

LG Chem, Ltd.

**Separate Financial Statements
December 31, 2016 and 2015**

LG Chem, Ltd.

Index

December 31, 2016 and 2015

	Page(s)
Independent Auditor's Report	1 - 2
Separate Financial Statements	
Separate Statements of Financial Position	3 - 4
Separate Statements of Profit or Loss	5
Separate Statements of Comprehensive Income	6
Separate Statements of Changes in Equity	7
Separate Statements of Cash Flows	8
Notes to the Separate Financial Statements	9 - 73
Report on Independent Accountants' Review of Internal Accounting Control System .	74 - 75
Report on the Operations of Internal Accounting Control System	76



Independent Auditor's Report

(English Translation of a Report Originally Issued in Korean)

To the Shareholders and Board of Directors of
LG Chem, Ltd.

We have audited the accompanying separate financial statements of LG Chem, Ltd.(the Company), which comprise the separate statements of financial position as at December 31, 2016 and 2015, and the separate statements of profit or loss, separate statements of comprehensive income, separate statements of changes in equity and separate statements of cash flows for the years then ended, and notes to the separate financial statements, including a summary of significant accounting policies and other explanatory information.

Management's Responsibilities for the Financial Statements

Management is responsible for the preparation and fair presentation of the separate financial statements in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS), and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibilities

Our responsibility is to express an opinion on the separate 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 separate financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the separate financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the separate financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the separate 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 entity's internal control. 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 separate 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 separate financial statements present fairly, in all material respects, the separate financial position of LG Chem, Ltd. as at December 31, 2016 and 2015, and its separate financial performance and its separate 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.

Seoul, Korea

March 8, 2017

This report is effective as of March 8, 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 separate 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.

LG Chem, Ltd.
Separate Statements of Financial Position
December 31, 2016 and 2015

<i>(in millions of Korean won)</i>	Notes	2016	2015
Assets			
Current assets			
Cash and cash equivalents	3, 5, 6	956,068	1,423,061
Trade receivables	3, 5, 7, 32	3,010,529	2,745,514
Other receivables	3, 5, 7, 32	911,656	1,162,967
Other current financial assets	3, 5, 8, 9	-	93
Other current assets	14	129,154	80,793
Inventories	10	1,775,011	1,695,482
Assets held for sale	36	2,306	6,500
Total current assets		6,784,724	7,114,410
Non-current assets			
Other receivables	3, 5, 7	112,686	55,024
Other financial assets	3, 5, 8	18,785	13,813
Investments in subsidiaries	11	1,951,067	1,015,354
Investments in associates and joint ventures	11	203,290	245,674
Deferred income tax assets	29	20,930	-
Property, plant and equipment	12	7,268,225	7,429,799
Intangible assets	13	397,453	337,853
Investment properties	12	1,039	-
Other non-current assets	14	17,695	19,669
Total non-current assets		9,991,170	9,117,186
Total assets		16,775,894	16,231,596
Liabilities			
Current liabilities			
Trade payables	3, 5, 32	1,091,037	850,086
Other payables	3, 5, 32	949,711	839,884
Borrowings	3, 5, 15	650,808	1,133,004
Provisions	16	35,243	9,460
Income tax payables		199,121	321,683
Other current liabilities	3, 5, 18	212,843	258,488
Total current liabilities		3,138,763	3,412,605
Non-current liabilities			
Other payables	3, 5	11,644	551
Borrowings	3, 5, 15	30,272	233,859
Provisions	16	42,986	24,535
Net defined benefit liabilities	17	46,390	79,077
Deferred income tax liabilities	29	-	8,554
Other non-current liabilities	18	29,508	27,852
Total non-current liabilities		160,800	374,428
Total liabilities		3,299,563	3,787,033

LG Chem, Ltd.
Separate Statements of Financial Position
December 31, 2016 and 2015

<i>(in millions of Korean won)</i>	Notes	2016	2015
Equity			
Share capital	1, 20	369,500	369,500
Capital surplus		1,166,764	1,166,764
Other components of equity	22	(15,484)	(15,484)
Accumulated other comprehensive income		1,221	(591)
Retained earnings	21	11,954,330	10,924,374
Total equity		<u>13,476,331</u>	<u>12,444,563</u>
Total liabilities and equity		<u>16,775,894</u>	<u>16,231,596</u>

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

LG Chem, Ltd.
Separate Statements of Profit or Loss
Years Ended December 31, 2016 and 2015

<i>(in millions of Korean won, except per share amounts)</i>	Notes	2016	2015
Revenue	32	17,264,845	17,334,109
Cost of sales	24, 32	<u>(13,716,875)</u>	<u>(14,109,705)</u>
Gross profit		3,547,970	3,224,404
Selling and administrative expenses	23, 24, 32	<u>(1,734,725)</u>	<u>(1,604,312)</u>
Operating profit		1,813,245	1,620,092
Finance income	5, 26	235,822	237,923
Finance costs	5, 26	(148,051)	(138,579)
Other non-operating income	5, 27, 36	461,469	523,025
Other non-operating expenses	5, 28, 36	<u>(618,411)</u>	<u>(716,013)</u>
Profit before income tax	33	1,744,074	1,526,448
Income tax expense	29	<u>(364,485)</u>	<u>(322,593)</u>
Profit for the period		<u>1,379,589</u>	<u>1,203,855</u>
Earnings per share for profit for the period (in won)	30		
Basic and diluted earnings per ordinary share		18,756	16,366
Basic and diluted earnings per preferred share		18,806	16,416

The above separate statements of profit or loss should be read in conjunction with the accompanying notes.

LG Chem, Ltd.
Separate Statements of Comprehensive Income
Years Ended December 31, 2016 and 2015

(in millions of Korean won)

	Notes	2016	2015
Profit for the period		<u>1,379,589</u>	<u>1,203,855</u>
Other comprehensive income			
<i>Items that will not be reclassified to profit or loss</i>			
Remeasurements of net defined benefit liability	17	(24,204)	(20,789)
Income tax relating to these items		5,858	5,031
<i>Items that may be subsequently reclassified to profit or loss</i>			
Changes in valuation of available-for-sale financial assets	8	2,392	(780)
Income tax relating to these items		(580)	189
Other comprehensive income for the period, net of tax		<u>(16,534)</u>	<u>(16,349)</u>
Total comprehensive income for the period		<u>1,363,055</u>	<u>1,187,506</u>

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

LG Chem, Ltd.
Separate Statements of Changes in Equity
Years Ended December 31, 2016 and 2015

<i>(in millions of Korean won)</i>	Notes	Share capital	Capital surplus	Other components of equity	Accumulated other comprehensive income	Retained earnings	Total equity
Balance at January 1, 2015		369,500	1,166,764	(15,484)	-	10,030,797	11,551,577
Comprehensive income							
Profit for the period		-	-	-	-	1,203,855	1,203,855
Remeasurements of net defined benefit liability	17	-	-	-	-	(15,758)	(15,758)
Changes in valuation of available-for-sale financial instruments		-	-	-	(591)	-	(591)
Total comprehensive income		-	-	-	(591)	1,188,097	1,187,506
Transactions with owners							
Dividends	31	-	-	-	-	(294,520)	(294,520)
Total transactions with owners		-	-	-	-	(294,520)	(294,520)
Balance at December 31, 2015		<u>369,500</u>	<u>1,166,764</u>	<u>(15,484)</u>	<u>(591)</u>	<u>10,924,374</u>	<u>12,444,563</u>
Balance at January 1, 2016		369,500	1,166,764	(15,484)	(591)	10,924,374	12,444,563
Comprehensive income							
Profit for the period		-	-	-	-	1,379,589	1,379,589
Remeasurements of net defined benefit liability	17	-	-	-	-	(18,346)	(18,346)
Changes in valuation of available-for-sale financial instruments		-	-	-	1,812	-	1,812
Total comprehensive income		-	-	-	1,812	1,361,243	1,363,055
Transactions with owners							
Dividends	31	-	-	-	-	(331,287)	(331,287)
Total transactions with owners		-	-	-	-	(331,287)	(331,287)
Balance at December 31, 2016		<u>369,500</u>	<u>1,166,764</u>	<u>(15,484)</u>	<u>1,221</u>	<u>11,954,330</u>	<u>13,476,331</u>

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

LG Chem, Ltd.
Separate Statements of Cash Flows
Years Ended December 31, 2016 and 2015

<i>(in millions of Korean won)</i>	Notes	2016	2015
Cash flows from operating activities			
Cash generated from operations	33	2,663,581	2,830,131
Interest received		38,351	30,945
Interest paid		(27,319)	(33,928)
Dividends received		76,364	96,747
Income taxes paid		(511,252)	(171,367)
Net cash inflow from operating activities		<u>2,239,725</u>	<u>2,752,528</u>
Cash flows from investing activities			
Decrease in other receivables		591,000	897,548
Decrease in other non-current receivables		19,551	15,202
Proceeds from disposal of investments in joint ventures		23,724	-
Proceeds from disposal of available-for-sale financial assets		41	2,991
Proceeds from disposal of property, plant and equipment		12,208	191,641
Proceeds from disposal of intangible assets		540	14,111
Increase in other receivables		(320,000)	(1,027,572)
Increase in other non-current receivables		(75,546)	(21,787)
Acquisition of investments in subsidiaries		(895,483)	(146,836)
Acquisition of investments in associates and joint ventures		(17,555)	(150)
Acquisition of available-for-sale financial assets		(2,601)	(11,626)
Acquisition of property, plant and equipment		(818,890)	(1,166,953)
Acquisition of intangible assets		(56,392)	(70,014)
Business combination, net of cash acquired	35	(133,810)	-
Net cash outflow from investing activities		<u>(1,673,213)</u>	<u>(1,323,445)</u>
Cash flows from financing activities			
Repayments of borrowings		(701,261)	(427,388)
Dividends		(331,300)	(294,531)
Net cash outflow from financing activities		<u>(1,032,561)</u>	<u>(721,919)</u>
Net increase(decrease) in cash and cash equivalents		(466,049)	707,164
Cash and cash equivalents at the beginning of the financial year		1,423,061	717,965
Effects of exchange rate changes on cash and cash equivalents		(944)	(2,068)
Cash and cash equivalents at the end of year in the separate statement of financial position		<u>956,068</u>	<u>1,423,061</u>

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

LG Chem, Ltd.

Notes to the Separate Financial Statements

December 31, 2016 and 2015

1. General Information

LG Chem, Ltd. (the Company) was spun off on April 1, 2001, from LG Chem Investment Ltd. (now LG Corp., formerly LG Chemical Ltd.).

As at December 31, 2016, the Company has its manufacturing facilities in Yeosu, Daesan, Ochang, Cheongju, Ulsan, Naju, Iksan, Paju and Gimcheon.

The Company is authorized to issue 292 million shares of ordinary shares with par value of ₩5,000 per share. As at December 31, 2016, the Company has issued 66,271,100 ordinary shares (₩331,356 million) and 7,628,921 preferred shares (₩38,144 million). The largest shareholder of the Company is LG Corp., which owns 33.53% of the Company's ordinary shares. Preferred shareholders have no voting rights but are entitled to receive dividends at a rate 1% more than those paid to ordinary shareholders.

2. Summary of Significant Accounting Policies

The principal accounting policies applied in the preparation of these separate 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 International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS). The accompanying separate 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 separate financial statements.

The separate 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 financial statements requires the use of critical accounting estimates. Management also needs to exercise judgement in 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 separate financial statements are disclosed in Note 4.

2.2 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 a material impact on the current period or any prior period and is not likely to affect future periods.

LG Chem, Ltd.

Notes to the Separate Financial Statements

December 31, 2016 and 2015

- Amendment to Korean IFRS 1001 *Presentation of Financial Statements*
- Amendments to Korean IFRS 1011 *Construction Contract*, Korean IFRS 1037 *Provisions, Contingent Liabilities and Contingent Assets* and Interpretation 2115 *Arrangements for Property Construction*
- Amendments to Korean IFRS 1016 *Property, Plant and Equipment*, and Korean IFRS 1041 *Agriculture*
- Amendments to Korean IFRS 1016 *Property, Plant and Equipment*, and Korean IFRS 1038 *Intangible assets*
- Amendment to Korean IFRS 1027 *Separate Financial Statements*
- Amendments to Korean IFRS 1110 *Consolidated Financial Statements*, Korean IFRS 1112 *Disclosures of Interests in Other Entities*, and Korean IFRS 1028 *Investments in Associates and Joint Ventures*
- Amendments to Korean IFRS 1111 *Joint Arrangement*
- Annual Improvements to Korean IFRS 2012-2014 Cycle

(b) New and amended standards not yet adopted

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.

- Korean IFRS 1109 Financial Instruments

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*. The Company will apply the standards for annual periods beginning on or after January 1, 2018.

The standard requires retrospective application with some exceptions. For example, an entity is not required to 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 *Financial Instruments* 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 Korean 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 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 is preparing for internal management process and is beginning to adjust accounting system for financial instruments reporting. Also, the Company is analyzing the financial effects of applying the standard.

- Korean IFRS 1115 Revenue from Contracts with Customers

LG Chem, Ltd.

Notes to the Separate Financial Statements

December 31, 2016 and 2015

The Company will apply Korean IFRS 1115 *Revenue from Contracts with Customers* issued on November 6, 2015 for annual reporting periods beginning on or after January 1, 2018. Earlier adoption is permitted under Korean IFRS. 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 will apply Korean IFRS 1115 *Revenue from Contracts with Customers* within annual reporting periods beginning on or after January 1, 2018.

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 at December 31, 2016, the Company is preparing for internal management process and is beginning to adjust accounting system in relation to implementation of Korean IFRS 1115. Also, the Company is analyzing the financial effects of applying the standard.

- Amendments to Korean IFRS 1007 *Statement of Cash Flows*
- Amendments to Korean IFRS 1012 *Income Tax*
- Amendments to Korean IFRS 1102 *Share-based Payment*

2.3 Subsidiaries, Joint Ventures, and Associates

The accompanying financial statements of the Company are the separate financial statements prepared in accordance with Korean IFRS 1027 *Separate Financial Statements*. Investments in subsidiaries, joint ventures and associates are recognized at acquisition cost based on its direct equity investments. At the date of transition from K-GAAP to Korean IFRS, the Company has used the K-GAAP carrying amount at the transition date as deemed cost. The Company recognizes dividend income from subsidiaries, joint ventures and associates in profit or loss when its right to receive the dividend is established.

2.4 Foreign Currency Translation

(a) Functional and presentation currency

Items included in the financial statements of each of the Company are measured using the currency of the primary economic environment in which each entity operates (the "functional currency"). The 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.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

Non-monetary items that are measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value was determined. Translation differences on assets and liabilities carried at fair value are reported as part of the fair value gain or loss. For example, translation differences on non-monetary assets and liabilities such as equities held at fair value through profit or loss are recognized in profit or loss as part of the fair value gain or loss and translation differences on non-monetary assets such as equities classified as available-for-sale financial assets are recognized in other comprehensive income.

2.5 Cash and Cash Equivalents

Cash and cash equivalents includes cash in hand, deposits held at call with banks, other short-term highly liquid investments with original maturities of three months or less.

2.6 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 for more than 3 months 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 significantly or prolonged decline is considered an objective evidence of impairment.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

(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 (Note 15).

2.7 Derivative Financial Instruments

Derivatives are initially recognized at fair value on the date when a derivative contract is entered into and are subsequently re-measured at their fair value at the end of each reporting period. Changes in the fair value of any derivative instrument that does not qualify for hedge accounting are recognized immediately in profit or loss within 'other non-operating income (expenses)' or 'finance income (costs)' based on the nature of transactions.

2.8 Inventories

Inventories are stated at the lower of cost and net realizable value. Cost is determined using weighted average cost method, except for goods in transit which is determined using the specific identification method.

2.9 Assets Held for sale

Assets are classified as held for sale when their carrying amount will be recovered principally through a sale transaction rather than through continuing use and a sale is considered highly probable. The assets are measured at the lower amount between their carrying amount and the fair value less costs to sell.

2.10 Property, Plant and Equipment

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

Depreciation of all property, plant and equipment, except for land, is calculated using the straight-line method to allocate their cost or revalued amounts, net of their residual values, over their estimated useful lives as follows:

	Useful lives
Buildings	25 - 50 years
Structures	15 - 50 years
Machinery	4 - 15 years
Others	1-6 years

The assets' depreciation method, residual values and useful lives are reviewed, and adjusted if appropriate, at the end of each reporting period.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

2.11 Investment Property

Investment property is property held to earn rentals or for capital appreciation or both. An investment property is measured initially at its cost. An investment property is measured after initial measurement at depreciated cost (less any accumulated impairment losses.) The Company depreciates investment properties, except for land, using the straight-line method over their useful lives of 15 ~ 50 years.

2.12 Borrowing Costs

General and specific borrowing costs that are directly attributable to the acquisition, construction or production of a qualifying asset are capitalized during the period of time that is required to complete and prepare the asset for its intended use or sale. Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the borrowing costs eligible for capitalization. Other borrowing costs are expensed in the period in which they are incurred.

2.13 Government Grants

Grants from the government are recognized at their fair value where there is a reasonable assurance that the grant will be received and the Company will comply with all attached conditions. Government grants related to assets are presented in the statement of financial position either by deducting the grant in arriving at the carrying amount of the asset, and government grants related to costs are deferred and recognized in the profit or loss over the period necessary to match them with the costs that they are intended to compensate.

2.14 Intangible Assets

Goodwill is recognized as the excess of the aggregate of the consideration transferred and the fair value at acquisition date of the acquirer's previously held equity interest in the acquiree over the identifiable net assets acquired. Goodwill is carried at cost less accumulated impairment losses. Impairment losses on goodwill are not reversed.

Intangible assets, except for goodwill, are initially recognized at its historical cost, and carried at cost less accumulated amortization and accumulated impairment losses.

Software development costs that are directly attributable to internally generated by the Company are recognized when the criteria; such as, technically feasible, generate probable future economic benefits and other, are met. Membership rights that have an indefinite useful life are not subject to amortization because there is no foreseeable limit to the period over which the assets are expected to be utilized. The Company amortizes intangible assets with a limited useful life using the straight-line method over the following periods:

	Useful lives
Software development costs	3 - 6 years
Industrial property rights	5 - 15 years
Other intangible assets	6 - 20 years

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

2.15 Research and Development

Costs associated with research are recognized as an expense as incurred. Costs that are identifiable, controllable and directly attributable to development projects are recognized as intangible assets when the following criteria are met:

- It is technically feasible to complete the development project so that it will be available for use;
- Management intends to complete the development project for its own use or selling;
- There is an ability to use or sell the development project;
- It can be demonstrated how the development project will generate probable future economic benefits;
- Adequate technical, financial resources and other resources to complete the development and to use or sell the development project are available; and
- The expenditure attributable to the development project during its development can be reliably measured.

Other development expenditures that do not meet these criteria are recognized as an expense as incurred. Development costs previously recognized as an expense are not recognized as an asset in a subsequent period. Capitalized development costs that are recognized as intangible assets are amortized using the straight-line method over their estimated useful lives of three to six years when the assets are available for use and are tested for impairment.

2.16 Impairment of Non-financial Assets

Goodwill and intangible assets that have an indefinite useful life are not subject to amortization and are tested annually for impairment, or more frequently if events or changes in circumstances indicate that they might be impaired. Other assets are tested 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 of disposal and value in use. Non-financial assets other than goodwill that suffered an impairment are reviewed for possible reversal of the impairment at the end of each reporting period.

2.17 Financial Liabilities

(a) Classification and measurement

The Company's financial liabilities at fair value through profit or loss are financial instruments held for trading. A financial liability is held for trading if it is incurred principally for the purpose of repurchasing in the near term. A derivative that is not a designated as hedging instruments and an embedded derivative that is separated are also classified 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 present as 'trade payables', 'borrowings', and 'other payables' in the statement of financial position.

(b) Derecognition

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

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

2.18 Current and Deferred Tax

The tax expense for the period consists of current and deferred tax. Current and deferred tax is recognized in profit or loss, 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 measured at the amount expected to be paid to the taxation authorities, using the tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period.

Deferred income tax is provided in full, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the financial statements. However, deferred income tax is not accounted for if it arises from initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting nor taxable profit or loss.

Deferred tax assets are recognized only if it is probable that future taxable amounts will be available to utilize those temporary differences and losses.

The Company recognizes a deferred tax liability all taxable temporary differences associated with investments in subsidiaries, associates, and interests in joint arrangements, 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, The Company recognizes a deferred tax asset for all 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 and liabilities and when the deferred tax balances relate to the same taxation authority. Current tax assets and tax liabilities are offset where the entity has a legally enforceable right to offset and intends either to settle on a net basis.

2.19 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.

2.20 Greenhouse Gas Emissions Permits and Obligations

With enforcement of *The Act on the Allocation and Trading of Greenhouse Gas Emission Permits*, the permits that are received free of charge from the government are measured at zero while permits 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 permits 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 permits and emissions obligations are classified as intangible assets and provisions, respectively, in the statement of financial position.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

2.21 Employee Benefits

(a) Post-employment benefits

The Company operates both defined contribution and defined benefit pension plans. For defined contribution plans, the Company pays contribution to publicly or privately administered pension insurance plans on mandatory, contractual or voluntary basis. The Company has no further payment obligation once the contribution have been paid. The contribution are recognized as employee benefit expense when they are due.

A defined benefit plan is a pension plan that is not a defined contribution plan. Generally, post-employment benefits are payable after the completion of employment, and the benefit amount depended on the employee's age, periods of service or salary levels. The liability recognized in the 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 that are denominated in the currency in which the benefits will be paid, and that have terms approximating to the terms of the related obligation. Remeasurement gains and losses arising from experience adjustments and changes in actuarial assumptions are recognized in the period in which they occur, directly in other comprehensive income.

Changes in the present value of the defined benefit obligation resulting from plan amendments or curtailments are recognized immediately in profit or loss as past service costs.

(b) Other long-term employee benefits

Certain entities within the Company provide long-term employee benefits that are entitled to employees with service period for ten years and above. The expected costs of these benefits are accrued over the period of employment using the same accounting methodology as used for defined benefit pension plans. The Company recognizes service cost, net interest on other long-term employee benefits and remeasurements as profit or loss for the periods. These liabilities are valued annually by an independent qualified actuary.

2.22 Revenue Recognition

Revenue is measured at the fair value of the consideration received or receivable for the sale of goods or rendering of services arising from the normal course of the business. Amounts disclosed as revenue are net of value added taxes, returns, rebates and discounts and after elimination of inter-company transactions.

The Company recognizes revenue when the amount of revenue can be reliably measured, it is probable that future economic benefits will flow to the Company 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) Sales of goods

Sales of goods are recognized upon delivery of products to customers. The Company recognizes provisions for product warranties and sales returns based on reasonable expectation reflecting warranty obligation and sales return rates incurred historically.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

(b) Interest income

Interest income is recognized using the effective interest method according to the time passed. When a loan and receivable is impaired, the Company reduces the carrying amount to its recoverable amount and continues unwinding the discount as interest income. Interest income on impaired loans and receivables is recognized using the original effective interest rate.

(c) Dividend income

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

(d) Royalty income

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

2.23 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 not transferred to the Company are classified as operating leases. Payments made under operating leases are charge to profit or loss on a straight-line basis over the period of lease.

Leases where the Company, as lessee, has substantially all the risks and rewards of ownership are classified as finance leases. Finance leases are capitalized at the lease's inception at the fair value of the leased property or, if lower, the present value of the minimum lease payments. The corresponding rental obligations, net of finance charges, are included in other short-term and long-term payables. Each lease payment is allocated between the liability and finance cost.

If the Company is a lessor, a lease is classified as a finance lease if it transfers substantially all the risks and rewards incidental to ownership at the inception of the lease. A lease other than a finance lease is classified as an operating lease. Lease income from operating leases is recognized in income on a straight-line basis over the lease term. Initial direct costs incurred by the lessor in negotiating and arranging an operating lease is added to the carrying amount of the leased asset and recognized as an expense over the lease term on the same basis as the lease income.

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 financial performance of the Company. The Company uses derivative financial instruments to hedge certain risk exposures.

Risk management is carried out by the Company's finance team under policies approved by the Corporate Management Committee. The finance team identifies, evaluates and hedges financial risks in close co-operation with the Company's operating units. The Corporate Management Committee reviews and approves written principles for overall risk management, as well as written policies covering specific areas, such as foreign exchange risk, interest rate risk, credit

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

risk, use of derivative financial instruments and non-derivative financial instruments and investment of excess liquidity.

(1) Market risk

1) Foreign exchange risk

The Company operates internationally and is exposed to foreign exchange risk arising from foreign currency transactions, primarily with respect to the US dollar. Foreign exchange risk arises from future commercial transactions, recognized assets and liabilities.

Management has set up a policy to require group companies to manage their foreign exchange risk against their functional currency. The Company manages maximum loss for currency risk exposures within acceptable range by using currency risk management model and hires employees who are exclusively responsible for currency risk management.

As at December 31, 2016 and 2015, the Company's monetary assets and liabilities denominated in currencies other than its functional currency, are as follows:

<i>(in millions of Korean won)</i>	December 31, 2016		December 31, 2015	
	Assets	Liabilities	Assets	Liabilities
USD	2,032,309	1,161,129	2,038,570	1,607,772
EUR	179,890	82,631	156,576	117,176
JPY	28,495	101,451	16,408	102,051
GBP and others	66,069	6,977	47,505	6,473

As at December 31, 2016 and 2015, if the Company's functional currency had weakened / strengthened by 10% against the US dollar with all other variables held constant, profit before income tax would have been affected as follows:

<i>(in millions of Korean won)</i>	December 31, 2016		December 31, 2015	
	10% Increase	10% Decrease	10% Increase	10% Decrease
USD	87,118	(87,118)	43,080	(43,080)

The above sensitivity analysis has been performed for monetary assets and liabilities denominated in foreign currencies other than the Company's functional currency at the reporting date.

2) Price risk

The Company is exposed to equity securities price risk arises from investments held by the Company and classified in the separate statement of financial position either as available-for-sale or at fair value through profit or loss. The Company's equity investments are publicly traded and are related to the KOSPI index.

The table below summarizes the impact of increases/decreases of the listed stock price index on the Group's equity before tax effects as at December 31, 2016 and 2015. The analysis is based on the assumption that the equity index has increased/decreased by 10% with all other variables held constant, and that all the Group's equity instruments moved in line with the index.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

<i>(in millions of Korean won)</i>	December 31, 2016		December 31, 2015	
	10% Increase	10% Decrease	10% Increase	10% Decrease
KOSPI	1,134	(1,134)	1,067	(1,067)

3) Interest rate risk

Interest rate risk is defined as the risk that the interest income or expenses arising from deposits and borrowings will fluctuate because of changes in future market interest rate. The interest rate risk mainly arises on floating rate deposits and borrowings. The objective of interest rate risk management lies in maximizing corporate value by minimizing uncertainty in interest rates fluctuations and net interest expense.

The Company adequately minimizes risks from interest rate fluctuations through various policies, such as sharing excess cash within the Company (internal cash sharing) to minimize external borrowings, avoiding high rate borrowings, reforming capital structure, managing an appropriate ratio of fixed rate borrowings and floating rate borrowings, monitoring a fluctuation of domestic and foreign interest rates daily, weekly and monthly, establishing alternatives, and balancing floating rate short-term borrowings with floating rate deposits.

The table below summarizes the impact of increases/decreases of interest rate on the Company's equity and post-tax profit for the period. The analysis is based on the assumption that the interest rate has increased/decreased by 1% (100 basis points) with all other variables held constant.

<i>(in millions of Korean won)</i>	Impact on post-tax profit		Impact on equity	
	2016	2015	2016	2015
Increase	(3,380)	(7,794)	(3,380)	(7,794)
Decrease	3,380	7,794	3,380	7,794

(2) Credit risk

Credit risk arises from cash and cash equivalents, derivative financial instruments and deposits with banks and financial institutions, as well as credit exposures to wholesale and retail customers, including outstanding receivables and committed transactions.

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

<i>(in millions of Korean won)</i>	December 31, 2016		
	Amount before provision	Provision for impairment	Book amount (maximum exposure)
Loans and receivables (excluding cash on hand)	4,997,792	(6,893)	4,990,899
Financial assets at fair value through profit or loss	-	-	-
Total	4,997,792	(6,893)	4,990,899

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

(in millions of Korean won)

	December 31, 2015		
	Amount before provision	Provision for impairment	Book amount (maximum exposure)
Loans and receivables (excluding cash on hand)	5,392,170	(5,635)	5,386,535
Financial assets at fair value through profit or loss	93	-	93
Total	5,392,263	(5,635)	5,386,628

Details of financial guarantees provided by the Company are disclosed in Notes 3.1.(3) and 19.

The Company has established the following policies and procedures to manage credit risks.

To manage credit risks relating to trade receivables, the Company evaluates the credit rating of customers and determines credit limit for each customer based on the information provided by credit rating agencies and other available financial information before commencing business with customers. The credit risks relating to trade receivables are also mitigated by insurance contracts, collaterals as well as payment guarantees.

The Company has entered into export insurance contracts with Korea Trade Insurance Corporation to mitigate credit risks relating to export trade receivables to overseas customers. The Company is also provided with collaterals by customers depending on their credit rating or payment guarantees from the customers' financial institutions as necessary.

The Company has deposited its cash and cash equivalents, and other long-term deposits in several financial institutions, such as Woori Bank and others. The Company has also entered into derivative contracts with several financial institutions. The Company maintains business relationship with those financial institutions with high credit ratings evaluated by independent credit rating agencies and accordingly, credit risks associated with these financial institutions are limited.

(3) Liquidity risk

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 (where applicable) on any of its borrowing facilities. The Company's liquidity management policy involves projecting cash flows in major currencies and considering the level of liquid assets necessary to meet these, monitoring balance sheet liquidity ratios against internal and external regulatory requirements and maintaining debt financing plans.

- 1) The table below analyzes the Company's non-derivative financial liabilities into relevant maturity groupings based on the remaining period at the reporting date to the contractual maturity date. Cash flows presented below are gross cash flows before discount, and includes cash flows for interests.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

(in millions of Korean won)

	December 31, 2016			
	Less than 1 year	Between 1-2 years	Between 2-5 years	Over 5 years
Borrowings (excluding finance lease liabilities)	648,022	-	-	-
Finance lease liabilities	5,000	5,000	15,000	15,000
Trade and other payables	2,040,748	10,194	1,450	-
Total	2,693,770	15,194	16,450	15,000

(in millions of Korean won)

	December 31, 2015			
	Less than 1 year	Between 1-2 years	Between 2-5 years	Over 5 years
Borrowings (excluding finance lease liabilities)	1,140,458	202,055	-	-
Finance lease liabilities	5,000	5,000	15,000	20,000
Trade and other payables	1,689,970	551	-	-
Total	2,835,428	207,606	15,000	20,000

2) The company has no derivatives contracts as at December 31, 2016. The table below analyzes the derivatives into relevant maturity groupings based on the remaining maturity as at December 31, 2015.

(in millions of Korean won)

	December 31, 2015			
	Less than 1 year	Between 1-2 years	Between 2-5 years	Over 5 years
Gross settled derivatives				
Trading derivatives inflow	23,533	-	-	-
Trading derivatives outflow	(23,440)	-	-	-
Total	93	-	-	-

3) The table below analyzes the Company's financial guarantee contracts into relevant maturity groupings based on the remaining maturity as at the reporting date to the contractual maturity date.

(in millions of Korean won)

	December 31, 2016			
	Less than 1 year	Between 1-2 years	Between 2-5 years	Over 5 years
Financial guarantee contracts ¹	120,850	-	-	-

(in millions of Korean won)

	December 31, 2015			
	Less than 1 year	Between 1-2 years	Between 2-5 years	Over 5 years
Financial guarantee contracts ¹	179,642	-	-	-

¹ The Company has provided financial guarantee for subsidiaries. The amount represented the maximum amount of the guarantee as at December 31, 2016 and 2015, in which the guarantee could be called (Note 19).

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

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 stakeholders and to maintain an optimal capital structure to reduce the cost of capital.

Consistent with others in the industry, the Company monitors capital on the basis of the gearing ratio. This ratio is calculated as net debt divided by total capital. Net debt is calculated as total borrowings less cash and cash equivalents. Total capital is calculated as 'equity' as shown in the statement of financial position plus net debt.

The gearing ratios and debt-to-equity ratios at December 31, 2016 and 2015 were as follows:

<i>(in millions of Korean won, except for ratios)</i>	December 31, 2016	December 31, 2015
Total borrowings (Note 15) (A)	681,080	1,366,863
Less: cash and cash equivalents (B)	(956,068)	(1,423,061)
Net debt (C=A+B)	<u>(274,988)</u>	<u>(56,198)</u>
Total liabilities (D)	3,299,563	3,787,033
Total equity (E)	<u>13,476,331</u>	<u>12,444,563</u>
Total capital (F=C+E)	<u>13,201,343</u>	<u>12,388,365</u>
Gearing ratio (C/F)	-	-
Debt-to-equity ratio (D/E)	24.5%	30.4%

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

3.3 Fair Value

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

<i>(in millions of Korean won)</i>	December 31, 2016		December 31, 2015	
	Carrying amount	Fair value	Carrying amount	Fair value
Financial assets (current)				
Cash and cash equivalents	956,068	1	1,423,061	1
Deposits held by financial institutions	710,000	1	981,000	1
Trade receivables	3,010,529	1	2,745,514	1
Other receivables (excluding deposits held by financial institutions)	201,656	1	181,967	1
Derivative financial instruments	-	-	93	93
Financial assets (non-current)				
Deposits held by financial institutions	63,420	1	18,120	1
Other non-current receivables (excluding deposits held by financial institutions)	49,266	1	36,904	1
Other non-current financial assets (carried at cost)	7,169	2	4,567	2
Other non-current financial assets (carried at fair value)	11,616	11,616	9,246	9,246
Financial liabilities (current)				
Trade and other payables	2,040,748	1	1,689,970	1
Current Borrowings (excluding finance lease liabilities)	645,922	1	1,128,119	1
Current Finance lease liabilities	4,886	1	4,885	1
Other Current Liabilities (dividends Payable)	12	1	24	1
Financial liabilities (non-current)				
Non-current borrowings (excluding finance lease liabilities)	-	-	199,773	205,343
Non-current lease liabilities	30,272	31,411	34,086	35,361
Other non-current payables	11,644	1	551	1

¹ These financial assets and liabilities are not included in the disclosure above as their carrying amount is a reasonable approximation of their fair values.

² All other non-current financial assets of the Company consist of available-for-sale equity securities. Certain equity securities are measured at cost (2016: ₩7,169 million, 2015: ₩4,567 million) as the range of reasonable fair value estimates is significant and the probabilities of the various estimates cannot be reasonably assessed. These are not included in the disclosure above (Note 8). The Company does not have any plans to dispose of these available-for-sale equity securities in the near future.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

(2) Fair value for measurement and disclosure are determined based on the following method:

1) Derivative financial instruments

The Company determines derivative financial instruments based on current market conditions. These valuation techniques maximize the use of observable market data where it is available and rely as little as possible on entity specific estimates. The fair value of derivative financial instruments is determined using forward exchange rates at the end of the reporting period with the resulting value discounted back to present value.

2) Financial liabilities (non-current)

Fair values of financial liabilities(non-current) are based on cash outflows discounted using Korean won currency note yield in the same credit grade with the Company (AA+), and the applied discount rates as at December 31, 2016 and 2015, are as follows:

<i>(in percentage)</i>	December 31, 2016	December 31, 2015
Discount rate	1.63%~2.57%	1.88%~2.60%

(3) Fair Value Hierarchy

Items that are measured at fair value or for which the fair value is disclosed are categorized by the fair value hierarchy levels, 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 instruments that are measured at fair value or its fair value is disclosed as at December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	December 31, 2016			
	Level 1	Level 2	Level 3	Total
Financial assets/liabilities measured at fair value				
Other non-current financial assets (carried at fair value)	11,616	-	-	11,616
Financial assets/liabilities not measured at fair value				
Non-current finance lease liabilities	-	31,411	-	31,411

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

<i>(in millions of Korean won)</i>	December 31, 2015			
	Level 1	Level 2	Level 3	Total
Financial assets/liabilities measured at fair value				
Derivative financial instruments	-	93	-	93
Other non-current financial assets (carried at fair value)	9,246	-	-	9,246
Financial assets/liabilities not measured at fair value				
Non-current borrowings (excluding finance lease liabilities)	-	205,343	-	205,343
Non-current finance lease liabilities	-	35,361	-	35,361

4. Critical Accounting Estimates and Assumptions

The preparation of financial statements requires the Company makes estimates and assumptions concerning the future. The estimates and judgments 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.

(1) Estimated impairment of goodwill

The Company tests whether goodwill has suffered any impairment on an annual basis. The recoverable amount of a cash generating unit (CGU) is determined based on value-in-use calculations (Note 13).

(2) Income taxes

The Company recorded, based on its best estimate, current taxes and deferred taxes that the Company will be liable in the future for the operating results as at the financial year end. However, the final tax outcome in the future may be different from the amounts that were initially recorded. Such differences will impact the current and deferred tax assets and liabilities in the period in which such determination is made (Note 29).

If certain portion of the taxable income is not used for investments or 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 tax system. As the Company's income tax is dependent on the investments, increase in wages and dividends, there is an uncertainty measuring the final tax effects.

(3) Provisions

The Company recognizes provisions for product warranties and estimated returns as explained in Note 16. These provisions are estimated based on past experience.

(4) Net defined benefit liability

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 17).

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

5. Financial Instruments by Category

Categorizations of financial instruments as at December 31, 2016 and 2015, are as follows:

(in millions of Korean won)

Financial assets	December 31, 2016			Total
	Loans and receivables	Financial assets at fair value through profit or loss	Available-for-sale financial assets	
Cash and cash equivalents	956,068	-	-	956,068
Trade receivables	3,010,529	-	-	3,010,529
Other receivables	911,656	-	-	911,656
Other non-current receivables	112,686	-	-	112,686
Other non-current financial assets	-	-	18,785	18,785
Total	4,990,939	-	18,785	5,009,724

(in millions of Korean won)

Financial liabilities	December 31, 2016			Total
	Financial liabilities at fair value through profit or loss	Financial liabilities at amortized cost	Other financial liabilities ¹	
Trade payables	-	1,091,037	-	1,091,037
Other payables	-	949,711	-	949,711
Borrowings (current)	-	199,955	450,853	650,808
Other current liabilities (dividends payable)	-	12	-	12
Other non-current payables	-	11,644	-	11,644
Borrowings (non-current)	-	-	30,272	30,272
Total	-	2,252,359	481,125	2,733,484

(in millions of Korean won)

Financial assets	December 31, 2015			Total
	Loans and receivables	Financial assets at fair value through profit or loss	Available-for-sale financial assets	
Cash and cash equivalents	1,423,061	-	-	1,423,061
Trade receivables	2,745,514	-	-	2,745,514
Other receivables	1,162,967	-	-	1,162,967
Other current financial assets	-	93	-	93
Other non-current receivables	55,024	-	-	55,024
Other non-current financial assets	-	-	13,813	13,813
Total	5,386,566	93	13,813	5,400,472

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

(in millions of Korean won)

Financial liabilities	December 31, 2015			Total
	Financial liabilities at fair value through profit or loss	Financial liabilities at amortized cost	Other financial liabilities ¹	
Trade payables	-	850,086	-	850,086
Other payables	-	839,884	-	839,884
Borrowings (current)	-	99,911	1,033,093	1,133,004
Other current liabilities (dividends payable)	-	24	-	24
Other non-current payables	-	551	-	551
Borrowings (non-current)	-	199,773	34,086	233,859
Total	-	1,990,229	1,067,179	3,057,408

¹ Other financial liabilities are financial liabilities that are not subject to the categorizations such as finance lease liabilities and financial liabilities related to transfer transactions not qualified for derecognition.

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

(in millions of Korean won)

	2016	2015
Financial instruments at fair value through profit or loss		
Loss on valuation/disposal (profit or loss)	(1,501)	(141)
Available-for-sale financial assets		
Gain on disposal	18	32
Dividend income	-	-
Loans and receivables		
Interest income	34,185	32,915
Gain on foreign currency translation	67,067	14,946
Gain (loss) on foreign exchange	(20,974)	74,491
Financial liabilities measured at amortized cost		
Interest expense	(16,312)	(22,331)
Loss foreign currency translation	(18,213)	(11,228)
Loss on foreign exchange	(13,980)	(39,072)
Other financial liabilities		
Interest expense	(11,794)	(9,661)
Loss foreign currency translation	(20,277)	(9,218)
Gain (loss) on foreign exchange	5,046	(47,994)

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

6. Cash and Cash Equivalents

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

<i>(in millions of Korean won)</i>	December 31, 2016	December 31, 2015
Bank deposits and cash on hand	28,025	16,225
Deposits held by financial institutions and others	928,043	1,406,836
Total	956,068	1,423,061

7. Trade and Other Receivables

Trade and other receivables and its provisions for impairment, as at December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	December 31, 2016		
	Gross amount	Provision for impairment	Carrying amount
Trade receivables ¹	3,017,091	(6,562)	3,010,529
Other current receivables	911,987	(331)	911,656
Other non-current receivables ²	112,686	-	112,686
Total	4,041,764	(6,893)	4,034,871

<i>(in millions of Korean won)</i>	December 31, 2015		
	Gross amount	Provision for impairment	Carrying amount
Trade receivables ¹	2,750,818	(5,304)	2,745,514
Other current receivables	1,163,298	(331)	1,162,967
Other non-current receivables ²	55,024	-	55,024
Total	3,969,140	(5,635)	3,963,505

¹ As at December 31, 2016 and 2015, trade receivables transferred to financial institutions have been accounted for as a collateralized borrowing and financial assets not fully derecognized are as follows (Note 15):

<i>(in millions of Korean won)</i>	Loans and receivables (trade receivables collateralized borrowings)	
	December 31, 2016	December 31, 2015
Carrying amount of transferred assets	445,967	1,028,208
Carrying amount of related liabilities	(445,967)	(1,028,208)

² As at December 31, 2016, ₩20 million in other non-current receivables represents deposits which are restricted from withdrawal in connection with maintaining checking accounts (2015: ₩20 million).

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

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

<i>(in millions of Korean won)</i>	December 31, 2016	December 31, 2015
Current		
Non-trade receivables	162,479	137,914
Deposits held by financial institutions	710,000	981,000
Accrued income	3,712	7,878
Guarantee deposits provided	25,609	26,319
Loans	9,856	9,856
	<u>911,656</u>	<u>1,162,967</u>
Non-current		
Deposits held by financial institutions ¹	63,420	18,120
Guarantee deposits provided	49,266	36,904
	<u>112,686</u>	<u>55,024</u>
Total	<u>1,024,342</u>	<u>1,217,991</u>

¹ As at December 31, 2016, ₩63,400 million (2015: ₩18,100 million) is restricted from being withdrawn in relation to large, small and medium-sized companies cooperation agreement and others.

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

<i>(in millions of Korean won)</i>	December 31, 2016		December 31, 2015	
	Trade receivables	Other receivables	Trade receivables	Other receivables
Receivables not past due	2,986,931	1,023,572	2,712,631	1,210,378
Past due but not impaired				
Up to 3 months	21,644	91	17,065	2,590
Between 3-6 months	-	671	2,136	2,811
Over 6 months	250	8	1,838	2,212
	<u>21,894</u>	<u>770</u>	<u>21,039</u>	<u>7,613</u>
Impaired receivables	8,266	331	17,148	331
	<u>3,017,091</u>	<u>1,024,673</u>	<u>2,750,818</u>	<u>1,218,322</u>

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

<i>(in millions of Korean won)</i>	December 31, 2016			
	Trade receivables		Other receivables	
	Current	Non-current	Current	Non-current
Beginning balance	5,304	-	331	-
Additions	3,177	-	-	-
Write-off	(1,919)	-	-	-
Reversals	-	-	-	-
Ending balance	<u>6,562</u>	<u>-</u>	<u>331</u>	<u>-</u>

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

<i>(in millions of Korean won)</i>	December 31, 2015			
	Trade receivables		Other receivables	
	Current	Non-current	Current	Non-current
Beginning balance	6,252	-	-	-
Additions	-	-	331	-
Write-off	(777)	-	-	-
Reversals	(171)	-	-	-
Ending balance	<u>5,304</u>	<u>-</u>	<u>331</u>	<u>-</u>

As at December 31, 2016 and 2015, the carrying amounts of trade and other receivables are approximation of their fair values.

8. Other Financial Assets

Details of other financial assets as at December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	December 31, 2016	December 31, 2015
Other financial assets		
Derivatives (Note 9)	-	93
Available-for-sale financial assets	18,785	13,813
Less: current portion	-	(93)
	<u>18,785</u>	<u>13,813</u>

Changes in available-for-sale financial assets for the periods ended December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	December 31, 2016	December 31, 2015
Beginning balance	13,813	5,926
Acquisitions / Transfer	2,603	11,626
Disposals	(23)	(2,959)
Gain (loss) on valuation (before income tax effects)	2,392	(780)
Ending balance	<u>18,785</u>	<u>13,813</u>

Available-for-sale financial assets consist of equity securities. The certain unlisted equity securities are measured at cost as the range of reasonable fair value estimates is wide and the probabilities of the various estimates cannot be reasonably assessed.

No impairment losses on available for sale financial assets were recognized for the periods ended December 31, 2016 and 2015.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

9. Derivative Financial Instruments

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

(in millions of Korean won)

	December 31, 2016		December 31, 2015	
	Assets	Liabilities	Assets	Liabilities
Current				
Held-for-trading	-	-	93	-
	-	-	93	-

As at December 31, 2016, there is no derivative financial contracts and details of derivative financial contracts as at December 31, 2015, are as follows:

Classification	Contractor	Contract date	December 31, 2015		
			Contract amount (in thousands)	Contract period	Contract terms
Forward exchange	Two contracts in Woori Bank	2015.12.21, others	US\$ 10,000, others	2016.01.04 ~ 2016.01.05	₩1,177.60/ US\$ 1, others

10. Inventories

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

(in millions of Korean won)

	December 31, 2016		
	Gross amount	Valuation allowance	Carrying amount
Merchandise	56,350	(1,438)	54,912
Finished / Semi-finished products	1,106,274	(59,780)	1,046,494
Work-in-process	785	-	785
Raw materials	457,588	(3,695)	453,893
Supplies	72,748	-	72,748
Materials-in-transit	146,179	-	146,179
Total	1,839,924	(64,913)	1,775,011

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

<i>(in millions of Korean won)</i>	December 31, 2015		
	Gross amount	Valuation allowance	Carrying amount
Merchandise	37,618	(937)	36,681
Finished / Semi-finished products	1,048,096	(39,927)	1,008,169
Work-in-process	275	-	275
Raw materials	468,550	(1,460)	467,090
Supplies	67,722	-	67,722
Materials-in-transit	115,545	-	115,545
Total	1,737,806	(42,324)	1,695,482

During the year, the cost of inventories recognized as expense and included in 'cost of sales' amounted to ₩9,924,433 million (2015: ₩10,552,127 million).

11. Investments in Subsidiaries, Associates and Joint ventures

Changes in investments in subsidiaries, associates and joint ventures for the periods ended December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	December 31, 2016	December 31, 2015
Beginning balance	1,261,028	1,324,017
Additions / Transfer	953,268	146,986
Disposals	(59,939)	-
Impairment ¹	-	(265,671)
Reversal of impairment loss ²	-	55,696
Ending balance	2,154,357	1,261,028

¹ During 2015, Reverse Osmosis(hereafter 'RO') Membranes business that is managed as a separate cash-generating unit (hereafter 'CGU') in IT & Electronic materials and Advanced materials segment, and KLPE Limited Liability Partnership that is located in Kazakhstan and managed as a separate CGU in Basic materials & Chemicals segment, was tested for impairment because their economic performances were lower than expected. The recoverable amount of the CGU was calculated on a basis of the value in use.

² During 2015, LG Chem Michigan Inc., that is located in the United States of America and managed as a separate CGU in Energy solutions segment, was tested for reversal of impairment loss because its future economic performance is expected to significantly excess past expectations. The recoverable amount of the CGU was calculated on a basis of the value in use.

During 2015, the amount of impairment loss (reversal) recognized as other non-operating expenses (income) and key assumptions used for calculation of value in use are as follows:

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

<i>(in millions of Korean won and in percentage)</i>	December 31, 2015		
	KLPE Limited Liability Partnership	RO Membranes business (LG NanoH2O, Inc.)	LG Chem Michigan Inc.
Impaired (reversed) amount	163,556	102,115	(55,696)
Pre-tax discount rate	8.8%	9.3%	13.8%
Growth rate for subsequent years after five years	0.0%	0.5%	0.0%

Details of investments in subsidiaries, associates and joint ventures as at December 31, 2016 and 2015, are as follows:

	Location	Percentage of ownership (%)		Carrying amount	
		2016	2015	2016	2015
		Subsidiaries			
Ningbo LG Yongxing Chemical Co.,Ltd.	China	75	75	135,908	135,908
LG Chem HK Ltd.	Hong Kong	100	100	11,159	11,159
LG Chem America, Inc.	USA	100	100	3,620	3,620
LG Chemical India Pvt. Ltd.	India	100	100	54,929	54,929
LG Chemical (Guangzhou) Engineering Plastics Co.,Ltd.	China	100	100	21,911	21,911
LG Chem (Nanjing) Information & Electronics Materials Co.,Ltd. ¹	China	81	81	379,725	299,369
LG Chem (Taiwan), Ltd.	Taiwan	100	100	18	18
LG Chem Display Materials (Beijing) Co.,Ltd.	China	90	90	13,444	13,444
Tianjin LG Bohai Chemical Co.,Ltd. ²	China	68	68	77,871	77,871
Tianjin LG BOTIAN Chemical Co.,Ltd. ²	China	41	41	9,550	9,550
LG Chem (China) Investment Co.,Ltd. ³	China	100	100	87,255	80,090
LG Chem (Tianjin) Engineering Plastics Co.,Ltd.	China	90	90	14,733	14,733
LG Chem Europe GmbH	Germany	100	100	3,085	3,085
LG Chem Poland Sp. z o.o.	Poland	100	100	26,948	26,948
LG Chem Michigan Inc.	USA	100	100	63,422	63,422
LG Chem Power Inc.	USA	100	100	19,553	19,553
LGC Petrochemical India Private Limited.	India	100	100	299	299
HAENGBOKNURI CO.,LTD.	Korea	100	100	600	600
LG CHEM TK Kimya SANAYI VE TIC. Ltd. STI.	Turkey	100	100	174	174
LG Chem Japan Co.,Ltd.	Japan	100	100	1,406	1,406
LG NanoH2O, Inc. ⁴	USA	100	100	143,195	143,195
NanoH2O (Jiangsu) Water Processing Technology Co., Ltd. ⁴	China	100	-	6,400	-
Nanjing LG Chem New Energy Battery Co.,Ltd. ⁵	China	50	50	32,624	24,801
LG Chem (Chongqing) Engineering Plastics Co., Ltd.	China	100	100	9,269	9,269
LG Chem Wroclaw Energy sp. z o.o. ⁶	Poland	100	-	10,468	-
LG Chem(HUIZHOU) Petrochemical Co., Ltd. ⁷	China	70	-	99,001	-
FarmHannong Co.,Ltd. ⁸	Korea	100	-	724,500	-
				<u>1,951,067</u>	<u>1,015,354</u>

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

Associates

LG Holdings (HK) Ltd.	Hong Kong	26	26	77,535	77,535
TECWIN Co.,Ltd.	Korea	21	21	2,861	2,861
LG Chem BRASIL INTERMEDIACAO DE NEGOCIOS DO SETOR QUIMICO LTDA. ⁹	Brazil	100	100	579	579
LG Chem Malaysia SDN.BHD. ⁹	Malaysia	100	100	150	150
LG Fuel Cell Systems Inc. ¹⁰	USA	22	20	48,226	30,671
				<u>129,351</u>	<u>111,796</u>

Joint ventures

LG Vina chemical Co.,Ltd.	Vietnam	40	40	1,313	1,313
HL Greenpower Co.,Ltd.	Korea	49	49	14,210	14,210
SEETEC Co.,Ltd.	Korea	50	50	58,416	58,416
CNOOC & LG Petrochemicals Co.,Ltd. ⁷	China	-	50	-	40,230
KLPE Limited Liability Partnership ¹¹	Kazakhstan	-	50	-	19,709
				<u>73,939</u>	<u>133,878</u>
Total				<u>203,290</u>	<u>245,674</u>

¹ During the year, the Company acquired additional shares of LG Chem (Nanjing) Information & Electronics Materials Co.,Ltd. for ₩80,356 million.

² As at December 31, 2016, Tianjin LG Bohai Chemical Co., Ltd. owns 20.30% of Tianjin LG Botian Chemical Co.,Ltd.'s shares.

³ During the year, the Company acquired additional shares of LG Chem (China) Investment Co.,Ltd. for ₩ 7,165 million.

⁴ As at December 31, 2016, LG NanoH2O, Inc. owns 100% of NanoH2O Singapore Private Ltd.'s shares. The Company acquired 100% shares of NanoH2O (Jiangsu) Water Processing Technology Co. Ltd. for ₩ 6,400 million from NanoH2O Singapore Private Ltd. during 2016.

⁵ Although the Company owns less than 50% of the voting rights of Nanjing LG Chem New Energy Battery Co.,Ltd., the Company is considered to have control over the investee, as the Company can exercise the majority voting rights in its decision-making process in accordance with the shareholders' agreement. During the year, the Company acquired additional shares of Nanjing LG Chem New Energy Battery Co.,Ltd. for ₩ 7,823 million.

⁶ LG Chem Wroclaw Energy sp. z o.o. was established during the year, and the Company newly acquired 100% of shares of LG Chem Wroclaw Energy sp. z o.o. for ₩ 10,468 million.

⁷ During the year, the Company acquired additional 20% shares of CNOOC & LG Petrochemicals Co.,Ltd for ₩ 58,771 million and investment in joint ventures of ₩ 40,230 million was reclassified to investment in subsidiaries. After acquiring control, the Company changed its name to LG Chem(HUIZHOU) Petrochemical Co., Ltd.

⁸ During the year, the Company newly acquired 100% shares of Dongbu Farm Hannong Co.,Ltd. for ₩ 424,500 million. Dongbu Farm Hannong Co.,Ltd. changed its name to FarmHannong Co.,Ltd., and the Company acquired additional shares for ₩ 300,000 million during the year.

⁹ Classified as an investment in associate due to its small size.

¹⁰ During the year, the Company acquired additional shares of LG Fuel Cell Systems Inc. for ₩ 17,555 million.

¹¹ The Company decided to discontinue the business of KLPE Limited Liability Partnership and completed the disposal while collecting ₩ 23,724 million of investments.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

12. Property, Plant and Equipment

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

(in millions of Korean won)

	December 31, 2016										
	Land	Buildings	Structures	Machinery	Vehicles	Tools	Equipment	Others	Construction -in-progress	Machinery -in-transit	Total
Beginning balance	901,910	1,655,584	548,791	3,509,385	9,271	255,942	64,573	135,436	338,370	10,537	7,429,799
Cost	903,777	2,045,520	934,250	9,526,360	35,865	694,831	228,592	281,556	373,906	10,537	15,035,194
Accumulated depreciation	-	(377,548)	(382,190)	(6,010,371)	(26,482)	(430,130)	(162,711)	(146,120)	-	-	(7,535,552)
Accumulated impairment	(1,867)	(12,388)	(3,269)	(6,604)	(112)	(8,759)	(1,308)	-	(35,536)	-	(69,843)
Business combination (Note 35)	1,702	21,890	2,197	61,068	451	2,291	562	-	-	-	90,161
Acquisitions/ Transfer	78,503	76,662	42,331	367,516	1,217	116,330	26,516	30,984	706,478	55,261	1,501,798
Disposals/ Transfer	(194)	(5,003)	(102)	(6,680)	(8)	(2,464)	(290)	-	(686,371)	(39,604)	(740,716)
Depreciation	-	(44,144)	(39,498)	(696,515)	(3,380)	(89,350)	(23,098)	(65,611)	-	-	(961,596)
Impairment	-	(15,732)	(537)	(24,933)	(8)	(805)	(344)	(448)	(6,108)	-	(48,915)
Transfer to assets held for sale (Note 36)	-	-	-	(1,685)	-	(162)	(459)	-	-	-	(2,306)
Ending balance	981,921	1,689,257	553,182	3,208,156	7,543	281,782	67,460	100,361	352,369	26,194	7,268,225
Cost	1,018,849	2,138,763	970,513	9,865,322	37,094	790,264	246,788	238,907	358,907	26,194	15,691,601
Accumulated depreciation	-	(421,435)	(413,525)	(6,626,250)	(29,431)	(499,102)	(177,916)	(138,098)	-	-	(8,305,757)
Accumulated impairment	(36,928)	(28,071)	(3,806)	(30,916)	(120)	(9,380)	(1,412)	(448)	(6,538)	-	(117,619)

(in millions of Korean won)

	December 31, 2015										
	Land	Buildings	Structures	Machinery	Vehicles	Tools	Equipment	Others	Construction -in-progress	Machinery -in-transit	Total
Beginning balance	902,365	1,595,466	514,281	3,400,414	8,254	261,955	70,806	85,194	455,800	84,731	7,379,266
Cost	903,729	1,936,318	863,951	8,907,547	32,269	647,171	218,520	251,722	491,155	84,731	14,337,113
Accumulated depreciation	-	(336,291)	(347,006)	(5,451,339)	(23,915)	(377,488)	(146,593)	(166,528)	-	-	(6,849,160)
Accumulated impairment	(1,364)	(4,561)	(2,664)	(55,794)	(100)	(7,728)	(1,121)	-	(35,355)	-	(108,687)
Acquisitions/ Transfer	49	117,833	74,291	931,826	4,408	92,393	17,191	113,411	1,060,635	84,262	2,496,299
Disposals/ Transfer	(1)	(7,714)	(848)	(117,957)	(85)	(10,249)	(516)	-	(1,177,861)	(158,456)	(1,473,687)
Depreciation	-	(42,155)	(37,557)	(699,485)	(3,293)	(86,023)	(22,690)	(63,169)	-	-	(954,372)
Impairment	(503)	(7,846)	(1,376)	(4,449)	(13)	(2,118)	(218)	-	(204)	-	(16,727)
Reversal of impairment	-	-	-	5,430	-	90	-	-	-	-	5,520
Transfer to assets held for sale (Note 36)	-	-	-	(6,394)	-	(106)	-	-	-	-	(6,500)
Ending balance	901,910	1,655,584	548,791	3,509,385	9,271	255,942	64,573	135,436	338,370	10,537	7,429,799
Cost	903,777	2,045,520	934,250	9,526,360	35,865	694,831	228,592	281,556	373,906	10,537	15,035,194
Accumulated depreciation	-	(377,548)	(382,190)	(6,010,371)	(26,482)	(430,130)	(162,711)	(146,120)	-	-	(7,535,552)
Accumulated impairment	(1,867)	(12,388)	(3,269)	(6,604)	(112)	(8,759)	(1,308)	-	(35,536)	-	(69,843)

During the year, the Company capitalized ₩3,529 million of borrowing costs (2015: ₩4,839 million) which recognized from borrowings in relation to acquisition of property, plant and equipment, on property, plant and equipment. The capitalization rate of borrowings used to determine the amount of borrowing costs eligible for capitalization is 1.92 % (2015: 1.84%).

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

Line items including depreciation in the separate statements of profit or loss for the periods ended December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	2016	2015
Cost of sales	886,467	886,828
Selling and administrative expenses	74,609	67,130
Others	520	414
Total	<u>961,596</u>	<u>954,372</u>

Details of machinery classified as a finance lease as at December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	December 31, 2016	December 31, 2015
Cost- capitalized finance leases	42,669	42,669
Accumulated depreciation	(8,534)	(4,267)
Net book amount	<u>34,135</u>	<u>38,402</u>

The Company leases machinery under non-cancellable finance lease agreements. The lease terms are 10 years and the contracts include an agreement that the ownership of the assets is transferred by the end of the lease term.

The Company reviews annually whether there is any indication that an asset may be impaired. During 2016, Glass Substrate business, a CGU in IT & Electronic materials and Advanced materials segment, was tested for impairment as its economic performance was lower than expected. During 2015, LED Encap business, a CGU of IT & Electronic materials and Advanced materials segment, was tested for impairment due to significant price drop of products.

The amount of impairment loss recognized as other non-operating expenses and key assumptions used for calculation of value in use for the periods ended December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	2016	2015
	<u>Glass Substrate</u>	<u>LED Encap</u>
Impaired amount		
Property, plant and equipment	47,699	16,727
Intangible assets	535	1,093
Key assumptions		
Pre-tax discount rate	9.5%	11.7%
Growth rate for subsequent years exceeding five years	0.0%	0.0%

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

The Company decided to dispose of certain assets during 2016 and 2015. The differences between the fair value and carrying amount were recognized as impairment losses (reversal of impairment losses) (Note 36).

Changes in investment properties for the periods ended December 31, 2016 and 2015, are as follows:

<i>(in millions of Korea won)</i>	December 31, 2016			December 31, 2015		
	Land	Building	Total	Land	Building	Total
Beginning balance	-	-	-	-	-	-
Cost	-	-	-	-	-	-
Accumulated depreciation	-	-	-	-	-	-
Business combination (Note 35)	486	555	1,041	-	-	-
Acquisitions/ Transfer	-	-	-	-	-	-
Disposals/ Transfer	-	-	-	-	-	-
Depreciation	-	(2)	(2)	-	-	-
Ending balance	486	553	1,039	-	-	-
Cost	486	555	1,041	-	-	-
Accumulated depreciation	-	(2)	(2)	-	-	-

As at December 31, 2016, the carrying amounts of property, plant and equipment classified as investment properties are approximation of their fair values.

Details of gain or loss on investment properties for the periods ended December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	2016	2015
Depreciation	(2)	-
Total	(2)	-

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

13. Intangible Assets

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

(in millions of Korean won)

	December 31, 2016					
	Software development costs	Industrial property rights	Goodwill	Memberships	Others	Total
Beginning balance	58,514	156,837	33,415	48,950	40,137	337,853
Business combination (Note 35)	344	8,328	4,112	-	4,968	17,752
Acquisitions/ Transfer	45,648	38,802	-	2,309	12,301	99,060
Disposals/ Transfer	(10,087)	(804)	-	(826)	(57)	(11,774)
Amortization	(20,325)	(13,051)	-	-	(11,527)	(44,903)
Impairment	(345)	(154)	-	-	(36)	(535)
Ending balance	73,749	189,958	37,527	50,433	45,786	397,453

(in millions of Korean won)

	December 31, 2015					
	Software development costs	Industrial property rights	Goodwill	Memberships	Others	Total
Beginning balance	53,044	129,602	33,415	49,541	27,425	293,027
Acquisitions/ Transfer	30,771	41,863	-	2,405	21,373	96,412
Disposals/ Transfer	(8,817)	(3,434)	-	(2,996)	(16)	(15,263)
Amortization	(16,428)	(10,209)	-	-	(8,593)	(35,230)
Impairment	(56)	(985)	-	-	(52)	(1,093)
Ending balance	58,514	156,837	33,415	48,950	40,137	337,853

Line items including amortization of intangible assets for the periods ended December 31, 2016 and 2015, as follows:

(in millions of Korean won)

	2016	2015
Cost of sales	10,899	10,318
Selling and administrative expenses	34,004	24,912
Total	44,903	35,230

The Company recognized total research and development costs of ₩608,040 million (2015: ₩554,892 million) as expenses.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

Goodwill is allocated to the Company's CGUs identified for each operating segment. The carrying amounts of goodwill allocation by CGUs as at December 31, 2016 and 2015, are as follows:

(in millions of Korean won)

CGUs	2016			Total
	Acquisition of LG Petrochemical Co., Ltd	Acquisition of SAP business	Acquisition of PSAA business	
Basic materials& Chemicals				
NCC	3,020	-	-	3,020
ABS	1,484	-	-	1,484
PO	1,059	-	-	1,059
PVC	502	-	-	502
Acrylic	493	25,222	-	25,715
Plasticizer	95	-	-	95
BPA	162	-	-	162
Others	1,378	-	-	1,378
IT & Electronic materials and Advanced materials				
PSAA	-	-	4,112	4,112
Total	8,193	25,222	4,112	37,527

(in millions of Korean won)

CGUs	2015		Total
	Acquisition of LG Petrochemical Co., Ltd	Acquisition of SAP business	
NCC	2,361	-	2,361
ABS	1,250	-	1,250
PO	1,063	-	1,063
PVC	759	-	759
Acrylic	653	25,222	25,875
Plasticizer	143	-	143
BPA	125	-	125
Others	1,839	-	1,839
	8,193	25,222	33,415

The recoverable amounts of CGUs have been determined based on value-in-use calculations. These calculations use pre-tax cash flow projections based on financial budgets approved by management covering a five-year period. Management determined the estimated pre-tax cash flow based on past performance and its expectations of market development. Value-in-use is measured by applying the pre-tax discount rates reflecting specific risks relating to the relevant operating segments.

During 2016 and 2015, the amount of impairment loss recognized as other non-operating expenses and key assumptions used for calculation of value in use are as follows:

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

	2016			2015		
	Pre-tax discount rate	Growth rate for subsequent years after five years	Impaired amount	Pre-tax discount rate	Growth rate for subsequent years after five years	Impaired amount
Acquisition of LG Petrochemical Co., Ltd.	10.9%	0.0%	-	11.7%	0.0%	-
Acquisition of SAP business	10.9%	0.0%	-	11.7%	0.0%	-
Acquisition of PSAA business	13.3%	0.0%	-	-	-	-

14. Other Current and Non-current Assets

Details of other current and non-current assets as at December 31, 2016 and 2015, consist of:

<i>(in millions of Korean won)</i>	December 31, 2016	December 31, 2015
Current		
Prepayments to suppliers	54,709	27,408
Prepaid expenses	17,587	13,853
Prepaid value added tax	47,412	24,308
Others	9,446	15,224
Total	<u>129,154</u>	<u>80,793</u>
Non-current		
Long-term prepaid expenses	6,869	8,843
Others	10,826	10,826
Total	<u>17,695</u>	<u>19,669</u>

15. Borrowings

Borrowings as at December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	December 31, 2016	December 31, 2015
Current		
Short-term borrowings	445,967	1,028,208
Current-portion of long-term borrowings of bank loans	199,955	99,911
Finance lease liabilities	4,886	4,885
	<u>650,808</u>	<u>1,133,004</u>
Non-current		
Debentures	-	199,773
Finance lease liabilities	30,272	34,086
	<u>30,272</u>	<u>233,859</u>
Total	<u>681,080</u>	<u>1,366,863</u>

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

Details of short-term borrowings as at December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	Bank	Latest maturity date	Annual interest rate (%) as at December 31, 2016	Carrying Amount	
				December 31, 2016	December 31, 2015
Notes discounted ¹ (Negotiable notes)	Woori Bank, others	2017.05.26	Libor + 0.50 and others	445,967	1,028,208

¹ As at December 31, 2016, trade receivables transferred to financial institutions but not derecognized are accounted for as collateralized borrowing transaction (Note 7).

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

<i>(in millions of Korean won)</i>	December 31, 2016					
	Financial institution	Annual interest rate (%)	Latest maturity date	Amount in Korean won	Current	Non-current
Debentures in Korean won	Woori Securities	4.11	2017.03.29	200,000	200,000	-
Less: discount on debentures				(45)	(45)	-
Total				199,955	199,955	-

<i>(in millions of Korean won)</i>	December 31, 2015					
	Financial institution	Annual interest rate (%)	Latest maturity date	Total amount	Current	Non-current
Debentures in Korean won	Woori Securities	4.03	2016.12.05	100,000	100,000	-
	Woori Securities	4.11	2017.03.29	200,000	-	200,000
Less: discount on debentures				(316)	(89)	(227)
Total				299,684	99,911	199,773

Details of finance lease liabilities as at December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	December 31, 2016					
	Leaser	Annual interest rate (%)	Latest maturity date	Total amount	Current	Non-current
Hyundai Oil Bank		3.12	2024.12.31	35,158	4,886	30,272

<i>(in millions of Korean won)</i>	December 31, 2015					
	Leaser	Annual interest rate (%)	Latest maturity date	Total amount	Current	Non-current
Hyundai Oil Bank		3.12	2024.12.31	38,971	4,885	34,086

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

The present value of finance lease liabilities as at December 31, 2016 and 2015, is as follows:

(in millions of Korean won)

	December 31, 2016			December 31, 2015		
	Minimum lease payments	Future finance costs	Present value	Minimum lease payments	Future finance costs	Present value
Within 1 year	5,000	114	4,886	5,000	115	4,885
Between 1-5 years	20,000	1,902	18,098	20,000	1,903	18,097
Over 5 years	15,000	2,826	12,174	20,000	4,011	15,989

16. Provisions

Changes in the carrying amount of provisions for the periods ended December 31, 2016 and 2015, are as follows:

(in millions of Korean won)

	December 31, 2016					
	Sales returns ¹	Warranty ²	Greenhouse gas emission ³	Legal claims ⁴	Restoration ⁵	Total
Beginning balance	5,288	24,987	3,720	-	-	33,995
Business combination (Note 35)	-	-	-	-	800	800
Additions	32,353	16,225	31,498	30,368	-	110,444
Used	(31,255)	(5,864)	(7,417)	(22,474)	-	(67,010)
Ending balance	6,386	35,348	27,801	7,894	800	78,229
Less : current portion	(6,386)	(1,056)	(27,801)	-	-	(35,243)
Total	-	34,292	-	7,894	800	42,986

(in millions of Korean won)

	December 31, 2015			
	Sales returns ¹	Warranty ²	Greenhouse gas emission ³	Total
Beginning balance	4,320	22,613	-	26,933
Additions	42,411	4,208	3,720	50,339
Used	(41,443)	(1,834)	-	(43,277)
Ending balance	5,288	24,987	3,720	33,995
Less : current portion	(5,288)	(452)	(3,720)	(9,460)
Total	-	24,535	-	24,535

¹ Sales return provisions have been accrued for the estimated sales return determined based on historical experience.

² Warranty provisions have been accrued for the estimated warranty service costs to be incurred based on the terms of warranty and historical experience.

³ Greenhouse gas emission provisions have been accrued for estimated expenditures to be obligated for any excess emission.

⁴ Lawsuit provisions have been accrued for certain pending cases.

⁵ Restoration provisions have been accrued based on the estimated expenses to restore land pollutions.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

17. Net Defined Benefit Liability

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

<i>(in millions of Korean won)</i>	December 31, 2016	December 31, 2015
Present value of defined benefit obligations ¹	830,340	715,343
Fair value of plan assets	<u>(783,950)</u>	<u>(636,266)</u>
Liability in the separate statement of financial position	<u>46,390</u>	<u>79,077</u>

¹ The present value of retirement benefit obligations is net of existing contributions to the National Pension Plan of ₩765 million as at December 31, 2016 (2015: ₩802 million).

The amounts recognized in the separate statements of profit or loss for the year ended December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	2016	2015
Current service cost ¹	114,031	101,075
Interest cost	<u>2,183</u>	<u>2,682</u>
Total, included in employee benefit expenses	<u>116,214</u>	<u>103,757</u>

¹ The above amounts excluded ₩71 million (2015: ₩555 million) of expenses capitalized to construction in progress and development costs.

Post-employment benefits recognized for defined contribution plan for the year ended December 31, 2016, amounted to ₩2,395 million (2015: ₩1,990 million).

Post-employment benefits recognized in the separate statements of profit or loss for the periods ended December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	2016	2015
Cost of sales	81,868	75,069
Selling and administrative expenses	<u>36,741</u>	<u>30,678</u>
Total	<u>118,609</u>	<u>105,747</u>

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

Movements in the present value of defined benefit obligations for the periods ended December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	December 31, 2016	December 31, 2015
Beginning balance	715,343	603,990
Business combination (Note 35)	5,048	-
Transfer in	10,301	7,620
Transfer out	(5,763)	(5,132)
Current service cost	114,102	101,630
Interest expense	19,466	18,704
Remeasurements:		
Actuarial loss from change in demographic assumptions	3,731	371
Actuarial loss (gain) from change in financial assumptions	(11,941)	30,875
Actuarial loss (gain) from experience adjustments	24,400	(12,108)
Others	3,718	412
Payments from plans	(48,065)	(31,019)
Ending balance	<u>830,340</u>	<u>715,343</u>

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

<i>(in millions of Korean won)</i>	December 31, 2016	December 31, 2015
Beginning balance	636,266	518,583
Business combination (Note 35)	4,010	-
Transfer in	1,383	642
Transfer out	-	(260)
Interest income	17,283	16,022
Remeasurements:		
Return on plan assets (excluding amounts included in interest income)	(4,296)	(1,239)
Contributions:		
Employers	160,000	120,000
Payments from plans	(29,761)	(15,219)
Administrative costs	(935)	(2,263)
Ending balance	<u>783,950</u>	<u>636,266</u>

The actual return on plan assets for the year ended December 31, 2016, was ₩12,987 million (2015: ₩14,783 million).

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

The significant actuarial assumptions as at December 31, 2016 and 2015, are as follows:

	December 31, 2016	December 31, 2015
Discount rate	2.9%	2.8%
Salary growth rate	5.1%	5.1%

The sensitivity analysis for changes in key actuarial assumptions as at December 31, 2016, is as follows:

<i>(in millions of Korean won)</i>	Increase by 1%	Decrease by 1%
Discount rate:		
Increase(decrease) in defined benefit obligations	(89,329)	107,745
Salary growth rate:		
Increase(decrease) in defined benefit obligations	104,110	(88,336)

A decrease in corporate bond yields may lead most significantly to an increase in defined benefit liabilities.

The above sensitivity analyses are based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. 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 statement of financial position.

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

Plan assets as at December 31, 2016 and 2015, consist of:

<i>(in millions of Korean won)</i>	December 31, 2016				December 31, 2015			
	Quoted price	Unquoted price	Total	Composition	Quoted price	Unquoted price	Total	Composition
Insurance contracts with guaranteed yield	783,950	-	783,950	100%	636,266	-	636,266	100%

As at December 31, 2016, the weighted average duration of defined benefit obligation is 12.4 years.

The Company reviews the funding level on an annual basis and has a policy of eliminating deficit from the fund. Expected contributions to post-employment benefit plans for the year ending December 31, 2017, are ₩ 142,565 million.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

18. Other Current and Non-current Liabilities

Details of other current and non-current liabilities as at December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	December 31, 2016	December 31, 2015
Current		
Advances from customers	48,548	40,956
Dividends payable	12	24
Withholding	56,035	14,052
Unearned revenues	3,914	4,452
Accrued expenses	104,334	199,004
Total	<u>212,843</u>	<u>258,488</u>
Non-current		
Long-term accrued expenses	<u>29,508</u>	<u>27,852</u>

19. Commitments and Contingencies

- (1) As at December 31, 2016, the Company has been provided with guarantees of ₩21,276 million from the Seoul Guarantee Insurance for the execution of supply contracts and others.
- (2) As at December 31, 2016, the Company has provided one blank promissory note to the Korea National Oil Corporation as collateral in relation to petroleum import surcharges.
- (3) As at December 31, 2016, the Company has bank overdraft agreements with several banks for up to ₩53,100 million and US\$ 50 million, and has entered into contracts with several financial institutions, for discounting notes from export for up to US\$ 1,308 million, and for letters of credit for up to ₩35,000 million and US\$ 213 million, and for the guaranteed payments in foreign currency for up to US\$ 70 million. The Company also has comprehensive line of credit agreements with several financial institutions for up to ₩420,000 million and US\$ 190 million.
- (4) As at December 31, 2016, the Company has B2B purchase arrangements with several financial institutions amounting to ₩310,000 million.
- (5) As at December 31, 2016, in relation to price fixing of mobile batteries, the consumers in U.S., Canada and Israel have filed three class actions and the customers have filed five separate actions against the Company. However, the ultimate outcome of these cases cannot be determined at the reporting date.
- (6) In addition, as at December 31, 2016, the Company have been named as a plaintiff in 13 legal actions involving ₩46,445 million, and as a defendant in 11 legal actions with ₩51,783 million. The ultimate outcome of these cases cannot be determined at the reporting date.
- (7) As at December 31, 2016, the Company has technology license agreements with STYRON EUROPE GmbH and other companies for the production of Polycarbonate products. Further, the Company has entered into manufacture and production technical contracts with Exxon Mobile and others.
- (8) The Company has entered into a license agreement with LG Corp. to use trademarks on the products that the Company manufactures and sells, and on the services the Company provides in relation to its business.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

(9) As at December 31, 2016, the Company has contracts of US\$ 1 million and EUR 17 million in guarantees with financial institutions in regard to warranty for certain products, and the Company has a contract of US\$ 33 million in guarantees with financial institutions for the advance received from customers.

(10) As at December 31, 2016, the Company has guaranteed the repayment of various obligations of its subsidiaries. The outstanding balance of such guarantees as at December 31, 2016, amounts to US\$ 100 million (total equivalent to ₩120,850 million) (2015: US\$ 150 million and EUR 3 million, total equivalent to ₩179,642 million). Details of guarantees provided as at December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>			Amount of guarantee		Outstanding loan amount	
			December 31, 2016	December 31, 2015	December 31, 2016	December 31, 2015
Guarantee beneficiary	Financial institution	Guarantee period				
LG Chem Europe GmbH	Shinhan Bank	2015.01.02 ~ 2016.01.02	-	3,842	-	-
LG Chem Michigan, Inc.	Mizuho Bank	2014.05.27 ~ 2017.05.27	72,510	70,320	66,468	70,320
"	SMBC	2014.03.31 ~ 2017.03.31	24,170	23,440	24,170	23,440
"	SMBC	2015.04.01 ~ 2016.03.31	-	23,440	-	-
"	Wells Fargo	2015.08.18 ~ 2017.08.18	24,170	23,440	18,128	23,440
LG NanoH2O, Inc.	Citibank	2015.10.01 ~ 2016.09.30	-	35,160	-	12,892
Total			120,850	179,642	108,766	130,092

In addition, the Company provides Letters of Comfort (LOC) in relation to certain borrowings of subsidiaries.

Further, as at December 31, 2016, the Company provided no financial guarantee to its associates in relation to their borrowings.

(11) Capital expenditure arrangement that has not incur at the end of the reporting period is as follows:

<i>(in millions of Korean won)</i>	December 31, 2016	December 31, 2015
Property, plant and equipment	300,963	167,685

20. Share Capital

Changes in share capital and share premium for the periods ended December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won and in shares)</i>	Ordinary shares		Preferred shares		Share premium
	Number of shares	Share capital	Number of shares	Share capital	
January 1, 2015	66,271,100	331,356	7,628,921	38,144	897,840
December 31, 2015	66,271,100	331,356	7,628,921	38,144	897,840
December 31, 2016	66,271,100	331,356	7,628,921	38,144	897,840

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

Changes in treasury shares for the periods ended December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	Number of shares		Carrying amount	Gain on disposal of treasury shares
	Ordinary shares	Preferred shares		
January 1, 2015	359,795	5,519	15,484	13,855
December 31, 2015	359,795	5,519	15,484	13,855
December 31, 2016	359,795	5,519	15,484	13,855

21. Retained Earnings

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

<i>(in millions of Korean won)</i>	December 31, 2016	December 31, 2015
Legal reserve ¹	184,750	184,750
Discretionary reserve ²	10,408,337	9,551,527
Retained earnings before appropriation	1,361,243	1,188,097
Total	11,954,330	10,924,374

¹ The Company had appropriated up to 50% of its issued share capital in accordance with the commercial Code of the Republic of Korea. The reserve is not available for cash dividends payment, but may be transferred to share capital or used to reduce accumulated deficit. When the accumulated legal reserves (the sum of capital reserves and earned profit reserves) are greater than 1.5 times the paid-in capital amount, the excess legal reserves may be distributed in accordance with a resolution of the shareholders' meeting.

² The Company separately accumulates a discretionary reserve for research and human resource development through appropriation of retained earnings, which has been included as deductible expense for the corporate income tax return according to the Special Tax Treatment Law. The reserve could be reversed in accordance with the terms of related tax laws.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

22. Other Components of Equity

Details of other components of equity as at December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	December 31, 2016	December 31, 2015
Treasury shares (Note 20)	(15,484)	(15,484)

23. Selling and Administrative Expenses

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

<i>(in millions of Korean won)</i>	2016	2015
Wages and salaries	395,698	373,886
Post-employment benefits (Note 17)	36,741	30,678
Employee benefits	73,610	73,448
Travel expense	30,910	29,480
Water & utilities	29,922	25,064
Packaging expenses	5,985	6,198
Rental expenses	73,247	75,080
Commission expenses	323,205	282,578
Depreciation (Note 12)	74,609	67,130
Advertising expense	17,096	15,693
Freight expenses	338,026	353,571
Training expense	12,986	10,963
Amortization (Note 13)	34,004	24,912
Sample expense	11,141	16,554
Development costs	139,587	109,917
Others	137,958	109,160
Total	<u>1,734,725</u>	<u>1,604,312</u>

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

24. Breakdown of Expenses by Nature

Cost of sales, and selling and administrative expenses by nature for the periods ended December 31, 2016 and 2015, consist of:

<i>(in millions of Korean won)</i>	2016	2015
Changes in inventories of merchandise, finished goods, semi-finished goods and work in process	(46,005)	253,788
Raw materials and consumables used	9,002,724	9,208,670
Purchase of merchandise	967,714	1,089,669
Employee benefit expenses (Note 25)	1,393,152	1,339,832
Advertising expenses	18,310	16,933
Freight expenses	361,354	376,397
Commission expenses	450,544	398,194
Depreciation and amortization	1,005,979	989,188
Operating lease payments	46,009	44,749
Other expenses	2,251,819	1,996,597
Total	15,451,600	15,714,017

25. Employee Benefit Expenses

Details of employee benefit expenses for the periods ended December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	2016	2015
Salaries	1,169,235	1,112,260
Post-employment benefits – Defined benefit plan (Note 17)	116,214	103,757
Post-employment benefits – Defined contribution plan (Note 17)	2,395	1,990
Others	105,308	121,825
Total	1,393,152	1,339,832

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

26. Finance Income and Costs

Details of finance income and costs for the periods ended December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	2016	2015
Finance income		
Interest income ¹	34,185	32,915
Dividend income	76,364	96,747
Gain on foreign exchange	123,609	100,897
Gain on foreign currency translation	6	105
Gain on disposal of available-for-sale securities	18	32
Gain on disposal of trading derivatives	1,640	7,134
Gain on valuation of trading derivatives	-	93
Total	<u>235,822</u>	<u>237,923</u>
Finance costs		
Interest expense ²	24,577	27,153
Loss on foreign exchange	119,383	101,884
Loss on foreign exchange translations	950	2,174
Loss on disposal of trading derivatives	3,141	7,368
Total	<u>148,051</u>	<u>138,579</u>

¹ Details of interest income for the periods ended December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	2016	2015
Deposits held by financial institutions	33,499	32,530
Other loans and receivables	686	385
Total	<u>34,185</u>	<u>32,915</u>

² Details of interest expense for the periods ended December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	2016	2015
Interest on bank overdraft and borrowings	14,715	17,168
Interest on finance lease liabilities	1,186	1,303
Interest on debentures	12,205	13,521
Capitalized interest for qualifying assets	(3,529)	(4,839)
Total	<u>24,577</u>	<u>27,153</u>

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

27. Other Non-Operating Income

Details of other non-operating income for the periods ended December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	2016	2015
Gain on foreign exchange	353,002	292,383
Gain on foreign currency translation	70,160	21,293
Gain on disposal of property, plant and equipment	5,556	7,564
Reversal of impairment loss on property, plant and equipment (Note 12)	-	5,520
Reversal of impairment loss on investments in subsidiaries (Note 11)	-	55,696
Gain on disposal of investments in joint ventures	4,015	-
Gain on disposal of business	-	122,295
Others	28,736	18,274
Total	<u>461,469</u>	<u>523,025</u>

Disposal of OLED lighting business

The Company disposed of its OLED lighting business to LG Display Co., Ltd. on December 15, 2015.

<i>(in millions of Korean won)</i>	Amount
Total consideration	160,000
Assets of the transferred business:	
Property, plant and equipment	27,244
Intangible assets	3,621
Other assets	7,701
Liabilities of the transferred business:	
Other liabilities	861

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

28. Other Non-operating Expenses

Details of other non-operating expenses for the periods ended December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	2016	2015
Loss on foreign exchange	387,136	303,971
Loss on foreign currency translation	40,639	24,724
Loss on disposal of property, plant and equipment	14,587	73,726
Loss on disposal of intangible assets	1,342	330
Impairment loss on property, plant and equipment (Note 12)	48,915	16,727
Impairment loss on intangible assets (Note 13)	535	1,093
Impairment loss on investments in subsidiaries (Note 11)	-	102,115
Impairment loss on investments in joint ventures (Note 11)	-	163,556
Donations	27,976	20,150
Others	97,281	9,621
Total	618,411	716,013

29. Tax Expense and Deferred Tax

Details of income tax expense as at December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	2016	2015
Current tax on profit for the period	399,308	447,582
Adjustments in respect of prior years	(10,617)	2,833
Deferred tax-movement in temporary differences	(32,191)	(126,453)
Deferred tax-tax credit carryforwards	2,707	(6,589)
	<u>359,207</u>	<u>317,373</u>
Deferred tax charged directly to equity	(580)	189
Current tax charged directly to equity	5,858	5,031
Income tax expense	<u>364,485</u>	<u>322,593</u>

The aggregate current and deferred tax charged directly to equity (other comprehensive income) for the periods ended December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	2016	2015
Current tax		
Remeasurements of net defined benefits liabilities	5,858	5,031
Deferred tax		
Loss on valuation of available-for-sale financial assets	(580)	189
Total	<u>5,278</u>	<u>5,220</u>

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

Movements in deferred tax assets (liabilities) for the periods ended December 31, 2016 and 2015, are as follows:

(in millions of Korean won)

	2016			
	Beginning balance	Increase (decrease)		Ending balance
		Profit for the period	Other comprehensive income	
Defined benefit liability	162,162	29,939	-	192,101
Plan assets	(151,902)	(37,531)	-	(189,433)
Reserve for research and human resources development	(116,160)	59,693	-	(56,467)
Provision for impairment on receivables	624	(607)	-	17
Property, plant and equipment	8,082	16,042	-	24,124
Investments in subsidiaries, associates and joint ventures	38,534	(39,580)	-	(1,046)
Accrued income	(1,907)	1,008	-	(899)
Others	39,954	3,807	(580)	43,181
	(20,613)	32,771	(580)	11,578
Tax credit carryforwards	12,059	(2,707)	-	9,352
Deferred income tax assets(liabilities)	(8,554)	30,064	(580)	20,930

(in millions of Korean won)

	2015			
	Beginning balance	Increase (decrease)		Ending balance
		Profit for the period	Other comprehensive income	
Defined benefit liability	132,262	29,900	-	162,162
Plan assets	(124,936)	(26,966)	-	(151,902)
Reserve for research and human resources development	(171,820)	55,660	-	(116,160)
Provision for impairment on receivables	679	(55)	-	624
Property, plant and equipment	19,033	(10,951)	-	8,082
Investments in subsidiaries, associates and joint ventures	(1,046)	39,580	-	38,534
Accrued income	(1,430)	(477)	-	(1,907)
Others	192	39,573	189	39,954
	(147,066)	126,264	189	(20,613)
Tax credit carryforwards	5,470	6,589	-	12,059
Deferred income tax assets(liabilities)	(141,596)	132,853	189	(8,554)

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

The reconciliations between income tax expense and accounting profit for the periods ended December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	2016	2015
Profit before income tax expense	1,744,074	1,526,448
Tax at domestic tax rates applicable	421,605	371,630
Tax effects of:		
Income not subject to tax	(8,883)	(7,839)
Expenses not deductible for tax purposes	7,256	10,941
Unrecognized deferred income tax for temporary differences in the current year	4,246	43,181
Tax credit	(64,833)	(100,806)
Others	5,094	5,486
Income tax expense	364,485	322,593
Effective tax rate (income tax expense/ profit before income tax)	20.90%	21.13%

Realization of deferred tax assets is dependent on the Group's ability to generate future taxable profits in excess of the profits arising from the reversal of taxable temporary differences, and economic and industry outlooks. Management periodically reviews on these factors.

Details of deductible (taxable) temporary differences unrecognized as deferred tax assets (liabilities) as at December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	2016	2015
Investment in subsidiaries, associates and joint ventures	211,503	193,957
Goodwill	(8,193)	(8,193)
Total	203,310	185,764

The maturity of unused loss is as follows:

<i>(in millions of Korean won)</i>	2016	2015
2019	-	1,333

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

30. Earnings per Share

Basic earnings per share is calculated by dividing the profit attributable to by the weighted average number of ordinary shares outstanding during the financial year excluding treasury shares. As at the reporting date, the Company has no potential ordinary shares. Preferred shares have a right to participate in the profits of the Company. These participation rights have been considered in presenting the EPS for ordinary shares and preferred shares.

Basic earnings per share for the periods ended December 31, 2016 and 2015, is computed as follows:

Basic earnings per ordinary share

*(in millions of Korean won and
in number of shares)*

	2016	2015
Profit attributable to ordinary shares ¹	1,236,224	1,078,709
Weighted average number of ordinary shares outstanding ²	<u>65,911,305</u>	<u>65,911,305</u>
Basic earnings per ordinary share (in won)	<u>18,756</u>	<u>16,366</u>

Basic earnings per preferred share

*(in millions of Korean won and
in number of shares)*

	2016	2015
Profit attributable to preferred shares ¹	143,365	125,146
Weighted average number of ordinary shares outstanding ²	<u>7,623,402</u>	<u>7,623,402</u>
Basic earnings per preferred share (in won)	<u>18,806</u>	<u>16,416</u>

¹ Profit attributable to ordinary and preferred shares are as follows:

<i>(in millions of Korean won)</i>	2016	2015
Profit for the period	1,379,589	1,203,855
Ordinary shares dividends (A)	296,601	296,601
Preferred shares dividends (B)	34,686	34,686
Undistributed earnings for the period	1,048,302	872,568
Undistributed earnings available for ordinary shares (C)	939,623	782,108
Undistributed earnings available for preferred shares (D)	108,679	90,460
Profit for the period attributable to ordinary shares (A+C)	1,236,224	1,078,709
Profit for the period attributable to preferred shares (B+D)	143,365	125,146

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

² Weighted average numbers of shares are calculated as follows:

Ordinary shares outstanding	Period	2016		
		Number of shares	Number of days	Number of shares x days
Beginning balance	2016. 1. 1 ~ 2016.12.31	65,911,305	366	24,123,537,630
Total				<u>24,123,537,630</u>

Weighted average number of ordinary shares outstanding: $24,123,537,630 / 366 = 65,911,305$ shares

Preferred shares outstanding	Period	2016		
		Number of shares	Number of days	Number of shares x days
Beginning balance	2016. 1. 1 ~ 2016.12.31	7,623,402	366	2,790,165,132
Total				<u>2,790,165,132</u>

Weighted average number of preferred shares outstanding: $2,790,165,132 / 366 = 7,623,402$ shares

Ordinary shares outstanding	Period	2015		
		Number of shares	Number of days	Number of shares x days
Beginning balance	2015. 1. 1 ~ 2015.12.31	65,911,305	365	24,057,626,325
Total				<u>24,057,626,325</u>

Weighted average number of ordinary shares outstanding: $24,057,626,325 / 365 = 65,911,305$ shares

Preferred shares outstanding	Period	2015		
		Number of shares	Number of days	Number of shares x days
Beginning balance	2015. 1. 1 ~ 2015.12.31	7,623,402	365	2,782,541,730
Total				<u>2,782,541,730</u>

Weighted average number of preferred shares outstanding: $2,782,541,730 / 365 = 7,623,402$ shares

There were no dilutive potential outstanding ordinary shares at the reporting date. Accordingly, diluted earnings per share of the Company is identical to basic earnings per share.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

31. Dividends

Details of dividends for the periods ended December 31, 2016 and 2015, are as follows:

	2016	2015
Number of shares entitled to dividends: shares issued and outstanding (par value per share: ₩5,000)		
Ordinary shares	65,911,305	65,911,305
Preferred shares	7,623,402	7,623,402
Dividend per share (in won)		
Ordinary shares: cash	5,000(100%)	4,500(90%)
Preferred shares: cash	5,050(101%)	4,550(91%)
Cash dividends to distribute (in millions of Korean won)		
Ordinary shares	329,557	296,601
Preferred shares	38,498	34,686
	<u>368,055</u>	<u>331,287</u>

Dividend payout ratios for the periods ended December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	2016	2015
Dividends (A)	368,055	331,287
Profit for the period (B)	1,379,589	1,203,855
Dividend payout ratio (A/B)	<u>26.68%</u>	<u>27.52%</u>

Dividend yield ratios for the periods ended December 31, 2016 and 2015, are as follows:

<i>(in Korean won)</i>	2016		2015	
	Ordinary shares	Preferred Shares	Ordinary shares	Preferred Shares
Dividend per share (A)	5,000	5,050	4,500	4,550
Market value at the end of year (B) ¹	264,700	180,600	336,000	251,250
Dividend yield ratio (A/B)	<u>1.89%</u>	<u>2.80%</u>	<u>1.34%</u>	<u>1.81%</u>

¹ Average price in the stock market during the week preceding the two business days before the record date of the shareholders' list for the general meeting of shareholders related to above dividends.

LG Chem, Ltd.

Notes to the Separate Financial Statements

December 31, 2016 and 2015

32. Related Party Transactions

As at December 31, 2016 and 2015, LG Corp. is an entity exercising a significant influence over the Company as it owns 33.53% of the Company's ordinary shares.

Details of other related parties that have sales and other transactions with the Company or have receivables and payables balances, other than consolidated subsidiaries, associates and joint ventures (Note 11), as at December 31, 2016 and 2015, are as follows:

Related party	Related party's subsidiary (Domestic)	Related parties' subsidiary (overseas)	Details
SERVEONE	-	-	Subsidiary of LG Corp.
LG CNS Co., Ltd.	LG N-Sys, Inc. Ever ON Co., Ltd.	LG CNS America Inc. and others	Subsidiary of LG Corp.
LG Siltron Incorporated	-	-	Subsidiary of LG Corp.
LG Management Development Institute	-	-	Subsidiary of LG Corp.
LG SPORTS Ltd.	-	-	Subsidiary of LG Corp.
LG MMA Corporation	-	-	Joint venture of LG Corp.
LG Display Co., Ltd.	-	LG Display Yantai Co., Ltd. and others	LG Enterprise GROUP ¹
LG Electronics, Inc.	LG Innotek Co., Ltd. and others	Inspur LG Digital Mobile Communications Co., Ltd. and others	LG Enterprise GROUP ¹
LG International Corp.	Pantos Logistics Co., Ltd. Hi Logistics Co., Ltd.	LG International (Japan) Ltd. and others	LG Enterprise GROUP ¹
LG Hausys, Ltd.	-	LG Hausys Tianjin Co., Ltd. and others	LG Enterprise GROUP ¹
LG Household & Health Care Ltd.	Coca-Cola Beverage Co.	-	LG Enterprise GROUP ¹
LG Life Sciences Ltd.	-	-	LG Enterprise GROUP ¹
LG Uplus Corp.	-	-	LG Enterprise GROUP ¹
G II R Inc.	HS AD Inc.	-	LG Enterprise GROUP ¹
LG Fuel Cell Systems Inc.	-	-	LG Enterprise GROUP ¹
Silicon Works Co., Ltd.	-	-	LG Enterprise GROUP ¹
LG Holdings Japan	-	-	LG Enterprise GROUP ¹

¹ Although the entity is not the related party of the Company in accordance with Korean IFRS 1024, the entity belongs to a large enterprise group in accordance with the Monopoly Regulation and Fair Trade Act.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

Sales and purchases with related parties for the periods ended December 31, 2016 and 2015, are as follows:

(in millions of Korean won)

	2016			
	Sales and others	Purchase and others		
		Purchase of raw materials /merchandises	Acquisition of property, plant and equipment and intangible assets	Others
Entity with a significant influence over the Company				
LG Corp.	12	-	-	49,446
Subsidiaries				
Ningbo LG Yongxing Chemical Co.,Ltd.	75,355	1,101	-	-
LG Chem HK Ltd.	202,243	-	-	556
LG Chem America, Inc.	624,887	-	-	3,404
LG Chem (Nanjing) Information & Electronics Materials Co.,Ltd.	943,849	1,021,496	-	880
LG Chem (Taiwan), Ltd.	129,301	-	-	8,611
LG Chem Display Materials (Beijing) Co.,Ltd.	19	-	-	8,400
Tianjin LG Bohai Chemical Co.,Ltd.	427	-	-	-
LG Chem (China) Investment Co.,Ltd.	-	-	-	42,118
LG Chem Europe GmbH	406,601	-	-	20,035
LG Chem Poland Sp. z o.o.	10,338	-	-	8,271
LG NanoH2O, Inc.	5,651	855	-	10,455
LG Chem Michigan Inc.	61,795	664	-	-
Nanjing LG Chem New Energy Battery Co., Ltd.	49,218	23,910	-	135
Other	60,245	8,671	-	24,537
Associates and joint ventures				
SEETEC Co.,Ltd.	28,546	100,780	15	82,477
TECWIN Co.,Ltd.	-	208	1,801	-
HL Greenpower Co.,Ltd.	119,257	-	-	-
Other	2,676	-	-	2,347
Other related parties				
LG MMA Corporation	81,839	138,375	-	3,118
SERVEONE	16,718	416,666	107,494	74,395
LG CNS Co., Ltd. and its subsidiaries	24,411	3,440	67,996	48,278
Other	26	-	-	10,419
Other				
LG Display Co., Ltd. and its subsidiaries	941,355	-	-	65
LG Electronics Inc. and its subsidiaries	613,863	124,855	18,519	14,374
LG International Corp. and its subsidiaries	257,640	76,690	10	197,425
LG Hausys, Ltd. and its subsidiaries	200,139	2,965	6,880	78,220
Other	21,688	34,427	310	8,207
Total	4,878,099	1,955,103	203,025	696,173

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

(in millions of Korean won)

	2015			
	Sales and others	Purchase and others		
		Purchase of raw materials /merchandises	Acquisition of property, plant and equipment and intangible assets	Others
Entity with a significant influence over the Company				
LG Corp.	12	-	-	50,241
Subsidiaries				
Ningbo LG Yongxing Chemical Co.,Ltd.	69,217	434	-	-
LG Chem HK Ltd.	212,009	-	-	1,465
LG Chem America, Inc.	609,028	-	-	3,234
LG Chem (Nanjing) Information & Electronics Materials Co.,Ltd.	785,711	1,121,319	-	2,661
LG Chem (Taiwan), Ltd.	208,353	203	-	7,189
LG Chem Display Materials (Beijing) Co.,Ltd.	23	-	-	8,063
Tianjin LG Bohai Chemical Co.,Ltd.	197	-	-	-
LG Chem (China) Investment Co.,Ltd.	-	-	-	40,631
LG Chem Europe GmbH	308,488	-	-	16,498
LG Chem Poland Sp. z o.o.	17,959	360	-	9,877
LG NanoH2O, Inc.	3,144	-	-	5,835
LG Chem Michigan Inc.	60,315	8,350	-	-
Nanjing LG Chem New Energy Battery Co., Ltd.	32,661	-	-	-
Other	44,489	1,326	-	24,072
Associates and joint ventures				
SEETEC Co.,Ltd.	55,230	124,971	209	82,992
TECWIN Co.,Ltd.	-	53	2,423	14
HL Greenpower Co.,Ltd.	54,130	-	-	-
Other	1,563	-	-	1,669
Other related parties				
LG MMA Corporation	91,927	128,519	-	2,632
SERVEONE	18,670	354,678	244,975	68,411
LG CNS Co., Ltd. and its subsidiaries	16,939	17,181	51,710	43,029
Other	26	-	-	9,247
Other				
LG Display Co., Ltd. and its subsidiaries	1,327,297	-	-	-
LG Electronics Inc. and its subsidiaries	536,450	102,988	45,655	14,096
LG International Corp. and its subsidiaries	274,131	59,952	673	70,680
LG Hausys, Ltd. and its subsidiaries	195,565	1,028	14,607	3,274
Other	22,127	39,441	36	8,165
Total	4,945,661	1,960,803	360,288	473,975

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

Balances of receivables and payables arising from sales and purchases of goods and services as at December 31, 2016 and 2015, are as follows:

(in millions of Korean won)

	December 31, 2016			
	Receivables			
	Trade receivables and others	Loan receivables	Other receivables	Total
Entity with a significant influence over the Company				
LG Corp.	-	-	6,572	6,572
Subsidiaries				
Ningbo LG Yongxing Chemical Co.,Ltd.	8,712	-	7,463	16,175
LG Chem HK Ltd.	17,120	-	-	17,120
LG Chem America, Inc.	152,194	-	364	152,558
LG Chem (Nanjing) Information & Electronics Materials Co.,Ltd.	199,740	-	49,355	249,095
LG Chem (Taiwan), Ltd.	43,149	-	47	43,196
LG Chem Display Materials (Beijing) Co.,Ltd.	-	-	11	11
Tianjin LG Bohai Chemical Co.,Ltd.	-	-	253	253
LG Chem (China) Investment Co.,Ltd.	-	-	-	-
LG Chem Europe GmbH	146,380	-	1	146,381
LG Chem Poland Sp. z o.o.	2,354	-	965	3,319
LG NanoH2O, Inc.	2,326	-	46	2,372
LG Chem Michigan Inc.	10,728	-	5,654	16,382
Nanjing LG Chem New Energy Battery Co., Ltd.	5,215	-	3,914	9,129
Other	15,083	-	8,605	23,688
Associates and joint ventures				
SEETEC Co.,Ltd.	-	-	-	-
TECWIN Co.,Ltd.	-	-	-	-
HL Greenpower Co.,Ltd.	43,493	-	-	43,493
LG Fuel Cell Systems Inc.	-	9,857	341	10,198
Other	-	-	20	20
Other related parties				
LG MMA Corporation	8,858	-	567	9,425
SERVEONE	3,128	-	25,883	29,011
LG CNS Co., Ltd. and its subsidiaries	17,152	-	-	17,152
Other	-	-	3,752	3,752
Other				
LG Display Co., Ltd. and its subsidiaries	105,174	-	1,616	106,790
LG Electronics Inc. and its subsidiaries	229,910	-	22,294	252,204
LG International Corp. and its subsidiaries	37,592	-	700	38,292
LG Hausys, Ltd. and its subsidiaries	34,791	-	145	34,936
Other	752	-	937	1,689
Total	1,083,851	9,857	139,505	1,233,213

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

(in millions of Korean won)

	December 31, 2016			
	Payables			
	Trade payables	Borrowings	Other payables	Total
Entity with a significant influence over the Company				
LG Corp.	-	-	420	420
Subsidiaries				
Ningbo LG Yongxing Chemical Co.,Ltd.	-	-	-	-
LG Chem HK Ltd.	-	-	-	-
LG Chem America, Inc.	-	-	484	484
LG Chem (Nanjing) Information & Electronics Materials Co.,Ltd.	-	-	201,888	201,888
LG Chem (Taiwan), Ltd.	-	-	750	750
LG Chem Display Materials (Beijing) Co.,Ltd.	-	-	676	676
Tianjin LG Bohai Chemical Co.,Ltd.	-	-	-	-
LG Chem (China) Investment Co.,Ltd.	-	-	4,407	4,407
LG Chem Europe GmbH	-	-	2,300	2,300
LG Chem Poland Sp. z o.o.	-	-	786	786
LG NanoH2O, Inc.	-	-	3,774	3,774
LG Chem Michigan Inc.	-	-	2,467	2,467
Nanjing LG Chem New Energy Battery Co., Ltd.	-	-	12,695	12,695
Other	1,986	-	1,544	3,530
Associates and joint ventures				
SEETEC Co.,Ltd.	10,009	-	9,695	19,704
TECWIN Co.,Ltd.	76	-	140	216
HL Greenpower Co.,Ltd.	-	-	-	-
LG Fuel Cell Systems Inc.	-	-	-	-
Other	-	-	95	95
Other related parties				
LG MMA Corporation	15,615	-	-	15,615
SERVEONE	-	-	145,722	145,722
LG CNS Co., Ltd. and its subsidiaries	25,609	-	10,344	35,953
Other	-	-	291	291
Other				
LG Display Co., Ltd. and its subsidiaries	-	-	30	30
LG Electronics Inc. and its subsidiaries	59,019	-	4,031	63,050
LG International Corp. and its subsidiaries	7,377	-	23,170	30,547
LG Hausys, Ltd. and its subsidiaries	4,401	-	418	4,819
Other	2,392	-	4,084	6,476
Total	126,484	-	430,211	556,695

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

(in millions of Korean won)

	December 31, 2015			
	Receivables			
	Trade receivables and others	Loan receivables	Other receivables	Total
Entity with a significant influence over the Company				
LG Corp.	-	-	11,463	11,463
Subsidiaries				
Ningbo LG Yongxing Chemical Co.,Ltd.	4,533	-	5,876	10,409
LG Chem HK Ltd.	13,305	-	-	13,305
LG Chem America, Inc.	118,829	-	1,141	119,970
LG Chem (Nanjing) Information & Electronics Materials Co.,Ltd.	148,596	-	34,342	182,938
LG Chem (Taiwan), Ltd.	54,500	-	184	54,684
LG Chem Display Materials (Beijing) Co.,Ltd.	-	-	10	10
Tianjin LG Bohai Chemical Co.,Ltd.	-	-	92	92
LG Chem (China) Investment Co.,Ltd.	-	-	-	-
LG Chem Europe GmbH	98,300	-	118	98,418
LG Chem Poland Sp. z o.o.	5,554	-	1,187	6,741
LG NanoH2O, Inc.	3,638	-	46	3,684
LG Chem Michigan Inc.	21,502	-	2,702	24,204
Nanjing LG Chem New Energy Battery Co., Ltd.	1,903	-	4,019	5,922
Other	3,143	-	5,899	9,042
Associates and joint ventures				
SEETEC Co.,Ltd.	-	-	-	-
TECWIN Co.,Ltd.	-	-	-	-
HL Greenpower Co.,Ltd.	12,833	-	-	12,833
LG Fuel Cell Systems Inc.	-	9,857	-	9,857
Other	-	-	451	451
Other related parties				
LG MMA Corporation	7,801	-	402	8,203
SERVEONE	1,929	-	26,193	28,122
LG CNS Co., Ltd. and its subsidiaries	10,228	-	-	10,228
Other	-	-	3,722	3,722
Other				
LG Display Co., Ltd. and its subsidiaries	121,133	-	2,353	123,486
LG Electronics Inc. and its subsidiaries	124,481	-	17,115	141,596
LG International Corp. and its subsidiaries	36,515	-	689	37,204
LG Hausys, Ltd. and its subsidiaries	32,155	-	217	32,372
Other	1,432	-	752	2,184
Total	822,310	9,857	118,973	951,140

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

(in millions of Korean won)

	December 31, 2015			
	Payables			
	Trade payables	Borrowings	Other payables	Total
Entity with a significant influence over the Company				
LG Corp.	-	-	-	-
Subsidiaries				
Ningbo LG Yongxing Chemical Co.,Ltd.	-	-	-	-
LG Chem HK Ltd.	-	-	67	67
LG Chem America, Inc.	-	-	295	295
LG Chem (Nanjing) Information & Electronics Materials Co.,Ltd.	-	-	193,443	193,443
LG Chem (Taiwan), Ltd.	-	-	854	854
LG Chem Display Materials (Beijing) Co.,Ltd.	55	-	794	849
Tianjin LG Bohai Chemical Co.,Ltd.	-	-	-	-
LG Chem (China) Investment Co.,Ltd.	-	-	4,490	4,490
LG Chem Europe GmbH	-	-	942	942
LG Chem Poland Sp. z o.o.	-	-	809	809
LG NanoH2O, Inc.	-	-	4,859	4,859
LG Chem Michigan Inc.	-	-	269	269
Nanjing LG Chem New Energy Battery Co., Ltd.	-	-	-	-
Other	569	-	1,860	2,429
Associates and joint ventures				
SEETEC Co.,Ltd.	-	-	20,725	20,725
TECWIN Co.,Ltd.	-	-	215	215
HL Greenpower Co.,Ltd.	-	-	5	5
LG Fuel Cell Systems Inc.	-	-	-	-
Other	-	-	60	60
Other related parties				
LG MMA Corporation	8,149	-	-	8,149
SERVEONE	-	-	120,443	120,443
LG CNS Co., Ltd. and its subsidiaries	812	-	25,488	26,300
Other	-	-	296	296
Other				
LG Display Co., Ltd. and its subsidiaries	-	-	-	-
LG Electronics Inc. and its subsidiaries	16,709	-	2,346	19,055
LG International Corp. and its subsidiaries	7,382	-	16,661	24,043
LG Hausys, Ltd. and its subsidiaries	643	-	335	978
Other	2,359	-	4,937	7,296
Total	36,678	-	400,193	436,871

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

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

(in millions of Korean won)

	2016		2015	
	Equity contributions in cash (capital reduction)	Loan (Repayment)	Equity contributions in cash(Capital reduction)	Loan (Repayment)
Subsidiaries				
FarmHannong Co.,Ltd.	300,000	-	-	-
LG Chem (China) Investment Co.,Ltd.	7,165	-	6,417	-
LG Chem (Chongqing) Engineering Plastics Co., Ltd.	-	-	9,269	-
LG Chem (Nanjing) Information & Electronics Materials Co.,Ltd.	80,356	-	16,504	-
Nanjing LG Chem New Energy Battery Co., Ltd.	7,823	-	9,201	-
LG Chem Poland Sp. z o.o.	-	-	11,546	-
LG Chem Wroclaw Energy Sp. z o.o.	10,468	-	-	-
LG NanoH2O, Inc.	-	-	93,899	(76,356)
LG Chem(HUIZHOU) Petrochemical Co., Ltd	58,771	-	-	-
NanoH2O (Jiangsu) Water Processing Technology Co. Ltd. ¹	6,400	-	-	-
Associates and joint ventures				
LG Fuel Cell Systems Inc.	17,555	-	-	9,897
KLPE Limited Liability Partnership	(23,724)	-	-	-
LG Chem Malaysia Sdn.Bhd.	-	-	150	-
Total	464,814	-	146,986	(66,459)

¹During the year, the Company acquired 100% shares of NanoH2O (Jiangsu) Water Processing Technology Co. Ltd., Inc. from NanoH2O Singapore Private Ltd.

Dividends received from related parties for the periods ended December 31, 2016 and 2015, are as follows:

(in millions of Korean won)

	2016	2015
Subsidiaries		
LG Chem (Nanjing) Information & Electronics Materials Co.,Ltd.	-	5,656
LG Chem (Tianjin) Engineering Plastics Co.,Ltd.	-	2,976
Ningbo LG Yongxing Chemical Co.,Ltd.	45,778	44,640
LG Chem (Taiwan), Ltd.	10,379	8,982
LG Chemical (Guangzhou) Engineering Plastics Co.,Ltd.	1,781	-
Associates and joint ventures		
SEETEC Co.,Ltd.	17,500	33,500
LG VINA Chemical Co.,Ltd.	926	993
Total	76,364	96,747

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

Dividends paid to related parties for the periods ended December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	2016	2015
Entities with significant influence over the Company		
LG Corp.	99,987	88,877

Compensation for key management of the Company for the periods ended December 31, 2016 and 2015, consists of:

<i>(in millions of Korean won)</i>	2016	2015
Short-term employee benefits	38,838	46,757
Post-employment benefits	2,846	2,437
Total	<u>41,684</u>	<u>49,194</u>

Key management includes directors and audit committee members having duties and responsibilities over planning, operations and controlling of the Company's business activities.

There are no provision recognized for receivables of related parties as at December 31, 2016 and no impairment loss on receivables for related parties are recognized for the periods ended December 31, 2016 and 2015.

Details of the guarantees provided by the Company for related parties at the reporting date are disclosed in Note 19.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

33. Cash generated from operations

Reconciliation between profit before income tax and cash generated from operations for the periods ended December 31, 2016 and 2015, is as follows:

<i>(in millions of Korean won)</i>	2016	2015
Profit before income tax	1,744,074	1,526,448
Adjustments for:		
Depreciation	961,076	953,958
Amortization	44,903	35,230
Post-employment benefits	116,214	103,757
Finance income	(182,373)	(158,226)
Finance costs	69,307	61,341
Foreign exchange differences	(5,045)	53,902
Loss on valuation of inventories	21,745	7,498
Gain on disposal of property, plant and equipment	(5,556)	(7,564)
Gain on disposal of business	-	(122,295)
Loss on disposal of property, plant and equipment	14,587	73,726
Loss on disposal of intangible assets	1,342	330
Impairment loss on property, plant and equipment	48,915	16,727
Impairment loss on intangible assets	535	1,093
Reversal of impairment loss on property, plant and equipment	-	(5,520)
Impairment loss on investments in subsidiaries	-	102,115
Reversal of impairment loss on investments in subsidiaries	-	(55,696)
Impairment loss on investments in joint ventures	-	163,556
Gain on disposal of investments in joint ventures	(4,015)	-
Additions to provisions	110,444	50,339
Other expenses	3,206	169
Decrease (increase) in inventories	(69,561)	363,089
Decrease (increase) in trade receivables	(187,798)	45,863
Decrease (increase) in other receivables	(20,826)	3,770
Decrease (increase) in other current assets	(48,295)	98,776
Decrease (increase) in derivatives	(1,408)	549
Increase (decrease) in trade payables	221,099	(174,799)
Increase (decrease) in other payables	114,020	(224,348)
Increase (decrease) in other current liabilities	(45,633)	59,585
Decrease in net defined benefit liabilities	(174,214)	(131,431)
Decrease in provisions	(67,010)	(43,277)
Other cash flows from operations	3,848	31,466
Cash generated from operations	<u>2,663,581</u>	<u>2,830,131</u>

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

The significant non-cash transactions for the periods ended December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	2016	2015
Transfer of construction-in-progress	686,371	1,177,861
Transfer of machinery-in-transit	39,604	158,456
Reclassification of long-term borrowings into current maturities	204,659	109,762
Reclassification of asset held for sale	2,306	6,500
Acquisition of finance lease assets	-	42,669

34. Appropriation of Retained Earnings

The appropriation of retained earnings for the year ended December 31, 2016, is expected to be appropriated at the shareholders' meeting on March 17, 2017. The appropriation date for the year ended December 31, 2015, was March 18, 2016.

The appropriation of retained earnings for the periods ended December 31, 2016 and 2015, is as follows:

<i>(in millions of Korean won)</i>	2016	2015
Unappropriated retained earnings carried over from prior year	-	-
Profit for the period	1,379,589	1,203,855
Remeasurements of net defined benefit liabilities	(18,346)	(15,758)
Retained earnings available for appropriation	1,361,243	1,188,097
Transfer from other reserves		
Reserve for technology development	246,666	230,000
Appropriation of retained earnings		
Legal reserve	-	-
Dividends	368,055	331,287
Reserve for technology development	1,239,854	1,086,810
	1,607,909	1,418,097
Unappropriated retained earnings to be carried forward	-	-

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

35. Business Combination

On August 31, 2016, the Company acquired assets and liabilities relating to Pressure Sensitive Adhesive Application business from LG Hausys, Ltd. As a result of the business combination, the Company expects an increase in sales through diversification of market such as adding business portfolio by expanding a business field to an industrial adhesive film area.

Goodwill of ₩ 4,112 million arose from the business combination is resulted from the customer relationship newly acquired and sales increase from combination of the Company and Pressure Sensitive Adhesive Application business.

The following table summarizes the consideration paid for LG Hausys, Ltd. relating to acquiring Pressure Sensitive Adhesive Application business, the fair value of assets acquired and liabilities assumed at the acquisition date:

<i>(in millions of Korean won)</i>	Amount
Consideration	
Cash and cash equivalents	75,303
Total consideration	<u>75,303</u>
Recognized amounts of identifiable assets acquired and liabilities assumed	
Trade receivables	15,958
Inventories	9,998
Property, plant and equipment	43,006
Intangible assets	13,487
Other assets	1,298
Trade payables	(12,356)
Net defined benefit obligations	(200)
Fair value of identifiable net assets	<u>71,191</u>
Goodwill	<u>4,112</u>
Total	<u><u>75,303</u></u>

The fair value and gross contractual amount for trade receivables at the acquisition date are ₩ 15,958 million, respectively. No trade receivables are expected to be uncollectible.

The revenues of ₩33,745 million and profit for the period of ₩305 million arise after the acquisition date reflected in the separate statement of profit or loss.

The Company has the right to be reimbursed from LG Hausys, Ltd. for damages resulted from lawsuits filed prior to the business combination of the Pressure Sensitive Adhesive Application business.

On November 1, 2016, the Company acquired assets and liabilities relating to Positive electrode business from GSEM Co., Ltd. As a result of the business combination, the Company expects to result in upgrade of Positive electrode manufacturing technologies and enhancement of competency in battery production through vertical integration.

The following table summarizes the consideration paid for GSEM CO., LTD. in relation to acquiring Positive Electrode business, the fair value of assets acquired and liabilities assumed at the acquisition date:

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

<i>(in millions of Korean won)</i>	Amount
Consideration	
Cash and cash equivalents	59,307
Total consideration	<u>59,307</u>
Recognized amounts of identifiable assets acquired and liabilities assumed	
Cash and cash equivalents	800
Inventories	12,318
Property, plant and equipment	47,155
Intangible assets	153
Investment property	1,041
Other assets	928
Provisions	(800)
Net defined benefit liabilities	(838)
Other liabilities	(1,450)
Fair value of identifiable net assets	<u>59,307</u>
Goodwill	-
Total	<u><u>59,307</u></u>

The revenues of ₩40 million and profit for the period of ₩3 million arise after the acquisition date reflected in the separate statement of profit or loss.

If all the acquisitions had occurred on January 1, 2016, the revenue and profit for the year ended December 31, 2016, would have been ₩17,317,724 million and ₩1,369,591 million, respectively.

36. Assets held for sale

The Company decided to dispose of certain non-current assets related to the separator division with the approval of the management on September 25, 2015, and the disposal was completed during the year 2016. The Company also decided to dispose of the Electrolyte division with the approval of the management on February 29, 2016. The related assets were reclassified as assets held for sale. The disposal is expected to be completed in 2017.

Details of assets of disposal group classified as assets held for sale as at December 31, 2016 and 2015, are as follows:

<i>(in millions of Korean won)</i>	December 31, 2016	December 31, 2015
Assets of disposal group		
Property, plant and equipment	<u>2,306</u>	<u>6,500</u>
Total	<u><u>2,306</u></u>	<u><u>6,500</u></u>

Assets of the disposal group were measured at fair value immediately before the initial classification as assets held for sale and the related other non-operating expenses (income) for the periods ended December 31, 2016 and 2015, is as follows:

<i>(in millions of Korean won)</i>	2016	2015
Impairment loss (reversal) on property, plant and equipment	<u>1,216</u>	<u>(5,520)</u>
Total	<u><u>1,216</u></u>	<u><u>(5,520)</u></u>

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2016 and 2015

37. Events after the reporting period

In order to enhance future-oriented business portfolio and leap into a global player of red bio industry by enlarging investment in long-term and stable new drugs development, the Company merged LG Life Sciences, Ltd. on January 1, 2017 with a resolution of the Board of directors on September 12, 2016.

The Company issued its shares by a ratio described below on the date of merger. The Company is in the process of accounting and is analyzing the financial impact of the merger.

	LG Chem, Ltd.	LG Life Sciences, Ltd.
Ordinary shares	<u>1</u>	<u>0.2606772</u>
Preferred shares	<u>1</u>	<u>0.2534945</u>

The Company provided financial guarantee on February 16, 2017 for public offering bond of ₩ 200,000 million issued by FarmHannong Co., Ltd., one of the subsidiaries of the Company.

38. Approval of Issuance of the Financial Statements

The separate financial statements 2016 were approved for issue by the Board of Directors on January 25, 2017 and are subject to change with approval of shareholders at their Annual General Meeting.

Report on Independent Accountants' Review of Internal Accounting Control System

To the Representative Director of
LG Chem, Ltd.

We have reviewed the accompanying management's report on the operations of the Internal Accounting Control System (IACS) of LG Chem, Ltd. (the Company) as at December 31, 2016. The Company's management is responsible for designing and operating IACS and for its assessment of the effectiveness of IACS. Our responsibility is to review the management's report on the operations of the IACS and issue a report based on our review. The management's report on the operations of the IACS of the Company states that "based on the assessment on the operations of the IACS, the Company's IACS has been effectively designed and is operating as at December 31, 2016, in all material respects, in accordance with the IACS standards."

Our review was conducted in accordance with the IACS review standards established by the Korean Institute of Certified Public Accountants. Those standards require that we plan and perform, in all material respects, the review of management's report on the operations of the IACS to obtain a lower level of assurance than an audit. A review is to obtain an understanding of a company's IACS and consists principally of inquiries of management and, when deemed necessary, a limited inspection of underlying documents, which is substantially less in scope than an audit.

A company's IACS is a system to monitor and operate those policies and procedures designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with Korean IFRS. Because of its inherent limitations, IACS may not prevent or detect a material misstatement of the financial statements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Based on our review, nothing has come to our attention that causes us to believe that management's report on the operations of the IACS, referred to above, is not presented fairly, in all material respects, in accordance with the IACS standards established by IACSOC.

Our review is based on the Company's IACS as at December 31, 2016, and we did not review management's assessment of its IACS subsequent to December 31, 2016. This report has been prepared pursuant to the Acts on External Audit for Stock Companies in Korea and may not be appropriate for other purposes or for other users.

Samil PricewaterhouseCoopers

March 8, 2017

Report on the Operations of the Internal Accounting Control System

To the Board of Directors and Audit Committee of
LG Chem, Ltd.

I, as the Internal Accounting Control Officer (IACO) of LG Chem, Ltd. (the Company), assessed the status of the design and operations of the Company's internal accounting control system (IACS) for the year ended December 31, 2016.

The Company's management including IACO is responsible for designing and operating IACS. I, as the IACO, assessed whether the IACS has been effectively designed and is operating to prevent and detect any error or fraud which may cause any misstatement of the financial statements, for the purpose of establishing the reliability of financial reporting and the preparation of financial statements for external purposes. I, as the IACO, applied the IACS standard for the assessment of design and operations of the IACS.

Based on the assessment on the operations of the IACS, the Company's IACS has been effectively designed and is operating as at December 31, 2016, in all material respects, in accordance with the IACS standards.

January 25, 2017

Ho-Young Jeong, Internal Accounting Control Officer

Jin-Soo Park, Chief Executive Officer