial assets measured at fair value through other comprehensive income.

Note 23: Income tax expenses

(1) Composition of income tax expenses

	FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
	(Unit: Millions of yen)	
Current tax expense	¥(20,345)	**¥(22,976)**
Deferred tax expense	(17,889)	**8,775**
Total	¥(38,235)	**¥(14,200)**

Deferred tax expense includes the amount of the benefit from previously unrecognized tax losses, tax credits, or temporary differences of prior periods that were used to reduce deferred tax expenses. During the year ended December 31, 2016, the amount of decrease in deferred income tax expense due to these benefits was ¥5,603 million.

(2) Income tax recognized in other comprehensive income

Income tax recognized in other comprehensive income is presented in Note 18 “Other comprehensive income.”

(3) Reconciliation of the effective tax rate

Income tax expenses applicable to the Company and its domestic consolidated subsidiaries consist of corporate income tax (national), enterprise tax (local) and resident income tax (local). The effective statutory tax rates calculated by using these taxes for the years ended December 31, 2015 and 2016 are as follows:

	FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
Corporate income tax	25.5%	**23.9%**
Enterprise tax	7.4	**6.2**
Resident income tax	4.0	**3.7**
Total	36.9%	**33.8%**
Effective statutory tax rate in which the deductibility of paid enterprise tax is reflected	35.4%	**32.8%**

Unlike corporate income tax and resident income taxes, enterprise tax is deductible for tax purposes when it is paid.

The Act on Partial Revision of the Income Tax Act, etc. (Act No. 15 of 2016) and the Act on Partial Revision of the Local Tax Act, etc. (Act No. 13 of 2016) were established by the National Diet on March 29, 2016. Furthermore, the Act on Partial Revision of the Act, etc., on Partial Revision, etc., of the Consumption Tax Act for Fundamentally Reforming the Tax System to Secure Stable Financial Sources for Social Security (Act No. 85 of 2016) and the Act on Partial Revision of the Act, etc., for Partial Revision of the Local Tax Act and Local Allocation Tax Act for Fundamentally Reforming the Tax System to Secure Stable Financial Sources for Social Security (Act No. 86 of 2016) were established by the National Diet on November 18, 2016. As a result, from the fiscal year starting on April 1, 2016 onwards, corporate tax rates have been reduced. Accordingly, the statutory tax rate of 32.0% used to calculate the Company’s deferred tax assets and deferred tax obligations has been changed to 30.7% for the temporary difference expected to be resolved in the business years starting on January 1, 2017 and January 1, 2018, and 30.4% for the temporary differences expected to be resolved in the business years starting on or after January 1, 2019.

Foreign subsidiaries are subject to corporate income tax and other taxes in their respective jurisdiction.

The following is a reconciliation between the effective statutory tax rates and the effective income tax rates for corporate income tax expenses appearing on the consolidated statements of profit or loss.

	FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
Effective statutory tax rate of the Company	35.4%	**32.8%**
Entertainment expenses, etc., nondeductible	1.2	**0.6**
Dividend income, not taxable	(1.0)	**(0.7)**
Difference in tax rates applied to overseas subsidiaries	(4.5)	**(7.1)**
Changes in unrecognized temporary differences	9.0	**(7.7)**
Others	5.1	**3.1**
Effective income tax rate after tax effect accounting applied	45.2%	**21.0%**

Note 24: Earnings per share

(1) Basic earnings per share

Basic earnings per share and the basis for calculating basic earnings per share are as follows:

	FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
Profit for the year attributable to owners of the parent (Millions of yen)	¥42,906	**¥47,438**
Weighted average number of ordinary shares outstanding (Thousands of shares)	1,155,953	**1,156,255**
Basic earnings per share (Yen)	¥ 37.12	**¥ 41.03**

(2) Diluted earnings per share

Diluted earnings per share and the basis for calculating diluted earnings per share are as follows:

	FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
Profit for the year attributable to owners of the parent (Millions of yen)	¥42,906	**¥47,438**
Adjustments to profit or loss used to calculate diluted earnings per share (Millions of yen)	—	**—**
Profit or loss used to calculate diluted earnings per share (Millions of yen)	¥42,906	**¥47,438**
Weighted average number of ordinary shares outstanding (Thousands of shares)	1,155,953	**1,156,255**
Effects of dilutive potential ordinary shares		
Stock options based on subscription rights (Thousands of shares)	4,690	**4,956**
Diluted weighted average number of ordinary shares outstanding (Thousands of shares)	1,160,644	**1,161,212**
Diluted earnings per share (Yen)	¥ 36.97	**¥ 40.85**

Note 25: Financial instruments

(1) Capital management

The Group has adopted return on equity attributable to owners of the parent (ROE) and the debt-to-equity ratio (ratio of interest-bearing debt to equity) as its financial targets. The Group aims to attain those financial targets by improving not only profits but also the asset turnover ratio.

(2) Credit risk

Credit risk is the risk of financial losses to the Group if a counterparty to a financial instrument fails to meet its contractual obligations.

Trade receivables such as trade notes and accounts receivable are exposed to customer credit risks. To manage these risks, each Group company performs due date controls and balance controls for each customer, and identifies and mitigates risks regarding the collection of receivables caused by factors such as deterioration of financial conditions at an early stage, in accordance with each Group entity's credit management rules.

In its derivative transactions, the Group uses only creditworthy financial institutions to reduce its credit risks.

The total carrying amount of financial assets represents the maximum amount of exposure to credit risk.

i) Aging analysis

The analysis of the aging of trade receivables which are past due but not impaired as of December 31, 2015 and 2016 is as follows:

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
Past due by 3 months or less	¥12,458	**¥12,968**
Past due over 3 months but within 1 year	4,022	**2,487**
Past due over 1 year	1,732	**3,833**
Total	¥18,212	**¥19,288**

ii) Allowance for doubtful debts

The Group uses an allowance account for credit losses to record the amount of individually significant financial assets at the uncollectible amounts, and to record impairment losses on financial assets that are not individually significant at an amount based on the historical loan loss ratio at the end of the reporting period. The allowances for doubtful debts against the financial assets are included in "trade receivables" and "other financial assets" on the consolidated statements of financial position.

Changes in the allowance account for credit losses on trade receivables and other financial assets during the years ended December 31, 2015 and 2016 are as follows:

(Unit: Millions of yen)

	FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
As of January 1	¥ 9,650	**¥7,647**
Additions during the year	435	**559**
Amounts used during the year	(1,824)	**(906)**
Unused amounts reversed during the year	(195)	**(192)**
Others	(418)	**(270)**
As of December 31	¥ 7,647	**¥6,836**

(3) Liquidity risk

Liquidity risk is the risk that the Group will encounter difficulty in discharging its financial liabilities using cash or other financial assets.

Financial liabilities such as loans and corporate bonds are exposed to liquidity risks. The Group manages these risks by diversifying fund procurement methods, establishing commitment lines with various financial institutions, and keeping an appropriate balance between direct and indirect fund procurements and a proper mixture of short-term and long-term loans and bonds.

An analysis of the contractual maturities of financial liabilities is as follows:

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)							
	Carrying amount	Contractual cash flows	Due within one year or less	Due between one year and two years	Due between two years and three years	Due between three years and four years	Due between four years and five years	Due after five years
Non-derivative financial liabilities								
Loans payable	¥392,748	¥408,570	¥ 99,136	¥49,078	¥67,362	¥33,362	¥34,757	¥124,871
Commercial paper	1,929	1,943	1,943	—	—	—	—	—
Corporate bonds	69,889	73,426	845	20,845	783	30,249	201	20,502
Finance lease obligations	4,166	5,149	1,047	736	605	489	456	1,812
Total interest-bearing debt	468,733	489,088	102,973	70,660	68,751	64,102	35,415	147,186
Others(Note)	207,868	207,868	207,835	33	—	—	—	—
Total	¥676,602	¥696,957	¥310,808	¥70,693	¥68,751	¥64,102	¥35,415	¥147,186

Note: Others consist of "trade payables," "other payables" and "other current liabilities."

	Carrying amount	Contractual cash flows	Due within one year	Due after one year
Derivative financial liabilities				
Foreign exchange contracts	¥ 954	¥ 954	¥ 954	¥ —
Interest rate contracts	2,477	2,535	916	1,619
Commodity contracts	6,285	6,330	3,860	2,470
Total	¥9,717	¥9,820	¥5,731	¥4,089

	(Unit: Millions of yen)							
	FY2016 (as of December 31, 2016)							
	Carrying amount	Contractual cash flows	Due within one year or less	Due between one year and two years	Due between two years and three years	Due between three years and four years	Due between four years and five years	Due after five years
Non-derivative financial liabilities								
Loans payable	¥360,481	¥375,311	¥ 87,231	¥69,440	¥32,858	¥38,988	¥44,887	¥101,904
Corporate bonds	69,918	72,581	20,845	783	30,249	201	201	20,301
Finance lease obligations	3,568	4,187	808	671	554	486	333	1,332
Total interest-bearing debt	433,968	452,079	108,885	70,894	63,662	39,676	45,421	123,538
Others(Note)	229,564	229,564	229,538	26	—	—	—	—
Total	¥663,533	¥681,643	¥338,423	¥70,921	¥63,662	¥39,676	¥45,421	¥123,538

Note: Others consist of "trade payables," "other payables" and "other current liabilities."

	Carrying amount	Contractual cash flows	Due within one year	Due after one year
Derivative financial liabilities				
Foreign exchange contracts	¥1,822	¥1,822	¥1,135	¥ 687
Interest rate contracts	1,856	1,934	830	1,103
Commodity contracts	622	623	489	134
Total	¥4,301	¥4,379	¥2,455	¥1,924

The Group does not expect the cash flows included in the maturity analysis to occur much earlier than anticipated or to differ significantly from the anticipated monetary amounts.

(4) Currency risk

The Group operates businesses globally, and is therefore exposed to currency fluctuation risks associated with transactions undertaken in currencies other than functional currency of the individual Group companies. To manage such risks, the Group hedges the risks with using foreign exchange forward contracts, currency swap contracts, and other instruments.

The principal exchange rates are as follows:

	(Unit: Yen)			
	FY2015 (Jan. 1 through Dec. 31, 2015)		**FY2016 (Jan. 1 through Dec. 31, 2016)**	
	Average rate	Rate at the end of the reporting period	Average rate	Rate at the end of the reporting period
U.S. dollars	¥121.05	¥120.61	**¥108.84**	**¥116.49**
Euros	134.31	131.77	**120.33**	**122.70**

i) Currency risk exposure

The Group's maximum amount of exposure to currency fluctuation risk is as follows.

The exposure excludes amounts for which currency fluctuation risk is hedged using foreign exchange forward contracts, currency swap contracts, and other instruments.

	FY2015 (as of December 31, 2015)		**FY2016 (as of December 31, 2016)**	
	Thousands of U.S. dollars	Thousands of euros	Thousands of U.S. dollars	Thousands of euros
Financial instruments dominated in foreign currency	$177,290	€(7,186)	**$ 19,892**	**€(8,254)**

ii) Sensitivity analysis of currency fluctuation risk

In the event of a 1% appreciation against the U.S. dollar and euro at the end of the reporting period, the monetary impact of this exchange rate movement on profit before tax is shown below.

This analysis is based on exchange rate variables that the Group believes to be reasonably possible as of the end of the reporting period. The analysis assumes that all other variables are held constant. It was conducted on the same basis as the analysis for the year ended December 31, 2015.

This analysis is performed by multiplying the currency fluctuation risk exposures by 1%, assuming that movements in various exchange rates have no impact on other variables (other exchange rates, interest rates, etc.).

(Unit: Millions of yen)

	FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
U.S. dollars (1% yen appreciation)	¥(213)	**¥(23)**
Euros (1% yen appreciation)	9	**10**

(5) Interest rate risk

Interest-bearing debts with floating rates are exposed to interest-rate fluctuation risks. For some long-term floating-rate loans, the Group uses derivative transactions (interest rate swaps) as hedging instruments to avoid the interest-rate fluctuation risks and convert the floating rates into fixed rates.

i) Exposure to interest rate risk

The Group's exposure to interest rate fluctuation risk is as follows.

The monetary amount of exposure excludes monetary amounts for which currency fluctuation risk is hedged using interest rate swap contracts.

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)			**FY2016 (as of December 31, 2016)**		
	Due within one year	Due after one year	Total	Due within one year	Due after one year	Total
Loans payable	¥33,059	¥ —	¥ 33,059	**¥36,689**	**¥ —**	**¥ 36,689**
Commercial paper	1,929	—	1,929	**—**	**—**	**—**
Current interest-bearing debt	¥34,989	¥ —	¥ 34,989	**¥36,689**	**¥ —**	**¥ 36,689**
Loans payable	¥42,190	¥142,579	¥184,769	**¥13,461**	**¥126,968**	**¥140,430**
Non-current interest-bearing debt	¥42,190	¥142,579	¥184,769	**¥13,461**	**¥126,968**	**¥140,430**

ii) Sensitivity analysis of interest rate risk

In the event of a 1% interest rate increase, the monetary impact of financial instruments affected by the interest rate movement on profit before tax is shown below.

This analysis is performed by multiplying the currency fluctuation risk exposures by 1%, assuming that movements in various exchange rates have no impact on other variables (other exchange rates, etc.). It was conducted on the same basis as the analysis for the year ended December 31, 2015.

(Unit: Millions of yen)

	FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
Floating interest rate financial instruments	¥(2,197)	**¥(1,771)**

(6) Fair value

i) Fair value measurement approach

The fair values of financial assets and financial liabilities are determined as follows:

(Derivatives)

Foreign exchange contracts are mainly based on forward exchange rates and prices quoted by financial institutions with which contracts are concluded. Interest rate contracts are mainly based on prices quoted by financial institutions with which contracts are concluded. Commodity contracts are mainly based on prices quoted by counterparties with whom contracts are concluded.

(Financial assets measured at fair value through other comprehensive income)

When market values are available, such values are used as fair values of the financial instruments. The fair values whose market values are unavailable are measured by using the method of discounted future cash flows, by third party appraisals, or by other appropriate measurement techniques.

(Loans payable)

As short-term loans payable are settled on a short-term basis, their fair values approximate their carrying amounts.

The fair values of long-term loans payable are calculated by the total sum of the principal and interest discounted by the interest rates that would apply if similar borrowings were conducted anew. For long-term loans payable at floating interest rates, however, the fair values approximate the carrying amounts because the interest rates are adjusted regularly at fixed intervals.

(Corporate bonds)

Fair values of corporate bonds are calculated based on market prices.

(Financial instruments other than above mentioned)

Financial instruments other than above mentioned are settled mainly on a short-term basis, and their fair values approximate their carrying amounts.

ii) Fair values of financial instruments

The carrying amounts and fair values of financial instruments as of December 31, 2015 and 2016 are as follows:

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)		**FY2016 (as of December 31, 2016)**	
	Carrying amount	Fair value	Carrying amount	Fair value
Financial assets measured at fair value				
Other current assets and other financial assets				
Derivatives not designated as hedges	¥ 2,439	¥ 2,439	**¥ 1,256**	**¥ 1,256**
Derivatives designated as hedges	3	3	**806**	**806**
Other financial assets				
Financial assets measured at FVTOCI	219,814	219,814	**221,936**	**221,936**
Financial assets measured at amortized cost				
Cash and cash equivalents	104,831	104,831	**147,325**	**147,325**
Trade receivables	241,294	241,294	**241,476**	**241,476**
Other receivables	24,734	24,734	**25,293**	**25,293**
Other financial assets	12,757	12,757	**9,979**	**9,979**
Financial liabilities measured at fair value				
Other current liabilities and other non-current liabilities				
Derivatives not designated as hedges	5,818	5,818	**3,821**	**3,821**
Derivatives designated as hedges	3,899	3,899	**480**	**480**
Financial liabilities measured at amortized cost				
Trade payables	126,956	126,956	**137,590**	**137,590**
Interest-bearing debt (short-term and long-term)				
Loans payable	392,748	399,567	**360,481**	**367,583**
Commercial paper	1,929	1,929	**—**	**—**
Corporate bonds	69,889	72,745	**69,918**	**72,169**
Finance lease obligations	4,166	4,166	**3,568**	**3,568**
Other payables	80,879	80,879	**91,947**	**91,947**
Other non-current liabilities	33	33	**26**	**26**

iii) Fair value hierarchy

The following table is an analysis of financial instruments measured at fair value by valuation methods. The fair value hierarchy categorizes financial instruments into three levels based on inputs used to measure fair value, as follows:

Inputs include stock prices, exchange rates, and interest rates as well as indexes related to commodity prices, etc.

Level 1: Fair value measured at quoted market prices in active markets

Level 2: Fair value calculated using inputs other than quoted market prices included within Level 1 that are observable for the asset or liability, either directly or indirectly

Level 3: Fair value calculated from valuation techniques including inputs not based on observable market data

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)			
	Level 1	Level 2	Level 3	Total
Derivative financial assets	¥ —	¥2,443	¥ —	¥ 2,443
Derivatives not designated as hedges	—	2,439	—	2,439
Derivatives designated as hedges	—	3	—	3
Equity instruments	212,852	—	6,962	219,814
Financial assets measured at FVTOCI	212,852	—	6,962	219,814
Derivative financial liabilities	—	9,717	—	9,717
Derivatives not designated as hedges	—	5,818	—	5,818
Derivatives designated as hedges	—	3,899	—	3,899

	FY2016 (as of December 31, 2016)			
	Level 1	Level 2	Level 3	Total
Derivative financial assets	¥ —	¥2,063	¥ —	¥ 2,063
Derivatives not designated as hedges	—	1,256	—	1,256
Derivatives designated as hedges	—	806	—	806
Equity instruments	212,140	—	9,796	221,936
Financial assets measured at FVTOCI	212,140	—	9,796	221,936
Derivative financial liabilities	—	4,301	—	4,301
Derivatives not designated as hedges	—	3,821	—	3,821
Derivatives designated as hedges	—	480	—	480

The presence of any financial instruments subject to significant transfers between fair value hierarchy levels is determined at the end of every period. There were no financial instruments subject to significant transfers between the fair value hierarchy levels during the years ended December 31, 2015 and 2016.

Financial instruments categorized as Level 3 are financial instruments measured at fair value through other comprehensive income for which quoted market prices are not available. The fair value of these financial instruments is measured using calculations that conform to the Group's accounting policies. When calculating the fair value, the Group reasonably estimates the inputs, and determines the optimal valuation techniques, including third party appraisals, based on the characteristics of the assets and other considerations.

Changes in financial instruments categorized within Level 3 of the fair value hierarchy during the year are as follows:

(Unit: Millions of yen)

	FY2015 (Jan. 1 through Dec. 31, 2015)	FY2016 (Jan. 1 through Dec. 31, 2016)
Balance as of January 1	¥6,305	¥6,962
Purchases	228	2,618
Sales	(77)	(72)
Other comprehensive income	522	456
Other changes	(16)	(169)
Balance as of December 31	¥6,962	¥9,796

iv) Equity instruments

Equity instruments such as equity securities are held mainly for the purpose of maintaining and strengthening business relationships over the medium and long terms, and are designated as financial assets measured at FVTOCI. The following is a breakdown of the major stocks within equity instruments and their fair values:

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)	FY2016 (as of December 31, 2016)
Mitsubishi Estate Co., Ltd.	¥ 57,318	¥ 52,867
Mitsubishi Corporation	29,390	36,085
Toyota Motor Corporation	26,208	25,119
Others	106,897	107,864
Total	¥219,814	¥221,936

Equity instruments are sold taking into consideration the fair value such as market value of shares and the need to hold shares for business purposes. The fair values of, and cumulative gains or losses recognized in other components of equity on stocks sold during the years ended December 31, 2015 and 2016 are shown below. The cumulative gains or losses recognized are transferred on sale from other components of equity to retained earnings.

(Unit: Millions of yen)

FY2015 (Jan. 1 through Dec. 31, 2015)		FY2016 (Jan. 1 through Dec. 31, 2016)	
Fair value	Cumulative gains or losses	Fair value	Cumulative gains or losses
¥358	¥280	¥4,536	¥400

The following is a breakdown of dividend income recognized from equity instruments:

(Unit: Millions of yen)

FY2015 (Jan. 1 through Dec. 31, 2015)		**FY2016 (Jan. 1 through Dec. 31, 2016)**	
Financial assets derecognized during the year	Financial assets held as of the end of the reporting year	Financial assets derecognized during the year	Financial assets held as of the end of the reporting year
¥3	¥4,216	**¥0**	**¥4,117**

(7) Derivatives and hedge accounting

The Group has early adopted IFRS 9 *Financial Instruments* (amended in November 2013). Accordingly, the matters below are presented in accordance with the disclosure requirements set forth in IFRS 7 *Financial Instruments: Disclosures* (amended in November 2013).

The Group uses commodity futures and foreign exchange forward contracts to hedge variations in cash flows associated with forecast transactions and interest rate swaps and instruments to hedge variations in cash flows associated with loans payable with floating interest rates. The Group uses these derivatives only for transactions justified by actual demand, and does not hold these derivatives for speculative or trading purposes.

When applying hedge accounting, at the inception of hedges, the Group formally designates and documents hedging relationships to which hedge accounting is applied and the objectives and strategies of risk management for undertaking hedges. Moreover, at the inception of hedges, the Group evaluates whether or not the hedging instrument can be predicted to be effective. Thereafter, the Group continuously evaluates whether the derivative is highly effective in offsetting changes in future cash flows from the hedged item.

For the purpose of hedging variations in cash flows associated with raw material and fuel costs, the Group enters into raw material and fuel swap contracts for natural gas, oil and other commodities to hedge the risk of price fluctuations. The Group has determined that there is an economic relationship between the raw materials and fuel it uses, which reflects market prices, and the hedging instruments that are correlated with market prices for raw materials and fuel. The risk of price fluctuations has an impact on the Group's consolidated financial statements through not only fluctuations in raw material and fuel costs but also currency fluctuations and other factors. Therefore, the Group applies hedge accounting by designating only raw material and fuel costs as risk factors. The designated risk factor accounts for most of the risk of price fluctuations. Moreover, at the inception of hedging relationships, the Group sets an appropriate hedge ratio based on the quantity of the hedged item and the quantity of hedging instruments. In principle, the Group sets the hedge ratio so as to obtain a one-to-one relationship between those quantities.

The ineffective portion of hedging instruments arises mainly because changes in the fair value of the hedging instruments are unable to fully cover the fluctuations in the hedged item, namely the fluctuations in raw material and fuel costs.

Details on cash flow hedges for raw material and fuel costs are as follows:

i) Impact of hedge accounting on the consolidated statements of financial position

As of December 31, 2015 and 2016, the carrying amount of hedging instruments on the consolidated statements of financial position and the changes in the fair value of hedging instruments used as a basis for calculating hedge ineffectiveness are as follows:

(Unit: Millions of yen)

		FY2015 (as of December 31, 2015)		
Type of risk	Hedging instrument	Carrying amount of hedging instrument		Changes in fair value of hedging instrument
Commodity price risk	Swap contract	Other current assets	¥ 3	¥(4,499)
		Other current liabilities	3,660	
		Other non-current liabilities	239	

The delivery month of foregoing contracts are mainly expected to fall within one year from December 31, 2015.

(Unit: Millions of yen)

		FY2016 (as of December 31, 2016)		
Type of risk	Hedging instrument	Carrying amount of hedging instrument		Changes in fair value of hedging instrument
Commodity price risk	Swap contract	Other current assets	**¥232**	**¥(1,571)**
		Other non-current assets	**573**	
		Other current liabilities	**348**	
		Other non-current liabilities	**132**	

The delivery month of foregoing contracts are expected to fall within two years from December 31, 2016 and most parts of contract are expected to fall within one year from December 31, 2016.

The notional amount of hedging instruments as of December 31, 2015 and 2016 are as follows:

(Unit: Millions of yen)

Type of risk	Hedging instrument	FY2015 (as of December 31, 2015) Notional amount
Commodity price risk	Swap contract	¥17,128

(Unit: Millions of yen)

Type of risk	Hedging instrument	**FY2016 (as of December 31, 2016)** Notional amount
Commodity price risk	Swap contract	**¥13,064**

The changes in value of the hedged items used as the basis for calculating hedge ineffectiveness and the balances remaining in the cash flow hedge reserve as of December 31, 2015 and 2016 are as follows:

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)	
Type of risk	Changes in value of hedged item	Cash flow hedge reserve
Commodity price risk	¥4,392	¥(3,765)

(Unit: Millions of yen)

	FY2016 (as of December 31, 2016)	
Type of risk	Changes in value of hedged item	Cash flow hedge reserve
Commodity price risk	**¥1,434**	**¥391**

ii) Impact of hedge accounting on the consolidated statements of profit or loss and consolidated statements of comprehensive income

Profit or loss items recorded on the consolidated statements of profit or loss and consolidated statements of comprehensive income during the years ended December 31, 2015 and 2016 are as follows:

(Unit: Millions of yen)

	FY2015 (Jan. 1 through Dec. 31, 2015)		
Type of risk	Hedging gains or losses that were recognized in other comprehensive income	Hedge ineffectiveness recognized in profit or loss reclassification adjustment	Amount reclassified from cash flow hedge reserve into profit or loss as reclassification adjustment
Commodity price risk	¥(4,369)	¥(129)	¥(603)

The profit or loss items included on the consolidated statements of profit or loss are recorded in "cost of sales." During the year ended December 31, 2015, no cash flow hedges were discontinued as a result of not executing forecast transactions within the initially anticipated time period.

(Unit: Millions of yen)

	FY2016 (Jan. 1 through Dec. 31, 2016)		
Type of risk	Hedging gains or losses that were recognized in other comprehensive income	Hedge ineffectiveness recognized in profit or loss reclassification adjustment	Amount reclassified from cash flow hedge reserve into profit or loss as reclassification adjustment
Commodity price risk	**¥(1,505)**	**¥(65)**	**¥(1,896)**

The profit or loss items included on the consolidated statements of profit or loss are recorded in "cost of sales." During the year ended December 31, 2016, no cash flow hedges were discontinued as a result of not executing forecast transactions within the initially anticipated time period.

Note 26: Commitments

As of December 31, 2015 and 2016, significant contractual commitments relating to the acquisition of property, plant and equipment amounted to ¥33,606 million and ¥29,656 million, respectively.

Note 27: Collateral

Assets pledged as collateral and debt secured by collateral are as follows:

Assets pledged as collateral

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
Inventory	¥2,132	**¥2,476**
Property, plant and equipment	4,049	**3,678**
Others	270	**431**
Total	¥6,452	**¥6,586**

The shares of consolidated subsidiaries amounting to ¥18,518 million and ¥17,243 million as of December 31, 2015 and 2016, respectively, which are eliminated on the consolidated statements of financial position are also pledged.

Debt secured by collateral

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
Short-term bank loans	¥ 1,183	**¥ 50**
Long-term bank loans	10,758	**6,011**
Total	¥11,942	**¥6,061**

Other than the abovementioned, no ownership restrictions or rights of pledge as collateral for debt have been established.

Note 28: Contingencies

The Group provides guarantees, etc. for borrowings from financial institutions taken out by companies outside the Group. The amounts of commitments to guarantees, etc. are shown in parentheses, and are included in the total amounts.

(Unit: Millions of yen)

	FY2015 (as of December 31, 2015)	**FY2016 (as of December 31, 2016)**
Hibikinada Development Co., Ltd.	¥ 100	**¥ 81**
	(100)	**(81)**
Others	86	**118**
	(4)	**(1)**
Total	¥ 187	**¥200**
	(105)	**(83)**

Note 29: Related parties

Related party transactions

Related party transactions were made on terms equivalent to those that prevail in arm's length transactions.

Breakdown of compensation to directors

(Unit: Millions of yen)

	FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
Monthly compensation and bonuses	¥361	**¥377**
Compensation-type stock options	78	**73**
Total	¥439	**¥450**

Note 30: Group entities

Major subsidiaries as of December 31, 2016 are as follows:

Subsidiary name	Location	Capital	Main business	Voting rights held by the Company (%)
Consolidated subsidiaries				
Glass				
AGC Glass Kenzai Co., Ltd.	Japan	¥450 million	Production and sales of flat glass, fabricated glass for architectural use and building materials	100.0 (0.0)
AGC Glass Products Co., Ltd.	Japan	¥1,287 million	Production and sales of fabricated glass for architectural use, and cutting and sales of flat glass	70.0 (0.0)
AGC Automotive China Co., Ltd.	China	542 million yuan	Production and sales of automotive glass	100.0 (0.0)
PT Asahimas Flat Glass Tbk (Note 3)	Indonesia	217 billion rupiah	Production and sales of flat glass, automotive glass and fabricated glass for industrial use	43.9 (0.0)
AGC Flat Glass North America, Inc.	U.S.A.	US$1,258 million	Production and sales of flat glass and automotive glass	100.0 (100.0)
AGC Vidros do Brasil Ltda.	Brazil	822 million real	Production and sales of flat glass and automotive glass	100.0 (0.0)
AGC Automotive Europe S.A.	Belgium	68 million euros	Production and sales of automotive glass	100.0 (100.0)
AGC Glass Europe S.A.	Belgium	346 million euros	Production and sales of flat glass	100.0 (0.0)
AGC Flat Glass Czech A.S.	Czech Republic	3,560 million koruna	Production and sales of flat glass	100.0 (100.0)
AGC Flat Glass Klin LLC.	Russia	4,259 million rubles	Production and sales of flat glass	100.0 (100.0)
AGC Bor Glassworks	Russia	418 million rubles	Production and sales of flat glass and automotive glass	93.8 (93.8)
Electronics				
AGC Techno Glass Co., Ltd.	Japan	¥7,233 million	Production and sales of glass products for illumination, industrial use, laboratory and other medical uses, and production of optical membranes	100.0 (0.0)
AGC Display Glass Taiwan Co., Ltd.	Taiwan	NT$3,120 million	Production and sales of glass for electronics	100.0 (100.0)
AGC Display Glass (Shenzhen) Co., Ltd.	China	¥14,200 million	Production and sales of glass for electronics	100.0 (0.0)
Asahi Glass Fine Techno Korea Co., Ltd.	South Korea	227,000 million won	Production and sales of glass for electronics	100.0 (33.0)
Chemicals				
* Ise Chemicals Corporation	Japan	¥3,599 million	Production and sales of iodine-related products and metallic compounds, extraction and sales of natural gas	53.2 (0.0)
P.T. Asahimas Chemical	Indonesia	US$84 million	Production and sales of vinyl chloride, vinyl chloride monomer and caustic soda	52.5 (0.0)

Subsidiary name	Location	Capital	Main business	Voting rights held by the Company (%)
Ceramics/Others				
AGC Ceramics Co., Ltd.	Japan	¥3,500 million	Production and sales of various ceramic products	100.0 (0.0)
AGC Finance Co., Ltd.	Japan	¥800 million	Factoring services for domestic affiliates	100.0 (0.0)
AGC Singapore Services Pte. Ltd.	Singapore	US$88 million	Procurement of funds and financing services for affiliates in Asia, and holding of shares in affiliates	100.0 (0.0)
AGC America, Inc.	U.S.A.	US$1,689 million	Holding of shares in affiliates in North America, and information collection	100.0 (0.0)
AGC Capital, Inc.	U.S.A.	US$20 million	Procurement of funds and financing for affiliates in North America	100.0 (100.0)
Other consolidated subsidiaries	182			
Total consolidated subsidiaries	204			
Equity method affiliates	37			

Notes: 1. The figures disclosed in parentheses in the "Voting rights held by the Company" column represent voting rights held indirectly by the Company.
2. Subsidiary marked with * in the "Subsidiary name" column have filed a marketable securities report.
3. Although the Group holds less than half of the voting rights, it includes the entity in consolidated subsidiary because it substantially controls the entity.

During the years ended December 31, 2015 and 2016, there was no individually significant subsidiary having non-controlling interests.

Information for equity method affiliates is presented in Note 10 "Equity method affiliates."

Note 31: Subsequent events

(1) Acquisition of shares of CMC Biologics

At the Board of Directors meeting held at the Company on November 29, 2016, a resolution was passed to enter into an agreement to acquire 100% of the shares of CMC Biologics ("CMC"), a world-leading biologics manufacturer of active pharmaceutical ingredients ("API"), and make it a subsidiary. The agreement was entered into on December 15, 2016. CMC is a contract development and manufacturing organization ("CDMO"(*1)), offering biological API manufacturing services with mammalian and microbial hosts. The acquisition was completed on February 1, 2017.

Outline of the acquisition

1. Name of the acquiree: CMC Biologics
2. Location: Denmark (Copenhagen) and the U.S. (Seattle and Berkeley)
3. Main business: Offering contract services for the development and manufacturing of biologics APIs
4. Main reason for the acquisition
   The AGC Group launched the biopharmaceuticals contract manufacturing business in the early 2000s and has since been engaged in the microbial CMO(*2) business mainly in Japan. The acquisition of CMC is part of AGC's strategy to expand its biologics CDMO operations by acquiring its mammalian biopharmaceuticals manufacturing technologies as well as its customer base in Europe and the U.S., the major markets for biopharmaceuticals. The business integration with CMC will enable AGC to offer world-leading biologics CDMO API services globally, backed by advanced technologies and reliable quality, and contribute to pharmaceutical manufacturers, patients, and society.
5. Acquisition date: February 1, 2017
6. Legal structure of acquisition: Acquisition of shares
7. Value of the shares acquired: ¥60 billion (Approx.)
   The value of the shares acquired may be adjusted due to the contingent consideration arrangement contained in the agreement to acquire such shares.
8. Amount and cause of goodwill arising from the acquisition and the value of assets and liabilities of CMC to be transferred to the Company as of the closing date: Not yet determined.

(*1) CDMO: A contract development and manufacturing organization, which is a company that provides contract services for the development of manufacturing methods as well as for the manufacturing

(*2) CMO: Contract manufacturing organization

(2) Acquisition of shares of Vinythai Public Company Limited

At the Board of Directors meeting held at the Company on December 14, 2016, a resolution was passed to enter into an agreement with Solvay Group ("Solvay") to acquire shares of Solvay's Thai subsidiary Vinythai Public Company Limited ("Vinythai") and to make it a subsidiary. The agreement was entered into on the same day.

Outline of the acquisition

1. Name of the acquiree: Vinythai Public Company Limited
2. Main business: Manufacturing and sales of chemicals products
3. Main reason for the acquisition
   The AGC Group puts strategic focus on the enhancement of its Chlor-Alkali business in Southeast Asia. The caustic soda and polyvinyl chloride (PVC) markets in Southeast Asia are projected to grow at around 5% per year. The acquisition of Vinythai will give the AGC Group a PVC production base in Thailand, following Indonesia and Vietnam.
4. Legal structure of acquisition: Acquisition of shares
5. Value of the shares acquired: 10,448 million baht
6. Voting rights ratio after acquisition of shares: 58.77%

Vinythai is a public company listed on the Stock Exchange of Thailand. As of March 3, 2017, the Company commenced procedures for a tender offer for the remaining shares outstanding in Vinythai pursuant to the Thai securities law and related rules. The period of the tender offer will end on April 7, 2017.

(3) Share repurchases

At the Board of Directors meeting held on February 7, 2017, the Company resolved to repurchase its own shares in accordance with Article 156 of the Companies Act applicable pursuant to Paragraph 3, Article 165 of the Act.

Purpose for the share repurchases
In order to enhance the shareholder return and to improve the capital efficiency

Details of the share repurchases program

1. Type of shares to be repurchased: Common shares of the Company
2. Total number of shares to be repurchased: Up to 15 million shares
   (This number represents 1.3% of total shares outstanding excluding treasury stock)
3. Total repurchase amount: Up to ¥10 billion
4. Repurchase period: From February 8 to March 24, 2017
5. Method of repurchase: Market purchase

Result of share repurchases
Based on the above, the Company repurchased 10,817,000 of its common shares (acquisition price was ¥9,999 million) by March 24, 2017, and finished the share repurchases program based on the abovementioned resolution. All of the shares repurchased through this program are planned to be canceled based on resolution of the Board of Directors pursuant to Article 178 of the Companies Act.

(4) Consolidation of shares and change in share unit

At the Board of Directors meeting held on October 31, 2016, the Company resolved to submit a proposal for share consolidation to its 92nd Ordinary General Meeting of Shareholders to be held on March 30, 2017. At the same time, the Company resolved a change in share unit contingent on the approval of the proposal regarding the share consolidation at the Ordinary General Meeting of Shareholders. The proposal regarding the share consolidation was approved at the Ordinary General Meeting of Shareholders. Details are as follows:

1. Reason for the share consolidation and change in share unit
   Based on the Action Plan for Consolidating Trading Units, the Japanese Stock Exchanges seek to standardize the trading units (share units) for common shares issued by all listed domestic corporations at 100 shares by October 1, 2018. As a corporation listed on the Tokyo Stock Exchange, the Company respects the purport of this plan and decided to change its share unit from 1,000 shares to 100 shares. Moreover, in order to adjust the investment unit to an appropriate level with the change in share unit, the Company decided to conduct a share consolidation (merging five shares into one).

2. Details of the share consolidation
   i) Class of shares to be consolidated
   Common shares
   ii) Consolidation method and ratio
   Every five shares held by shareholders recorded in the register of shareholders as of the end of June 30, 2017 will be consolidated into one share on July 1, 2017.
   iii) Decrease in number of shares due to consolidation
   Number of shares outstanding before share consolidation (as of December 31, 2016): 1,186,705,905
   Decrease in number of shares due to share consolidation: 949,364,724
   Number of shares outstanding after share consolidation: 237,341,181
   Note: "Decrease in number of shares due to share consolidation" and "Number of shares outstanding after share consolidation" are theoretical figures calculated based on the number of shares outstanding before share consolidation and the consolidation ratio.
3. Handling of fractional shares less than one share
   If a fraction of less than one share is created due to the share consolidation, all such fractional shares will be sold together in accordance with Article 235 of the Companies Act, and the proceeds will be distributed to shareholders who held the fractional shares in proportion to the number of fractional shares.
4. Total number of authorized shares on the effective date
   The total number of authorized shares will decrease at the same rate as that of share consolidation (five to one) on the effective date (July 1, 2017), in conjunction with the decrease in the total number of issued shares due to the share consolidation.
   Total number of authorized shares before change: 2,000,000,000
   Total number of authorized shares after change: 400,000,000
5. Details of the change in share unit
   On July 1, 2017, the share unit of common shares will change from 1,000 shares to 100 shares.
6. Effective date
   Effective date of the share consolidation: July 1, 2017
   Effective date of the change in the total number of authorized shares: July 1, 2017
   Effective date of the change in share unit: July 1, 2017
7. Effect on per share information
   Assuming that the share consolidation had taken place at the start of the previous period, per share information for the years ended December 31, 2015 and 2016 would be as follows:

(Unit: Yen)

	FY2015 (Jan. 1 through Dec. 31, 2015)	**FY2016 (Jan. 1 through Dec. 31, 2016)**
Equity attributable to owners of the parent per share	¥4,732.41	**¥4,736.59**
Basic earnings per share	185.59	**205.14**
Diluted earnings per share	184.84	**204.26**

(5) Refund for withholding tax

AGC's subsidiary in Singapore has claimed a refund for part of the withholding tax related to the dividend paid by AGC's subsidiary in Taiwan under the Double Taxation Avoidance Agreement between Taiwan and Singapore. The withholding tax was paid to the Taiwan Government from 2014 to 2016. This claim was accepted and the AGC Group received notification of the tax refund on March 10, 2017. The amount of tax refund is approximately ¥5.9 billion and it will result in reducing income tax expenses in the year ending December 31, 2017.

KPMG

Independent Auditor's Report

To the Shareholders and Board of Directors of Asahi Glass Co., Ltd.:

We have audited the accompanying consolidated financial statements of Asahi Glass Co., Ltd. and its consolidated subsidiaries, which comprise the consolidated statement of financial position as at December 31, 2016, and the consolidated statement of profit or loss, statement of comprehensive income, statement of changes in equity and statement of cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Consolidated Financial Statements

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

Auditor's Responsibility

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

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

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

Opinion

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of Asahi Glass Co., Ltd. and its consolidated subsidiaries as at December 31, 2016, and their financial performance and cash flows for the year then ended in accordance with International FinancialReporting Standards.

KPMG AZSA LLC

March 30, 2017
Tokyo, Japan

ASAHI GLASS CO., LTD.

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