S-OIL Corporation and its Subsidiary

Consolidated Financial Statements

December 31, 2016 and 2015

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Independent Auditor's Report

(English Translation of a Report Originally Issued in Korean)

To the Shareholders and Board of Directors of
S-OIL Corporation

We have audited the accompanying consolidated financial statements of S-OIL Corporation and its subsidiary (the "Company"), which comprise the consolidated statements of financial position as of December 31, 2016 and 2015, and the consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows for the years then ended, and notes to the consolidated financial statements, including 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 the consolidated financial statements in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (the "Korean IFRS") and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's responsibility

Our responsibility is to express an opinion on the consolidated financial statements based on our audits. We conducted our audits in accordance with Korean Standards on Auditing. 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 judgment, 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 Company's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant 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 accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Company as of December 31, 2016 and 2015, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with Korean IFRS.

Other matter

Auditing standards and their application in practice vary among countries. The procedures and practices used in the Republic of Korea to audit such financial statements may differ from those generally accepted and applied in other countries.

Samil PricewaterhouseCoopers

Seoul, Korea

March 15, 2017

This report is effective as of March 15, 2017, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying consolidated financial statements and notes thereto. Accordingly, the readers of the audit report should understand that there is a possibility that the above audit report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

S-OIL Corporation and its Subsidiary
Consolidated Statements of Financial Position
December 31, 2016 and 2015

(In millions of Korean won)

	Notes		2016		2015
Assets					
Current assets					
Cash and cash equivalents	7,11	₩	767,438	₩	201,203
Trade receivables	8,11		1,154,608		1,030,881
Other receivables	8,11		181,249		253,208
Other current financial assets	9,11		3,433,772		2,497,628
Derivative financial instruments	10,11		2,078		17,302
Inventories	12		2,423,440		1,598,710
Other current assets	9		11,813		16,709
Current income tax assets			-		74,139
			7,974,398		5,689,780
Non-current assets					
Other receivables	8,11		64,895		72,007
Other non-current financial assets	9,11		49,308		50,154
Investments in associate and jointly controlled entity	13		33,295		35,433
Property, plant and equipment	14,16		5,710,804		4,730,793
Intangible assets	15		54,462		47,243
Other non-current assets	9		43,731		170,116
Net defined benefit assets	20		28,134		-
			5,984,629		5,105,746
Total assets		₩	13,959,027	₩	10,795,526
Liabilities					
Current liabilities					
Trade payables	11,17	₩	1,140,725	₩	589,528
Other payables	11,17		1,022,911		911,229
Borrowings	11,18		2,145,876		1,587,942
Derivative financial instruments	10,11		50,873		11,081
Current income tax liabilities			348,255		7,073
Provisions for other liabilities and charges	19		1,803		4,678
Deferred revenues			27,433		28,016
Other current liabilities	17		94,905		82,610
			4,832,781		3,222,157
Non-current liabilities					
Other payables	11,17		27,036		23,581
Borrowings	11,18		2,563,585		2,007,255
Net defined benefit liabilities	20		-		4,523
Deferred income tax liabilities	30		144,040		148,093
			2,734,661		2,183,452
Total liabilities			7,567,442		5,405,609
Equity					
Share capital	22		291,512		291,512
Share premium	22		379,190		379,190
Reserves	25		977,353		977,968
Treasury stock	23		(1,876)		(1,876)
Retained earnings	24		4,745,406		3,743,123
Total equity			6,391,585		5,389,917
Total liabilities and equity		₩	13,959,027	₩	10,795,526

The above consolidated statements of financial position should be read in conjunction with the accompanying notes.

S-OIL Corporation and its Subsidiary
Consolidated Statements of Comprehensive Income
Years ended December 31, 2016 and 2015

(In millions of Korean won, except per share data)	Notes	2016	2015
Sales	6	₩ 16,321,843	₩ 17,890,272
Cost of sales	26	(14,020,892)	(16,438,773)
Gross profit		2,300,951	1,451,499
Selling expenses	27	(576,645)	(532,845)
Administrative expenses	27	(107,417)	(101,050)
Operating profit		1,616,889	817,604
Other income	28	486,419	485,716
Other expenses	28	(475,037)	(392,871)
Finance income	29	185,006	145,963
Finance costs	29	(244,830)	(253,480)
Share of profit of associate and jointly controlled entity	13	6,649	9,799
Profit before income tax		1,575,096	812,731
Income tax expense	30	(369,732)	(181,409)
Profit for the year		1,205,364	631,322
Other comprehensive income, net of tax			
Items that will not be reclassified to profit or loss			
Remeasurements of net defined benefit liabilities	20	6,572	(22,419)
Items that may be subsequently reclassified to profit or loss			
Change in the fair value of available-for-sale financial assets	25	(646)	116
Share of other comprehensive income in jointly controlled entity	25	-	(21)
Currency translation differences	25	31	61
Other comprehensive income for the year		5,957	(22,263)
Total comprehensive income for the year		₩ 1,211,321	₩ 609,059
Earnings per share			
Basic and diluted earnings per ordinary share	33	₩ 10,353	₩ 5,422
Basic and diluted earnings per preferred share	33	₩ 10,378	₩ 5,447

The above consolidation statements of comprehensive income should be read in conjunction with the accompanying notes.

S-OIL Corporation and its Subsidiary
Consolidated Statements of Changes in Equity
Years ended December 31, 2016 and 2015

(In millions of Korean won)	Share Capital	Share Premium	Reserves	Treasury Stock	Retained Earnings	Total Equity
Balance as of January 1, 2015	₩ 291,512	₩ 379,190	₩ 977,812	₩ (1,876)	₩ 3,262,379	₩ 4,909,017
Profit for the year	-	-	-	-	631,322	631,322
Other comprehensive income						
Change in the fair value of available-for-sale financial assets	-	-	116	-	-	116
Share in other comprehensive income of jointly controlled entity	-	-	(21)	-	-	(21)
Currency translation differences	-	-	61	-	-	61
Remeasurements of net defined benefit liabilities	-	-	-	-	(22,419)	(22,419)
Other comprehensive income for the year	-	-	156	-	(22,419)	(22,263)
Total comprehensive income for the year	-	-	156	-	608,903	609,059
Transactions with equity holders of the Company						
Cash dividends to equity holders of the Company for 2014	-	-	-	-	(96)	(96)
Interim dividends to equity holders of the Company for 2015	-	-	-	-	(128,063)	(128,063)
Balance as of December 31, 2015	₩ 291,512	₩ 379,190	₩ 977,968	₩ (1,876)	₩ 3,743,123	₩ 5,389,917
Balance as of January 1, 2016	₩ 291,512	₩ 379,190	₩ 977,968	₩ (1,876)	₩ 3,743,123	₩ 5,389,917
Profit for the year	-	-	-	-	1,205,364	1,205,364
Other comprehensive income						
Change in the fair value of available-for-sale financial assets	-	-	(646)	-	-	(646)
Currency translation differences	-	-	31	-	-	31
Remeasurements of net defined benefit liabilities	-	-	-	-	6,572	6,572
Other comprehensive income for the year	-	-	(615)	-	6,572	5,957
Total comprehensive income for the year	-	-	(615)	-	1,211,936	1,211,321
Transactions with equity holders of the Company						
Cash dividends to equity holders of the Company for 2015	-	-	-	-	(151,443)	(151,443)
Interim dividends to equity holders of the Company for 2016	-	-	-	-	(58,210)	(58,210)
Balance as of December 31, 2016	₩ 291,512	₩ 379,190	₩ 977,353	₩ (1,876)	₩ 4,745,406	₩ 6,391,585

The above consolidated statements of changes in equity should be read in conjunction with the accompanying notes.

S-OIL Corporation and its Subsidiary
Consolidated Statements of Cash Flows
Years ended December 31, 2016 and 2015

(In millions of Korean won)	Notes		2016		2015
Cash flows from operating activities					
Cash generated from operations	35	₩	1,711,592	₩	2,586,187
Interest received			44,023		30,579
Interest paid			(82,982)		(57,116)
Income tax paid			39,635		(89,700)
Dividends received			9,723		5,600
Net cash inflow from operating activities			1,721,991		2,475,550
Cash flows from investing activities					
Proceeds from disposal of property, plant and equipment			7,121		3,400
Proceeds from disposal of intangible assets			2,203		3,058
Decrease in other receivables			16,632		23,865
Settlement of derivative financial instruments			23,132		49,229
Decrease in other financial assets			-		731
Payments for property, plant and equipment	14		(1,063,572)		(654,448)
Payments for intangible assets	15		(8,884)		(6,109)
Payments for an associate	13		(138)		(399)
Increase in other receivables			(8,468)		(21,277)
Increase in other financial assets			(935,554)		(2,052,971)
Others			609		(146,932)
Net cash outflow from investing activities			(1,966,919)		(2,801,853)
Cash flows from financing activities					
Proceeds from borrowings			1,032,310		698,919
Repayment of borrowings			(11,544)		(754,865)
Dividends paid			(209,641)		(128,155)
Net cash inflow (outflow) from financing activities			811,125		(184,101)
Net increase (decrease) in cash and cash equivalents			566,197		(510,404)
Cash and cash equivalents at the beginning of the year	7		201,203		711,525
Effects of exchange rate changes on cash and cash equivalents			38		82
Cash and cash equivalents at the end of the year	7	₩	767,438	₩	201,203

The above consolidated statements of cash flows should be read in conjunction with the accompanying notes.

1. General Information

The general information of S-OIL Corporation and its subsidiary, S-International Ltd., (collectively referred to as the "Company") under Korean IFRS 1110, *Consolidated Financial Statements*, are as follows:

The Company

S-OIL Corporation was established in 1976 to manufacture and sell oil refining products, lube products and petrochemical products, and to import and export crude oil and products. In 1987, the Company's shares of stock were listed in the Korean Stock Exchange. The Company's headquarters are located in Mapo-gu, Seoul, Korea.

As of December 31, 2016, the major shareholders of the Company and their respective shareholdings are as follows:

	2016	
Name of shareholders	**Number of Ordinary shares**	**Percentage of Ownership (%)**
Aramco Overseas Co., B.V.	71,387,560	63.41
Institutional and individual investors	41,195,232	36.59
Total	112,582,792	100.00

Consolidated Subsidiary

Details of the consolidated subsidiary are as follows:

	Number of Shares	Percentage of Ownership (%)	Main business	Location	Closing Month
S-International Ltd.	10	100	Purchasing and sales of crude oil and petroleum goods	Samoa	December

The summary of financial information of S-International Ltd. as of and for the years ended December 31, 2016 and 2015, follows:

(In millions of Korean won)	**2016**	**2015**
Total Assets	₩ 1,347	₩ 1,300
Total Liabilities	-	-
Equity	1,347	1,300
Sales	-	-
Profit for the year	7	3
Total comprehensive income for the year	7	3

2. Significant Accounting Policies

The principal accounting policies applied in the preparation of these consolidated financial statements are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated.

2.1 Basis of Preparation

The Company maintains its accounting records in Korean won and prepares statutory financial statements in the Korean language (Hangul) in accordance with the International Financial Reporting Standards as adopted by the Republic of Korea (“Korean IFRS”). The accompanying consolidated financial statements have been condensed, restructured and translated into English from the Korean language financial statements.

Certain information attached to the Korean language financial statements, but not required for a fair presentation of the Company's financial position, financial performance or cash flows, is not presented in the accompanying consolidated financial statements.

The consolidated financial statements of the Company have been prepared in accordance with Korean IFRS. These are the standards, subsequent amendments and related interpretations issued by the International Accounting Standards Board ("IASB") that have been adopted by the Republic of Korea.

The preparation of the consolidated financial statements requires the use of critical accounting estimates. Management also needs to exercise judgment in the process of applying the Company’s accounting policies. The areas involving a higher degree of judgment or complexity, or areas where assumptions and estimates are significant to the consolidated financial statements are disclosed in Note 5.

2.1.1 Changes in Accounting Policy and Disclosures

(a) New and amended standards adopted by the Company

The Company has applied the following standards and amendments for the first time for their annual reporting period commencing January 1, 2016. The adoption of these amendments did not have any impact on the current period or any prior period and is not likely to affect future periods.

- Disclosure Initiative – Amendments to Korean IFRS 1001, Presentation of Financial Statements (“Korean IFRS 1001”)

Korean IFRS 1001 clarifies that materiality applies to the exclusion or inclusion or aggregation of the disclosures in the notes. And also, clarifies that the share of other comprehensive income arising from equity-accounted should be presented in total for items which will and will not be reclassified to profit or loss. Additional amendments are made in relation to a particular order of the notes and other.

- *Agriculture: Bearer Plants* – Amendments to Korean IFRS 1016, *Property, Plant and Equipment* ("Korean IFRS 1016"), and Korean IFRS 1041, *Agriculture* ("Korean IFRS 1041")

Korean IFRS 1041 now distinguishes between bearer plants and other biological asset. Bearer plants must be accounted for as Korean IFRS 1016.

- *Clarification of Acceptable methods of Depreciation and Amortization* – Amendments to Korean IFRS 1016, and Korean IFRS 1038, *Intangible assets* ("Korean IFRS 1038")

Amendments to Korean IFRS 1016 clarify that a revenue-based method should not be used to calculate the depreciation of items of property, plant and equipment. Korean IFRS 1038 now includes a rebuttable presumption that the amortization of intangible assets based on revenue is inappropriate. This presumption can be overcome if either; the intangible asset is expressed as a measure of revenue, or it can be shown that revenue and the consumption of economic benefits generated by the asset are highly correlated.

- *Investment entities: Applying the Consolidation Exception* – Amendments to Korean IFRS 1110, *Consolidated Financial Statements* ("Korean IFRS 1110"), Korean IFRS 1028, *Investments in Associates and Joint Ventures* ("Korean IFRS 1028"), and Korean IFRS 1112, *Disclosures of Interests in Other Entities* ("Korean IFRS 1112")

- Amendments made to Korean IFRS 1110 clarify that the exception from preparing consolidated financial statement is also available to intermediate parent entities which are subsidiaries of investment entities. If an investment entity has a subsidiary that is an investment entity and whose activities are providing services that related to the investment entity's investment activities, the investment entity measures the subsidiary at fair value through profit or loss.

- Amendments made to Korean IFRS 1028 clarify that entities which are not investment entities but have an interest in an associate which is an investment entity have a policy choice when applying the equity method of accounting.

- Amendments made to Korean IFRS 1112 clarify that an investment entity which does not prepare consolidated financial statements should present disclosures relating to investment entities required by Korean IFRS 1112.

- *Accounting for Acquisitions of Interests in Joint Operations* – Amendments to Korean IFRS 1111, *Joint Arrangements* ("Korean IFRS 1111")

Amendments to Korean IFRS 1111 clarify the accounting for the acquisition of an interest in a joint operation where the activities of the operation constitute a business. An investor requires to apply the principles of business combination accounting when the investor acquires an interest in a joint operation that constitutes a business.

- Annual Improvements to Korean IFRS 2012-2014, *Cycle*

Annual Improvements to Korean IFRS 2012-2014, *Cycle* consist of the following amendments. The application does not have a material impact on the consolidated financial statements.

- Korean IFRS 1105, *Non-current Assets Held for Sale and Discontinued Operation* – clarifies when an asset (or disposal group) is reclassified from 'held for sale' to 'held for distribution' or vice versa, this does not have to be accounted for as such.

- Korean IFRS 1107, *Financial Instruments: Disclosures* – clarifies the specific guidance for transferred financial assets to help management determine whether the terms of a servicing arrangement constitute 'continuing involvement', and also clarifies that the additional disclosures relating to the amendments in 2012 *'Offsetting of Financial Assets and Financial Liabilities'* only need to be included in interim reports if required by Korean IFRS 1034, *Interim Financial Reporting* ("Korean IFRS 1034").

- Korean IFRS 1019, *Employee Benefits* clarifies that when determining the discount rate for post-employment benefit obligations, it is the currency in which the liabilities are denominated that is important, and not the country where they arise.

- Korean IFRS 1034 clarifies what is meant by the reference in the standard to *'information disclosed elsewhere in the interim financial report'*; and also amended requirements for a cross-reference from the interim financial statements to the location of that information.

- Korean IFRS 1011, *Construction Contract*, Korean IFRS 1037, *Provisions, Contingent Liabilities and Contingent Assets* and Interpretation 2115, *Arrangements for Property Construction*

These standards and interpretation clarify the accounting information disclosure requirement for construction contracts. The accounting estimates and potential risk information of the construction contracts should be disclosed in detail by either individual construction or operating segment.

(b) New standards and interpretations not yet adopted by the Company

Certain new accounting standards and interpretations that have been published that are not mandatory for December 31, 2016 reporting periods and have not been early adopted by the Company are set out below.

- Amendments to Korean IFRS 1007, *Statement of Cash Flows* ("Korean IFRS 1007")

Amendments to Korean IFRS 1007 requires to provide disclosures that enable used of financial statements to evaluate changes in liabilities arising from financing activities, including both changes arising from cash flows and non-cash changes. The Company will apply this amendment for annual reporting periods beginning on or after January 1, 2017 with early application permitted. The Company does not expect the amendments to have a significant impact on the consolidated financial statements.

- Amendments to Korean IFRS 1012, *Income Tax* ("Korean IFRS 1012")

Amendments to Korean IFRS 1012 clarify how to account for deferred tax assets related to debt instruments measured at fair value. Korea IFRS 1012 provides requirements on the recognition and measurement of current or deferred tax liabilities or assets. The amendments issued clarify the requirements on recognition of deferred tax assets for unrealized losses, to address diversity in practice. The Company will apply the amendments for annual periods beginning on or after January 1, 2017 with early application permitted. The Company does not expect the amendments to have a significant impact on the consolidated financial statements.

- Amendments to Korean IFRS 1102, *Share-based Payment* ("Korean IFRS 1102")

Amendments to IFRS 1102 clarifies accounting for a modification to the terms and conditions of a share-based payment that changes the classification of the transaction from cash-settled to equity-settled. And also, clarifies that the measurement approach should treat the terms and conditions of a cash-settled award in the same way as for an equity-settled award. The Company will apply the amendments for annual periods beginning on or after January 1, 2018 with early application permitted. The Company does not expect the amendments to have a significant impact on the consolidated financial statements.

- Korean IFRS 1109, *Financial Instruments* ("Korean IFRS 1109")

The new standard for financial instruments issued on September 25, 2015 are effective for annual periods beginning on or after January 1, 2018 with early application permitted. This standard will replace Korean IFRS 1039, *Financial Instruments: Recognition and Measurement* ("Korean IFRS 1039"). The Company will apply the standards for annual periods beginning on or after January 1, 2018.

The standard requires retrospective application with some exceptions such as entities need not restate prior period in relation to classification and measurement (including impairment) of financial instruments. The standard requires prospective application of its hedge accounting requirements for all hedging relationships except the accounting for time value of options and other exceptions.

Korean IFRS 1109 requires all financial assets to be classified and measured on the basis of the entity's business model for managing financial assets and the contractual cash flow characteristics of the financial assets. A new impairment model, an expected credit loss model, is introduced and any subsequent changes in expected credit losses will be recognized in profit or loss. Also, hedge accounting rules amended to extend the hedging relationship, which consists only of eligible hedging instruments and hedged items, qualifies for hedge accounting.

An effective implementation of Korea IFRS 1109 requires preparation processes including financial impact assessment, accounting policy establishment, accounting system development and the system stabilization. The impact on the Company's consolidated financial statements due to the application of the standard is dependent on judgements made in applying the standard, financial instruments held by the Company and macroeconomic variables.

With the implementation of Korean IFRS 1109, the Company neither prepared for internal management process nor began to adjust accounting system for financial instruments reporting. Also, the Company did not analyze the financial effects of applying the standard. However, the following areas are likely to be affected in general.

(a) Classification and Measurement of Financial Assets

When implementing Korean IFRS 1109, the classification of financial assets will be driven by the Company's business model for managing the financial assets and contractual terms of cash flow. The following table shows the classification of financial assets measured subsequently at amortized cost, at fair value through other comprehensive income and at fair value through profit or loss. For hybrid (combined) instruments, if the Company is unable to measure an embedded derivative separately from its host contract, financial assets with embedded derivatives are classified in their entirety.

Business model for the contractual cash flows characteristics	**Solely represent payments of principal and interest**	**All other**
Hold the financial asset for the collection of the contractual cash flows	Measured at amortized cost[1]	Recognized at fair value through profit or loss[2]
Hold the financial asset for the collection of the contractual cash flows and trading	Recognized at fair value through other comprehensive income[1]	
Hold for trading	Recognized at fair value through profit or loss	

[1] A designation at fair value through profit or loss is allowed only if such designation mitigates an accounting mismatch (irrevocable).

[2] Except for equity investments that are not held for trading may be recorded in other comprehensive income (irrevocable).

With the implementation of Korean IFRS 1109, the criteria to classify the financial assets at amortized cost or at fair value through other comprehensive income are more strictly applied than the criteria applied with Korean IFRS 1039. Accordingly, the financial assets at fair value through profit or loss may increase by implementing Korean IFRS 1109 and may result an extended fluctuation in profit or loss.

As of December 31, 2016, the Company owns loan and trade receivables of ₩ 5,526,189 million, financial assets available-for-sales of ₩ 49,407 million and financial assets held-for-trading of ₩ 2,078 million.

According to Korean IFRS 1109, a debt instrument is measured at amortized cost if: a) the objective of the business model is to hold the financial asset for the collection of the contractual cash flows, and b) the contractual cash flows under the instrument solely represent payments of principal and interest. As of December 31, 2016, the Company measured loan and trade receivables of ₩ 5,526,189 million at amortized costs.

According to Korean IFRS 1109, a debt instrument is measured at fair value through other comprehensive income if the objective of the business model is achieved both by collecting contractual cash flows and selling financial assets; and the contractual cash flows represents solely payments of principal and interest on a specific date under contract terms. As of December 31, 2016, the Company holds debt instruments of ₩ 4,180 million classified as financial assets available-for-sale in total and these debt instruments contains none of host debt contracts separated from hybrid financial instruments.

According to Korean IFRS 1109, equity instruments that are not held for trading, the Company can make an irrevocable election at initial recognition to classify the instruments as assets measured at fair value through other comprehensive income, which all subsequent changes in fair value being recognized in other comprehensive income and not recycled to profit or loss. As of December 31, 2016, the Company holds equity instruments of ₩ 45,227 million classified as financial assets available-for-sale and holds none of recycled unrealized gain or loss arose from the equity instruments to profit or loss.

According to Korean IFRS 1109, debt instruments those contractual cash flows do not represent solely payments of principal and interest and held for trading, and equity instruments that are not designated as instruments measured at fair value through other comprehensive income are measured at fair value through profit or loss. As of December 2016, the Company holds debt instruments classified as financial assets at fair value through profit or loss that amount to ₩ 2,078 million.

(b) Impairment: Financial Assets and Contract Assets

Korean IFRS 1109 sets out a new forward looking 'expected loss' impairment model which replaces the incurred loss model in Korea IFRS 1039 and applies to:

- Financial assets measured at amortized cost
- Debt investments measured at fair value through other comprehensive income, and
- Certain loan commitments and financial guaranteed contracts.

Under Korean IFRS 1109 'expected loss' model, a credit event (or impairment 'trigger') no longer has to occur before credit losses are recognized. The Company will now always recognize (at a minimum) 12-month expected credit losses in profit or loss. Lifetime expected losses will be recognized on assets for which there is a significant increase in credit risk after initial recognition.

Stage[1]		Loss allowance
1	No significant increase in credit risk after initial recognition[2]	Twelve months expected credit losses (expected credit losses that result from those default events on the financial instrument that are possible within twelve months after the reporting date)
2	Significant increase in credit risk after initial recognition	Lifetime expected credit losses (expected credit losses that result from all possible default events over the life of the financial instrument)
3	Objective evidence of impairment	

[1] A loss allowance for lifetime expected credit losses is required for a financial instrument if the credit risk on that financial instrument has increased significantly since initial recognition. It is also required for contract assets or trade receivables that are not, according to Korean IFRS 1115 *Revenue from Contracts with Customers*, considered to contain a significant financing component. Additionally, the Company can elect an accounting policy of recognizing lifetime expected credit losses for all contract assets and/or all trade receivables, including those that contain a significant financing component.

[2] If the financial instrument has low credit risk at the reporting date, the Company may assume that the credit risk has not increased significantly since initial recognition.

Under Korean IFRS 1109, the asset that is credit-impaired at initial recognition would recognize all changes in lifetime expected credit losses since the initial recognition as a loss allowance with any changes recognized in profit or loss.

As of December 31, 2016, the Company owns debt investment carries at amortized cost of ₩ 5,526,189 million (loan and trade receivables of ₩ 5,526,189 million), debt investments carried at fair value through other comprehensive income, which classified as financial assets available-for-sales, of ₩ 4,180 million. And the Company recognized loss allowance of ₩ 3,366 million for these assets.

- Korean IFRS 1115, *Revenue from Contracts with Customers* (“Korean IFRS 1115”)

The Company will apply Korean IFRS 1115 issued on November 6, 2015 for annual reporting periods beginning on or after January 1, 2018, and earlier application is permitted. This standard replaces Korean IFRS 1018 *Revenue*, Korean IFRS 1011, *Construction Contracts*, Interpretation 2031, *Revenue-Barter Transactions Involving Advertising Services*, Interpretation 2113, *Customer Loyalty Programs*, Interpretation 2115, *Agreements for the Construction of Real Estate* and Interpretation 2118, *Transfers of assets from customers.* The Company must apply Korean IFRS 1115 within annual reporting periods beginning on or after January 1, 2018, and will apply the standard retrospectively to prior reporting period presented in accordance with Korean IFRS 1008, *Accounting Policies, Changes in Accounting Estimates and Errors* and apply simplified transition method with no restatement for completed contracts and other as of January 1, 2017.

The new standard is based on the principle that revenue is recognized when control of a good or service transfers to a customer so the notion of control replaces the existing notion of risks and rewards. A new five-step process must be applied before revenue from contract with customer can be recognized:

- Identify contracts with customers
- Identify the separate performance obligation
- Determine the transaction price of the contract
- Allocate the transaction price to each of the separate performance obligations, and
- Recognize the revenue as each performance obligation is satisfied.

As of December 31, 2016, the Company neither prepared for internal management process nor began to adjust accounting system in relation to implementation of Korean IFRS 1115. Also, the Company did not analyze the financial effects of applying the standard. The Company plans to analyze the financial effects of applying the standard and disclose the result of the analysis in the notes on the financial statement as of September 30, 2017. The Company identified the following areas are likely to be affected in general.

2.2 Consolidation

The Company has prepared the consolidated financial statements in accordance with Korean IFRS 1110.

(a) Subsidiaries

Subsidiaries are all entities over which the Company has control. The Company controls an entity when the Company is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power to direct the activities of the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Company. They are deconsolidated from the date that control ceases.

The acquisition method of accounting is used to account for business combinations by the Company. The consideration transferred is measured at the fair values of the assets transferred, and identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date. The Company recognizes any non-controlling interest in the acquired entity on an acquisition-by-acquisition basis either at fair value or at the non-controlling interest's proportionate share of the acquired entity's net identifiable assets. All other non-controlling interests are measured at fair values, unless otherwise required by other standards. Acquisition-related costs are expensed as incurred.

The excess of consideration transferred, amount of any non-controlling interest in the acquired entity and acquisition-date fair value of any previous equity interest in the acquired entity over the fair value of the net identifiable assets acquired is recoded as goodwill. If those amounts are less than the fair value of the net identifiable assets of the business acquired, the difference is recognized directly in the profit or loss as a bargain purchase.

Intercompany transactions, balances and unrealized gains on transactions between group companies are eliminated. Unrealized losses are also eliminated unless the transaction provides evidence of an impairment of the transferred asset. Accounting policies of subsidiaries have been changed where necessary to ensure consistency with the policies adopted by the Company.

(b) Associates

Associates are entities over which the Company has significant influence but not control or joint control. Investments in associates are accounted for using the equity method of accounting, after initially being recognized at cost. Unrealized gains on transactions between the Company and its associates are eliminated to the extent of the Company's interest in the associates. If there is objective evidence of impairment for the investment in the associate, the Company recognizes the difference between the recoverable amount of the associate and its book amount as impairment loss.

(c) Joint Arrangements

A joint arrangement, wherein two or more parties have joint control, is classified as either a joint operation or a joint venture. A joint operator recognizes its direct right to the assets, liabilities, revenues and expenses of joint operations and its share of any jointly held or incurred assets, liabilities, revenues and expenses. Interests in joint ventures are accounted for using the equity method, after initially being recognized at cost in the consolidated statement of financial position.

2.3 Foreign Currency Translation

(a) Functional and presentation currency

Items included in the separate financial statements of the Company are measured using the currency of the primary economic environment in which the entity operates (the "functional currency"). The separate financial statements are presented in Korean won, which is the Company's functional and presentation currency.

(b) Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation of monetary assets and liabilities denominated in foreign currencies at year end exchange rates are generally recognized in profit or loss.

Exchange differences arising on non-monetary financial assets and liabilities such as equity instruments at fair value through profit or loss and available-for-sale equity instruments are recognized in profit or loss and included in other comprehensive income, respectively, as part of the fair value gain or loss.

(c) Translation to presentation currency

The results and financial position of subsidiary that have a functional currency different from the presentation currency of the Company are translated into the presentation currency of the Company as follows:

- assets and liabilities for each statement of financial position presented are translated at the closing rate at the end of the reporting period;
- income and expenses for each income statement are translated at average exchange rates; and
- all resulting exchange differences are recognized in other comprehensive income.

2.4 Financial Assets

(a) Classification and measurement

The Company classifies its financial assets into the following categories: financial assets at fair value through profit or loss, available-for-sale financial assets, loans and receivables, and held-to-maturity financial assets. Regular way purchases and sales of financial assets are recognized on trade-date, the date on which the Company commits to purchase or sell the asset.

At initial recognition, the Company measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at fair value through profit or loss are expensed in profit or loss. Available-for-sale financial assets and financial assets at fair value through profit or loss are subsequently carried at fair value. And, loans and receivables and held-to-maturity investments are subsequently carried at amortized cost using the effective interest method.

Gains or losses arising from changes in the fair value of financial assets at fair value through profit or loss are recognized in profit or loss within other income or other expenses. Gains or losses arising from changes in the available-for-sale financial assets are recognized in other comprehensive income, and amounts are reclassified to profit or loss when the associated assets are sold or impaired.

(b) Impairment

The Company assesses at the end of each reporting period whether there is objective evidence that a financial asset or a group of financial assets is impaired. A financial asset or a group of financial assets is impaired and impairment losses are incurred only if there is objective evidence of impairment as a result of one or more events that occurred after the initial recognition of the asset (a 'loss event') and that loss event (or events) has an impact on the estimated future cash flows of the financial asset or a group of financial assets that can be reliably estimated.

Impairment of loans and receivables is presented as a deduction in an allowance account, and that of other financial assets is directly deducted from their carrying amount. The Company writes off financial assets when the assets are determined to be no longer recoverable.

The Company considers that there is objective evidence of impairment if significant financial difficulties of the debtor, or delinquency in interest or principal payments is indicated. Moreover, in the case of equity investments classified as available-for-sale, a significant decline in the fair value of the security below its cost, or prolonged decline is considered an objective evidence of impairment.

(c) Derecognition

If a transfer does not result in derecognition because the Company has retained substantially all the risks and rewards of ownership of the transferred asset, the Company continues to recognize the transferred asset in its entirety and recognizes a financial liability for the consideration received. The Company classified the financial liability as "borrowings" in the statement of financial position.

(d) Offsetting of financial instruments

Financial assets and liabilities are offset and the net amount reported in the consolidated statements of financial position where there is a legally enforceable right to offset the recognized amounts and there is an intention to settle on a net basis or realize the assets and settle the liability simultaneously. The legally enforceable right must not be contingent on future events and must be enforceable in the normal course of business and in the event of default, insolvency or bankruptcy of the Company or the counterparty.

2.5 Derivative Instruments

Derivatives are initially recognized at fair value on the date when a derivative contract is entered into and are subsequently remeasured at their fair value. Changes in the fair value of the derivatives that are not qualified for hedge accounting are recognized in the statement of income within 'other income (expenses)' or 'finance income (expenses)' according to the nature of transactions.

2.6 Inventories

Inventories are stated at the lower of cost and net realizable value. Cost is determined using the first-in, first-out (FIFO) method except for in-transit inventories which are determined using the specific identification method and supplies which are determined using the moving weighted average method.

2.7 Property, Plant and Equipment

Property, plant and equipment are stated at cost less accumulated depreciation and accumulated impairment losses. Historical cost includes expenditures that is directly attributable to the acquisition of the items.

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

	Estimated useful lives
Buildings	20 - 40 years
Structures	20 - 40 years
Machinery and equipment	15 - 30 years
Vehicles	5 years
Other property, plant and equipment	3 - 5 years
Catalysts	Units-of-production method

The depreciation method, residual values and useful lives of property, plant and equipment are reviewed at each financial year-end and, if appropriate, accounted for as changes in accounting estimates.

2.8 Borrowing Costs

Borrowing costs incurred in the acquisition or construction of a qualifying asset are capitalized in the period when it is prepared for its intended use, and investment income earned on the temporary investment of borrowings made specifically for the purpose obtaining a qualifying asset is deducted from the borrowing costs eligible for capitalization during the period. Other borrowing costs are recognized as expenses for the year in which they are incurred.

2.9 Intangible Assets

Intangible assets are initially recognized at its historical cost and carried at its cost less accumulated amortization and accumulated impairment losses. Membership rights are regarded as intangible assets with indefinite useful life and not amortized because there is no foreseeable limit to the period over which the assets are expected to be utilized. Intangible assets with definite useful life that are amortized using the straight-line method over their estimated useful lives, are as follows:

	Estimated useful lives
Facility usage rights	Periods with exclusive supply rights or contract periods
Other intangible assets	5 years

2.10 Impairment of Non-financial Assets

Goodwill or intangible assets with indefinite useful lives are not subject to amortization and are tested annually for impairment. Assets that are subject to amortization are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognized for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. Non-financial assets, other than goodwill, that suffered impairment are reviewed for possible reversal of the impairment at each reporting date.

2.11 Financial Liabilities

(a) Classification and measurement

Financial liabilities at fair value through profit or loss are financial instruments held for trading. Financial liabilities are classified in this category if incurred principally for the purpose of repurchasing them in the near term. Derivatives that are not designated as hedges or bifurcated from financial instruments containing embedded derivatives are also categorized as held-for-trading.

The Company classifies non-derivative financial liabilities, except for financial liabilities at fair value through profit or loss, financial guarantee contracts and financial liabilities that arise when a transfer of financial assets does not qualify for derecognition, as financial liabilities carried at amortized cost and presented as 'trade payables', 'other payables' and 'borrowings' in the separate statement of financial position.

(b) Derecognition

Financial liabilities are removed from the separate statement of financial position when it is extinguished, for example, when the obligation specified in the contract is discharged, cancelled or expired or when the terms of an existing financial liability are substantially modified.

2.12 Current and Deferred Tax

The tax expense for the period consists of current and deferred tax. Tax is recognized on the profit for the period in the consolidated statement of comprehensive income, except to the extent that it relates to items recognized in other comprehensive income or directly in equity. In this case, the tax is also recognized in other comprehensive income or directly in equity, respectively. The tax expense is calculated on the basis of the tax laws enacted or substantively enacted at the end of the reporting period.

Management periodically evaluates tax policies that are applied in tax returns in which applicable tax regulation is subject to interpretation. The Company recognizes current income tax on the basis of the amount expected to be paid to the tax authorities.

Deferred tax is recognized for temporary differences arising between the tax bases of assets and liabilities and their carrying amounts as expected tax consequences at the recovery or settlement of the carrying amounts of the assets and liabilities. However, deferred tax assets and liabilities are not recognized if they arise from initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting nor taxable profit or loss. Deferred tax assets are recognized only to the extent that it is probable that future taxable profit will be available against which the deductible temporary differences can be utilized.

Deferred tax liability is recognized for taxable temporary differences associated with investments in subsidiaries, associates and interests in jointly controlled entities, except to the extent that the 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. In addition, deferred tax asset is recognized for deductible temporary differences arising from such investments to the extent that it is probable 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 assets and liabilities are offset when there is a legally enforceable right to offset current tax assets against current tax liabilities and when the deferred income taxes assets and liabilities relate to income taxes levied by the same taxation authority on either the same taxable entity or different taxable entities where there is an intention to settle the balances on a net basis.

2.13 Employee Benefits

The Company has both defined benefit and defined contribution plans.

A defined contribution plan is a pension plan under which the Company pays fixed contributions into a separate entity. The contributions are recognized as employee benefit expenses when an employee has rendered service.

A defined benefit plan is a pension plan that is not a defined contribution plan. Typically defined benefit plans define an amount of pension benefit that an employee will receive on retirement, usually dependent on one or more factors such as age, years of service and compensation. The liability recognized in the separate statement of financial position in respect of defined benefit pension plans is the present value of the defined benefit obligation at the end of the reporting period less the fair value of plan assets. The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds and that have terms to maturity approximating to the terms of the related pension obligation. The remeasurements of the net defined benefit liability are recognized in other comprehensive income.

If any plan amendments, curtailments, or settlements occur, past service costs or any gains or losses on settlement are recognized as profit or loss for the year.

2.14 Provisions

Provisions are measured at the present value of the expenditures expected to be required to settle the obligation and the increase in the provision due to passage of time is recognized as interest expense.

2.15 Customer Loyalty Program

The Company operates a customer loyalty program granting loyalty points and where members can redeem the points on future purchases. Some of the consideration received or receivable from the sales transaction related to customer loyalty program are recognized as deferred revenue.

2.16 Share Capital

Ordinary shares and preferred shares that are not mandatorily redeemable are classified as equity.

Where the Company purchases its own equity share capital (treasury shares), the consideration paid, including any directly attributable incremental costs is deducted from equity attributable to the subsequently reissued, any consideration received is included in equity attributable to the Company's equity holders.

2.17 Revenue Recognition

Revenue is measured at the fair value of the consideration received or receivable, and represents amounts receivable for goods and services supplied, stated net of special consumption taxes, discounts, returns and value added taxes.

The Company recognizes revenue when the amount of revenue can be reliably measured; when it is probable that future economic benefits will flow to the entity; and when specific criteria have been met for each of the Company's activities, as described below. The Company bases its estimate on historical results, taking into consideration the type of customer, the type of transaction and the specifics of each arrangement.

a. Sale of goods

The Company recognizes revenue when the significant risks and rewards of ownership of goods are transferred to the buyer.

b. Interest income

Interest income is recognized using the effective interest method according to the time passed.

c. Dividend income

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

2.18 Lease

A lease is an agreement, whereby the lessor conveys to the lessee, in return for a payment or series of payments, the right to use an asset for an agreed period of time. Leases in which a significant portion of the risks and rewards of ownership are retained by the Company are classified as operating leases. Lease payments under operating leases are recognized as expenses on a straight-line basis over the lease term.

Leases where the Company has substantially all the risks and rewards of ownership are classified as finance leases and recognized as lease assets and liabilities at the lower of the fair value of the leased property and the present value of the minimum lease payments on the opening date of the lease period.

2.19 Dividend Distribution

Dividend distribution to the Company's shareholders is recognized as a liability in the separate financial statements in the period in which the dividends are approved by the Company's shareholders.

2.20 Earnings per Share

Basic earnings per share is calculated by dividing the profit attributable to equity holders of the Company by the weighted average number of ordinary shares in issue during the year. Basic earnings per preferred share is also calculated by dividing the profit attributable to participating shares with right to participate in distribution of earnings by the weighted average number of preferred shares in issue during the year.

2.21 Segment Reporting

Information of each operating segment is reported in a manner consistent with the internal reporting provided to the Company's management. The Company's management is responsible for allocating resources and assessing performance of the operating segments.

2.22 Greenhouse Gas Emissions Rights (Allowances) and Obligations

With Enforcement of Allocation and Trading of Greenhouse Gas Emissions Allowances, allowances that are received free of charge from the government are measured at zero while allowances purchased are measured at acquisition cost and stated net of accumulated impairment loss. Emissions obligations are measured as the sum of the carrying amount of the allocated allowances that will be submitted to the government and the best estimate of expenditure required to settle the obligation at the end of reporting period for any excess emission. The allowances and emissions obligations are classified as intangible assets and provisions for other liabilities and charges, respectively, in the statement of financial position.

2.23 Approval of Issuance of the Consolidated Financial Statements

The issuance of the December 31, 2016 consolidated financial statements of the Company was approved by the Board of Directors on March 10, 2017, which is subject to change with the approval of shareholders at the general shareholders' meeting.

3. Financial Risk Management

3.1 Financial Risk Factors

The Company's activities expose it to a variety of financial risks: market risk, credit risk and liquidity risk. The Company's overall risk management program focuses on the unpredictability of financial markets and seeks to minimize potential adverse effects on the Company's financial performance.

Risk management is carried out by each relevant department under policies approved by the Board of Directors. The Company identifies, evaluates and hedges financial risks in close co-operation with the Company's operating units.

(1) Market risk

a. Foreign exchange risk

The Company operates internationally and is exposed to foreign exchange risk arising from various currency exposures, primarily with respect to the US dollar. Foreign exchange risk arises from future commercial transactions, recognized as assets and liabilities, which are not denominated in the functional currency.

The purpose of foreign exchange risk management is to maximize the Company's value by minimizing the uncertainty and volatility of foreign exchange gains and losses from foreign exchange rate fluctuations.

The Company maintains foreign exchange risk management system to offset foreign exchange effects arising from recognized income/expense and assets/liabilities.

As of December 31, 2016, if the Korean won had weakened/strengthened by 10% against the foreign currencies with all other variables held constant, profit for the year would have been decreased/increased by ₩ 154,842 million (2015: ₩ 94,300 million) in relation to foreign currency-denominated trade receivables, trade payables, and usance borrowings. However, the Company's foreign exchange risk is controlled effectively as the above foreign exchange risk has offsetting effect with other foreign exchange effects affecting operating income.

The Company's financial instruments denominated in major foreign currencies as of December 31, 2016 and 2015, are converted into Korean won as follows:

(In millions of Korean won)		**2016**		**2015**
Trade receivables				
KRW	₩	326,198	₩	191,801
USD		825,567		835,578
EUR		1,620		2,192
AUD		1,223		1,310
Total	₩	1,154,608	₩	1,030,881
Trade payables				
KRW	₩	44,707	₩	26,698
USD		1,096,018		562,830
Total	₩	1,140,725	₩	589,528
Borrowings				
KRW	₩	2,920,853	₩	2,012,739
USD		1,788,608		1,582,458
Total	₩	4,709,461	₩	3,595,197

b. Product margin risk

The Company is exposed to product margin risk arising from difference in timing of purchase and sale. The purpose of product margin risk management is to maximize the Company's value by minimizing the uncertainty of volatility of product margin.

In order to minimize the product margin risk, the Company tries to sell products produced within the month. For the products that need to be stored for a longer period, the Company secures the product margin by executing product swap to mitigate a risk of future price fluctuation.

c. Interest rate risk

The Company is exposed to interest rate risk that the interest income or expenses arising from deposits and borrowings will fluctuate because of changes in future market interest rate. The risk mainly arises from borrowings with variable interest rates linked to market interest rate.

The objective of interest rate risk management lies in maximizing the Company's value by minimizing uncertainty caused by fluctuations in interest rates and minimizing net interest expense.

The impact of one percent higher/lower of interest rate with all other variables held constant on the Company's profit for the year and on equity as of December 31, 2016 and 2015, is as follows:

	2016		2015	
(In millions of Korean won)	**Profit for the year**	**Equity**	**Profit for the year**	**Equity**
One percent increase	₩ (78)	₩ (78)	₩ (120)	₩ (120)
One percent decrease	78	78	120	120

d. Price risk of available-for-sale financial assets

The Company is exposed to equity securities price risk because of investments held by the Company and classified on the consolidated statement of financial position as available-for-sale. To manage its price risk arising from investments in equity securities, the Company diversifies its portfolio.

The impact of ten percent higher/lower of stock prices with all other variables held constant on the Company's other comprehensive income for the year (change in value of available-for-sale financial assets) as of December 31, 2016 and 2015, is as follows:

(In millions of Korean won)	**2016**	**2015**
Listed stocks	₩ 12	₩ 14
Unlisted stocks	3,416	3,479

(2) Credit risk

Credit risk arises from receivables, cash and cash equivalents, derivative financial instruments and deposits with banks and financial institutions. For banks and financial institutions, only independently rated parties with high ratings are accepted. If customers are independently rated, these ratings are used. If there is no independent rating, the credit quality of the customer is evaluated taking into account its financial position, past experience and other factors.

Individual risk limits are set based on internal or external ratings in accordance with limits set by the Company. The utilization of credit limits is strictly executed.

The maximum exposure to credit risk as of December 31, 2016 and 2015, is as follows:

(In millions of Korean won)		**2016**		**2015**
Financial assets				
Cash and cash equivalents	₩	767,368	₩	201,110
Trade receivables		1,154,608		1,030,881
Other receivables		170,470		200,127
Other financial assets		3,437,853		2,501,702
Derivative assets		2,078		17,302
Total	₩	5,532,377	₩	3,951,122

With the exception of trade receivables and other receivables, none of financial assets is past due or impaired. There is no collateral held by the Company except for trade receivables.

(3) Liquidity risk

Liquidity risk is defined as the risk that the Company is unable to meet its short-term payment obligations on time due to deterioration of its business performance or inability to access financing.

The Company monitors rolling forecasts of the Company's liquidity requirements to ensure it has sufficient cash to meet operational needs while maintaining sufficient headroom on its undrawn committed borrowing facilities at all times so that the Company does not breach borrowing limits or covenants on any of its borrowing facilities. Such forecasting takes into consideration the Company's debt financing plans, covenant compliance, compliance with internal statement of financial position ratio targets and if applicable, external regulatory or legal requirements.

Details of the Company's liquidity risk analysis as of December 31, 2016 and 2015, are as follows:

(In millions of Korean won)	**Less than 1 year**	**Between 1 and 2 years**	**Over 2 years**	**Total**
December 31, 2016				
Trade payables	₩ 1,140,725	₩ -	₩ -	₩ 1,140,725
Other payables	601,449	17,122	960	619,531
Borrowings	2,172,117	80,228	2,774,919	5,027,264
Currency forward				
Outflow	314,844	-	-	314,844
Inflow	(298,411)	-	-	(298,411)
Commodity Swap	34,479	-	-	34,479
Total	₩ 3,965,203	₩ 97,350	₩ 2,775,879	₩ 6,838,432
December 31, 2015				
Trade payables	₩ 589,528	₩ -	₩ -	₩ 589,528
Other payables	500,013	15,108	880	516,001
Borrowings	1,651,486	411,956	1,841,646	3,905,088
Currency forward				
Outflow	276,792	-	-	276,792
Inflow	(268,946)	-	-	(268,946)
Commodity Swap	3,284	-	-	3,284
Total	₩ 2,752,157	₩ 427,064	₩ 1,842,526	₩ 5,021,747

The amounts disclosed in the table are undiscounted cash flows.

3.2 Capital Risk Management

The Company's objectives when managing capital are to safeguard the Company's ability to continue as a going concern in order to provide returns for shareholders and benefits for other shareholders and to maintain an optimal capital structure to reduce the cost of capital.

The Company monitors financial ratios, such as debt-to-equity ratio and net borrowings-to-equity ratio each month and implements required action plan to maintain or adjust the capital structure.

Debt-to-equity ratio and net borrowings-to-equity ratio as of December 31, 2016 and 2015, are as follows:

(In millions of Korean won, except for ratios)		**2016**		**2015**
Interest bearing liabilities (A)	₩	4,709,461	₩	3,595,197
Cash and cash equivalents and current financial deposits (B)		4,201,098		2,695,053
Net borrowings (C=A-B)		508,363		900,144
Equity (D)		6,391,585		5,389,917
Debt-to-equity ratio (A/D)		74%		67%
Net borrowings-to-equity ratio (C/D)		8%		17%

4. Fair Value

(1) Fair Value of Financial Instruments by Category

Carrying amount and fair value of financial instruments by category as of December 31, 2016 and 2015, are as follows:

(in millions of Korean won)		**2016**				**2015**		
		Carrying amount		**Fair value**		**Carrying amount**		**Fair value**
Financial assets								
Available-for-sale financial assets	₩	49,407	₩	49,407	₩	53,919	₩	53,919
Derivative financial instruments		2,078		2,078		17,302		17,302
Total	₩	51,485	₩	51,485	₩	71,221	₩	71,221
Financial liabilities								
Derivative financial instruments	₩	50,873	₩	50,873	₩	11,081	₩	11,081
Total	₩	50,873	₩	50,873	₩	11,081	₩	11,081

Carrying amount of other financial assets and liabilities other than available-for-sale financial assets and derivative financial instruments is a reasonable approximation of fair value.

(2) Fair Value Hierarchy

Financial instruments measured at fair value or for which the fair value is disclosed are categorized within the fair value hierarchy, and the defined levels are as follows:

- Quoted prices (unadjusted) in active markets for identical assets or liabilities (Level 1).
- Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (that is, prices) or indirectly (that is, derived from prices) (Level 2).
- Inputs for the asset or liability that are not based on observable market data (that is, unobservable inputs) (Level 3).

Fair value hierarchy classifications of the financial assets and financial liabilities that are measured at fair value as of December 31, 2016, are as follows:

(in millions of Korean won)	**Level 1**	**Level 2**	**Level 3**	**Total**
Recurring fair value measurements				
Assets				
Available-for-sale financial assets				
Equity securities	₩ 164	₩ -	₩ 45,063	₩ 45,227
Debt securities	4,180	-	-	4,180
Financial assets measured at fair value through profit or loss				
Derivative financial assets	-	2,078	-	2,078
Total	₩ 4,344	₩ 2,078	₩ 45,063	₩ 51,485
Liabilities				
Financial liabilities measured at fair value through profit or loss				
Derivative financial liabilities	₩ -	₩ 50,873	₩ -	₩ 50,873
Total	₩ -	₩ 50,873	₩ -	₩ 50,873

Fair value hierarchy classifications of the financial assets and financial liabilities that are measured at fair value as of December 31, 2015, are as follows:

(in millions of Korean won)	**Level 1**	**Level 2**	**Level 3**	**Total**
Recurring fair value measurements				
Assets				
Available-for-sale financial assets				
Equity securities	₩ 181	₩ -	₩ 45,899	₩ 46,080
Debt securities	7,839	-	-	7,839
Financial assets measured at fair value through profit or loss				
Derivative financial assets	-	17,302	-	17,302
Total	₩ 8,020	₩ 17,302	₩ 45,899	₩ 71,221
Liabilities				
Financial liabilities measured at fair value through profit or loss				
Derivative financial liabilities	₩ -	₩ 11,081	₩ -	₩ 11,081
Total	₩ -	₩ 11,081	₩ -	₩ 11,081

(3) Transfers between Fair Value Hierarchy Levels of Recurring Fair Value Measurements

The Company's policy is to recognize transfers between levels of the fair value at the end of the reporting period. During current reporting period, there are no transfers between Level 1 and Level 2 that are measured at fair value on a recurring basis. Details of changes in Level 3 of the fair value hierarchy for the recurring fair value measurements are as follows:

(In millions of Korean won)		**2016**		**2015**
Beginning balance	₩	45,899	₩	52,256
Amount recognized in other comprehensive income		(836)		195
Disposals		-		(6,552)
Ending balance	₩	45,063	₩	45,899

(4) Valuation Technique and the Inputs

Valuation techniques and inputs used in the fair value of financial instruments categorized within Level 2 and Level 3 of the fair value hierarchy as of December 31, 2016, are as follows:

1) Level 3

(in millions of Korean won)	**Fair value**	**Level**	**Valuation techniques**	**Inputs**	**Range of inputs**
Available-for-sale financial assets					
Equity securities	₩ 45,063	3	Present value technique (DCF[1])	Discount rate	6.94%

[1] DCF: Discounted Cash Flow method

2) Level 2

(in millions of Korean won)		**Fair value**	**Level**	**Valuation techniques**
Financial assets at fair value through profit or loss				
Currency forward	₩	819	2	Present value technique
Commodity swap	₩	1,259	2	Present value technique
Financial liabilities at fair value through profit or loss				
Currency forward	₩	16,394	2	Present value technique
Commodity swap	₩	34,479	2	Present value technique

(5) Valuation Processes for Fair Value Measurements Categorized Within Level 3

The accounting department of the Company performs the fair value measurements required for financial reporting purposes, including Level 3 fair values. This department discusses valuation processes and results with the management.

(6) Sensitivity Analysis for Recurring Fair Value Measurements Categorized within Level 3

Sensitivity analysis of financial instruments is performed to measure favorable and unfavorable changes in the fair value of financial instruments which are affected by the unobservable parameters, using a statistical technique. When the fair value is affected by more than two input parameters, the amounts represent the most favorable or most unfavorable. Financial instruments that are categorized within Level 3 and subject to sensitivity analysis include unlisted stocks whose changes in fair value are recognized in other comprehensive income.

5. Critical Accounting Estimates and Assumptions

The Company makes estimates and assumptions concerning the future. The estimates and assumptions are continuously evaluated with consideration to factors such as events reasonably predictable in the foreseeable future within the present circumstance according to historical experience. The resulting accounting estimates will, by definition, seldom equal the related actual results. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are addressed below.

a. Net Defined Benefit Liabilities

The present value of net defined benefit liability depends on a number of factors that are determined on an actuarial basis using a number of assumptions including the discount rate (Note 20).

b. Fair value of financial instruments

The fair value of financial instruments that are not traded in an active market is determined by using valuation techniques. The Company uses its judgment to select a variety of methods and make assumptions that are mainly based on market conditions existing at the end of each reporting period (Note 4).

c. Income Taxes

The income generated from the Company's operation is subject to income taxes based on tax laws and interpretations of tax authority. There are transactions and calculations for which the ultimate tax determination is uncertain (Note 30).

If certain portion of the taxable income is not used for investments, increase in wages, or dividends in accordance with the Tax System For Recirculation of Corporate Income, the Company is liable to pay additional income tax calculated based on the tax laws. The new tax system is effective for three years from 2015. Accordingly, the measurement of current and deferred income tax is affected by the tax effects from the new system. As the Company's income tax is dependent on the investments, increase in wages and dividends, there exists uncertainty with regard to measuring the final tax effects.

d. Provisions for Other Liabilities and Charges

As of December 31, 2016, the Company records environmental restoration provisions. These provisions are estimated based on past experience (Note 19).

6. Segment Information

The reportable operating segments of the Company are oil refining business, lube oil business and petrochemical business.

Financial information by operating segments as of and for the years ended December 31, 2016 and 2015, follows:

(In millions of Korean won)	2016							
	Oil Refining Business		**Lube Oil Business**		**Petrochemical Business**		**Total**	
Sales from external customers	₩	12,464,223	₩	1,313,663	₩	2,543,957	₩	16,321,843
Inter-segment sales		3,428,339		122,991		875,339		4,426,669
Total sales		15,892,562		1,436,654		3,419,296		20,748,512
Operating profit	₩	698,992	₩	412,013	₩	505,884	₩	1,616,889
Property, plant, equipment and intangible assets	₩	4,406,421	₩	139,106	₩	1,219,739	₩	5,765,266
Depreciation and amortization	₩	190,127	₩	11,066	₩	85,553	₩	286,746

(In millions of Korean won)	2015							
	Oil Refining Business		**Lube Oil Business**		**Petrochemical Business**		**Total**	
Sales from external customers	₩	14,054,208	₩	1,339,762	₩	2,496,302	₩	17,890,272
Inter-segment sales		3,686,791		154,758		913,606		4,755,155
Total sales		17,740,999		1,494,520		3,409,908		22,645,427
Operating profit	₩	227,911	₩	311,131	₩	278,562	₩	817,604
Property, plant, equipment and intangible assets	₩	3,240,196	₩	82,137	₩	1,455,703	₩	4,778,036
Depreciation and amortization	₩	173,084	₩	11,821	₩	88,286	₩	273,191

Sales by geographic region for the years ended December 31, 2016 and 2015, are as follows:

(In millions of Korean won)		**2016**		**2015**
Korea	₩	7,084,277	₩	7,509,720
Southeast Asia		2,149,370		2,025,227
China		2,048,744		1,766,811
America		1,221,309		1,399,951
Japan		1,096,120		1,726,993
Australia		839,962		1,273,252
Europe		351,376		351,072
Others		1,530,685		1,837,246
Total	₩	16,321,843	₩	17,890,272

Details of a customer, who contributes more than ten percent of the Company sales for the years ended December 31, 2016 and 2015, are as follows:

(In millions of Korean won)		**2016**		**2015**	**Segments**
Customer 1 (*)	₩	1,690,496	₩	1,898,713	Oil refining business

(*) Saudi Aramco Products Trading Company who is a related party of the Company

7. Cash and Cash Equivalents

Cash and cash equivalents as of December 31, 2016 and 2015, are as follows:

(In millions of Korean won)		**2016**		**2015**
Cash on hand	₩	70	₩	93
Checking accounts		7		10
Passbook accounts		15,728		9,724
Foreign currency deposits		45,683		64,506
Time deposits		625,000		50,000
MMDA and others		80,950		76,870
Total	₩	767,438	₩	201,203

Cash and cash equivalents recognized in the consolidated statements of financial position and cash flows are identical.

8. Trade and Other Receivables

Trade and other receivables as of December 31, 2016 and 2015, are as follows:

(In millions of Korean won)	2016		2015	
	Current	**Non-current**	**Current**	**Non-current**
Trade receivables	₩ 1,157,974	₩ -	₩ 1,034,906	₩ -
Less : provision for impairment	(3,366)	-	(4,025)	-
	1,154,608	-	1,030,881	-
Other receivables				
Non-trade receivables	153,967	-	235,379	-
Accrued revenues	17,345	-	6,849	-
Loans	9,937	40,781	10,980	48,539
Guaranty deposits	-	24,114	-	23,468
	181,249	64,895	253,208	72,007
Net book amount	₩ 1,335,857	₩ 64,895	₩ 1,284,089	₩ 72,007

The aging analysis of trade receivables as of December 31, 2016 and 2015, is as follows:

(In millions of Korean won)	2016	2015
Receivables not past due	₩ 1,152,954	₩ 1,027,894
Up to one month	3,265	3,238
One to three months	153	347
Three to six months	117	223
Six to twelve months	1	105
Over one year	1,484	3,099
Total	₩ 1,157,974	₩ 1,034,906

As of December 31, 2016, trade receivables of ₩ 501,961 million (2015: ₩ 485,235 million) are pledged as collateral. Among the trade receivables pledged, ₩ 3,013 million (2015: ₩ 4,606 million) is past due but not impaired.

The aging analysis of other receivables as of December 31, 2016 and 2015, is as follows:

(In millions of Korean won)	2016	2015
Receivables not past due	₩ 244,244	₩ 325,215
Up to one month	1,850	-
One to three months	50	-
Three to six months	-	-
Six to twelve months	-	-
Over one year	-	-
Total	₩ 246,144	₩ 325,215

Movements on the provision for impairment of trade receivables for the years ended December 31, 2016 and 2015, are as follows:

(In millions of Korean won)		**2016**		**2015**
Beginning balance	₩	4,025	₩	4,325
Allowance(Reversal)		243		(174)
Received		16		-
Receivables written off		(918)		(126)
Ending balance	₩	3,366	₩	4,025

Movements on the provision for impairment of other receivables for the years ended December 31, 2016 and 2015, are as follows:

(In millions of Korean won)		**2016**		**2015**
Beginning balance	₩	-	₩	1
Reversal		-		(1)
Receivables written off		-		-
Ending balance	₩	-	₩	-

As of December 31, 2016, transferred trade receivables is amounting to USD 88 million (2015: USD 66 million). As of December 31, 2016, the Company derecognized the transferred trade receivables from the consolidated financial statements to Shinhan Bank and four other financial institutions (Note 21).

9. Other Financial Assets and Other Assets

Other financial assets as of December 31, 2016 and 2015, are as follows:

(In millions of Korean won)		**2016**		**2015**
Current				
Short-term available-for-sale financial assets	₩	112	₩	3,778
Short-term financial instruments		3,433,660		2,493,850
		3,433,772		2,497,628
Non-current				
Long-term deposit		13		13
Long-term available-for-sale financial assets		49,295		50,141
		49,308		50,154
Total	₩	3,483,080	₩	2,547,782

Other assets as of December 31, 2016 and 2015, are as follows:

(In millions of Korean won)	**2016**				**2015**			
	Current		**Non-current**		**Current**		**Non-current**	
Advance payments	₩	4,236	₩	33,091	₩	8,626	₩	158,102
Prepaid expenses		7,577		10,640		8,083		12,014
Total	₩	11,813	₩	43,731	₩	16,709	₩	170,116

Available-for-sale financial assets as of December 31, 2016 and 2015, are as follows:

(In millions of Korean won)	2016	2015
Current		
Government and public bonds	₩ 112	₩ 3,778
Non-current		
Listed equities	164	181
Non-listed equities	45,063	45,899
Government and public bonds	4,068	4,061
	49,295	50,141
Total	₩ 49,407	₩ 53,919

The fair value of non-listed equities is determined using discounted cash flow analysis based on the risk adjusted yield.

The changes in available-for-sale financial assets for the years ended December 31, 2016 and 2015, are as follows:

(In millions of Korean won)	2016	2015
Beginning balance	₩ 53,919	₩ 60,425
Additions	716	150
Disposals	(4,375)	(6,809)
Gains (losses) reclassified to equity	(853)	153
Ending balance	₩ 49,407	₩ 53,919
Non-current portion	₩ 49,295	₩ 50,141
Current portion	₩ 112	₩ 3,778

10. Derivative Financial Instruments

Details of derivative financial instruments as of December 31, 2016 and 2015, are as follows:

	2016		2015	
(In millions of Korean won)	Assets	Liabilities	Assets	Liabilities
Trading purpose				
Forward foreign exchange	₩ 819	₩ 16,394	₩ -	₩ 7,797
Commodity Swap	1,259	34,479	17,302	3,284
	₩ 2,078	₩ 50,873	₩ 17,302	₩ 11,081

Derivatives financial instruments held for trading purposes are classified as a current asset or liability.

11. Financial Instruments by Category

Categorizations of financial assets and liabilities as of December 31, 2016 and 2015, are as follows:

	2016							
(In millions of Korean won)	Loans and receivables		Financial assets at fair value through profit or loss		Financial assets classified as available-for-sale		Total	
Assets								
Cash and cash equivalents	₩	767,438	₩	-	₩	-	₩	767,438
Trade receivables		1,154,608		-		-		1,154,608
Other receivables		170,470		-		-		170,470
Other financial assets		3,433,673		-		49,407		3,483,080
Derivative financial instruments		-		2,078		-		2,078
Total	₩	5,526,189	₩	2,078	₩	49,407	₩	5,577,674

	2016					
(In millions of Korean won)	Financial liabilities at amortized cost		Financial liabilities at fair value through profit or loss		Total	
Liabilities						
Trade payables	₩	1,140,725	₩	-	₩	1,140,725
Other payables		619,531		-		619,531
Borrowings		4,709,461		-		4,709,461
Derivative financial instruments		-		50,873		50,873
Total	₩	6,469,717	₩	50,873	₩	6,520,590

	2015							
(In millions of Korean won)	Loans and receivables		Financial assets at fair value through profit or loss		Financial assets classified as available-for-sale		Total	
Assets								
Cash and cash equivalents	₩	201,203	₩	-	₩	-	₩	201,203
Trade receivables		1,030,881		-		-		1,030,881
Other receivables		200,127		-		-		200,127
Other financial assets		2,493,863		-		53,919		2,547,782
Derivative financial instruments		-		17,302		-		17,302
Total	₩	3,926,074	₩	17,302	₩	53,919	₩	3,997,295

	2015					
(In millions of Korean won)	Financial liabilities at amortized cost		Financial liabilities at fair value through profit or loss		Total	
Liabilities						
Trade payables	₩	589,528	₩	-	₩	589,528
Other payables		516,001		-		516,001
Borrowings		3,595,197		-		3,595,197
Derivative financial instruments		-		11,081		11,081
Total	₩	4,700,726	₩	11,081	₩	4,711,807

Net gains or net losses on each category of financial instruments for the years ended December 31, 2016 and 2015, are as follows:

(In millions of Korean won)		2016		2015
Loans and receivables				
Interest income	₩	54,382	₩	34,752
Foreign currency gain		38,727		82,723
Impairment loss		(243)		-
Reversal of provision for impairment		-		175
Assets and liabilities at fair value through profit or loss				
Derivative financial instruments gain (loss)		(31,885)		54,975
Assets classified as available-for-sale				
Gains (Losses) on valuation (other comprehensive income (loss))		(853)		153
Gains (Losses) on disposal (Profit or loss)		-		(6,079)
Interest income		138		210
Dividend income		798		-
Financial liabilities at amortized cost				
Foreign currency loss		(105,936)		(211,397)
Interest expenses[1]		(56,306)		(35,822)

[1] Interest expenses exclude capitalized borrowing costs on qualifying assets.

12. Inventories

Inventories as of December 31, 2016 and 2015, are as follows:

(In millions of Korean won)		2016		2015
Merchandise	₩	18,562	₩	1,944
Valuation allowance for merchandise		(23)		(44)
Finished goods		483,643		353,326
Valuation allowance for finished goods		(40)		(21,559)
Work in progress		274,302		290,426
Valuation allowance for work in progress		(85)		(34,671)
Raw materials and materials-in-transit		1,551,160		991,717
Valuation allowance for raw materials and materials-in-transit		(210)		(69,955)
Supplies		96,131		87,526
Total	₩	2,423,440	₩	1,598,710

The cost of inventories recognized as expenses and included in cost of sales amounted to ₩ 12,301,889 million (2015: ₩ 14,686,284 million The Company recognized the reversal of allowance for loss on inventory valuation of ₩ 125,871 million and loss on inventory valuation of ₩ 45,838 million for the years ended December 31, 2016 and 2015, respectively.

13. Investments in Associate and Jointly Controlled Entity

Details of associate and jointly controlled entity as of December 31, 2016 and 2015, are as follows:

(In millions of Korean won except number of shares) Investee	Location	Closing month	Number of Shares	Percentage of Ownership (%)	Acquisition cost	2016	2015
Jointly controlled entity							
S-OIL TOTAL Lubricants Co., Ltd.	Korea	December	3,500,001	50% plus one share	₩ 20,134	₩ 33,216	₩ 35,247
Associate							
Korea Oil Terminal Co., Ltd. [1]	Korea	December	16,846	18%	801	79	186
Total					₩ 20,935	₩ 33,295	₩ 35,433

[1] The Company acquired 18% ownership interest in Korea Oil Terminal Co., Ltd. Although the Company owns less than 20% of the voting rights of Korea Oil Terminal Co., Ltd., the Company is considered to have a significant influence over Korea Oil Terminal Co., Ltd., which is classified as an associate, as the Company has a seat in the investee's board of directors.

Details of adjustments from financial information of associate and jointly controlled entity to the book amount of investments in associate and jointly controlled entity for the years ended December 31, 2016 and 2015, are as follows:

(In millions of Korean won)		2016				
		Net Assets	Percentage of Ownership (%)	Shares of Net Assets	Inter-Company Transactions	Book Amount
Jointly controlled entity	S-OIL TOTAL Lubricants Co., Ltd.	₩ 66,586	50% plus one share	₩ 33,293	₩ (77)	₩ 33,216
Associate	Korea Oil Terminal Co., Ltd.	(694)	18%	(125)	204	79

(In millions of Korean won)		2015				
		Net Assets	Percentage of Ownership (%)	Shares of Net Assets	Inter-Company Transactions	Book Amount
Jointly controlled entity	S-OIL TOTAL Lubricants Co., Ltd.	₩ 70,811	50% plus one share	₩ 35,405	₩ (158)	₩ 35,247
Associate	Korea Oil Terminal Co., Ltd.	(105)	18%	(19)	205	186

Summarized financial information of associate and jointly controlled entity as of and for the years ended December 31, 2016 and 2015, is as follows:

	S-OIL TOTAL Lubricants Co., Ltd.		Korea Oil Terminal Co., Ltd.	
(In millions of Korean won)	2016	2015	2016	2015
Current assets	₩ 75,824	₩ 77,773	₩ 593	₩ 1,040
Non-current assets	21,847	20,071	3,234	3,148
Total assets	₩ 97,671	₩ 97,844	₩ 3,827	₩ 4,188
Current liabilities	31,085	27,033	4,438	4,218
Non-current liabilities	-	-	83	75
Total liabilities	₩ 31,085	₩ 27,033	₩ 4,521	₩ 4,293
Total equity	₩ 66,586	₩ 70,811	₩ (694)	₩ (105)
Sales	₩ 269,431	₩ 273,032	₩ -	₩ -
Operating income (loss)	18,385	25,714	(1,280)	(1,583)
Profit (Loss) before income tax	17,527	25,640	(1,281)	(1,575)
Profit (Loss) for the year	13,638	19,902	(1,281)	(1,575)
Total comprehensive income (loss) for the year	13,643	19,846	(1,267)	(1,575)

Changes in investments in associate and jointly controlled entity as of and for the years ended December 31, 2016 and 2015, are as follows:

	2016		
(In millions of Korean won)	S-OIL TOTAL Lubricants Co., Ltd.	Korea Oil Terminal Co., Ltd.	Total
Beginning balance	₩ 35,247	₩ 186	₩ 35,433
Acquisition	-	138	138
Share of profit (loss)	6,819	(243)	6,576
Unrealized gain (loss)	73	-	73
Dividend received	(8,925)	-	(8,925)
Other equity changes	2	(2)	-
Ending balance	₩ 33,216	₩ 79	₩ 33,295

	2015		
(In millions of Korean won)	S-OIL TOTAL Lubricants Co., Ltd.	Korea Oil Terminal Co., Ltd.	Total
Beginning balance	₩ 30,844	₩ 18	₩ 30,862
Acquisition	-	399	399
Share of profit (loss)	9,951	(231)	9,720
Unrealized gain	79	-	79
Dividend received	(5,600)	-	(5,600)
Other equity changes	(27)	-	(27)
Ending balance	₩ 35,247	₩ 186	₩ 35,433

14. Property, Plant and Equipment

Changes in property, plant and equipment for the years ended December 31, 2016 and 2015, are as follows:

(In millions of Korean won)	2016								
	Land	Buildings	Structures	Machinery and equipment	Vehicles	Others	Catalysts	Construction-in -progress	Total
At January 1, 2016									
Acquisition cost	₩ 1,254,614	₩ 255,819	₩ 916,002	₩ 3,589,497	₩ 13,422	₩ 362,159	₩ 875,820	₩ 1,541,711	₩ 8,809,044
Accumulated depreciation	-	(70,821)	(460,216)	(2,540,317)	(10,763)	(284,457)	(711,677)	-	(4,078,251)
Net book amount	₩ 1,254,614	₩ 184,998	₩ 455,786	₩ 1,049,180	₩ 2,659	₩ 77,702	₩ 164,143	₩ 1,541,711	₩ 4,730,793
Changes during 2016									
Beginning net book amount	₩ 1,254,614	₩ 184,998	₩ 455,786	₩ 1,049,180	₩ 2,659	₩ 77,702	₩ 164,143	₩ 1,541,711	₩ 4,730,793
Additions	-	67	202	-	343	14,278	65,011	1,197,725	1,277,626
Transfers	43,009	44,471	48,845	312,057	-	182,626	10,586	(651,964)	(10,370)
Disposals	(5,980)	(2,354)	(293)	-	-	(216)	-	-	(8,843)
Depreciation	-	(7,377)	(31,750)	(78,714)	(867)	(81,342)	(78,352)	-	(278,402)
Ending net book amount	₩ 1,291,643	₩ 219,805	₩ 472,790	₩ 1,282,523	₩ 2,135	₩ 193,048	₩ 161,388	₩ 2,087,472	₩ 5,710,804
At December 31, 2016									
Acquisition cost	₩ 1,291,643	₩ 296,144	₩ 964,012	₩ 3,901,553	₩ 13,694	₩ 551,226	₩ 951,417	₩ 2,087,472	₩ 10,057,161
Accumulated depreciation	-	(76,339)	(491,222)	(2,619,030)	(11,559)	(358,178)	(790,029)	-	(4,346,357)
Net book amount	₩ 1,291,643	₩ 219,805	₩ 472,790	₩ 1,282,523	₩ 2,135	₩ 193,048	₩ 161,388	₩ 2,087,472	₩ 5,710,804

(In millions of Korean won)	**Land**	**Buildings**	**Structures**	**Machinery and equipment**	**Vehicles**	**Others**	**Catalysts**	**Construction-in -progress**	**Total**
	2015								
At January 1, 2015									
Acquisition cost	₩ 1,256,780	₩ 253,947	₩ 882,747	₩ 3,567,636	₩ 11,847	₩ 345,181	₩ 746,687	₩ 1,085,050	₩ 8,149,875
Accumulated depreciation	-	(65,049)	(431,346)	(2,465,723)	(10,236)	(240,863)	(614,942)	-	(3,828,159)
Net book amount	₩ 1,256,780	₩ 188,898	₩ 451,401	₩ 1,101,913	₩ 1,611	₩ 104,318	₩ 131,745	₩ 1,085,050	₩ 4,321,716
Changes during 2015									
Beginning net book amount	₩ 1,256,780	₩ 188,898	₩ 451,401	₩ 1,101,913	₩ 1,611	₩ 104,318	₩ 131,745	₩ 1,085,050	₩ 4,321,716
Additions	-	74	266	-	511	23,334	129,133	527,717	681,035
Transfers	325	3,718	38,354	21,861	1,394	2,193	-	(71,056)	(3,211)
Disposals	(2,491)	(1,241)	(398)	-	-	(390)	-	-	(4,520)
Depreciation	-	(6,451)	(33,837)	(74,594)	(857)	(51,753)	(96,735)	-	(264,227)
Ending net book amount	₩ 1,254,614	₩ 184,998	₩ 455,786	₩ 1,049,180	₩ 2,659	₩ 77,702	₩ 164,143	₩ 1,541,711	₩ 4,730,793
At December 31, 2015									
Acquisition cost	₩ 1,254,614	₩ 255,819	₩ 916,002	₩ 3,589,497	₩ 13,422	₩ 362,159	₩ 875,820	₩ 1,541,711	₩ 8,809,044
Accumulated depreciation	-	(70,821)	(460,216)	(2,540,317)	(10,763)	(284,457)	(711,677)	-	(4,078,251)
Net book amount	₩ 1,254,614	₩ 184,998	₩ 455,786	₩ 1,049,180	₩ 2,659	₩ 77,702	₩ 164,143	₩ 1,541,711	₩ 4,730,793

In 2016, depreciation expense of ₩ 257,002 million (2015: ₩ 243,847 million) has been charged to cost of sales, ₩ 19,133 million (2015: ₩ 17,618 million) to selling expenses and ₩ 2,267 million (2015: ₩ 2,762 million) to administrative expense.

As of December 31, 2016, a certain portion of property, plant and equipment is pledged as collateral for various borrowings and guarantees (Note 16).

In 2016, the Company has capitalized borrowing costs amounting to ₩ 34,474 million (2015: ₩ 22,147 million) on qualifying assets. The capitalization rate of borrowings used to determine the amount of borrowing costs eligible for capitalization is 1.93% (2015: 1.32%) for general borrowings and 2.45% (2015: 2.74%) for specific borrowings.

As of December 31, 2016, Construction in-progress consists of expenses related to facilities installation and land.

As of December 31, 2016, the Company has insurance policies with Samsung Fire & Marine Insurance and three other Insurance companies in relation to its plant equipment construction. The insurance benefit of up to ₩ 2,520,000 million is pledged as collateral to Korea Development Bank and eight other financial institutions.

15. Intangible Assets

Changes in intangible assets for the years ended December 31, 2016 and 2015, are as follows:

(In millions of Korean won)	2016							
		Facility usage rights		**Others**		**Membership rights**		**Total**
At January 1, 2016								
Acquisition cost	₩	8,113	₩	62,824	₩	23,838	₩	94,775
Accumulated amortization		(4,206)		(43,326)		-		(47,532)
Net book amount	₩	3,907	₩	19,498	₩	23,838	₩	47,243
Changes during 2016								
Beginning net book amount	₩	3,907	₩	19,498	₩	23,838	₩	47,243
Additions		-		6,018		2,866		8,884
Transfers		944		9,426		-		10,370
Disposals		-		-		(3,691)		(3,691)
Amortization		(466)		(7,878)		-		(8,344)
Ending net book amount	₩	4,385	₩	27,064	₩	23,013	₩	54,462
At December 31, 2016								
Acquisition cost	₩	9,057	₩	78,268	₩	23,013	₩	110,338
Accumulated amortization		(4,672)		(51,204)		-		(55,876)
Net book amount	₩	4,385	₩	27,064	₩	23,013	₩	54,462

(In millions of Korean won)	2015							
		Facility usage rights		**Others**		**Membership rights**		**Total**
At January 1, 2015								
Acquisition cost	₩	8,113	₩	59,420	₩	20,995	₩	88,528
Accumulated amortization		(3,802)		(34,766)		-		(38,568)
Net book amount	₩	4,311	₩	24,654	₩	20,995	₩	49,960
Changes during 2015								
Beginning net book amount	₩	4,311	₩	24,654	₩	20,995	₩	49,960
Additions		-		194		5,915		6,109
Transfers		-		3,211		-		3,211
Disposals		-		(1)		(3,072)		(3,073)
Amortization		(404)		(8,560)		-		(8,964)
Ending net book amount	₩	3,907	₩	19,498	₩	23,838	₩	47,243
At December 31, 2015								
Acquisition cost	₩	8,113	₩	62,824	₩	23,838	₩	94,775
Accumulated amortization		(4,206)		(43,326)		-		(47,532)
Net book amount	₩	3,907	₩	19,498	₩	23,838	₩	47,243

In 2016, amortization expense of ₩ 2,033 million (2015: ₩ 2,570 million) is included in cost of sales, ₩ 642 million (2015: ₩ 1,002 million) in selling expenses and ₩ 5,669 million (2015: ₩ 5,392 million) in administrative expense.

Membership impairment reviews are undertaken annually. As a result of the impairment test, the carrying value of membership is not higher than the recoverable amount.

16. Assets Pledged as Collateral

As of December 31, 2016, assets pledged as collateral are as follows:

(In millions of Korean won and millions of other foreign currencies)

Pledged Assets as Collateral	Secured Amount	Creditors	Related Borrowings/ Guarantees	Balance of Borrowings
Land, Buildings, BTX and others	₩ 19,350 USD 144 FFR 155 JPY 11,781	The Korea Development Bank	Usance Borrowings and others	₩ 483,382 (USD 400)
Construction-in-progress (Land)	₩ 75,168	The Korea Development Bank	Loans for facility	₩ 75,000
Construction-in-progress (Land) (*)	₩ 2,520,000	The Korea Development Bank and others	Loans for facility	₩ 514,540
Time deposits	₩ 19,781	Defense Acquisition Program Administration	Contractual Guarantee	-
Time deposits	₩ 4,627	Korea Industrial Complex Corporation	Contractual Guarantee	-
Time deposits	₩ 374	Korea Southern Power Co., Ltd.	Contractual Guarantee	-
		Total		₩ 1,072,922

(*) The construction-in-progress (Land) has been pledged as collateral for stand-by credit line agreements with Korea Development Bank and seven other financial institutions for up to ₩ 600,000 million and agreements in relation to industry facilities fund with Korea Development Bank and eight other financial institutions for up to ₩ 1,500,000 million, and the outstanding amount is ₩ 514,540 million as of December 31, 2016.

17. Trade Payables, Other Payables and Other Liabilities

Trade payables and other payables as of December 31, 2016 and 2015, are as follows:

	2016		2015	
(In millions of Korean won)	**Current**	**Non-current**	**Current**	**Non-current**
Trade payables	₩ 1,140,725	₩ -	₩ 589,528	₩ -
Other payables				
Non-trade payables	1,011,412	-	904,792	-
Accrued expenses	11,418	-	6,367	-
Dividend payables	81	-	70	-
Rental deposit payables	-	27,036	-	23,581
	1,022,911	27,036	911,229	23,581
Total	₩ 2,163,636	₩ 27,036	₩ 1,500,757	₩ 23,581

Other liabilities as of December 31, 2016 and 2015, are as follows:

	2016		2015	
(In millions of Korean won)	**Current**	**Non-current**	**Current**	**Non-current**
Advances from customers	₩ 89,475	₩ -	₩ 77,590	₩ -
Withholdings	5,430	-	5,020	-
Total	₩ 94,905	₩ -	₩ 82,610	₩ -

18. Borrowings

Details of borrowings as of December 31, 2016 and 2015, are as follows:

(In millions of Korean won)	2016	2015
Current		
Short-term borrowings	₩ 60,425	₩ -
Banker's usance	1,728,183	1,582,458
Current maturities of debentures	349,862	-
Current maturities of long-term borrowings	7,406	5,484
	2,145,876	1,587,942
Non-current		
Debentures	1,971,165	1,621,969
Long-term borrowings	592,420	385,286
	2,563,585	2,007,255
Total	₩ 4,709,461	₩ 3,595,197

Details of borrowings as of December 31, 2016 and 2015, are as follows:

(In millions of Korean won)	Creditor	Maturity date	Interest Rates (%) Dec 31, 2016	2016	2015
Short-term borrowings					
Short-term borrowings	KEB Hana Bank	Oct. 19, 2017	1.25	₩ 60,425	₩ -
Banker's usance	Korea Development Bank and others	Jan. 16, 2017 and others	1.34 - 1.66	1,728,183	1,582,458
				1,788,608	1,582,458
Current maturities of long-term borrowings					
Loans for facilities from energy usage rationalization fund	KEB Hana Bank	Mar. 15, 2017 and others	1.75	4,085	4,716
Environment improvement supporting funds loans	KEB Hana Bank	Mar. 31, 2017	1.29	643	768
Loans for industry facilities fund	Korea Development Bank	Oct. 31, 2017	1.78 - 2.20	2,678	-
				7,406	5,484
Long-term borrowings					
Loans for facilities from energy usage rationalization fund	KEB Hana Bank	Mar. 15, 2020 and others	1.75	4,755	8,840
Environment improvement supporting funds loans	KEB Hana Bank	Mar. 31, 2019	1.29	804	1,446
Loans for industry facilities fund	Korea Development Bank	July 31, 2024	1.78 - 2.20	72,321	75,000
Loans for industry facilities fund	Korea Development Bank and others	Dec. 31, 2025	2.91	514,540	300,000
				592,420	385,286
Total				₩ 2,388,434	₩ 1,973,228

Details of debentures as of December 31, 2016 and 2015, are as follows:

(In millions of Korean won)	Issuance date	Maturity date	Interest Rates (%) Dec 31, 2016	2016	2015
Public bonds (45-1)	Aug. 28, 2012	Aug. 28, 2017	3.180	₩ 350,000	₩ 350,000
Public bonds (45-2)	Aug. 28, 2012	Aug. 28, 2019	3.330	100,000	100,000
Public bonds (45-3)	Aug. 28, 2012	Aug. 28, 2022	3.530	50,000	50,000
Public bonds (46-1)	June 26, 2014	June 26, 2019	3.092	180,000	180,000
Public bonds (46-2)	June 26, 2014	June 26, 2021	3.234	110,000	110,000
Public bonds (46-3)	June 26, 2014	June 26, 2024	3.468	70,000	70,000
Public bonds (47-1)	Nov. 27, 2014	Nov. 27, 2019	2.471	155,000	155,000
Public bonds (47-2)	Nov. 27, 2014	Nov. 27, 2021	2.706	80,000	80,000
Public bonds (47-3)	Nov. 27, 2014	Nov. 27, 2024	2.990	130,000	130,000
Public bonds (48-1)	Oct. 29, 2015	Oct. 29, 2020	2.297	230,000	230,000
Public bonds (48-2)	Oct. 29, 2015	Oct. 29, 2022	2.391	70,000	70,000
Public bonds (48-3)	Oct. 29, 2015	Oct. 29, 2025	2.657	100,000	100,000
Public bonds (49-1)	Apr. 18, 2016	Apr. 18, 2021	1.930	230,000	-
Public bonds (49-2)	Apr. 18, 2016	Apr. 18, 2023	2.101	60,000	-
Public bonds (49-3)	Apr. 18, 2016	Apr. 18, 2026	2.225	60,000	-
Public bonds (50-1)	Sep. 2, 2016	Sep. 2, 2021	1.646	210,000	-
Public bonds (50-2)	Sep. 2, 2016	Sep. 2, 2023	1.722	80,000	-
Public bonds (50-3)	Sep. 2, 2016	Sep.2, 2026	1.932	60,000	-
Less: Present value discount				(3,973)	(3,031)
Sub total				2,321,027	1,621,969
Less: Current maturities				(349,862)	-
Total				₩ 1,971,165	₩ 1,621,969

As of December 31, 2016 and 2015, a certain portion of property, plant and equipment is pledged as collateral for various borrowings (Note 16).

19. Provisions for Other Liabilities and Charges

Changes in provisions for other liabilities and charges for the years ended December 31, 2016 and 2015, are as follows:

(In millions of Korean won)	Environmental Restoration		Others		Total	
	2016	2015	2016	2015	2016	2015
Beginning balance	₩ 3,222	₩ 4,885	₩ 1,456	₩ -	₩ 4,678	₩ 4,885
Additional provisions adjustment	4,320	4,785	7,591	7,339	11,911	12,124
Used during the year	(5,739)	(6,448)	(9,047)	(5,883)	(14,786)	(12,331)
Ending balance	₩ 1,803	₩ 3,222	₩ -	₩ 1,456	₩ 1,803	₩ 4,678

20. Net Defined Benefit Liabilities

Details of net defined benefit liabilities recognized in the consolidated statements of financial position as of December 31, 2016 and 2015, are as follows:

(In millions of Korean won)		2016		2015
Present value of funded defined benefit obligations	₩	290,173	₩	268,444
Fair value of plan assets [1]		(318,307)		(263,921)
Liabilities(Assets) in the consolidated statement of financial position	₩	(28,134)	₩	4,523

[1] The fair value of plan assets includes contributions to the National Pension Fund of ₩ 524 million as of December 31, 2016 (2015: ₩ 526 million).

Changes in defined benefit obligations for the years ended December 31, 2016 and 2015, are as follows:

(In millions of Korean won)		2016		2015
Beginning balance	₩	268,444	₩	212,935
Current service cost		33,942		26,894
Interest expense		9,022		8,176
Remeasurements :				
Actuarial losses arising from changes in demographic assumptions		-		949
Actuarial losses arising from changes in financial assumption		1,346		16,635
Actuarial losses (gains) arising from changes in experience adjustments		(14,212)		9,615
Benefits payments		(8,369)		(6,760)
Ending Balance	₩	290,173	₩	268,444

Changes in the fair value of plan assets for the years ended December 31, 2016 and 2015, are as follows:

(In millions of Korean won)		2016		2015
Beginning balance	₩	263,921	₩	180,212
Interest income		8,393		6,575
Remeasurements :				
Return on plan assets		(4,196)		(2,378)
Contributions		59,000		85,000
Benefits payments		(8,811)		(5,488)
Ending balance	₩	318,307	₩	263,921

The total amount of plan assets as of December 31, 2016 and 2015, consist of financial assets including deposits.

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

	2016	**2015**
Discount rate	3.50%	3.40%
Salary growth rate	5.49%	5.34%

The sensitivity of the defined benefit obligations as of December 31, 2016 and 2015, to changes in the principal actuarial assumptions is as follows:

	Changes in principal assumption	**Effect on defined benefit obligations**	
		December 31, 2016	**December, 31 2015**
Salary growth rate	One percent increase	10.48% increase	11.03% increase
	One percent decrease	11.06% decrease	9.65% decrease
Discount rate	One percent increase	9.27% decrease	9.73% decrease
	One percent decrease	10.81% increase	11.37% increase

The above sensitivity analyses are based on a change in an assumption while holding all other assumptions constant. The sensitivity of the defined benefit obligation to changes in principal actuarial assumptions is calculated using the projected unit credit method, the same method applied when calculating the defined benefit obligations recognized on the consolidated statement of financial position.

The methods and types of assumptions used in preparing the sensitivity analysis did not change compared to the prior year.

The Company reviews the funding level on an annual basis and has a policy of eliminating deficit from the fund.

The weighted average duration of the defined benefit obligations is 10.04 years and there is no expected contributions to post-employment benefit plans for the year ending December 31, 2017.

Recognized expense related to the defined contribution plan for the year ended December 31, 2016, is ₩ 8,355 million (2015: ₩ 3,821 million).

21. Contingencies

As of December 31, 2016, the Company has overdraft agreements of up to ₩ 23,000 million with Shinhan Bank and another bank, and general loan agreements of up to ₩ 14,750 million and USD 432 million with Shinhan Bank and other two banks.

As of December 31, 2016, the Company has banker's usance agreements and imported credit agreements of up to a maximum of USD 4,320 million with Korea Development Bank and 16 other banks.

As of December 31, 2016, Shinhan Bank has provided guarantees of up to ₩ 30,000 million for the Company's repayment of remaining bonus points.

As of December 31, 2016, KEB Hana Bank has provided guarantees of up to ₩ 3,583 million for the restoration responsibilities of Onsan National Industrial Complex.

As of December 31, 2016, Shinhan Bank has provided guarantees of up to ₩ 330 million for the Company's payment of temporary electricity charge for project construction.

As of December 31, 2016, the Company offered one blank checks to Korea National Oil Corporation ("KNOC") as payment guarantee.

As of December 31, 2016, transferred trade receivables amount to USD 88 million (2015: USD 66 million). As of December 31, 2016, the Company derecognized the transferred trade receivables from the consolidated financial statements to Shinhan Bank and four other financial institutions (Note 8).

As of December 31, 2016, the Company has stand-by credit line agreements with Korea Development Bank and 9 other financial institutions for up to USD 50 million and ₩ 800,000 million.

As of December 31, 2016, the Company has agreements with Korea Development Bank and 8 other financial institutions in relation to industry facilities fund of up to ₩ 1,500,000 million, and the outstanding amount is ₩ 514,540 million.

As of December 31, 2016, the Company is either a defendant or a plaintiff in various legal actions arising from the normal course of business, and the major pending litigations are as follows:

(A) On March 17, 2008, the KNOC notified the Company to pay the excess refund of surcharge amounting to ₩ 32,009 million, which the Company recorded as other expenses and paid in 2008. The Company filed an objection to the Board of Audit and Inspection ("BAI"), but its request was overruled by BAI on March 13, 2012. The Company filed an administrative case at the Suwon District Court in June 2012 and the court ruled in the Company's favor in February 2014. The KNOC subsequently appealed to the Seoul High Court and the Company earned the favorable ruling by the Seoul High Court in January 2015. The KNOC appealed to the Supreme Court in February 2015, and the Supreme Court ruled in the Company's final favor in October 2016. The Company recorded the refund of surcharge and additional payment on refund amounting to ₩ 51,113 million as other income in 2016.

(B) The Company claimed additional refund regarding surcharge for the year of 2008 (₩ 7,961 million), which the Company did not claim on the grounds of the Board of Audit and Inspection's audit results on the KNOC. However, the KNOC rejected the Company's claim. The Company filed an administrative case at the Suwon District Court on April 18, 2013, for the cancellation of the decision by the KNOC and the court ruled in the Company's favor in January 2014, but the KNOC subsequently appealed to the Seoul High Court. The Company withdrew the case as KNOC refunded full surcharge amounting to ₩ 9,676 million in December 2016, and recorded as other income in 2016.

22. Share Capital and Share Premium

Share capital and share premium as of December 31, 2016 and 2015, are as follows:

(In millions of Korean won, except number of shares)	**Number of shares issued (Ordinary share)**	**Number of shares issued (Preferred share)**	**Ordinary share**	**Preferred share**	**Share premium**	**Total**
December 31, 2015	112,582,792	4,021,927	₩281,457	₩ 10,055	₩ 379,190	₩ 670,702
December 31, 2016	112,582,792	4,021,927	₩281,457	₩ 10,055	₩ 379,190	₩ 670,702

Under its Articles of Incorporation, the Company is authorized to issue 60 million shares of cumulative, participating preferred share that are non-voting and entitled to a minimum cash dividend at 9% of par value. As all of the preferred share as of December 31, 2016, was issued before March 27, 1998, it receives 1% more dividends over ordinary share under the Articles of Incorporation.

The Company is authorized to issue non-voting convertible stock up to 4 million shares. Each share of this non-voting convertible share was converted to one ordinary share. As of December 31, 2016, there is no outstanding convertible share issued by the Company.

The Company may grant options to purchase the Company's ordinary share to key employees or directors. The grant limit of the options is 15% of outstanding shares and the options may be granted with the special resolution of the shareholders. As of December 31, 2016, no option has been granted.

The Company is authorized to issue 180,000,000 shares of common stock with a par value of ₩2,500 per share and 112,582,792 shares are issued. The Company is authorized to issue 60,000,000 shares of cumulative, participating preferred share with par value of ₩2,500 per share and 4,021,927 preferred shares are issued.

23. Treasury Stock

As of December 31, 2016, the Company holds 184,080 treasury stock of preferred shares amounting to ₩ 1,876 million and is deducted from shareholders' equity. The Company intends to dispose of the treasury stock depending on the market conditions.

24. Retained Earnings

Retained earnings as of December 31, 2016 and 2015, consist of:

(In millions of Korean won)		2016		2015
Legal reserve				
Earned surplus reserve [1]	₩	145,756	₩	145,756
Discretionary reserve				
Reserve for improvement of financial structure		55,700		55,700
Reserve for business rationalization		103,145		103,145
Reserve for market development		2,294,198		2,286,198
		2,453,043		2,445,043
Revaluation reserve		984,648		984,648
Unappropriated retained earnings (accumulated deficit)		1,161,959		167,676
	₩	4,745,406	₩	3,743,123

[1] The Commercial Code of the Republic of Korea requires the Company to appropriate, as a legal reserve, an amount equal to a minimum of 10% of annual cash dividends paid, until such reserve equals 50% of its issued capital stock. As the Company's reserve exceeds 50% of its issued capital stock, additional reserve is unnecessary. The reserve is not available for cash dividends payment, but may be transferred to capital stock or used to reduce accumulated deficit.

Year-end cash dividends for 2015 amounting to ₩ 146,358 million for ordinary share and ₩ 5,085 million for preferred share were paid out in April 2016 (Dividends paid in 2015: ₩ 96 million for preferred share).

In accordance with the Articles of Incorporation, on July 21, 2016, the Board of Directors declared interim cash dividends of ₩ 500 per share on June 30, 2016.

(In millions of Korean won, except number of shares)

	Number of shares issued	Amount	Dividend rate	Cash Dividends
Ordinary share	112,582,792	281,457	20%	56,291
Preferred share[1]	3,837,847	9,595	20%	1,919
	116,420,639	291,052		58,210

[1] The number of treasury stocks are excluded from the number of shares issued.

Year-end cash dividends for 2016 are ₩ 5,700 per ordinary share and ₩ 5,725 per preferred share, and total cash dividends amounting to ₩ 641,722 million for ordinary share and ₩ 21,972 million for preferred share will be proposed to shareholders' meeting on March 30, 2017. These dividends payables were not recognized in the consolidated financial statement as of December 31, 2016.

25. Reserves

Changes in reserves for the years ended December 31, 2016 and 2015, are as follows:

(In millions of Korean won)	Gain on disposal of treasury stocks	Changes in the fair value of available-for- sale financial assets	Share of other comprehensive income of associate and jointly controlled entity	Unrealized translation gains (losses) on foreign operation	Total
Balance at January 1, 2016	₩ 952,311	₩ 17,438	₩ 3	₩ 8,216	₩ 977,968
Available-for-sale assets	-	(646)	-	-	(646)
Currency translation difference	-	-	-	31	31
Balance at December 31, 2016	₩ 952,311	₩ 16,792	₩ 3	₩ 8,247	₩ 977,353
Balance at January 1, 2015	₩ 952,311	₩ 17,322	₩ 24	₩ 8,155	₩ 977,812
Available-for-sale assets	-	116	-	-	116
Currency translation difference	-	-	-	61	61
Share of other comprehensive income of jointly controlled entity	-	-	(21)	-	(21)
Balance at December 31, 2015	₩ 952,311	₩ 17,438	₩ 3	₩ 8,216	₩ 977,968

26. Cost of Sales

Cost of sales for the years ended December 31, 2016 and 2015, consists of:

(In millions of Korean won)	2016	2015
Beginning balance of merchandise and finished goods	₩ 333,667	₩ 628,263
Purchases of merchandise	959,851	966,408
Manufacturing cost for the year	14,612,822	16,734,475
Transfer from other accounts	21,594	-
Transfer to other accounts	(758,678)	(875,516)
Ending balance of merchandise and finished goods	(502,142)	(333,667)
Adjustments	(646,222)	(681,190)
	₩ 14,020,892	₩ 16,438,773

27. Selling and Administrative Expenses

Selling and administrative expenses for the years ended December 31, 2016 and 2015, are as follows:

(In millions of Korean won)	Selling expenses		Administrative expenses	
	2016	**2015**	**2016**	**2015**
Salaries	₩ 58,367	₩ 56,012	₩ 30,984	₩ 29,753
Post-employment Benefits	9,338	7,698	4,933	4,164
Employee Benefits	41,840	39,416	19,950	18,885
Training Expenses	69	59	2,256	2,310
Travel Expenses	2,715	2,509	1,177	1,444
Miscellaneous Administrative Expenses	815	823	447	432
Communication Expenses	1,742	1,500	1,421	1,137
Vehicles Maintenance Expenses	445	421	344	362
Utility Expenses	1,082	1,050	862	774
Rental Expenses	8,408	6,992	2,383	1,689
Service expenses for oil storages	26,755	21,680	-	-
Service Fees	12,336	13,126	2,657	2,283
Entertainment Expenses	1,209	1,419	1,728	2,161
Export Expenses	176,008	158,413	-	-
Repairs and Maintenance Expenses	6,033	8,352	4,076	2,393
Supplies Expenses	76	64	3	2
Chemicals Expenses	285	272	-	-
Outsourcing Fees	11,303	13,578	12,219	8,979
Promotional and Advertising Expenses	25,554	24,365	7,195	6,941
Freight Expenses	163,882	150,457	-	-
Insurance Premium	3,059	3,109	112	112
Taxes and Dues	5,040	2,822	5,544	7,474
Depreciation Expenses	19,133	17,618	2,267	2,762
Amortization Expenses	642	1,002	5,669	5,392
Impairment loss (Reversal of provision for impairment)	243	(174)	-	-
Others	266	262	1,190	1,601
Total	₩ 576,645	₩ 532,845	₩ 107,417	₩ 101,050

28. Other Income and Expenses

Other income and expenses for the years ended December 31, 2016 and 2015, are as follows:

Other income

(In millions of Korean won)	2016	2015
Gain from disposal of property, plant and equipment	₩ 1,476	₩ 1,036
Dividend income	798	-
Reversal of allowance for bad debts	-	1
Others	81,287	77,935
Gain on foreign currency transactions	289,195	270,351
Gain on foreign currency translation	15,216	6,463
Gain on derivative transactions	96,369	112,628
Gain on valuation of derivatives	2,078	17,302
Total	₩ 486,419	₩ 485,716

Other expenses

(In millions of Korean won)	2016	2015
Loss on disposal of property, plant and equipment	₩ 3,197	₩ 2,157
Donations	22,787	5,070
Others	5,140	5,779
Loss on foreign currency transactions	291,598	294,766
Loss on foreign currency translation	21,983	4,065
Loss on derivative transactions	79,459	63,874
Loss on valuation of derivatives	50,873	11,081
Loss on disposal of available-for-sale financial instruments	-	6,079
Total	₩ 475,037	₩ 392,871

29. Finance Income and Costs

Finance income and costs for the years ended December 31, 2016 and 2015, consist of the following:

Finance income

(In millions of Korean won)	2016	2015
Interest income	₩ 54,520	₩ 34,962
Gain on foreign currency transactions	130,486	106,866
Gain on foreign currency translation	-	4,135
Total	₩ 185,006	₩ 145,963

Finance costs

(In millions of Korean won)	2016	2015
Interest expenses[1]	₩ 56,306	₩ 35,822
Loss on foreign currency transactions	96,465	200,559
Loss on foreign currency translation	92,059	17,099
Total	₩ 244,830	₩ 253,480

[1] Interest expenses exclude capitalized borrowing costs on qualifying assets (Note 14).

30. Deferred Income Tax and Income Tax Expense

Income tax expense for the years ended December 31, 2016 and 2015, consists of:

(in millions Korean won)	2016	2015
Current tax		
Current tax on profit for the year	₩ 375,510	₩ 52,113
Adjustments in respect of prior years	178	(34)
Total current tax	375,688	52,079
Deferred tax		
Origination and reversal of temporary differences	(5,956)	129,330
Income tax expense	₩ 369,732	₩ 181,409

Reconciliation between profit before income taxes and income tax expense for the years ended December 31, 2016 and 2015, is as follows:

(In millions of Korean won)	2016	2015
Profit before income tax	₩ 1,575,096	₩ 812,731
Income tax expense based on statutory rate	₩ 380,712	₩ 196,322
Income not subject to tax	(1,448)	(10,163)
Expenses not deductible for tax purposes	3,999	1,915
Adjustments in respect of prior years	178	(34)
Tax credit and others	(13,709)	(6,631)
Income tax expense	₩ 369,732	₩ 181,409

The weighted average applicable tax rate was 24.17 % in 2016 (2015: 24.16 %).

Income tax effects related to components of other comprehensive income for the years ended December 31, 2016 and 2015, are as follows:

(in millions Korean won)	2016		
	Before tax	Tax effect	After tax
Change in the fair value of available-for-sale financial assets	₩ (852)	₩ 206	₩ (646)
Share of other comprehensive income of jointly controlled entity	-	-	-
Currency translation differences	42	(11)	31
Remeasurements of net defined benefit liabilities	8,670	(2,098)	6,572
Total	₩ 7,860	₩ (1,903)	₩ 5,957

(in millions Korean won)	2015		
	Before tax	Tax effect	After tax
Change in the fair value of available-for-sale financial assets	₩ 153	₩ (37)	₩ 116
Share of other comprehensive income of jointly controlled entity	(27)	6	(21)
Currency translation differences	81	(20)	61
Remeasurements of net defined benefit liabilities	(29,578)	7,159	(22,419)
Total	₩ (29,371)	₩ 7,108	₩ (22,263)

The analysis of deferred tax assets and deferred tax liabilities as of December 31, 2016 and 2015, is as follows:

(In millions of Korean won)		**2016**		**2015**
Deferred tax assets				
Deferred tax asset to be recovered after more than 12 months	₩	31,953	₩	37,195
Deferred tax asset to be recovered within 12 months		45,664		32,743
		77,617		69,938
Deferred tax liabilities				
Deferred tax liability to be recovered after more than 12 months		(201,477)		(202,326)
Deferred tax liability to be recovered within 12 months		(20,180)		(15,705)
		(221,657)		(218,031)
Deferred tax liabilities, net	₩	(144,040)	₩	(148,093)

The gross movements on the deferred income tax account for the years ended December 31, 2016 and 2015, are as follows:

(In millions of Korean won)		**2016**		**2015**
Beginning balance	₩	(148,093)	₩	(25,871)
Tax charged to income		5,956		(129,330)
Tax charged to equity		(1,903)		7,108
Ending balance	₩	(144,040)	₩	(148,093)

Changes in the deferred income taxes assets and liabilities for the years ended December 31, 2016 and 2015, are as follows:

(In millions of Korean won)	**2016**							
		Beginning Balance		**Income**		**Other comprehensive income**		**Ending Balance**
Depreciation	₩	9,581	₩	(2,383)	₩	-	₩	7,198
Loss on impairment of investments		446		-		-		446
Salaries and wages payable		14,449		4,882		-		19,331
Accrued liabilities		8,266		(863)		-		7,403
Subsidiary and jointly controlled entities		(1,930)		552		-		(1,378)
Gain (loss) on valuation of derivative instruments		(3,393)		11,432		-		8,039
Loss on impairment of property, plant and equipment		1,395		(48)		-		1,347
Customs duties receivable		(8,229)		(532)		-		(8,761)
Accrued interest income		(1,655)		(2,541)		-		(4,196)
Net defined benefit liabilities		(2,585)		(4,686)		-		(7,271)
Employee benefits		6,356		453		-		6,809
Revaluation of lands		(189,579)		58		-		(189,521)
Others		2,057		(368)		-		1,689
Change in value of available-for-sale assets		(5,568)		-		206		(5,362)
Currency translation differences and share of other comprehensive income of associate and jointly controlled entity		(2,552)		-		(11)		(2,563)
Remeasurements of net defined benefit liabilities		24,848		-		(2,098)		22,750
Total	₩	(148,093)	₩	5,956	₩	(1,903)	₩	(144,040)

(In millions of Korean won)	2015			
	Beginning Balance	**Income**	**Other comprehensive income**	**Ending Balance**
Depreciation	₩ 11,188	₩ (1,607)	₩ -	₩ 9,581
Loss on impairment of investments	446	-	-	446
Salaries and wages payable	-	14,449	-	14,449
Accrued liabilities	8,128	138	-	8,266
Subsidiary and jointly controlled entities	(914)	(1,016)	-	(1,930)
Available-for-sale financial assets	63,104	(63,104)	-	-
Gain (loss) on valuation of derivative instruments	82	(3,475)	-	(3,393)
Loss on impairment of property, plant and equipment	1,444	(49)	-	1,395
Customs duties receivable	(26,904)	18,675	-	(8,229)
Accrued interest income	(593)	(1,062)	-	(1,655)
Net defined benefit liabilities	691	(3,276)	-	(2,585)
Employee benefits	6,802	(446)	-	6,356
Revaluation of lands	(189,723)	144	-	(189,579)
Others	2,599	(542)	-	2,057
Change in value of available-for-sale assets	(5,531)	-	(37)	(5,568)
Currency translation differences and share of other comprehensive income of associate and jointly controlled entity	(2,538)	-	(14)	(2,552)
Remeasurements of net defined benefit liabilities	17,689	-	7,159	24,848
Tax loss carryforwards	87,692	(87,692)	-	-
Tax credit carryforwards	467	(467)	-	-
Total	₩ (25,871)	₩ (129,330)	₩ 7,108	₩ (148,093)

31. Expenses by Nature

Expenses by nature for the years ended December 31, 2016 and 2015, are as follows:

(In millions of Korean won)	**2016**	**2015**
Raw materials used	₩ 12,488,826	₩ 14,365,993
Changes in inventories of finished goods, work in-progress and merchandise	(186,937)	320,291
Employee benefit expense	310,921	280,761
Utility expenses	973,994	1,072,250
Depreciation and amortization	286,746	273,191
Freight expenses	163,881	150,457
Advertising costs	18,060	18,115
Other expenses	649,463	591,610
Total cost of sales, selling and administrative expenses	₩ 14,704,954	₩ 17,072,668

32. Employee Benefit Expense

Details of employee benefit expense for the years ended December 31, 2016 and 2015, consist of:

(In millions of Korean won)		**2016**		**2015**
Wages and salaries	₩	256,549	₩	237,669
Social security costs		23,722		20,352
Post-employment benefits – Pension costs for defined benefit plans		34,571		28,495
Post-employment benefits – Pension costs for defined contribution plans		8,355		3,821
Total	₩	323,197	₩	290,337

33. Earnings per Share

Basic earnings per ordinary share is calculated by dividing the profit attributable to ordinary shareholders of the Company by the weighted average number of ordinary shares during the year. As the Company's preferred shares are participating shares with right to participate in distribution of earnings, earnings per share on preferred share is also calculated.

Basic earnings per ordinary share for the years ended December 31, 2016 and 2015, is calculated as follows:

(In millions of Korean won, except per share data and number of shares)		**2016**		**2015**
Profit for the year	₩	1,205,364	₩	631,322
Adjustments:				
Dividends for preferred share		(96)		(96)
Additional dividends for preferred share		(39,732)		(20,808)
Profit attributable to ordinary share shareholders		1,165,536		610,418
Weighted average number of shares of ordinary share		112,582,792		112,582,792
Basic earnings per ordinary share	₩	10,353	₩	5,422

Basic earnings per preferred share for the years ended December 31, 2016 and 2015, is calculated as follows:

(In millions of Korean won, except per share data and number of shares)		**2016**		**2015**
Profit attributable to preferred share shareholders	₩	39,828	₩	20,904
Weighted average number of shares of preferred share[1]		3,837,847		3,837,847
Basic earnings per preferred share	₩	10,378	₩	5,447

[1] The 184,080 treasury shares are excluded in calculating weighted average number of shares of preferred share.

As there are no dilutive items outstanding, diluted earnings per share is identical to basic earnings per share.

34. Related Party Transactions

Details of related parties as of December 31, 2016 and 2015, are as follows:

	2016	2015
Ultimate parent company	Saudi Arabian Oil Company[1]	Saudi Arabian Oil Company[1]
Parent company	Aramco Overseas Co., B.V.	Aramco Overseas Co., B.V.
Subsidiary	S-International Ltd.	S-International Ltd.
Jointly controlled entity	S-OIL TOTAL Lubricants Co., Ltd.	S-OIL TOTAL Lubricants Co., Ltd.
Associate	Korea Oil Terminal Co., Ltd.	Korea Oil Terminal Co., Ltd.
Other related parties who have transactions with the Company	Saudi Aramco Products Trading Company[2]	Saudi Aramco Products Trading Company[2] Aramco Asia Japan[2]

[1] The ultimate parent of Aramco Overseas Co., B.V.

[2] Subsidiary of Saudi Arabian Oil Company

Significant transactions with related parties for the years ended December 31, 2016 and 2015, and the related receivables and payables as of December 31, 2016 and 2015, are as follows:

	Sales		Purchases	
(In millions of Korean won)	**2016**	**2015**	**2016**	**2015**
Ultimate parent company				
Saudi Arabian Oil Company [3]	₩ -	₩ -	₩ 10,350,775	₩ 11,396,568
Jointly controlled entity				
S-OIL TOTAL Lubricant Co., Ltd.	82,212	90,490	21,341	15,281
Other related parties				
Saudi Aramco Products Trading Company	1,690,496	1,898,713	660,179	484,085
Aramco Asia Japan	-	1	-	-
Korean Air Lines Co., Ltd. [4]	-	14,757	-	-
Total	₩ 1,772,708	₩ 2,003,961	₩ 11,032,295	₩ 11,895,934

	Receivables		Payables	
(In millions of Korean won)	**2016**	**2015**	**2016**	**2015**
Ultimate parent company				
Saudi Arabian Oil Company [3]	₩ -	₩ -	₩ 830,729	₩ 440,859
Jointly controlled entity				
S-OIL TOTAL Lubricant Co., Ltd.	2,098	318	2,021	2,020
Other related parties				
Saudi Aramco Products Trading Company	96,579	147,607	31,822	29,620
Korean Air Lines Co., Ltd. [4]	-	-	-	-
Total	₩ 98,677	₩ 147,925	₩ 864,572	₩ 472,499

[3] The Company is under a long-term purchasing agreement with Saudi Arabian Oil Company in relation with crude oil as of December 31, 2016 and 2015.

[4] As Hanjin Energy Co., Ltd. sold all of its equity shares to Aramco Overseas Co., B.V. on January 19, 2015, Hanjin Energy Co., Ltd. and Korean Air Lines Co., Ltd. were excluded as related parties as of December 31, 2015. Transactions with Korean Air Lines Co., Ltd. were included up to January 19, 2015.

Financial transactions with related parties for the years ended December 31, 2016 and 2015, are as follows:

	Amount of investment in cash		Dividends received		Dividends payments	
(In millions of Korean won)	**2016**	**2015**	**2016**	**2015**	**2016**	**2015**
Parent company						
Aramco Overseas Co., B.V.	₩ -	₩ -	₩ -	₩ -	₩ 129,139	₩ 78,922
Jointly controlled entity						
S-OIL TOTAL Lubricant Co., Ltd.	-	-	8,925	5,600	-	-
Associate						
Korea Oil Terminal Co., Ltd.	138	399	-	-	-	-
Total	₩ 138	₩ 399	₩ 8,925	₩ 5,600	₩ 129,139	₩ 78,922

The compensation to key management for employee services for the years ended December 31, 2016 and 2015, consists of:

(In millions of Korean won)	**2016**	**2015**
Short-term employee benefits	₩ 1,482	₩ 1,254
Post-employment benefits	162	173
Total	₩ 1,644	₩ 1,427

Key management consists of registered executive officers who have the authority and responsibility in the planning, directing and control over the Company's operations.

35. Cash Generated From Operations

Cash generated from operations for the years ended December 31, 2016 and 2015, is as follows:

(In millions of Korean won)	**2016**	**2015**
Profit for the year	₩ 1,205,364	₩ 631,322
Adjustments :		
Income tax expense	369,732	181,409
Depreciation expense	278,402	264,227
Amortization expense	8,344	8,964
Post-employment benefits	34,571	28,495
Reversal of allowance for bad debts	243	(174)
Interest expense	56,306	35,822
Loss on foreign currency translation	114,043	21,165
Loss on derivative transactions	79,459	63,874
Loss on valuation of derivatives	50,873	11,081
Loss on disposal of property, plant and equipment	3,197	2,157
Loss on disposal of available-for-sale financial assets	-	6,079
Loss on valuation of inventories	(125,871)	45,838
Share of loss of associate	243	232
Share of profit of jointly controlled entity	(6,892)	(10,031)
Interest income	(54,520)	(34,962)
Gain on foreign currency translation	(15,216)	(10,598)
Gain on disposal of property, plant and equipment	(1,476)	(1,036)
Gain on derivative transactions	(96,369)	(112,628)
Gain on valuation of derivatives	(2,078)	(17,302)
Reversal of allowance for bad debts	-	(1)
Dividend income	(798)	-
Others	2,271	354
Changes in net working capital :		
Trade receivables	(109,915)	493,338
Other receivables	80,735	330,370
Other current assets	2,213	(19,132)
Inventories	(698,859)	770,899
Trade payables	530,135	(249,106)
Other payables	57,590	261,984
Other liabilities	11,880	(30,326)
Net defined benefit liabilities	(58,559)	(86,272)
Provisions for other liabilities and charges	(2,875)	(208)
Deferred revenues	(581)	353
Cash generated from operations	₩ 1,711,592	₩ 2,586,187

Significant transactions not affecting cash flows for the years ended December 31, 2016 and 2015, are as follows:

(In millions of Korean won)	**2016**	**2015**
Reclassification of construction in-progress to property, plant and equipment and intangible assets	₩ 651,964	₩ 71,056
Current portion of long-term borrowings and debentures	357,268	5,484
Current portion of long-term loans receivable	14,407	24,149
Increase in other payables related to acquisition of property, plant and equipment	48,223	4,440
Reclassification of long-term advance payments to property, plant and equipment	128,606	-
Reclassification of long-term prepaid expenses to property, plant and equipment	2,750	-