

**LG Chem, Ltd. and Subsidiaries**  
**Consolidated Interim Financial Statements**  
**June 30, 2018 and 2017**

**LG Chem, Ltd. and Subsidiaries**  
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**June 30, 2018 and 2017**

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## **Report on Review of Interim Financial Statements**

(English Translation of a Report Originally Issued in Korean)

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

### ***Reviewed Financial Statements***

We have reviewed the accompanying consolidated interim financial statements of LG Chem, Ltd. and its subsidiaries (collectively referred to as the "Group"). These financial statements consist of the consolidated interim statement of financial position of the Group as at June 30, 2018, and the related consolidated interim statements of profit or loss and comprehensive income for the three-month and six-month periods ended June 30, 2018 and 2017, and consolidated interim statements of changes in equity and cash flows for the six-month periods ended June 30, 2018 and 2017, and a summary of significant accounting policies and other explanatory notes, expressed in Korean won.

### ***Management's Responsibility for the Financial Statements***

Management is responsible for the preparation and fair presentation of these consolidated interim financial statements in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS) 1034 *Interim Financial Reporting*, and for such internal control as management determines is necessary to enable the preparation of consolidated interim financial statements that are free from material misstatement, whether due to fraud or error.

### ***Auditor's Responsibility***

Our responsibility is to issue a report on these consolidated interim financial statements based on our review.

We conducted our review in accordance with quarterly or semi-annual review standards established by the Securities and Futures Commission of the Republic of Korea. A review of interim financial information consists of making inquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with Korean Standards on Auditing and consequently does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

**Conclusion**

Based on our review, nothing has come to our attention that causes us to believe the accompanying consolidated interim financial statements are not presented fairly, in all material respects, in accordance with Korean IFRS 1034 *Interim Financial Reporting*.

**Other Matters**

We have audited the consolidated statement of financial position of the Group as at December 31, 2017, and the related consolidated statements of profit or loss, comprehensive income, changes in equity and cash flows for the year then ended, in accordance with Korean Standards on Auditing. We expressed an unqualified opinion on those financial statements, not presented herein, in our audit report dated March 6, 2018. The consolidated statement of financial position as at December 31, 2017, presented herein for comparative purposes, is consistent, in all material respects, with the above audited statement of financial position as at December 31, 2017.

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

Seoul, Korea  
August 14, 2018

This report is effective as of August 14, 2018, the review report date. Certain subsequent events or circumstances, which may occur between the review report date and the time of reading this report, could have a material impact on the accompanying consolidated interim financial statements and notes thereto. Accordingly, the readers of the review report should understand that there is a possibility that the above review report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

**LG Chem, Ltd. and Subsidiaries**  
**Consolidated Interim Statements of Financial Position**  
**June 30, 2018 (Unaudited) and December 31, 2017**

<i>(in millions of Korean won)</i>	Notes	June 30, 2018 (Unaudited)	December 31, 2017
<b>Assets</b>			
<b>Current assets</b>			
Cash and cash equivalents	3, 5, 6	2,351,721	2,249,341
Trade receivables	3, 5, 7, 31	5,145,795	4,448,669
Other receivables	3, 5, 7, 31	644,181	770,776
Prepaid income taxes		270	932
Financial assets	3, 5, 8	169	-
Other current assets	13	530,905	376,814
Inventories	9	3,949,709	3,352,454
Assets held for sale	35	4,268	6,595
Total current assets		12,627,018	11,205,581
<b>Non-current assets</b>			
Other receivables	3, 5, 7	121,179	126,429
Financial assets	3, 5, 8	35,131	23,782
Investments in associates and joint ventures	1, 10, 33	256,686	264,096
Deferred tax assets	28	318,883	281,506
Property, plant and equipment	11	12,077,767	11,211,482
Intangible assets	12	1,857,954	1,823,155
Investment properties		1,021	1,027
Other non-current assets	13	103,643	104,163
Total non-current assets		14,772,264	13,835,640
<b>Total assets</b>		27,399,282	25,041,221
<b>Liabilities</b>			
<b>Current liabilities</b>			
Trade payables	3, 5, 31	2,155,719	2,014,779
Other payables	3, 5, 31	1,448,444	1,847,222
Borrowings	3, 5, 14	1,903,102	1,451,324
Provisions	15	95,622	62,940
Income tax payables	28	248,458	414,110
Other current liabilities	17	770,768	854,283
Liabilities held for sale	35	30	31
Total current liabilities		6,622,143	6,644,689
<b>Non-current liabilities</b>			
Other payables	3, 5	10,265	8,646
Borrowings	3, 5, 14	3,210,899	1,593,625
Financial liabilities	3, 5, 8	534	-
Provisions	15	169,599	163,476
Net defined benefit liabilities	16	251,237	180,681
Deferred tax liabilities	28	39,485	42,627
Other non-current liabilities	17	86,446	68,900
Total non-current liabilities		3,768,465	2,057,955
<b>Total liabilities</b>		10,390,608	8,702,644

**LG Chem, Ltd. and Subsidiaries**  
**Consolidated Interim Statements of Financial Position**  
**June 30, 2018 (Unaudited) and December 31, 2017**

<i>(in millions of Korean won)</i>	Notes	June 30, 2018 (Unaudited)	December 31, 2017
<b>Equity</b>			
Share capital	1, 19	391,406	391,406
Capital surplus		2,274,386	2,274,386
Other components of equity	21	(362,676)	(362,676)
Accumulated other comprehensive income		(93,912)	(173,839)
Retained earnings	20	14,584,854	14,039,250
<b>Equity attributable to owners of the Parent Company</b>		<u>16,794,058</u>	<u>16,168,527</u>
<b>Non-controlling interest</b>		214,616	170,050
<b>Total equity</b>		<u>17,008,674</u>	<u>16,338,577</u>
<b>Total liabilities and equity</b>		<u>27,399,282</u>	<u>25,041,221</u>

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

**LG Chem, Ltd. and Subsidiaries**  
**Consolidated Interim Statements of Profit or Loss**  
**Three-Month and Six-Month Periods Ended June 30, 2018 and 2017 (Unaudited)**

<i>(in millions of Korean won, except per share amounts)</i>	<b>Notes</b>	<b>Period Ended June 30</b>			
		<b>2018</b>		<b>2017</b>	
		<b>(Unaudited)</b>		<b>(Unaudited)</b>	
		<b>Three months</b>	<b>Six months</b>	<b>Three months</b>	<b>Six months</b>
<b>Revenue</b>	31, 33	7,051,853	13,605,443	6,382,062	12,868,730
<b>Cost of sales</b>	23, 31	(5,580,273)	(10,792,302)	(5,011,211)	(10,084,263)
<b>Gross profit</b>		1,471,580	2,813,141	1,370,851	2,784,467
Selling and administrative expenses	22, 23, 31	(768,289)	(1,459,009)	(643,981)	(1,260,689)
<b>Operating profit</b>	33	703,291	1,354,132	726,870	1,523,778
Finance income	5, 25	70,032	117,859	63,614	120,557
Finance costs	5, 25	(146,313)	(180,223)	(56,632)	(157,819)
Share of net profit of associates and joint ventures accounted for using the equity method	10	(1,200)	(457)	426	3,657
Other non-operating income	5, 26	179,852	243,804	177,983	271,059
Other non-operating expenses	5, 27	(161,410)	(237,667)	(182,667)	(333,337)
<b>Profit before income tax</b>	32	644,252	1,297,448	729,594	1,427,895
<b>Income tax expense</b>	28	(150,857)	(251,309)	(139,272)	(289,476)
<b>Profit for the period</b>		493,395	1,046,139	590,322	1,138,419
<b>Profit is attributable to:</b>					
Owners of the Parent Company		477,724	1,009,073	577,077	1,108,567
Non-controlling interests		15,671	37,066	13,245	29,852
<b>Earnings per share attributable to the equity holders of the Parent Company (in won)</b>	29				
Basic earnings per ordinary share		6,234	13,169	7,531	14,467
Basic earnings per preferred share		6,247	13,194	7,544	14,492
Diluted earnings per ordinary share		6,177	13,063	7,531	14,467
Diluted earnings per preferred share		6,190	13,088	7,544	14,492

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

**LG Chem, Ltd. and Subsidiaries**  
**Consolidated Interim Statements of Comprehensive Income**  
**Three-Month and Six-Month Periods Ended June 30, 2018 and 2017 (Unaudited)**

(in millions of Korean won)	Notes	Period Ended June 30			
		2018		2017	
		(Unaudited)		(Unaudited)	
		Three months	Six months	Three months	Six months
<b>Profit for the period</b>		493,395	1,046,139	590,322	1,138,419
<b>Other comprehensive income</b>					
<i>Items that will not be reclassified to profit or loss</i>					
Remeasurements of net defined benefit liability	16	(2,010)	(4,673)	(2,897)	(10,218)
Gain on valuation of financial assets at fair value through other comprehensive income		1,247	3,568	-	-
Shares of remeasurements of net defined benefit liabilities of associates		(210)	(60)	2	62
Income tax relating to these items		178	2	700	2,472
<i>Items that may be subsequently reclassified to profit or loss</i>					
Exchange differences on translation of foreign operations		5,824	86,920	59,505	(52,792)
Cash flow hedge		233	233	-	-
Shares of other comprehensive income of joint ventures and associates		135	1,836	(362)	(3,521)
Changes in valuation of available-for-sale financial instruments		-	-	(1,411)	(1,329)
Income tax relating to these items		(358)	(3,689)	1,527	(1,830)
<b>Other comprehensive income for the period, net of tax</b>		5,039	84,137	57,064	(67,156)
<b>Total comprehensive income for the period</b>		498,434	1,130,276	647,386	1,071,263
<b>Total comprehensive income for the period is attributable to:</b>					
Owners of the Parent Company		483,143	1,085,710	629,755	1,045,463
Non-controlling interest		15,291	44,566	17,631	25,800

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



**LG Chem, Ltd. and Subsidiaries**  
**Consolidated Interim Statements of Changes in Equity**  
**Six-Month Periods Ended June 30, 2018 and 2017 (Unaudited)**

(in millions of Korean won)

	Notes	Attributable to owners of the Parent Company					Total	Non-controlling interests	Total equity
		Share capital	Capital surplus	Other components of equity	Accumulated other comprehensive income	Retained earnings			
<b>Balance at January 1, 2017</b>		369,500	1,157,772	(15,699)	(36,993)	12,462,772	13,937,352	113,615	14,050,967
<b>Comprehensive income</b>									
Profit for the period		-	-	-	-	1,108,567	1,108,567	29,852	1,138,419
Remeasurements of net defined benefit liability	16	-	-	-	-	(7,749)	(7,749)	3	(7,746)
Exchange differences on translation of foreign operations		-	-	-	(50,888)	-	(50,888)	(4,055)	(54,943)
Change in the fair value of available-for-sale financial instruments		-	-	-	(1,008)	-	(1,008)	-	(1,008)
Others		-	-	-	(3,521)	62	(3,459)	-	(3,459)
<b>Total comprehensive income for the period</b>		-	-	-	(55,417)	1,100,880	1,045,463	25,800	1,071,263
<b>Transactions with owners:</b>									
Business combination	34	21,906	1,116,614	(337,211)	-	-	801,309	-	801,309
Purchase of treasury shares	34	-	-	(2,250)	-	-	(2,250)	-	(2,250)
Dividends	30	-	-	-	-	(368,055)	(368,055)	(17,627)	(385,682)
Others		-	-	-	-	(726)	(726)	(245)	(971)
<b>Total transactions with owners</b>		21,906	1,116,614	(339,461)	-	(368,781)	430,278	(17,872)	412,406
<b>Balance at June 30, 2017 (Unaudited)</b>		391,406	2,274,386	(355,160)	(92,410)	13,194,871	15,413,093	121,543	15,534,636
<b>Balance at January 1, 2018</b>		391,406	2,274,386	(362,676)	(173,839)	14,039,250	16,168,527	170,050	16,338,577
<b>Comprehensive income</b>									
Profit for the period		-	-	-	-	1,009,073	1,009,073	37,066	1,046,139
Remeasurements of net defined benefit liability	16	-	-	-	-	(3,394)	(3,394)	-	(3,394)
Exchange differences on translation of foreign operations		-	-	-	75,795	-	75,795	7,500	83,295
Gain on valuation of financial assets at fair value through other comprehensive income		-	-	-	2,291	-	2,291	-	2,291
Others		-	-	-	2,005	(60)	1,945	-	1,945
<b>Total comprehensive income for the period</b>		-	-	-	80,091	1,005,619	1,085,710	44,566	1,130,276
<b>Transactions with owners:</b>									
Dividends	30	-	-	-	-	(460,058)	(460,058)	-	(460,058)
Others		-	-	-	(164)	43	(121)	-	(121)
<b>Total transactions with owners</b>		-	-	-	(164)	(460,015)	(460,179)	-	(460,179)
<b>Balance at June 30, 2018 (Unaudited)</b>		391,406	2,274,386	(362,676)	(93,912)	14,584,854	16,794,058	214,616	17,008,674

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

**LG Chem, Ltd. and Subsidiaries**  
**Consolidated Interim Statements of Cash Flows**  
**Six-Month Periods Ended June 30, 2018 and 2017 (Unaudited)**

(in millions of Korean won)

	Notes	Period Ended June 30	
		2018 (Unaudited)	2017 (Unaudited)
<b>Cash flows from operating activities</b>			
Cash generated from operations	32	592,066	1,442,876
Interest received		21,314	13,625
Interest paid		(53,154)	(51,353)
Dividends received		9,992	10,204
Income taxes paid		(451,897)	(236,456)
<b>Net cash inflow from operating activities</b>		<b>118,321</b>	<b>1,178,896</b>
<b>Cash flows from investing activities</b>			
Decrease in other receivables		514,754	622,072
Decrease in other non-current receivables		33,950	40,300
Decrease in other current financial assets		359	-
Proceeds from disposal of investments in subsidiaries		-	343
Proceeds from disposal of investments in associates		19,499	-
Proceeds from disposal of financial assets		8,465	-
Proceeds from disposal of property, plant and equipment		217,071	8,930
Proceeds from disposal of intangible assets		1,137	7,569
Government grants received		-	29,628
Business combination, net of cash acquired		-	43,759
Proceeds from disposal of business		-	2,022
Increase in other receivables		(465,157)	(261,100)
Increase in other non-current receivables		(16,537)	(47,219)
Acquisition of investments in associates and joint ventures		(2,061)	(28,720)
Acquisition of financial assets		(15,187)	(1,709)
Acquisition of property, plant and equipment		(1,804,602)	(762,869)
Acquisition of intangible assets		(49,688)	(34,109)
<b>Net cash inflow (outflow) from investing activities</b>		<b>(1,557,997)</b>	<b>(381,103)</b>
<b>Cash flows from financing activities</b>			
Proceeds from borrowings		2,206,602	1,144,734
Repayments of borrowings		(207,199)	(1,289,363)
Dividends paid		(460,058)	(385,682)
Purchase of treasury shares		-	(2,250)
<b>Net cash outflow from financing activities</b>		<b>1,539,345</b>	<b>(532,561)</b>
<b>Net increase in cash and cash equivalents</b>			
		99,669	265,232
Cash and cash equivalents at the beginning of the period		2,249,341	1,474,367
Effects of exchange rate changes on cash and cash equivalents		2,711	(9,661)
<b>Cash and cash equivalents at the end of the period</b>		<b>2,351,721</b>	<b>1,729,938</b>

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

# LG Chem, Ltd. and Subsidiaries

## Notes to the Consolidated Interim Financial Statements

### June 30, 2018 and 2017 (Unaudited), and December 31, 2017

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#### 1. General Information

General information about LG Chem, Ltd. (the Parent Company), the controlling company in accordance with Korean IFRS 1110 *Consolidated Financial Statements*, and its subsidiaries (collectively referred to as "the Group") is as follows:

##### 1.1 The Parent Company

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

As at June 30, 2018, the Parent Company has its manufacturing facilities in Yeosu, Daesan, Ochang, Cheongju, Ulsan, Naju, Iksan, Paju, Osong, Onsan and Gimcheon.

The Parent Company is authorized to issue 292 million shares of ordinary shares with par value of ₩5,000 per share. As at June 30, 2018, the Parent Company has issued 70,592,343 ordinary shares (₩352,962 million) and 7,688,800 preferred shares (₩38,444 million). The largest shareholder of the Parent Company is LG Corp., which owns 33.34% of the Parent 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.

##### 1.2 Business Overview

The Group is engaged in Basic materials & Chemicals business, Energy solutions, IT & Electronics materials and Advanced materials business, and also engaged in Life Sciences business acquired through a merger with LG Life Sciences, Ltd. in January 2017. In addition, the Parent Company acquired 100% shares of FarmHannong Co., Ltd., in April 2016, which is engaged to manufacture crop protection products, seeds, fertilizers and others.

The Basic materials & Chemicals business includes production of olefin petrochemicals, such as ethylene, propylene, butadiene from Naphtha, and aromatic petrochemicals such as benzene. It also includes production of synthetic resin and synthetic components from olefin, and aromatic petrochemicals. This business bears characteristics of a large-volume process industry. The Group's major products are PE, PP, BPA, ABS, EP, PVC, plasticizers, acrylic, SAP, synthetic rubber, a special resin, and others.

The Energy solutions business manufactures and supplies batteries ranging from IT & New application batteries for mobile phones and laptop computers, to automotive batteries for electric vehicles and ESS batteries. Demand of small sized batteries for new applications such as electric tools and electric driving devices as well as traditional IT devices is increasing recently and the automotive battery business is also expected to expand rapidly due to an increasing demand of the batteries in associated with enhanced environment regulation in developed countries. Demand for ESS is expanding with an increasing importance of efficient usage of electricity and generation of renewable energy.

The IT & Electronics material business manufactures and supplies various kinds of IT materials such as polarizer, glass substrate, OLED film, semiconductor materials and RO membranes, which will be the next growth engine for future. Advanced materials business manufactures and supplies display and battery materials for LCD Photoresist, OLED materials, battery materials and others.

The Life Sciences business manufactures and supplies pharmaceutical products, such as quinolone antibiotics 'Factive', human growth hormone 'Eutropin', diabetes drug 'Zemiglo', bovine somatotropin 'Boostin', hyaluronic acid filler 'YVOIRE' and others, as well as fine chemical products, such as herbicide 'PYANCHOR' for rice farming and others.

# LG Chem, Ltd. and Subsidiaries

## Notes to the Consolidated Interim Financial Statements

### June 30, 2018 and 2017 (Unaudited), and December 31, 2017

FarmHannong Co., Ltd., subsidiary of the Parent Company, manufactures and sells crop protection products, seeds, fertilizers and others. The crop protection business provides high value products such as environmentally-friendly pesticide. The fertilizer business leads developing a next generation fertilizers such as eco-friendly organic and functional fertilizers, and potting soil. The seed business puts priority on retaining various genetic resources and developing rare breeds with high profit in order to remain competitive in a future food industry.

#### 1.3 Consolidated Subsidiaries, Associates and Joint Ventures

June 30, 2018				
	Percentage of ownership (%)	Business location	Closing month	Business activities
<b>Consolidated subsidiaries</b>				
Ningbo LG Yongxing Chemical Co., Ltd. <sup>1</sup>	75	China	December	ABS/SBL manufacturing and sales
Ningbo Zhenhai LG Yongxing Trade Co., Ltd. <sup>1</sup>	75	China	December	ABS sales
LG Chem HK Ltd.	100	Hong Kong	December	Sales and trading
LG Chem America, Inc. <sup>2</sup>	100	USA	December	Sales and trading
LG Chemical India Pvt. Ltd. <sup>3</sup>	100	India	December	Synthetic resin manufacturing and sales
LG Polymers India Pvt. Ltd. <sup>3</sup>	100	India	December	PS manufacturing
LG Chemical (Guangzhou) Engineering Plastics Co., Ltd.	100	China	December	EP manufacturing and sales
LG Chem (Nanjing) Information & Electronics Materials Co., Ltd. <sup>4</sup>	100	China	December	Battery/ Polarizer Manufacturing and sales
LG Chem (Taiwan), Ltd.	100	Taiwan	December	Polarizer manufacturing and sales
LG Chem Display Materials (Beijing) Co., Ltd.	100	China	December	Polarizer manufacturing
Tianjin LG Bohai Chemical Co., Ltd. <sup>5</sup>	75	China	December	PVC, VCM, EDC manufacturing and sales
Tianjin LG BOTIAN Chemical Co., Ltd. <sup>5</sup>	56	China	December	SBS manufacturing and sales
LG Chem (China) Investment Co., Ltd. <sup>6</sup>	100	China	December	China holding company
LG Chem (Tianjin) Engineering Plastics Co., Ltd.	100	China	December	ABS/EP manufacturing and sales
LG Chem Europe GmbH	100	Germany	December	Sales and trading
LG Chem Poland Sp. z o.o.	100	Poland	December	Polarizer manufacturing
LG Chem Michigan Inc. <sup>2</sup>	100	USA	December	Automotive battery research and manufacturing
LGC Petrochemical India Private Ltd.	100	India	December	Synthetic resin manufacturing and sales
HAENGBOKNURI CO., LTD.	100	Korea	December	Facility management and general cleaning
LG CHEM TK Kimya SANAYI VE TIC. Ltd. STI.	100	Turkey	December	Sales and trading
LG Chem Japan Co., Ltd.	100	Japan	December	Sales and trading
LG NanoH2O, Inc. <sup>2</sup>	100	USA	December	Water processing membrane research and manufacturing
NanoH2O (Jiangsu) Water Processing Technology Co. Ltd.	100	China	December	Water processing membrane research and manufacturing
Nanjing LG Chem New Energy Battery Co., Ltd. <sup>7</sup>	50	China	December	Automotive battery manufacturing and sales
LG Chem (Chongqing) Engineering Plastics Co., Ltd.	100	China	December	EP manufacturing and sales
LG Chem Wroclaw Energy sp. z o.o. <sup>8</sup>	100	Poland	December	Automotive battery research and manufacturing
LG Chem(HUIZHOU) Petrochemical Co., Ltd.	70	China	December	ABS manufacturing and sales
FarmHannong Co., Ltd. <sup>9</sup>	100	Korea	December	Agricultural pesticide manufacturing
FarmHwaong Co., Ltd. <sup>9,10</sup>	68	Korea	December	Vegetables and fruit farming
Farm Hannong (Heilongjiang) Chemical Co., Ltd. <sup>9</sup>	100	China	December	Agricultural pesticide manufacturing
LG Life Sciences India Pvt. Ltd.	100	India	December	Pharmaceutical products sales

# LG Chem, Ltd. and Subsidiaries

## Notes to the Consolidated Interim Financial Statements

### June 30, 2018 and 2017 (Unaudited), and December 31, 2017

LG Life Sciences (Beijing) Co., Ltd.	100	China	December	Pharmaceutical products sales
LG Life Sciences (Thailand) Ltd.	100	Thailand	December	Pharmaceutical products sales
LG Life Sciences America Inc. <sup>6</sup>	100	USA	December	Agricultural pesticide sales
Sarangnuri Ltd.	100	Korea	December	Pharmaceutical products packaging
LG Chem Hai Phong Vietnam Co., Ltd.	100	Vietnam	December	Polarizer manufacturing and sales
LG Chem Australia Pty Ltd.	100	Australia	December	ESS sales
LG Chem Mexico S.A. de C.V. <sup>11</sup>	100	Mexico	December	Sales and trading
FarmHannong(Thailand) Ltd. <sup>9,12</sup>	100	Thailand	December	Research and development on seeds
LG Chem Hai Phong engineering Plastics Ltd. <sup>13</sup>	100	Vietnam	December	EP manufacturing and sales
LG Chem (Guangzhou) Information & Electronics Materials Co.,Ltd. <sup>14</sup>	100	China	December	Polarizer manufacturing
<b>Associates</b>				
LG Holdings (HK) Ltd.	26	Hong Kong	December	Sales and trading
TECWIN Co., Ltd.	21	Korea	December	Environment solution and Construction of chemical plant
LG Chem BRASIL INTERMEDIACAO DE NEGOCIOS DO SETOR QUIMICO LTDA. <sup>15</sup>	100	Brazil	December	Sales and trading
LG Chem Malaysia SDN.BHD. <sup>15</sup>	100	Malaysia	December	Sales and trading
LG Fuel Cell Systems Inc.	23	USA	December	Power fuel cell research
FJ Composite Material Co., Ltd.	33	Japan	May	Heat diffuser research and manufacturing
WUXI CL New Energy Technology Ltd. <sup>16</sup>	30	China	December	ESS manufacturing and sales
LG Life Sciences Poland Ltd. <sup>15</sup>	100	Poland	December	Pharmaceutical products sales
Combustion Synthesis Co., Ltd. <sup>17</sup>	30	Japan	March	Nitride-based ceramic powder production
<b>Joint ventures</b>				
LG VINA Chemical Co., Ltd.	40	Vietnam	December	DOP production and sales
HL Greenpower Co., Ltd.	49	Korea	December	Automotive battery manufacturing and sales
SEETEC Co., Ltd.	50	Korea	December	Plant utility and distribution, research assistance service

<sup>1</sup> As at June 30, 2018, Ningbo LG Yongxing Chemical Co., Ltd. owns 100% of Ningbo Zhenhai LG Yongxing Trading Co., Ltd.'s shares.

<sup>2</sup> During the period ended June 30, 2018, LG Chem Power Inc. was merged into LG Chem Michigan Inc. In addition, LG Chem Michigan Inc. owns 100% of LG Chem America, Inc. and LG NanoH2O, Inc.'s shares.

<sup>3</sup> As at June 30, 2018, LG Chemical India Pvt. Ltd. owns 100% of LG Polymers India Pvt. Ltd.'s shares.

<sup>4</sup> During the period ended June 30, 2018, the Group acquired additional shares of LG Chem (Nanjing) Information & Electronics Materials Co.,Ltd. for ₩ 139,762 million.

<sup>5</sup> As at June 30, 2018, Tianjin LG Bohai Chemical Co.,Ltd. owns 20.30% shares of Tianjin LG Botian Chemical Co.,Ltd.

<sup>6</sup> During the period ended June 30, 2018, the Group acquired additional shares of LG Chem (China) Investment Co.,Ltd. for ₩ 29,228 million.

<sup>7</sup> Although the Group owns less than 50% of the voting rights of Nanjing LG Chem New Energy Battery Co., Ltd., the Group is considered to have control over the investee as the Group can exercise the majority voting rights in its decision-making process in accordance with the shareholders' agreement.

<sup>8</sup> During the period ended June 30, 2018, the Group acquired additional shares of LG Chem Wroclaw Energy sp. Z o.o. for ₩ 152,506 million.

<sup>9</sup> As at June 30, 2018, FarmHannong Co., Ltd. owns 100% of Farm Hannong (Heilongjiang) Chemical Co., Ltd., LG Life Sciences America Inc. and FarmHannong(Thailand) Ltd., and also holds 68.36% of FarmHwaong Co., Ltd.

# LG Chem, Ltd. and Subsidiaries

## Notes to the Consolidated Interim Financial Statements

### June 30, 2018 and 2017 (Unaudited), and December 31, 2017

- <sup>10</sup> As at June 30, 2018, FarmHwaong Co., Ltd.'s assets and liabilities are classified as assets and liabilities held for sale (Note 35).
- <sup>11</sup> During the period ended June 30, 2018, the Group newly acquired 100% shares of LG Chem Mexico S.A. de C.V. for ₩ 394 million.
- <sup>12</sup> During the period ended June 30, 2018, the Group newly acquired 100% shares of FarmHannong(Thailand) Ltd. for ₩ 2,586 million.
- <sup>13</sup> During the period ended June 30, 2018, the Group newly acquired 100% shares of LG Chem Hai Phong Engineering Plastics Ltd. for ₩ 15,344 million.
- <sup>14</sup> During the period ended June 30, 2018, the Group newly acquired 100% shares of LG Chem (Guangzhou) Information & electronics Materials Co.,Ltd. for ₩ 54,109 million.
- <sup>15</sup> Classified as an investment in associate due to its small size.
- <sup>16</sup> During the period ended June 30, 2018, the Group acquired additional shares of WUXI CL New Energy Technology Ltd. for ₩ 558 million.
- <sup>17</sup> During the period ended June 30, 2018, the Group newly acquired shares of Combustion Synthesis Co., Ltd. for ₩ 1,503 million.

#### 1.4 Summarized Financial Information of Subsidiaries, Associates and Joint Ventures

Summarized financial information (before elimination of intercompany transactions and adjustments for differences in accounting policies) of subsidiaries, associates and joint ventures is as follows:

(in millions of Korean won)

	June 30, 2018				
	Assets	Liabilities	Equity	Revenue	Profit (loss) for the period
<b>Subsidiaries</b>					
Ningbo LG Yongxing Chemical Co., Ltd.	1,111,347	417,644	693,703	1,100,282	114,922
Ningbo Zhenhai LG Yongxing Trade Co., Ltd.	5,547	1,629	3,918	14,036	301
LG Chem HK Ltd.	88,514	70,431	18,083	238,173	214
LG Chem America, Inc.	234,513	212,573	21,940	380,099	1,517
LG Chemical India Pvt. Ltd.	32,718	26	32,692	-	12
LG Polymers India Pvt. Ltd.	141,505	58,949	82,556	126,527	5,328
LG Chemical (Guangzhou) Engineering Plastics Co., Ltd.	113,460	52,291	61,169	110,085	(6,222)
LG Chem (Nanjing) Information & Electronics Materials Co., Ltd.	2,975,407	1,687,375	1,288,032	1,538,925	(313)
LG Chem (Taiwan), Ltd.	116,780	56,492	60,288	82,043	(267)
LG Chem Display Materials (Beijing) Co., Ltd.	42,588	14,775	27,813	42,659	939
Tianjin LG Bohai Chemical Co., Ltd.	320,752	215,936	104,816	268,828	7,309
Tianjin LG BOTIAN Chemical Co., Ltd.	45,980	40,248	5,732	77,958	3,401
LG Chem (China) Investment Co., Ltd.	391,892	187,900	203,992	28,057	2,251
LG Chem (Tianjin) Engineering Plastics Co., Ltd.	68,231	24,022	44,209	44,224	(3,055)
LG Chem Europe GmbH	282,234	249,000	33,234	338,485	3,639
LG Chem Poland Sp. z o.o.	66,477	32,158	34,319	64,011	1,390
LG Chem Michigan Inc.	414,629	264,763	149,866	156,450	7,829
LGC Petrochemical India Private Ltd.	2,786	503	2,283	2,203	225
HAENGBOKNURI CO., LTD.	2,699	1,147	1,552	4,089	198
LG CHEM TK Kimya SANAYI VE TIC. Ltd. STI.	9,737	8,074	1,663	15,713	370
LG Chem Japan Co., Ltd.	4,062	564	3,498	2,957	293
LG NanoH2O, Inc. <sup>1</sup>	13,727	2,438	11,289	9,366	1,488
NanoH2O (Jiangsu) Water Processing Technology Co. Ltd.	4,233	1,215	3,018	-	(12)
Nanjing LG Chem New Energy Battery Co., Ltd.	591,938	480,654	111,284	262,793	5,188
LG Chem (Chongqing) Engineering Plastics Co., Ltd.	37,495	9,136	28,359	17,545	(2,150)

**LG Chem, Ltd. and Subsidiaries**  
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LG Chem Wroclaw Energy sp. z o.o.	515,581	274,204	241,377	49,875	(37,019)
LG Chem(HUIZHOU) Petrochemical Co., Ltd.	302,079	210,269	91,810	200,618	6,199
FarmHannong Co., Ltd. <sup>1</sup>	1,263,393	696,185	567,208	424,502	36,364
LG Life Sciences India Pvt. Ltd.	6,180	4,173	2,007	5,565	(162)
LG Life Sciences (Beijing) Co., Ltd.	1,144	43	1,101	502	(111)
LG Life Sciences (Thailand) Ltd.	12,375	6,527	5,848	13,426	2,329
Sarangnuri Ltd.	265	52	213	157	46
LG Chem Hai Phong Vietnam Company Ltd.	13,131	6,808	6,323	10,159	2,898
LG Chem Austrailia Pty Ltd.	726	91	635	812	98
LG Chem Mexico S.A. de C.V.	503	47	456	301	45
LG Chem Hai Phong engineering Plastics Ltd.	15,849	36	15,813	-	(50)
LG Chem (Guangzhou) Information & electronics Materials Co.,Ltd.	54,353	28	54,325	-	4

**Associates**

LG Holdings (HK) Ltd.	249,538	43,027	206,511	25,129	10,503
TECWIN Co., Ltd.	79,106	32,206	46,900	-	-
LG Chem BRASIL INTERMEDIACAO DE NEGOCIOS DO SETOR QUIMICO LTDA.	186	131	55	833	20
LG Chem Malaysia SDN.BHD.	281	22	259	308	8
LG Fuel Cell Systems Inc.	24,605	6,772	17,833	3,030	(25,398)
FJ Composite Material Co., Ltd.	7,197	2,899	4,298	763	(179)
WUXI CL New Energy Technology Ltd.	10,647	5,641	5,006	-	(237)
LG Life Sciences Poland Ltd.	128	92	36	86	(23)
Combustion Synthesis Co., Ltd.	1,277	28	1,249	93	(235)

**Joint ventures**

LG VINA Chemical Co., Ltd.	20,105	13,168	6,937	28,545	407
HL Greenpower Co., Ltd.	196,244	158,188	38,056	114,126	181
SEETEC Co., Ltd.	333,485	45,866	287,619	245,892	7,184

<sup>1</sup> Included its subsidiaries' financial information from an intermediate parent perspective and not applied adjustments of a fair value evaluation due to the business combination in the consolidated financial statements.

(in millions of Korean won)

	December 31, 2017			2017	
	Assets	Liabilities	Equity	Revenue	Profit (loss) for the period
<b>Subsidiaries</b>					
Ningbo LG Yongxing Chemical Co., Ltd.	1,007,732	449,049	558,683	1,032,967	91,198
Ningbo Zhenhai LG Yongxing Trade Co., Ltd.	10,420	6,927	3,493	21,684	454
LG Chem HK Ltd.	96,752	79,690	17,062	256,931	342
LG Chem America, Inc.	191,011	171,566	19,445	389,815	3,688
LG Chemical India Pvt. Ltd.	32,716	5	32,711	-	19
LG Polymers India Pvt. Ltd.	93,999	15,651	78,348	123,943	7,514
LG Chemical (Guangzhou) Engineering Plastics Co., Ltd.	109,443	44,342	65,101	93,409	1,918
LG Chem (Nanjing) Information & Electronics Materials Co., Ltd.	2,410,548	1,301,136	1,109,412	1,344,654	56,278
LG Chem (Taiwan), Ltd.	122,310	60,462	61,848	93,998	4,278
LG Chem Display Materials (Beijing) Co., Ltd.	40,158	14,196	25,962	33,293	1,681
Tianjin LG Bohai Chemical Co., Ltd.	349,416	255,165	94,251	261,005	13,465
Tianjin LG BOTIAN Chemical Co., Ltd.	48,438	46,298	2,140	82,102	(6,725)
LG Chem (China) Investment Co., Ltd.	324,605	153,146	171,459	29,968	3,046
LG Chem (Tianjin) Engineering Plastics Co., Ltd.	64,708	19,057	45,651	43,117	(166)

**LG Chem, Ltd. and Subsidiaries**  
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LG Chem Europe GmbH	231,237	202,012	29,225	254,604	8,810
LG Chem Poland Sp. z o.o.	64,841	30,877	33,964	44,812	1,527
LG Chem Michigan Inc.	232,301	138,085	94,216	105,505	11,426
LG Chem Power Inc.	18,640	6,013	12,627	21,952	1,985
LGC Petrochemical India Private Ltd.	2,502	390	2,112	2,149	187
HAENGBOKNURI CO., LTD.	2,292	939	1,353	3,354	3
LG CHEM TK Kimya SANAYI VE TIC. Ltd. STI.	6,618	5,113	1,505	11,463	207
LG Chem Japan Co., Ltd.	3,462	470	2,992	3,070	334
LG NanoH2O, Inc. <sup>1</sup>	10,269	971	9,298	8,366	1,428
NanoH2O (Jiangsu) Water Processing Technology Co. Ltd.	4,103	1,173	2,930	-	(1,831)
Nanjing LG Chem New Energy Battery Co., Ltd.	478,421	375,998	102,423	87,623	8,335
LG Chem (Chongqing) Engineering Plastics Co., Ltd.	35,028	5,559	29,469	8,974	(2,219)
LG Chem Wroclaw Energy sp. z o.o.	330,033	202,131	127,902	10,256	1,879
LG Chem(HUIZHOU) Petrochemical Co., Ltd.	290,840	208,170	82,670	170,803	1,500
FarmHannong Co., Ltd. <sup>1</sup>	1,152,122	621,754	530,368	439,625	35,072
LG Life Sciences India Pvt. Ltd.	7,143	4,923	2,220	4,851	(910)
LG Life Sciences (Beijing) Co., Ltd.	1,191	20	1,171	399	(7)
LG Life Sciences (Thailand) Ltd.	10,008	6,595	3,413	10,305	1,321
Sarangnuri Ltd.	227	60	167	137	35
LG Chem Hai Phong Vietnam Company Ltd.	4,480	1,266	3,214	-	-
LG Chem Australia Pty Ltd.	559	12	547	-	-
<b>Associates</b>					
LG Holdings (HK) Ltd.	249,896	60,681	189,215	23,624	7,150
TECWIN Co., Ltd.	79,106	32,206	46,900	-	-
LG Chem BRASIL INTERMEDIACAO DE NEGOCIOS DO SETOR QUIMICO LTDA.	164	123	41	997	(29)
LG Chem Malaysia SDN.BHD.	252	19	233	288	10
LG Fuel Cell Systems Inc.	48,444	4,701	43,743	987	(20,422)
FJ Composite Material Co., Ltd.	7,052	2,858	4,194	378	(255)
WUXI CL New Energy Technology Ltd.	4,521	1,180	3,341	-	-
LG Life Sciences Poland Ltd.	124	72	52	-	-
<b>Joint ventures</b>					
LG VINA Chemical Co., Ltd.	17,539	9,242	8,297	24,429	1,012
HL Greenpower Co., Ltd.	190,881	151,728	39,153	200,452	2,403
SEETEC Co., Ltd.	344,189	43,751	300,438	242,790	9,349

<sup>1</sup> Included its subsidiaries' financial information from an intermediate parent perspective and not applied adjustments of a fair value evaluation due to the business combination in the consolidated financial statements.

**1.5 Changes in Scope for Consolidation**

Subsidiaries newly included in the consolidation for the six-month period ended June 30, 2018, are as follows:

Subsidiary	Reason
LG Chem Mexico S.A. de C.V.	Newly established
FarmHannong(Thailand) Ltd.	Newly established
LG Chem Hai Phong Engineering Plastics Ltd.	Newly established
LG Chem (Guangzhou) Information & Electronics Materials Co., Ltd.	Newly established



# LG Chem, Ltd. and Subsidiaries

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### June 30, 2018 and 2017 (Unaudited), and December 31, 2017

Subsidiaries excluded from the consolidation for the six-month period ended June 30, 2018, are as follows:

Subsidiary	Reason
LG Chem Power Inc.	Merged into LG Chem Michigan Inc.

## 2. Summary of Significant Accounting Policies

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

### 2.1 Basis of Preparation

The Group 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 consolidated interim financial statements have been condensed, restructured and translated into English from the Korean language financial statements.

The Group's condensed consolidated interim financial statements for the six-month period ended June 30, 2018, have been prepared in accordance with Korean IFRS 1034 Interim Financial Reporting. The condensed consolidated interim financial statements have been prepared in accordance with Korean IFRS which is effective or early adopted as at June 30, 2018.

#### (a) New and amended standards adopted by the Group

The Group has applied the following standards and amendments for the first time for their annual reporting period commencing January 1, 2018.

#### - Korean IFRS 1109 *Financial Instruments*

The Group has applied Korean IFRS 1109 *Financial Instruments* on January 1, 2018, the date of initial application. In accordance with the transitional provisions in Korean IFRS 1109, comparative figures have not been restated, and the impact of the change in accounting policy following the adoption of IFRS 9 are recognized in the opening balance sheet on January 1, 2018. The application of the standard has following impacts on the financial statements.

On the date of initial application, January 1, 2018, the financial instruments of the Group with any reclassifications noted, were as follows:

(in millions of Korean won)	Measurement category		Carrying amount		
	Korean IFRS 1039	Korean IFRS 1109	Korean IFRS 1039	Korean IFRS 1109	Difference
<b>Current financial assets</b>					
		Amortized costs	4,448,669	4,218,196	(230,473)
Trade receivables	Amortized costs	Fair value through other comprehensive income	-	230,473	230,473
Cash and cash equivalents	Amortized costs	Amortized costs	2,249,341	2,249,341	-

**LG Chem, Ltd. and Subsidiaries**  
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Other receivables	Amortized costs	Amortized costs	770,776	770,776	-
<b>Non-current financial assets</b>					
Equity instruments	Available-for-sale financial assets	Fair value through other comprehensive income	23,782	16,982	(6,800)
Debt instruments	Available-for-sale financial assets	Fair value through profit or loss	-	6,800	6,800
Other receivables	Amortized costs	Amortized costs	126,429	126,429	-

(i) Financial assets at amortized cost classified as fair value through other comprehensive income

Certain trade receivables were reclassified from financial assets at amortized cost to fair value through other comprehensive income, as the Group's business model is achieved both by collecting contractual cash flows and selling of these assets. The contractual cash flows of these investments are solely principal and interest. As a result, debt instruments with a fair value of ₩ 230,473 million were reclassified from financial assets at amortized cost to financial assets at fair value through other comprehensive income on January 1, 2018.

(ii) Reclassification of equity investments from available-for-sale to fair value through other comprehensive income

The Group elected to present changes in the fair value of all its equity investments previously classified as available-for-sale, because these investments are not held for trading, in other comprehensive income. As a result, assets with a fair value of ₩16,982 million were reclassified from available-for-sale financial assets to financial assets at fair value through other comprehensive income. As at January 1, 2018, as related accumulated other comprehensive income of ₩ 418 million were not reclassified to profit or loss even though these assets are disposed of.

(iii) Reclassification of equity investments from available-for-sale to fair value through profit or loss

As at January 1, 2018, the Group classified equity investments, amounted of ₩6,800 million from available-for-sale to fair value through profit or loss, and did not classified to amortized costs as their cash flows are not solely payment of principal.

(iv) Other financial assets

Equity securities held for trading and contingent consideration are all required to be held as fair value through profit or loss under Korean IFRS 1109. There was no impact on the amounts recognized in relation to these assets from the adoption of Korean IFRS 1109.

- Korean IFRS 1115 *Revenue from Contracts with Customers*

The Group has elected to apply Korean IFRS 1115 *Revenue from Contracts with Customers*. In accordance with the transition provisions in Korean IFRS 1115, comparative figures have not been restated. The Group does not expect the amendment to have a significant impact on the financial statements.

- Amendments to Korean IFRS 1028 *Investments in Associates and Joint Ventures*
- Amendments to Korean IFRS 1102 *Share-based Payment*
- Enactment of Interpretation 2122 *Foreign Currency Transaction and Advance Consideration*
- Amendments to Korean IFRS 1040 *Investment Property*

# LG Chem, Ltd. and Subsidiaries

## Notes to the Consolidated Interim Financial Statements

### June 30, 2018 and 2017 (Unaudited), and December 31, 2017

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#### *(b) New standards and interpretations not adopted by the Group*

Certain new accounting standards and interpretations that have been published that are not mandatory for annual reporting period commencing January 1, 2018 and have not been early adopted by the Group are set out below.

- Enactment of Korean IFRS 1116 *Leases*

## **2.2 Significant Accounting Policies**

Significant accounting policies and method of computation used in the preparation of the consolidated interim financial statements are consistent with those of the consolidated financial statements for the year ended December 31, 2017, except for the changes due to the application of amendment and enactments of standards described in Note 2.1.(a) and the ones described below.

### **2.2.1 Income Tax Expense**

Income tax expense for the interim period is recognized based on management's best estimate of the weighted average annual income tax rate expected for the full financial year. The estimated average annual tax rate is applied to the pre-tax income.

### **2.2.2 Financial Assets**

#### *(a) Classification*

From January 1, 2018, the Group classifies its financial assets in the following measurement categories:

- those to be measured subsequently at fair value (either through other comprehensive income, or through profit or loss), and
- those to be measured at amortized cost

The classification depends on the entity's business model for managing the financial assets and the contractual terms of the cash flows.

For financial assets measured at fair value, gains and losses are recorded in either profit or loss or other comprehensive income. For investments in debt instruments, this will depend on the business model in which the investment is held. The Group reclassifies debt investments only when its business model for managing those assets changes.

For investments in equity instruments that are not held for trading, the Group presents subsequent changes in fair value of the investments in equity instruments in other comprehensive income at initial recognition.

#### *(b) Measurement*

At initial recognition, the Group measures a financial asset, in the case of a financial asset not at fair value through profit or loss, at its fair value plus transaction costs that are directly attributable to the acquisition of the financial asset or the issuance of the financial liabilities. Transaction costs of financial assets carried at fair value through profit or loss are expensed in profit or loss.

Hybrid (combined) contracts with embedded derivatives are considered in their entirety when determining whether their cash flows are solely payment of principal and interest.

# LG Chem, Ltd. and Subsidiaries

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#### *Debt instruments*

Subsequent measurement of debt instruments depends on the Group's business model for managing the asset and the cash flow characteristics of the asset. The Group classifies its debt instruments into one of the following three measurement categories:

- **Amortized cost:** Assets that are held for collection of contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortized cost. A gain or loss on a debt investment that is subsequently measured at amortized cost and is not part of a hedging relationship is recognized in profit or loss when the asset is derecognized or impaired. Interest income from these financial assets using the effective interest rate method is included in 'finance income'.
- **Fair value through other comprehensive income:** Assets that are held for collection of contractual cash flows and for selling the financial assets, where the assets' cash flows represent solely payments of principal, are measured at fair value through other comprehensive income. Movements in the carrying amount are taken through other comprehensive income, except for the recognition of impairment loss (and reversal of impairment loss), interest income and foreign exchange gains and losses which are recognized in profit or loss. When the financial asset is derecognized, the cumulative gain or loss previously recognized in other comprehensive income is reclassified from equity to profit or loss. Interest income from these financial assets using the effective interest rate method is included in 'finance income'. Foreign exchange gains and losses are presented in 'finance income or finance costs' and impairment loss is presented in 'other non-operating expenses'.
- **Fair value through profit or loss:** Assets that do not meet the criteria for amortized cost or fair value through other comprehensive income are measured at fair value through profit or loss. A gain or loss on a debt investment that is subsequently measured at fair value through profit or loss and is not part of a hedging relationship is recognized in profit or loss and presented net in the statement of profit or loss within 'other income or other expenses' in the period in which it arises.

#### *Equity instruments*

The Group subsequently measures all equity investments at fair value. Fair value gains and losses on equity investments in other comprehensive income is no subsequent reclassification of fair value gains and losses to profit or loss following the derecognition of the investment. Dividends from such investments continue to be recognized in profit or loss as 'finance income' when the Group's right to receive payments is established.

Changes in the fair value of financial assets at fair value through profit or loss are recognized in 'other income or other expenses' in the statement of profit or loss as applicable. Impairment loss (and reversal of impairment loss) on equity investments measured at fair value through other comprehensive income are not reported separately from other changes in fair value.

#### *(c) Impairment*

The Group assesses the expected credit losses associated with its debt instruments carried at amortized cost or fair value through other comprehensive income on the basis of future prospects. The impairment methodology applied depends on whether there has been a significant increase in credit risk. For trade receivables, the Group applies the simplified approach, which requires expected lifetime losses to be recognized from initial recognition of the receivables.

# LG Chem, Ltd. and Subsidiaries

## Notes to the Consolidated Interim Financial Statements

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#### 2.2.3 Revenue Recognition

From January 1, 2018, the Group has applied Korean IFRS 1115 *Revenue from Contracts with Customers*.

Korean IFRS 1018 and other previous revenue standard identify revenue as income that arises in the course of ordinary activities of an entity and provides guidance on a variety of different types of revenue, such as, sale of goods, rendering of services, interest, dividends, royalties and construction contracts. However, 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 the control replaces the existing notion of risks and rewards. A new five-step process must be applied before revenue from contract with customers 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.

The adoption of Korean IFRS 1115 does not have a significant impact on the financial statements.

##### *(a) Identify performance obligation*

With regard to the contract of selling products to the customer, the Group identifies the services provided separately to the customer as a different performance obligation. When the Group makes a sales contract with the customer, the standard warranty period for each product and customer is set up considering the legal warranty period. Even though the standard warranty period has been expired, the warranties are recognized as a revenue and is identified as a separate performance obligation when the Group provides additional warranties for the quality of product or when the customer has an option to purchase additional warranties separately.

##### *(b) A performance obligation satisfied at a point in time*

The revenue from the sale of goods is recognized at the time they are delivered to the customer. Delivery occurs when the products have been shipped to the specific location, the risks of obsolescence and loss have been transferred to the customer, and either the customer has accepted the products in accordance with the sales contract, the acceptance provisions have lapsed, or the group has objective evidence that all criteria for acceptance have been satisfied.

The goods are often sold with volume discounts, and it is the group's policy to sell its products to the customer with a right of return. Accumulated experience is used to estimate for the discounts and the refund, and the volume discounts is calculated based on the periodical forecast sales. The warranty provision for the sales and refund is reasonably estimated and recognized properly.

##### *(c) Refunds*

A gross contract liability for the expected refunds to customers is recognized as adjustment to revenue, and the Group has a right to recover the product from the customer where the customer exercises his right of return and recognizes an asset and a corresponding adjustment to cost of sales. A right to recover the products is measured at former carrying amount of the product less the costs to recover the products.

##### *(d) Significant financing component*

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As a practical expedient, the Group need not adjust the promised amount of consideration for the effects of a significant financing component as the period between when the entity transfers a promised good or service to a customer and when the customer pays for that good or service is generally one year or less.

**3. Financial Risk Management**

**3.1 Financial Risk Factors**

The Group's activities expose it to a variety of financial risks: market risk, credit risk and liquidity risk. The Group'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 Group. The Group uses derivative financial instruments to hedge certain risk exposures.

Risk management is carried out by the Group'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 Group'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, and credit risk, use of derivative financial instruments and non-derivative financial instruments, investment of excess liquidity.

(1) Market risk

1) Foreign exchange risk

The Group operates internationally and is exposed to foreign exchange risk arising from foreign currency exposures, 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 Group 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.

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

As at June 30, 2018 and December 31, 2017, the Group's monetary assets and liabilities denominated in currencies other than its functional currency, are as follows:

<i>(in millions of Korean won)</i>	<b>June 30, 2018</b>		<b>December 31, 2017</b>	
	<b>Assets</b>	<b>Liabilities</b>	<b>Assets</b>	<b>Liabilities</b>
USD	2,343,579	2,046,060	2,337,448	1,561,175
EUR	232,491	404,318	174,464	21,226
JPY	21,420	110,028	36,304	109,162
CNY and others	68,739	5,030	60,616	1,512

As at June 30, 2018 and December 31, 2017, if the Group's functional currency had weakened / strengthened by 10% against the US dollar with all other variables held constant, profit before

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income tax would have been affected as follows:

<i>(in millions of Korean won)</i>	<b>June 30, 2018</b>		<b>December 31, 2017</b>	
	<b>10% Increase</b>	<b>10% Decrease</b>	<b>10% Increase</b>	<b>10% Decrease</b>
USD	29,752	(29,752)	77,627	(77,627)

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

2) Price risk

The Group is exposed to equity securities price risk arises from investments held by the Group and classified in the consolidated interim statement of financial position as non-current financial assets. The Group'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 June 30, 2018 and December 31, 2017. 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.

<i>(in millions of Korean won)</i>	<b>June 30, 2018</b>		<b>December 31, 2017</b>	
	<b>10% Increase</b>	<b>10% Decrease</b>	<b>10% Increase</b>	<b>10% Decrease</b>
KOSPI	-	-	553	(553)

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 through 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 Group adequately minimizes risks from interest rate fluctuations through various policies, such as sharing excess cash within the Group (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 Group's equity and post-tax profit for the six-month periods ended June 30, 2018 and 2017. 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>	<b>Impact on post-tax profit</b>		<b>Impact on equity</b>	
	<b>2018</b>	<b>2017</b>	<b>2018</b>	<b>2017</b>
Increase	(16,522)	(14,521)	(16,522)	(14,521)
Decrease	16,522	14,521	16,522	14,521

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(2) Credit risk

Credit risk is managed on the Group basis. Credit risk arises from debt instruments at amortized cost or fair value through other comprehensive income. The maximum exposure to credit risk as at June 30, 2018 and December 31, 2017, is as follows:

(in millions of Korean won)

	<b>June 30, 2018</b>		
	<b>Amount before allowance</b>	<b>Impairment allowance</b>	<b>Carrying amount (maximum exposure)</b>
Amortized cost	8,088,010	(11,264)	8,076,746
Fair value through other comprehensive income	186,089	-	186,089
	<u>8,274,099</u>	<u>(11,264)</u>	<u>8,262,835</u>

(in millions of Korean won)

	<b>December 31, 2017</b>		
	<b>Amount before allowance</b>	<b>Impairment allowance</b>	<b>Carrying amount (maximum exposure)</b>
Amortized cost	7,373,206	(8,511)	7,364,695
Fair value through other comprehensive income	230,473	-	230,473
<b>Total</b>	<u>7,603,679</u>	<u>(8,511)</u>	<u>7,595,168</u>

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

To manage credit risks relating to trade receivables, the Group 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 new customers. The credit risks relating to trade receivables are also mitigated by insurance contracts, collateral as well as payment guarantees.

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

The Group has deposited its cash and cash equivalents and other long-term deposits in several financial institutions, such as Woori Bank and others. The Group has also entered into derivative contract with several financial institutions. The Group 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.



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(3) Liquidity risk

Finance team of the Group monitors rolling forecasts of the Group'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 Group does not breach borrowing limits or covenants (where applicable) on any of its borrowing facilities. The Group'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.

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

(in millions of Korean won)

	<b>June 30, 2018</b>			
	<b>Less than 1 year</b>	<b>Between 1-2 years</b>	<b>Between 2-5 years</b>	<b>Over 5 years</b>
Borrowings (excluding financial lease liabilities)	1,958,697	467,422	2,089,678	951,676
Finance lease liabilities	5,192	5,177	15,532	7,944
Trade and other payables	3,604,163	7,138	2,985	142
<b>Total</b>	<b>5,568,052</b>	<b>479,737</b>	<b>2,108,195</b>	<b>959,762</b>

(in millions of Korean won)

	<b>December 31, 2017</b>			
	<b>Less than 1 year</b>	<b>Between 1-2 years</b>	<b>Between 2-5 years</b>	<b>Over 5 years</b>
Borrowings (excluding financial lease liabilities)	1,472,881	333,734	1,076,000	327,225
Finance lease liabilities	5,253	5,177	15,532	10,532
Trade and other payables	3,862,001	6,927	1,576	142
<b>Total</b>	<b>5,340,135</b>	<b>345,838</b>	<b>1,093,108</b>	<b>337,899</b>

As at June 30, 2018, the Group has entered into swap contracts for which cash flow hedge accounting is applied, to avoid market price fluctuation of raw materials. Details of derivative assets and liabilities are as follows:

(in millions of Korean won)

	<b>June 30, 2018</b>		<b>December 31, 2017</b>	
	<b>Assets</b>	<b>Liabilities</b>	<b>Assets</b>	<b>Liabilities</b>
Product swap <sup>1</sup>	169	-	-	-
<b>Total</b>	<b>169</b>	<b>-</b>	<b>-</b>	<b>-</b>

<sup>1</sup> Gain (loss) resulting from the contracts to avoid cash flow fluctuation risk of expected future transaction is accounted for as accumulated other comprehensive income (Note 5).

### 3.2 Capital Risk Management

The Group's objectives for managing capital are to safeguard the Group's ability to continue as a going concern, so the Group can continue 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 Group monitors capital on the basis of the gearing ratio.

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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 consolidated statement of financial position plus net debt.

The gearing ratio and debt-to-equity ratio as at June 30, 2018 and December 31, 2017, were as follows:

<i>(in millions of Korean won, except for ratios)</i>	<b>June 30, 2018</b>	<b>December 31, 2017</b>
Total borrowings (Note 14) (A)	5,114,001	3,044,949
Less: cash and cash equivalents (B)	<u>(2,351,721)</u>	<u>(2,249,341)</u>
Net debt (C=A+B)	<u>2,762,280</u>	<u>795,608</u>
Total liabilities (D)	10,390,608	8,702,644
		16,338,577
Total equity (E)	<u>17,008,674</u>	
Total capital (F=C+E)	<u>19,770,954</u>	<u>17,134,185</u>
Gearing ratio (C/F)	14.0%	4.6%
Debt-to-equity ratio (D/E)	61.1%	53.3%

**3.3 Fair Value**

(1) Carrying amount and fair value of financial instruments by category as at June 30, 2018 and December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	<b>June 30, 2018</b>		<b>December 31, 2017</b>	
	<b>Carrying amount</b>	<b>Fair value</b>	<b>Carrying amount</b>	<b>Fair value</b>
<b>Financial assets (current)</b>				
Cash and cash equivalents	2,351,721	1	2,249,341	1
Deposits held by financial institutions	478,209	1	529,701	1
Trade receivables	5,145,795	1	4,448,669	1
Other receivables (excluding deposits held by financial institutions)	165,972	1	241,075	1
Other current financial assets (derivative instruments)	169	169	-	-
<b>Financial assets (non-current)</b>				
Deposits held by financial institutions	63,973	1	64,308	1
Other receivables (excluding deposits held by financial institutions)	57,206	1	62,121	1
Other non-current financial assets (carried at cost)	-	-	17,718	2
Other non-current financial assets (carried at fair value)				
Marketable financial assets	3	3	6,064	6,064
Non-marketable financial assets	35,128	1	-	-
<b>Financial liabilities (current)</b>				
Trade and other payables	3,604,163	1	3,862,001	1
Current borrowings (excluding finance lease liabilities)	1,898,072	1	1,446,187	1
Current finance lease liabilities	5,030	1	5,137	1

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**Financial liabilities (non-current)**

Non-current borrowings (excluding finance lease liabilities)	3,185,563	3,204,511	1,566,258	1,560,147
Non-current finance lease liabilities	25,336	26,265	27,367	28,776
Other non-current payables	10,265	1	8,646	1
Other non-current financial liabilities (Conversion rights)	534	534	-	-

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

<sup>2</sup> As at December 31, 2017, all other non-current financial assets of the Group consist of available-for-sale equity securities. These equity securities are measured at cost as the range of reasonable fair value estimates is significant and the probabilities of the various estimates cannot be reasonably assessed.

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

Fair values of financial liabilities(non-current) are based on cash outflows discounted by using Korean won currency note yield in the same credit grade with the Parent Company (AA+), and the applied discount rates as at June 30, 2018 and December 31, 2017, are as follows:

<i>(in percentage)</i>	<b>June 30, 2018</b>	<b>December 31, 2017</b>
Discount rate	1.93%~3.13%	1.95%~2.90%

(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 levels are defined 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 their fair value are disclosed as at June 30, 2018 and December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	<b>June 30, 2018</b>			
	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Total</b>
<b>Financial assets/liabilities measured at fair value</b>				
Other current financial assets (derivative instruments)	-	169	-	169
Other non-current financial assets (marketable financial assets)	3	-	-	3
Other non-current financial liabilities (Conversion rights)	-	534	-	534

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<b>Financial assets/liabilities not measured at fair value</b>				
Non-current borrowings (excluding finance lease liabilities)	-	3,204,511	-	3,204,511
Non-current finance lease liabilities	-	26,265	-	26,265
<i>(in millions of Korean won)</i>				
	<b>December 31, 2017</b>			
	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Total</b>
<b>Financial assets/liabilities measured at fair value</b>				
Other non-current financial assets (carried at fair value)	6,064	-	-	6,064
<b>Financial assets/liabilities not measured at fair value</b>				
Non-current borrowings (excluding finance lease liabilities)	-	1,560,147	-	1,560,147
Non-current finance lease liabilities	-	28,776	-	28,776

**4. Critical Accounting Estimates and Assumptions**

The preparation of financial statements requires the Group to make estimates and assumptions concerning the future. Estimates and assumptions are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. The accounting estimates will, by definition, seldom equal the related actual results.

Significant accounting estimates and assumptions applied in the preparation of these consolidated interim financial statements are the same as those applied to the consolidated financial statements for the year ended December 31, 2017, except for the estimates used to determine income tax expense and the accounting estimates and assumptions for implementation of Korean IFRS 1109 explained as below.

(1) Impairment of financial assets

The allowance for impairment for financial assets under Korean IFRS 1109 is based on assumptions about risk of default and expected loss rates. The Group uses judgement in making these assumptions and selecting the inputs to the impairment calculation based on the Group's past history, existing market conditions as well as forward looking estimates at the end of each reporting period.

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**5. Financial Instruments by Category**

Categorizations of financial instruments as at June 30, 2018 and December 31, 2017, are as follows:

*(in millions of Korean won)*

<b>Financial assets</b>	<b>June 30, 2018</b>			<b>Total</b>
	<b>Financial assets at amortized cost</b>	<b>Financial assets at fair value through profit or loss</b>	<b>Financial assets at fair value through other comprehensive income</b>	
Cash and cash equivalents	2,351,721	-	-	2,351,721
Trade receivables	4,959,706	-	186,089	5,145,795
Other receivables	644,181	-	-	644,181
Other non-current receivables	121,179	-	-	121,179
Other current financial assets	-	-	169	169
Other non-current financial assets	-	16,082	19,049	35,131
<b>Total</b>	<b>8,076,787</b>	<b>16,082</b>	<b>205,307</b>	<b>8,298,176</b>

*(in millions of Korean won)*

<b>Financial liabilities</b>	<b>June 30, 2018</b>			<b>Total</b>
	<b>Financial liabilities at fair value through profit or loss</b>	<b>Financial liabilities at amortized cost</b>	<b>Other financial liabilities<sup>1</sup></b>	
Trade payables	-	2,155,719	-	2,155,719
Other payables	-	1,448,444	-	1,448,444
Borrowings (current)	-	1,893,329	9,773	1,903,102
Other non-current financial liabilities	534	-	-	534
Other non-current payables	-	10,265	-	10,265
Borrowings (non-current)	-	3,185,563	25,336	3,210,899
<b>Total</b>	<b>534</b>	<b>8,693,320</b>	<b>35,109</b>	<b>8,728,963</b>

*(in millions of Korean won)*

<b>Financial assets</b>	<b>December 31, 2017</b>			<b>Total</b>
	<b>Loans and receivables</b>	<b>Financial assets at fair value through profit or loss</b>	<b>Available-for-sale financial assets</b>	
Cash and cash equivalents	2,249,341	-	-	2,249,341
Trade receivables	4,448,669	-	-	4,448,669
Other receivables	770,776	-	-	770,776
Other non-current receivables	126,429	-	-	126,429
Other non-current financial assets	-	-	23,782	23,782
<b>Total</b>	<b>7,595,215</b>	<b>-</b>	<b>23,782</b>	<b>7,618,997</b>

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Financial liabilities	December 31, 2017			Total
	Financial liabilities at fair value through profit or loss	Financial liabilities at amortized cost	Other financial liabilities <sup>1</sup>	
Trade payables	-	2,014,779	-	2,014,779
Other payables	-	1,847,222	-	1,847,222
Borrowings (current)	-	1,443,683	7,641	1,451,324
Other non-current payables	-	8,646	-	8,646
Borrowings (non-current)	-	1,566,258	27,367	1,593,625
<b>Total</b>	<b>-</b>	<b>6,880,588</b>	<b>35,008</b>	<b>6,915,596</b>

<sup>1</sup> Other financial liabilities include (a) financial lease liabilities that are not subject to the categorizations of financial liabilities and (b) financial liabilities that are related to transfer transactions not qualified for derecognition.

Net gains or losses on each category of financial instruments for the three-month and six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018		2017	
	Three months	Six months	Three months	Six months
<b>Dividend income</b>				
Financial assets at fair value through other comprehensive income	8	8	-	-
Available-for-sale financial assets	-	-	8	204
<b>Interest income</b>				
Financial assets at fair value through other comprehensive income	-	-	-	5
Financial assets at amortized cost	12,233	23,497	6,340	13,801
<b>Interest expense</b>				
Hedging derivatives	-	-	-	-
Financial liabilities at amortized cost	(35,742)	(63,752)	(26,140)	(50,863)
Other financial liabilities	(263)	(523)	(1,870)	(5,347)
<b>Gain (loss) on valuation</b>				
Financial assets at fair value through profit or loss	-	-	-	-
Hedging derivatives	-	-	-	-
Financial assets at fair value through other comprehensive income	2,510	6,167	-	-
Derivative instruments	2,188	2,188	-	-
<b>Gain (loss) on disposal</b>				
Financial assets at fair value through profit or loss	-	-	-	-
Hedging derivatives	-	-	-	170
Financial assets at fair value through other comprehensive income	(205)	(1,542)	-	-

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<i>(in millions of Korean won)</i>	<b>2018</b>		<b>2017</b>	
	<b>Three months</b>	<b>Six months</b>	<b>Three months</b>	<b>Six months</b>
<b>Gain (loss) on foreign currency translation</b>				
Financial assets at amortized cost	106,184	90,902	97,154	25,173
Financial liabilities at amortized cost	(151,188)	(109,034)	(7,850)	24,915
Other financial liabilities	349	349	(26,710)	(2,173)
<b>Gain (loss) on foreign currency transaction</b>				
Financial assets at amortized cost	36,112	37,508	(24,229)	(148,037)
Financial liabilities at amortized cost	(16,941)	(7,524)	10,037	52,042
Other financial liabilities	(114)	(207)	15,152	67,836

**6. Cash and Cash Equivalents**

Details of cash and cash equivalents as at June 30, 2018 and December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	<b>June 30, 2018</b>	<b>December 31, 2017</b>
Bank deposits and cash on hand	568,978	598,712
Deposits held by financial institutions and others	1,782,743	1,650,629
<b>Total</b>	<b>2,351,721</b>	<b>2,249,341</b>

As at June 30, 2018, cash and cash equivalents include ₩7,563 million which is subject to a restriction on the use in association with the national R&D projects.

**7. Trade and Other Receivables**

Trade and other receivables and its provisions for impairment, as at June 30, 2018 and December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	<b>June 30, 2018</b>		
	<b>Gross amount</b>	<b>Impairment allowance</b>	<b>Carrying amount</b>
Trade receivables <sup>1</sup>	5,156,100	(10,305)	5,145,795
Other current receivables	645,140	(959)	644,181
Other non-current receivables <sup>2</sup>	121,179	-	121,179
<b>Total</b>	<b>5,922,419</b>	<b>(11,264)</b>	<b>5,911,155</b>

<i>(in millions of Korean won)</i>	<b>December 31, 2017</b>		
	<b>Gross amount</b>	<b>Impairment allowance</b>	<b>Carrying amount</b>
Trade receivables <sup>1</sup>	4,456,221	(7,552)	4,448,669
Other current receivables	771,735	(959)	770,776
Other non-current receivables <sup>2</sup>	126,429	-	126,429
<b>Total</b>	<b>5,354,385</b>	<b>(8,511)</b>	<b>5,345,874</b>

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<sup>1</sup> As at June 30, 2018 and December 31, 2017, trade receivables transferred to financial institutions have been collateralized for borrowings (current) and the amount of trade receivables not fully derecognized is as follows (Note 14):

<i>(in millions of Korean won)</i>	<b>Trade receivables collateralized for borrowings</b>	
	<b>June 30, 2018</b>	<b>December 31, 2017</b>
Carrying amount of transferred assets	4,743	2,504
Carrying amount of related liabilities	(4,743)	(2,504)

<sup>2</sup> As at June 30, 2018, ₩575 million of other non-current receivables represents deposits which are restricted from withdrawal in connection with maintaining checking accounts (2017: ₩550 million).

Details of other receivables as at June 30, 2018 and December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	<b>June 30, 2018</b>	<b>December 31, 2017</b>
<b>Current</b>		
Non-trade receivables	122,391	187,314
Deposits held by financial institutions <sup>1</sup>	478,209	529,701
Accrued income	6,445	5,126
Guarantee deposits provided	37,136	48,635
	<u>644,181</u>	<u>770,776</u>
<b>Non-current</b>		
Non-trade receivables	4,677	4,246
Deposits held by financial institutions <sup>2</sup>	63,973	64,308
Loans	335	291
Guarantee deposits provided	52,194	57,584
	<u>121,179</u>	<u>126,429</u>
<b>Total</b>	<u>765,360</u>	<u>897,205</u>

<sup>1</sup> As at June 30, 2018, ₩1,338 million (2017: ₩1,338 million) is pledged as a collateral for borrowings and others.

<sup>2</sup> As at June 30, 2018, ₩63,400 million (2017: ₩63,400 million) is restricted from being withdrawn in relation to large, small and medium-sized companies cooperation agreement and others.



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The aging analysis of trade and other receivables as at June 30, 2018 and December 31, 2017, is as follows:

(in millions of Korean won)

	June 30, 2018		December 31, 2017	
	Trade receivables	Other receivables	Trade receivables	Other receivables
<b>Receivables not past due</b>	5,020,720	741,100	4,302,204	834,882
<b>Past due but not impaired</b>	129,742	24,260	148,908	62,323
Up to 3 months	118,724	16,217	148,043	59,070
Between 3-6 months	9,344	4,695	311	2,078
Over 6 months	1,674	3,348	554	1,175
<b>Impaired receivables</b>	5,638	959	5,109	959
	<u>5,156,100</u>	<u>766,319</u>	<u>4,456,221</u>	<u>898,164</u>

Movements on the provision for impairment of trade and other receivables for the six-month period ended June 30, 2018 and for the year ended December 31, 2017, are as follows:

(in millions of Korean won)

	June 30, 2018			
	Trade receivables		Other receivables	
	Current	Non-current	Current	Non-current
<b>Beginning balance</b>	7,552	-	959	-
Business combination (Note 34)	-	-	-	-
Additions	2,874	-	-	-
Write-off	(112)	-	-	-
Reversals	-	-	-	-
Exchange differences	(9)	-	-	-
<b>Ending balance</b>	<u>10,305</u>	<u>-</u>	<u>959</u>	<u>-</u>

(in millions of Korean won)

	December 31, 2017			
	Trade receivables		Other receivables	
	Current	Non-current	Current	Non-current
<b>Beginning balance</b>	12,219	-	385	990
Business combination (Note 34)	2,018	-	-	-
Additions	-	-	796	-
Write-off	(644)	-	(221)	(990)
Reversals	(4,464)	-	(1)	-
Exchange differences	(1,577)	-	-	-
<b>Ending balance</b>	<u>7,552</u>	<u>-</u>	<u>959</u>	<u>-</u>

As at June 30, 2018 and December 31, 2017, the carrying amounts of trade and other receivables are approximation of their fair values.

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**8. Other Financial Assets**

Details of other financial assets as at June 30, 2018 and December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	<b>June 30, 2018</b>	<b>December 31, 2017</b>
<b>Other financial assets</b>		
Financial assets at fair value through other comprehensive income (current)	169	-
Financial assets at fair value through other comprehensive income (non-current)	19,049	-
Financial assets at fair value through profit or loss (current)	-	-
Financial assets at fair value through profit or loss (non-current)	16,082	-
Available-for-sale financial assets	<u>-</u>	<u>23,782</u>
Less: current portion	<u>(169)</u>	<u>-</u>
	<u>35,131</u>	<u>23,782</u>
<b>Other financial liabilities (non-current)</b>		
Derivative instruments	<u>534</u>	<u>-</u>
	<u>534</u>	<u>-</u>

Changes in other financial assets for the six-month periods ended June 30, 2018 and for the year ended December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	<b>June 30, 2018</b>	<b>December 31, 2017</b>
<b>Beginning balance</b>	23,782	23,448
Business combination (Note 34)	-	2,652
Acquisitions / Transfer	15,187	3,001
Disposals	(10,005)	(195)
Impairment	-	(209)
Gain (loss) on valuation (before income tax effects)	6,336	(5,550)
Less: current portion	(169)	-
Exchange differences	<u>-</u>	<u>635</u>
<b>Ending balance</b>	<u>35,131</u>	<u>23,782</u>

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**9. Inventories**

Details of inventories as at June 30, 2018 and December 31, 2017, are as follows:

*(in millions of Korean won)*

	<b>June 30, 2018</b>		
	<b>Gross Amount</b>	<b>Valuation allowance</b>	<b>Carrying amount</b>
Merchandise	142,416	(1,317)	141,099
Finished / Semi-finished products	2,211,174	(80,487)	2,130,687
Work-in-process	13,748	-	13,748
Raw materials	1,028,494	(16,023)	1,012,471
Supplies	148,608	-	148,608
Materials-in-transit	503,096	-	503,096
<b>Total</b>	<b>4,047,536</b>	<b>(97,827)</b>	<b>3,949,709</b>

*(in millions of Korean won)*

	<b>December 31, 2017</b>		
	<b>Gross Amount</b>	<b>Valuation allowance</b>	<b>Carrying amount</b>
Merchandise	141,567	(3,320)	138,247
Finished / Semi-finished products	1,956,436	(95,369)	1,861,067
Work-in-process	9,852	-	9,852
Raw materials	897,227	(14,459)	882,768
Supplies	136,251	-	136,251
Materials-in-transit	324,269	-	324,269
<b>Total</b>	<b>3,465,602</b>	<b>(113,148)</b>	<b>3,352,454</b>

During the six-month period ended June 30, 2018, the cost of inventories recognized as 'cost of sales' is amounted to ₩8,304,042 million (2017: ₩7,870,664 million).

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**10. Investments in Associates and Joint Ventures**

Changes in investments in associates and joint ventures for the six-month period ended June 30, 2018 and for the year ended December 31, 2017, are as follows:

(in millions of Korean won)

	June 30, 2018						
	Beginning balance	Acquisitions / transfer	Dividends	Share of profit (loss) of associates and joint ventures	Share of other comprehensive income of associates and joint ventures	Others	Ending balance
LG VINA Chemical Co., Ltd.	3,327	-	(810)	169	(723)	-	1,963
HL Greenpower Co., Ltd.	20,240	-	-	(1,382)	-	(209)	18,649
LG Holdings (HK) Ltd.	51,029	-	-	2,731	1,766	-	55,526
TECWIN Co., Ltd.	8,008	-	-	1,818	-	-	9,826
SEETEC Co., Ltd.	146,741	-	(10,000)	3,590	-	91	140,422
LG Chem BRASIL INTERMEDIACAO DE NEGOCIOS DO SETOR QUIMICO LTDA.	579	-	-	-	-	-	579
LG Chem Malaysia SDN.BHD	150	-	-	-	-	-	150
LG Fuel Cell Systems Inc.	30,334	-	-	(7,124)	693	59	23,962
FJ Composite Materials Co., Ltd.	2,669	-	-	(119)	97	-	2,647
WUXI CL New Energy Technology Ltd.	1,002	559	-	(71)	8	(1)	1,497
LG Life Sciences Poland Ltd.	17	-	-	-	-	-	17
Combustion Synthesis Co., Ltd. <sup>1</sup>	-	1,503	-	(69)	(5)	19	1,448
	<u>264,096</u>	<u>2,062</u>	<u>(10,810)</u>	<u>(457)</u>	<u>1,836</u>	<u>(41)</u>	<u>256,686</u>

(in millions of Korean won)

	December 31, 2017								
	Beginning balance	Business combination	Acquisitions / transfer	Dividends	Share of profit (loss) of associates and joint ventures	Share of other comprehensive income of associates and joint ventures	Changes in ownership of associates	Others	Ending balance
LG VINA Chemical Co., Ltd.	3,874	-	-	(846)	753	(454)	-	-	3,327
HL Greenpower Co., Ltd.	16,927	-	-	-	3,010	-	-	303	20,240
LG Holdings (HK) Ltd.	74,843	-	-	-	4,281	(8,596)	-	(19,499)	51,029
TECWIN Co., Ltd.	7,214	-	-	-	794	-	-	-	8,008
SEETEC Co., Ltd.	148,333	-	-	(10,000)	8,408	-	-	-	146,741
LG Chem BRASIL INTERMEDIACAO DE NEGOCIOS DO SETOR QUIMICO LTDA.	579	-	-	-	-	-	-	-	579
LG Chem Malaysia SDN.BHD	150	-	-	-	-	-	-	-	150
LG Fuel Cell Systems Inc.	8,908	-	24,527	-	(10,191)	(587)	7,680	(3)	30,334
FJ Composite Materials Co., Ltd.	-	-	3,015	-	(259)	(87)	-	-	2,669
WUXI CL New Energy Technology Ltd.	-	-	1,178	-	(176)	-	-	-	1,002
LG Life Sciences Poland Ltd.	-	17	-	-	-	-	-	-	17
	<u>260,828</u>	<u>17</u>	<u>28,720</u>	<u>(10,846)</u>	<u>6,620</u>	<u>(9,724)</u>	<u>7,680</u>	<u>(19,199)</u>	<u>264,096</u>

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<sup>1</sup> During the six-month period ended June 30, 2018, the Group newly acquired 29.54% shares of Combustion Synthesis Co., Ltd. for ₩1,503 million.

**11. Property, Plant and Equipment**

Changes in property, plant and equipment for the six-month period ended June 30, 2018 and for the year ended December 31, 2017, are as follows:

(in millions of Korean won)

	June 30, 2018										
	Land	Buildings	Structures	Machinery	Vehicles	Tools	Equipment	Others	Construction -in-progress	Machinery -in-transit	Total
<b>Beginning balance</b>	1,568,295	2,762,588	654,629	4,169,473	13,654	403,522	105,759	73,399	1,317,877	142,286	11,211,482
Cost	1,605,247	3,438,000	1,190,383	13,157,481	39,945	1,085,752	352,106	211,585	1,361,431	142,286	22,584,216
Accumulated depreciation	-	(637,025)	(521,806)	(8,840,809)	(26,143)	(669,189)	(243,973)	(136,034)	-	-	(11,074,979)
Accumulated impairment	(36,952)	(38,387)	(13,948)	(147,199)	(148)	(13,041)	(2,374)	(2,152)	(43,554)	-	(297,755)
Acquisitions/ Transfer	42,096	306,362	18,360	711,840	1,289	100,146	40,881	7,186	1,645,718	104,392	2,978,270
Disposals/ Transfer	-	(142)	(73)	(215,783)	(24)	(6,126)	(1,460)	(1,051)	(1,231,548)	(34,614)	(1,490,821)
Exchange differences	9	15,043	3,077	29,577	179	2,496	811	-	9,856	-	61,048
Depreciation	-	(44,116)	(22,668)	(477,097)	(1,533)	(68,198)	(19,322)	(33,206)	-	-	(666,140)
Impairment	-	(1,248)	(221)	(14,789)	-	(125)	(1)	-	-	-	(16,384)
Reversal of impairment	-	16	28	252	3	1	11	-	-	-	311
<b>Ending balance</b>	<b>1,610,400</b>	<b>3,038,503</b>	<b>653,132</b>	<b>4,203,473</b>	<b>13,568</b>	<b>431,716</b>	<b>126,679</b>	<b>46,328</b>	<b>1,741,903</b>	<b>212,064</b>	<b>12,077,766</b>
Cost	1,647,352	3,763,830	1,214,038	13,659,231	41,239	1,163,388	390,878	212,453	1,785,715	212,064	24,090,188
Accumulated depreciation	-	(686,401)	(546,479)	(9,299,058)	(27,525)	(720,212)	(261,779)	(163,973)	-	-	(11,705,427)
Accumulated impairment	(36,952)	(38,926)	(14,427)	(156,700)	(146)	(11,460)	(2,420)	(2,152)	(43,812)	-	(306,995)

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(in millions of  
Korean won)

	December 31, 2017										
	Land	Buildings	Structures	Machinery	Vehicles	Tools	Equipment	Others	Construction -in-progress	Machinery -in-transit	Total
<b>Beginning balance</b>	1,470,226	2,181,396	651,061	4,288,509	8,594	384,777	95,905	100,360	473,111	26,194	9,680,133
Cost	1,507,154	2,796,650	1,145,962	12,656,297	41,183	1,005,567	323,646	238,906	484,950	26,194	20,226,509
Accumulated depreciation	-	(575,932)	(479,210)	(8,305,213)	(32,439)	(611,202)	(225,767)	(138,098)	-	-	(10,367,861)
Accumulated impairment	(36,928)	(39,322)	(15,691)	(62,575)	(150)	(9,588)	(1,974)	(448)	(11,839)	-	(178,515)
Business combination (Note 34)	62,738	81,497	6,590	109,011	197	8,256	2,918	-	164,722	57,392	493,321
Acquisitions/ Transfer	38,594	607,656	51,272	955,563	9,761	180,809	45,578	41,658	2,535,725	133,175	4,599,791
Disposals/ Transfer	(2,972)	(9,888)	(787)	(53,527)	(49)	(31,254)	(1,242)	-	(1,820,436)	(74,475)	(1,994,630)
Exchange differences	(291)	(28,426)	(5,133)	(77,319)	(121)	(6,971)	(1,821)	-	(2,854)	-	(122,936)
Depreciation	-	(75,093)	(46,529)	(955,324)	(4,691)	(125,354)	(35,001)	(66,915)	-	-	(1,308,907)
Impairment	-	(1,390)	(3,039)	(98,125)	(39)	(6,142)	(652)	(1,704)	(32,391)	-	(143,482)
Reversal of impairment	-	6,836	1,194	3,721	2	797	91	-	-	-	12,641
Transfer to assets held for sale (Note 35)											
<b>Ending balance</b>	<b>1,568,295</b>	<b>2,762,588</b>	<b>654,629</b>	<b>4,169,473</b>	<b>13,654</b>	<b>403,522</b>	<b>105,759</b>	<b>73,399</b>	<b>1,317,877</b>	<b>142,286</b>	<b>11,211,482</b>
Cost	1,605,247	3,438,000	1,190,383	13,157,481	39,945	1,085,752	352,106	211,585	1,361,431	142,286	22,584,216
Accumulated depreciation	-	(637,025)	(521,806)	(8,840,809)	(26,143)	(669,189)	(243,973)	(136,034)	-	-	(11,074,979)
Accumulated impairment	(36,952)	(38,387)	(13,948)	(147,199)	(148)	(13,041)	(2,374)	(2,152)	(43,554)	-	(297,755)

During the six-month period ended June 30, 2018, the Group capitalized ₩9,101 million of borrowing costs (2017: ₩2,270 million), which was recognized from borrowings in relation to acquisition of property, plant and equipment. The capitalization rate of borrowings used to determine the amount of borrowing costs eligible for capitalization is 2.32% (2017: 2.12%).

Line items including depreciation in the consolidated statements of profit or loss for the three-month and six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018		2017	
	Three months	Six months	Three months	Six months
Cost of sales	306,967	608,894	306,000	611,575
Selling and administrative expenses	28,540	55,751	23,607	47,413
Others	660	1,495	828	1,744
<b>Total</b>	<b>336,167</b>	<b>666,140</b>	<b>330,435</b>	<b>660,732</b>

Details of machinery classified as a finance lease as at June 30, 2018 and December 31, 2017, are as follows:

(in millions of Korean won)

	June 30, 2018	December 31, 2017	
	Machinery	Machinery	Construction-in-progress
Cost- capitalized finance leases	45,025	43,274	1,275
Accumulated depreciation	(15,306)	(12,952)	-
<b>Net book amount</b>	<b>29,719</b>	<b>30,322</b>	<b>1,275</b>

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The Group leases machinery under non-cancellable finance lease agreements. The lease terms are 3~10 years and the contracts include an agreement that the ownership of the assets is transferred by the end of the lease term.

The Group reviews annually whether there is any indication that an asset may be impaired. During 2017, 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 2017, certain equipment in LED Encap business, a CGU in IT & Electronic materials and Advanced materials segment, was tested for reversal of impairment as the future economic performance of OLED material division was estimated to exceed the previous expectation due to a transfer of LED Encap business to OLED material compound process.

The amount of impairment loss recognized as other non-operating (income) expense and key assumptions used for calculation of value in use for the year ended December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	2017	
	Glass Substrate <sup>1</sup>	LED Encap
<b>Impaired amount</b>		
Property, plant and equipment	124,138	(11,320)
Intangible assets	2,345	(6)
<b>Key assumptions</b>		
Pre-tax discount rate	N/A	12.3%
Growth rate for subsequent years exceeding five years	N/A	-

<sup>1</sup> The recoverable amount is calculated based on fair value less costs to sell and it is a non-recurring fair value measured by an observable transaction price. It is categorized as level 2 of the fair value hierarchy.

During 2017, the Group decided to dispose of certain of non-current assets and recognized the difference between the fair value and the carrying amount as impairment losses (Note 35).

**12. Intangible Assets**

Changes in intangible assets for the six-month period ended June 30, 2018 and for the year ended December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	June 30, 2018					
	Development costs	Industrial property rights	Goodwill	Memberships	Others	Total
<b>Beginning balance</b>	192,046	371,381	925,593	50,806	283,329	1,823,155
Separate acquisitions/ Transfer	36,831	25,986	-	65	19,988	82,870
Additions – internal development	6,123	-	-	-	-	6,123
Disposals/Transfer	(6,223)	(20)	-	(623)	-	(6,866)
Exchange differences	437	1,974	4,729	20	156	7,316
Amortization	(20,992)	(14,793)	-	-	(17,155)	(52,940)
Impairment	(1,704)	-	-	-	-	(1,704)
<b>Ending balance</b>	<u>206,518</u>	<u>384,528</u>	<u>930,322</u>	<u>50,268</u>	<u>286,318</u>	<u>1,857,954</u>

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(in millions of Korean won)

	December 31, 2017					
	Development costs	Industrial property rights	Goodwill	Memberships	Others	Total
<b>Beginning balance</b>	102,853	344,882	252,253	52,793	79,363	832,144
Business combination (Note 34)	53,913	12,770	686,229	3,723	203,144	959,779
Separate acquisitions/ Transfer	66,432	47,005	-	1,538	34,921	149,896
Additions – internal development	20,843	-	-	-	-	20,843
Disposals/ Transfer	(8,066)	(55)	-	(6,080)	(308)	(14,509)
Exchange differences	(1,107)	(1,985)	(12,889)	(35)	(349)	(16,365)
Amortization	(33,764)	(30,010)	-	-	(32,944)	(96,718)
Impairment	(9,064)	(868)	-	(1,133)	(498)	(11,563)
Reversal of impairment	6	-	-	-	-	6
Transfer to assets held for sale (Note 35)	-	(358)	-	-	-	(358)
<b>Ending balance</b>	<b>192,046</b>	<b>371,381</b>	<b>925,593</b>	<b>50,806</b>	<b>283,329</b>	<b>1,823,155</b>

Line items including amortization of intangible assets for the three-month and six-month periods ended June 30, 2018 and 2017, as follows:

(in millions of Korean won)

	2018		2017	
	Three months	Six months	Three months	Six months
Cost of sales	6,023	11,870	5,155	9,557
Selling and administrative expenses	20,820	41,070	17,620	34,429
<b>Total</b>	<b>26,843</b>	<b>52,940</b>	<b>22,775</b>	<b>43,986</b>

The Group recognized total research and development costs of ₩ 475,941 million (2017: ₩ 427,580 million) as expenses.

Changes in greenhouse gas emission permits for the six-month period ended June 30, 2018 and for the year ended December 31, 2017, are as follows:

(in thousands of tons and millions of Korean won)

	June 30, 2018					
	2017		2018		Total	
	Quantity	Amount	Quantity	Amount	Quantity	Amount
<b>Beginning balance</b>	7,520	18,635	6,648	-	14,168	18,635
Allocation with nil consideration	171	-	11	-	182	-
Purchase	370	9,556	-	-	370	9,556
Business combination	-	-	-	-	-	-
Borrowings	(28)	-	28	-	-	-
Surrendered to the government	-	-	-	-	-	-
<b>Ending balance</b>	<b>8,033</b>	<b>28,191</b>	<b>6,687</b>	<b>-</b>	<b>14,720</b>	<b>28,191</b>



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<i>(in thousands of tons and millions of Korean won)</i>	December 31, 2017					
	2016		2017		Total	
	Quantity	Amount	Quantity	Amount	Quantity	Amount
<b>Beginning balance</b>	6,191	-	6,475	-	12,666	-
Allocation with nil consideration	350	-	799	-	1,149	-
Purchase	250	5,133	873	18,635	1,123	23,768
Business combination	62	-	58	-	120	-
Borrowings	685	-	(685)	-	-	-
Surrendered to the government	(7,538)	(5,133)	-	-	(7,538)	(5,133)
<b>Ending balance</b>	-	-	7,520	18,635	7,520	18,635

**13. Other Current and Non-Current Assets**

Details of other current and non-current assets as at June 30, 2018 and December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	June 30, 2018	December 31, 2017
<b>Current</b>		
Prepayments and prepaid expenses	135,288	129,387
Prepaid value added tax	365,625	225,790
Others	29,992	21,637
<b>Total</b>	<b>530,905</b>	<b>376,814</b>
<b>Non-current</b>		
Long-term prepayments and long-term prepaid expenses	103,550	104,072
Others	93	91
<b>Total</b>	<b>103,643</b>	<b>104,163</b>

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**14. Borrowings**

Borrowings as at June 30, 2018 and December 31, 2017, consist of:

<i>(in millions of Korean won)</i>	<b>June 30, 2018</b>	<b>December 31, 2017</b>
<b>Current</b>		
Short-term borrowings	1,338,789	957,868
Current-portion of long-term borrowings	409,354	318,441
Current-portion of debentures	149,929	169,878
Finance lease liabilities	5,030	5,137
	<u>1,903,102</u>	<u>1,451,324</u>
<b>Non-current</b>		
Long-term borrowings	455,052	518,955
Debentures	2,730,511	1,047,303
Finance lease liabilities	25,336	27,367
	<u>3,210,899</u>	<u>1,593,625</u>
<b>Total</b>	<u><b>5,114,001</b></u>	<u><b>3,044,949</b></u>

Details of short-term borrowings as at June 30, 2018 and December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	<b>Bank</b>	<b>Latest maturity date</b>	<b>Interest rate(%) as at June 30, 2018</b>	<b>June 30, 2018</b>	<b>December 31, 2017</b>
Notes discounted <sup>1</sup> (Negotiable notes)	Woori Bank, others	Nov. 29, 2018	Libor + 0.52 and others	4,743	2,504
Bank loans	Nonghyup Bank, others	Apr. 20, 2019	2.17 and others	1,334,046	955,364
<b>Total</b>				<u><b>1,338,789</b></u>	<u><b>957,868</b></u>

<sup>1</sup> As at June 30, 2018, trade receivables transferred to financial institutions have been collateralized for borrowings (current) (Note 7).

**LG Chem, Ltd. and Subsidiaries**  
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Details of long-term borrowings as at June 30, 2018 and December 31, 2017, are as follows:

(in millions of Korean won)	June 30, 2018				
	Bank	Annual interest rate (%)	Amount in Korean won	Current	Non-current
<b>Borrowings in Korean won</b>	KEB Hana Bank <sup>1</sup>	1.75	529	353	176
<b>Borrowings in foreign currencies</b>	HSBC	3LIBOR+1.00	244,362	244,362	-
	Agricultural Bank of China	PBOC ×0.90, 3LIBOR ×0.80	48,794	9,932	38,862
	Construction Bank of China	PBOC ×90%	26,817	3,903	22,914
	Communications Bank of China	PBOC	12,401	2,380	10,021
	CITI	3LIBOR+0.64 EURIBOR+0.90	38,904	-	38,904
	Bank of America	3LIBOR+1.11, PBOC ×92.9	44,844	44,844	-
	ING BANK	3LIBOR+0.83	64,839	-	64,839
	UOB	6LIBOR+1.25	30,723	614	30,109
	Standard Chartered Bank	3LIBOR+1.15, 1LIBOR+0.75	26,306	17,537	8,769
	Sumitomo Mitsui Banking Corporation	3LIBOR+0.93	87,483	11,209	76,274
	Mizuho Banking Corporation	3LIBOR+0.96, PBOC ×102.0	78,424	44,837	33,587
	BNP PARIBAS	1LIBOR+0.70, 3EURIBOR+0.99	19,451	-	19,451
	CNOOC Finance	PBOC ×90	74,032	16,941	57,091
	Hangseng	3LIBOR+1.00	33,626	3,363	30,263
	Bank of China	3LIBOR+0.95	32,871	9,079	23,792
<b>Total</b>			<b>864,406</b>	<b>409,354</b>	<b>455,052</b>

<sup>1</sup> Other receivables are pledged as collateral for the above long-term borrowings (Note 18).

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(in millions of Korean won)	December 31, 2017				
	Bank	Annual interest rate (%)	Amount in Korean won	Current	Non-current
<b>Borrowings in Korean won</b>	KEB Hana Bank <sup>1</sup>	1.75	706	353	353
<b>Borrowings in foreign currencies</b>	Sumitomo Mitsui Banking Corporation	Libor + 1.05	53,463	5,346	48,117
	Standard Chartered Bank	Libor + 1.60	25,095	-	25,095
	Construction Bank of China	PBOC ×0.90	27,791	3,770	24,021
	Communications Bank of China	PBOC	12,896	1,841	11,055
	Agricultural Bank of China	USD: Libor + 0.80 CNY: PBOC ×0.90	51,637	9,496	42,141
	Bank of America	Libor + 0.90~1.50	69,579	32,080	37,499
	Bank of China	Libor + 0.95	34,246	5,775	28,471
	BNP PARIBAS	EUR:EURIBOR + 0.99 PLN: WIBOR + 0.55	19,151	-	19,151
	CNOOC Finance	PBOC ×0.90	71,515	16,365	55,150
	HSBC	Libor + 1.00~1.05	236,320	198,894	37,426
	JP Morgan	Libor + 0.85~1.05	42,765	42,765	-
	Mizuho Banking Corporation	Libor + 1.02	42,773	-	42,773
	CITI	EURIBOR + 0.90	38,298	-	38,298
	United Overseas Bank	Libor + 1.55	15,255	152	15,103
	Hangseng	Libor + 1.00	32,077	1,604	30,473
	ING	EURIBOR + 0.83	63,829	-	63,829
<b>Total</b>			<b>837,396</b>	<b>318,441</b>	<b>518,955</b>

<sup>1</sup> Other receivables are pledged as collateral for the above long-term borrowings (Note 18).

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Details of debentures as at June 30, 2018 and December 31, 2017, are as follows:

		June 30, 2018				
		Annual interest rate (%)	Latest maturity date	Amount in Korean won	Current	Non- current
<b>48<sup>th</sup> Debenture (non-guaranteed/public)</b>	NH Investment & Securities Co., Ltd. and others	3.77	2019.02.21	50,000	50,000	-
<b>49<sup>th</sup> Debenture (non-guaranteed/private)</b>	KB Asset Management Co., Ltd and others	2.82	2018.12.12	100,000	100,000	-
<b>50-1<sup>st</sup> Debenture (non-guaranteed/public)</b>	NH Investment & Securities Co., Ltd. and others	1.95	2020.05.19	120,000	-	120,000
<b>50-2<sup>nd</sup> Debenture (non-guaranteed/public)</b>	NH Investment & Securities Co., Ltd. and others	2.28	2022.05.19	400,000	-	400,000
<b>50-3<sup>rd</sup> Debenture (non-guaranteed/public)</b>	NH Investment & Securities Co., Ltd. and others	2.53	2024.05.19	280,000	-	280,000
<b>51-1<sup>st</sup> Debenture (non-guaranteed/public)</b>	NH Investment & Securities Co., Ltd. and others	2.56	2021.02.20	190,000	-	190,000
<b>51-2<sup>nd</sup> Debenture (non-guaranteed/public)</b>	NH Investment & Securities Co., Ltd. and others	2.88	2023.02.20	240,000	-	240,000
<b>51-3<sup>rd</sup> Debenture (non-guaranteed/public)</b>	NH Investment & Securities Co., Ltd. and others	3.07	2025.02.20	270,000	-	270,000
<b>51-4<sup>th</sup> Debenture (non-guaranteed/public)</b>	NH Investment & Securities Co., Ltd. and others	3.29	2028.02.20	300,000	-	300,000
<b>1-1<sup>st</sup> USD Overseas Convertible bonds<sup>1</sup></b>	Credit Suisse	0.00	2021.04.16	246,775	-	246,775
<b>1-2<sup>nd</sup> EUR Overseas Convertible bonds<sup>2</sup></b>	Credit Suisse	0.00	2021.04.16	408,820	-	408,820
<b>Debentures in Korean won (non-guaranteed)</b>	NH Investment & Securities Co., Ltd. and others	1.93	2020.02.16	100,000	-	100,000
	NH Investment & Securities Co., Ltd. and others	2.26	2022.02.16	100,000	-	100,000
	NH Investment & Securities Co., Ltd. and others	2.71	2021.03.02	50,000	-	50,000
	NH Investment & Securities Co., Ltd. and others	3.00	2023.03.02	40,000	-	40,000
Less: discount on debentures				(15,155)	(71)	(15,084)
<b>Total</b>				<b>2,880,440</b>	<b>149,929</b>	<b>2,730,511</b>

**LG Chem, Ltd. and Subsidiaries**  
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<sup>1</sup> Details of 1-1<sup>st</sup> USD overseas convertible bonds are as follows:

	<b>Details</b>
<b>Aggregate principal amount</b>	USD 220,000,000
<b>Issue price</b>	USD 220,000,000
<b>Coupon rate (%)</b>	0.00
<b>Issue date</b>	April 16, 2018
<b>Maturity date</b>	April 16, 2021
<b>Redemption</b>	- Redemption at maturity: Outstanding bond principal, which is not repaid early or which call option is not exercised on, is repaid at maturity as a lump sum. - Prepayment: The issuer has a call option.
<b>Underlying shares</b>	509,606 registered ordinary shares (treasury shares)
<b>Conversion price (Korean won/shares)</b>	460,000
<b>Conversion period</b>	From May 27, 2018 to April 06, 2021
<b>Call option by the issuer</b>	- Share price (based on closing price) is higher than 130% of conversion price for more than 20 trading days during 30 consecutive trading days in a row, after 1 year from the closing date. - The amount of outstanding bonds is less than 10% in aggregate principal amount of the bonds originally issued (clean up call). - As a result of changes relating to tax laws in Korea, the issuer becomes obliged to pay any additional amounts.
<b>Call option by bondholders</b>	- The shares cease to be listed or admitted to trading or are suspended for a period equal to or exceeding 30 consecutive trading days. - The occurrence of a change of control

<sup>2</sup> Details of 1-2<sup>nd</sup> EUR overseas convertible bonds are as follows:

	<b>Details</b>
<b>Aggregate principal amount</b>	EUR 315,200,000
<b>Issue price</b>	EUR 315,200,000
<b>Coupon rate (%)</b>	0.00
<b>Issue date</b>	April 16, 2018
<b>Maturity date</b>	April 16, 2021
<b>Redemption</b>	- Redemption at maturity: Outstanding bond principal, which is not repaid early or which call option is not exercised on, is repaid at maturity as a lump sum. - Prepayment: The issuer has a call option.
<b>Underlying shares</b>	775,128 registered ordinary shares (treasury shares)
<b>Conversion price (Korean won/shares)</b>	533,600
<b>Conversion period</b>	From May 27, 2018 to April 06, 2021
<b>Call option by the issuer</b>	- Share price (based on closing price) is higher than 130% of conversion price for more than 20 trading days during 30 consecutive trading days in a row, after 1 year from the closing date. - The amount of outstanding bonds is less than 10% in aggregate principal amount of the bonds originally issued (clean up call). - As a result of changes relating to tax laws in Korea, the issuer becomes obliged to pay any additional amounts.
<b>Call option by bondholders</b>	- The shares cease to be listed or admitted to trading or are suspended for a period equal to or exceeding 30 consecutive trading days. - The occurrence of a change of control

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(in millions of Korean won)

		December 31, 2017				
	Financial institution	Annual interest rate (%)	Latest maturity date	Amount in Korean won	Current	Non- current
<b>47<sup>th</sup> Debenture</b>	Government Employees					
<b>(non-guaranteed/private)</b>	Pension Service and others	3.20	2018.04.30	30,000	30,000	-
<b>48<sup>th</sup> Debenture</b>	NH Investment & Securities					
<b>(non-guaranteed/public)</b>	Co., Ltd. and others	3.77	2019.02.21	50,000	-	50,000
<b>49<sup>th</sup> Debenture</b>	KB Asset Management Co.,					
<b>(non-guaranteed/private)</b>	Ltd and others	2.82	2018.12.12	100,000	100,000	-
<b>50-1<sup>st</sup> Debenture</b>	NH Investment & Securities					
<b>(non-guaranteed/public)</b>	Co., Ltd. and others	1.95	2020.05.19	120,000	-	120,000
<b>50-2<sup>nd</sup> Debenture</b>	NH Investment & Securities					
<b>(non-guaranteed/public)</b>	Co., Ltd. and others	2.28	2022.05.19	400,000	-	400,000
<b>50-3<sup>rd</sup> Debenture</b>	NH Investment & Securities					
<b>(non-guaranteed/public)</b>	Co., Ltd. and others	2.53	2024.05.19	280,000	-	280,000
<b>Debentures in Korean won (collateralized)<sup>1</sup></b>	IBK Securities Co., Ltd. and others	4.70	2018.03.05	40,000	40,000	-
<b>Debentures in Korean won (non-guaranteed)</b>	NH Investment & Securities					
	Co., Ltd. and others	1.93	2020.02.16	100,000	-	100,000
	NH Investment & Securities					
	Co., Ltd. and others	2.26	2022.02.16	100,000	-	100,000
Less: discount on debentures				(2,819)	(122)	(2,697)
<b>Total</b>				<u>1,217,181</u>	<u>169,878</u>	<u>1,047,303</u>

<sup>1</sup> Certain property, plant and equipment are pledged as collateral for the above debentures (Note 18).

Details of finance lease liabilities as at June 30, 2018 and December 31, 2017, are as follows:

(in millions of Korean won)

		June 30, 2018			
Leaser	Annual interest rate (%)	Latest maturity date	Total amount	Current	Non-current
Hyundai Oil Bank	3.12	2024.12.31	29,209	4,885	24,324
Others	3.7 ~ 4.13	2023.12.31	1,157	145	1,012
<b>Total</b>			<u>30,366</u>	<u>5,030</u>	<u>25,336</u>

(in millions of Korean won)

		December 31, 2017			
Leaser	Annual interest rate (%)	Latest maturity date	Total amount	Current	Non-current
Hyundai Oil Bank	3.12	2024.12.31	31,226	4,886	26,340
Others	3.7 ~ 4.13	2023.12.31	1,278	251	1,027
<b>Total</b>			<u>32,504</u>	<u>5,137</u>	<u>27,367</u>

**LG Chem, Ltd. and Subsidiaries**  
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The present value of finance lease liabilities as at June 30, 2018 and December 31, 2017, is as follows:

(in millions of Korean won)

	June 30, 2018			December 31, 2017		
	Minimum lease payments	Future finance costs	Present value	Minimum lease payments	Future finance costs	Present value
Within 1 year	5,192	162	5,030	5,253	116	5,137
Between 1-5 years	20,710	1,958	18,752	20,710	2,006	18,704
Over 5 years	7,944	1,360	6,584	10,532	1,869	8,663

**15. Provisions**

Changes in provisions for other liabilities and charges for the six-month period ended June 30, 2018 and for the year ended December 31, 2017, as follows:

(in millions of Korean won)

	June 30, 2018				
	Warranty <sup>1</sup>	Greenhouse gas emission <sup>2</sup>	Legal Claims <sup>3</sup>	Restoration <sup>4</sup>	Total
<b>Beginning balance</b>	92,662	23,069	20,629	90,056	226,416
Additions	75,580	14,620	7,714	1,146	99,060
Used	(44,307)	-	(9,763)	(6,185)	(60,255)
<b>Ending balance</b>	123,935	37,689	18,580	85,017	265,221
Less : current portion	(37,385)	(37,689)	-	(20,548)	(95,622)
<b>Total</b>	86,550	-	18,580	64,469	169,599

(in millions of Korean won)

	December 31, 2017				
	Warranty <sup>1</sup>	Greenhouse gas emission <sup>2</sup>	Legal Claims <sup>3</sup>	Restoration <sup>4</sup>	Total
<b>Beginning balance</b>	51,838	27,801	10,102	95,774	185,515
Business combination	5,994	59	-	-	6,053
Additions	94,603	342	72,787	1,641	169,373
Used	(59,773)	(5,133)	(62,260)	(7,359)	(134,525)
<b>Ending balance</b>	92,662	23,069	20,629	90,056	226,416
Less : current portion	(19,521)	(23,069)	-	(20,350)	(62,940)
<b>Total</b>	73,141	-	20,629	69,706	163,476

<sup>1</sup> Warranty provisions have been accrued for the estimated warranty costs to be incurred due to quality control, exchange, refunds with regard to products based on historical experience.

<sup>2</sup> Greenhouse gas emission provisions have been accrued for estimated expenditures to be obligated for any excess emission. The estimated emission for the six-month period ended June 30, 2018 amounts to 3,953 thousand tons (2017: 3,857 thousand tons).

<sup>3</sup> Lawsuit provisions have been accrued for certain pending cases.

<sup>4</sup> As at June 30, 2018, restoration provisions have been accrued for the estimated expenses to



**LG Chem, Ltd. and Subsidiaries**  
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**16. Net Defined Benefit Liabilities**

Details of net defined benefit liabilities recognized in the consolidated interim statements of financial position as at June 30, 2018 and December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	<b>June 30, 2018</b>	<b>December 31, 2017</b>
Present value of defined benefit obligations <sup>1</sup>	1,075,732	1,049,511
Fair value of plan assets	<u>(824,495)</u>	<u>(868,830)</u>
<b>Liabilities in the consolidated interim statement of financial position</b>	<b><u>251,237</u></b>	<b><u>180,681</u></b>

<sup>1</sup> The present value of retirement benefit obligations is net of existing contributions to the National Pension Plan of ₩843 million as at June 30, 2018 (2017: ₩862 million).

The amounts recognized in the consolidated interim statements of profit or loss for the three-month and six-month periods ended June 30, 2018 and 2017, are as follows:

<i>(in millions of Korean won)</i>	<b>2018</b>		<b>2017</b>	
	<b>Three months</b>	<b>Six months</b>	<b>Three months</b>	<b>Six months</b>
Current service cost <sup>1</sup>	36,078	71,986	33,160	68,069
Interest cost	1,447	2,884	726	1,452
<b>Total, included in employee benefit expenses</b>	<b><u>37,525</u></b>	<b><u>74,870</u></b>	<b><u>33,886</u></b>	<b><u>69,521</u></b>

<sup>1</sup> The above amounts excluded ₩490 million (2017: ₩403 million) of expenses capitalized to construction in progress and development costs.

Post-employment benefits recognized for defined contribution plan for the six-month period ended June 30, 2018, amounted to ₩3,321 million (2017: ₩310 million).

Post-employment benefits recognized in the consolidated interim statements of profit or loss for the three-month and six-month periods ended June 30, 2018 and 2017, are as follows:

<i>(in millions of Korean won)</i>	<b>2018</b>		<b>2017</b>	
	<b>Three months</b>	<b>Six months</b>	<b>Three months</b>	<b>Six months</b>
Cost of sales	26,452	52,626	23,620	47,612
Selling and administrative expenses	12,764	25,565	10,434	22,219
<b>Total</b>	<b><u>39,216</u></b>	<b><u>78,191</u></b>	<b><u>34,054</u></b>	<b><u>69,831</u></b>

Movements in the present value of defined benefit obligations for the six-month period ended June 30, 2018 and for the year ended December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	<b>June 30, 2018</b>	<b>December 31, 2017</b>
<b>Beginning balance</b>	1,049,511	885,259
Business combination (Note 34)	-	69,693

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Transfer in	2,558	7,452
Transfer out	(2,054)	(2,278)
Current service cost	72,476	137,355
Past service cost	-	656
Interest expense	16,235	26,572
Remeasurements:		
Actuarial loss from change in demographic assumptions	-	4,100
Actuarial gain from change in financial assumptions	-	(41,917)
Actuarial loss from experience adjustments	-	30,059
Others	-	1,060
Exchange differences	(396)	(437)
Payments from plans	(62,598)	(68,018)
Changes in consolidation scope	-	(45)
<b>Ending balance</b>	<u>1,075,732</u>	<u>1,049,511</u>

Movements in the fair value of plan assets for the six-month period ended June 30, 2018 and for the year ended December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	<b>June 30, 2018</b>	<b>December 31, 2017</b>
<b>Beginning balance</b>	868,830	793,087
Business combination (Note 34)	-	57,771
Transfer in	(538)	(504)
Interest income	13,351	23,604
Remeasurements:		
Return on plan assets (excluding amounts included in interest income)	(4,673)	(7,398)
Contributions:		
Employers	7	59,288
Payments from plans	(51,808)	(56,106)
Administrative costs	(674)	(912)
<b>Ending balance</b>	<u>824,495</u>	<u>868,830</u>

The actual return on plan assets for the six-month period ended June 30, 2018, was ₩8,678 million (December 31, 2017: ₩16,206 million).

The significant actuarial assumptions as at June 30, 2018 and December 31, 2017, are as follows:

	<b>June 30, 2018</b>	<b>December 31, 2017</b>
Discount rate	3.2% ~ 3.5%	3.1% ~ 3.5%
Salary growth rate	2.2% ~ 5.0%	2.2% ~ 5.0%

The sensitivity analysis for changes in key actuarial assumptions as at June 30, 2018, is as follows:

<i>(in millions of Korean won)</i>	<b>Increase by 1%</b>	<b>Decrease by 1%</b>
<b>Discount rate:</b>		
Increase (decrease) in defined benefit obligations	(108,455)	129,876
<b>Salary growth rate:</b>		
Increase (decrease) in defined benefit obligations	126,386	(107,892)

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

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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 June 30, 2018 and December 31, 2017, consist of:

*(in millions of Korean won)*

	<b>June 30, 2018</b>			
	<b>Quoted price</b>	<b>Unquoted price</b>	<b>Total</b>	<b>Composition (%)</b>
Insurance contracts with guaranteed yield	810,192	-	810,192	98
Equity linked bonds	11,265	-	11,265	1
Time deposits	3,038	-	3,038	1
	<u>824,495</u>	<u>-</u>	<u>824,495</u>	<u>100</u>

*(in millions of Korean won)*

	<b>December 31, 2017</b>			
	<b>Quoted price</b>	<b>Unquoted price</b>	<b>Total</b>	<b>Composition (%)</b>
Insurance contracts with guaranteed yield	854,368	-	854,368	98
Equity linked bonds	11,286	-	11,286	1
Time deposits	3,176	-	3,176	1
	<u>868,830</u>	<u>-</u>	<u>868,830</u>	<u>100</u>

**17. Other Current and Non-Current Liabilities**

Details of other current and non-current liabilities as at June 30, 2018 and December 31, 2017, are as follows:

*(in millions of Korean won)*

	<b>June 30, 2018</b>	<b>December 31, 2017</b>
<b>Current</b>		
Advances from customers	497,706	493,595
Withholdings	66,538	91,589
Unearned revenues	16,437	9,842
Accrued expenses	190,087	259,257
<b>Total</b>	<u>770,768</u>	<u>854,283</u>
<b>Non-current</b>		
Long-term accrued expenses	46,674	44,663
Long-term unearned revenues	39,772	24,237
	<u>86,446</u>	<u>68,900</u>

**18. Commitments and Contingencies**

(1) As at June 30, 2018, the Parent Company and certain subsidiaries have been guaranteed from the Seoul Guarantee Insurance Company for the execution of contracts and others.

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(2) As at June 30, 2018, the Parent Company has provided one blank promissory note to the Korea National Oil Corporation as a collateral in relation to petroleum import surcharges.

(3) As at June 30, 2018, the Parent Company and certain subsidiaries have various specific line of credit agreements with several financial institutions, as follows:

(unit: Korean won in millions, foreign currencies in millions)

Classification	The Parent Company		Certain Subsidiaries					
	KRW	USD	KRW	USD	CNY	EUR	INR	THB
Limit of bank overdraft	59,100	50	-	140	1,200	29	-	9
Limit of the letter of credit	32,000	398	-	320	200	2	-	-
Limit of discount of notes from export	-	1,343	-	-	-	-	-	-
Limit of payment guarantees in other foreign currency	-	60	-	-	-	-	-	-
Limit of loan arrangements	-	-	87,529	2,052	7,586	115	3,200	-

The Group also entered into credit line agreements with other financial institutions relating to trade finance and import/export amounting to ₩20,000 million and USD 55 million.

(4) As at June 30, 2018, the Parent Company and certain subsidiaries have B2B purchase arrangements with several financial institutions with limit of ₩310,000 million and ₩101,000 million, respectively.

(5) As at June 30, 2018, in relation to price fixing of mobile batteries, the consumers in U.S., Canada and Israel have filed three class actions against the Parent Company and certain overseas subsidiaries. However, the ultimate outcome of these cases cannot be determined at the reporting date.

(6) In addition, as at June 30, 2018, the Parent Company and certain subsidiaries have been named as a plaintiff in 13 and 24 legal actions, respectively, involving ₩16,721 million and ₩4,314 million in claims, respectively. They have been named as a defendant in 38 and 23 legal actions, respectively, with ₩59,173 million and ₩17,628 million in claims, respectively. The ultimate outcome of these cases cannot be determined at the reporting date.

(7) As at June 30, 2018, the Parent Company has technology license agreements with STYRON EUROPE GmbH and other companies for the production of Polycarbonate products. Further, the Parent Company has entered into manufacture and production technical contracts with Exxon Mobile and others.

(8) The Parent Company has entered into a license agreement with LG Corp. to use trademarks on the products that the Group manufactures and sells, and on the services the Group provides in relation to its business.

(9) As at June 30, 2018, the Parent Company has entered into payment guarantee contract of USD 1 million and EUR 5 million with financial institutions to guarantee the warrant of certain installed products. Also, certain subsidiaries have entered into payment guarantee contract of CNY 365 million with financial institutions in relation to custom of imported raw materials.

(10) As at June 30, 2018 and December 31, 2017, assets pledged as collateral for the borrowings are as follows:

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(in millions of Korean won)

	June 30, 2018			
	Secured amount	Borrowings / Loan	Limit	Secured party
Other receivables	300	Non-current borrowings (Won currency)	529	KEB Hana Bank
	<u>300</u>		<u>529</u>	

(in millions of Korean won)

	December 31, 2017			
	Secured amount	Borrowings / Loan	Limit	Secured party
Other receivables	300	Non-current borrowings (Won currency)	705	KEB Hana Bank
Gumi facility, Anseong facility, Genetics institute	52,000	Collateralized debentures (Won currency)	40,000	Creditors
	<u>52,300</u>		<u>40,705</u>	

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

(in millions of Korean won)

	June 30, 2018	December 31, 2017
Property, plant and equipment	4,134,055	1,734,663

(12) The Group has entered into operating lease agreements for offices, equipment, ports and others. Most of the agreements will be terminated within a year after the end of the reporting period.

**19. Share Capital**

Changes in share capital and share premium for the six-month period ended June 30, 2018 and for the year ended December 31, 2017, are as follows:

(in millions of Korean won and in shares)

	Ordinary shares		Preferred shares		Share premium
	Number of shares	Share capital	Number of shares	Share capital	
January 1, 2017	66,271,100	331,356	7,628,921	38,144	897,424
Share issuance due to business combination	4,321,243	21,606	59,879	300	1,116,614
December 31, 2017	<u>70,592,343</u>	<u>352,962</u>	<u>7,688,800</u>	<u>38,444</u>	<u>2,014,038</u>
June 30, 2018	<u>70,592,343</u>	<u>352,962</u>	<u>7,688,800</u>	<u>38,444</u>	<u>2,014,038</u>

Changes in treasury shares for the six-month period ended June 30, 2018 and for the year ended December 31, 2017, are as follows:

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<i>(in millions of Korean won and in shares)</i>	Number of shares		Carrying amount	Gain on disposal of treasury shares
	Ordinary shares	Preferred shares		
January 1, 2017	359,795	5,519	15,484	13,855
Purchase of treasury shares due to business combination	1,284,891	10,328	337,211	-
Acquisition of fractional shares due to business combination	7,730	520	2,250	-
December 31, 2017	1,652,416	16,367	354,945	13,855
June 30, 2018	1,652,416	16,367	354,945	13,855

**20. Retained Earnings**

Retained earnings as at June 30, 2018 and December 31, 2017, consist of:

<i>(in millions of Korean won)</i>	June 30, 2018	December 31, 2017
Legal reserve <sup>1</sup>	324,135	312,894
Discretionary reserve <sup>2</sup>	12,541,819	11,410,610
Retained earnings before appropriation	1,718,900	2,315,746
<b>Total</b>	<b>14,584,854</b>	<b>14,039,250</b>

<sup>1</sup> The Commercial Code of the Republic of Korea requires the Parent Company to appropriate for each financial period, as a legal reserve, an amount equal to a minimum of 10% of cash dividends paid until such reserve equals 50% of its issued share capital. 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.

<sup>2</sup> The Group 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.

**21. Other Components of Equity**

Details of other components of equity as at June 30, 2018 and December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	June 30, 2018	December 31, 2017
Treasury shares (Note 19)	(354,945)	(354,945)
Capital transactions within the Group <sup>1</sup>	(7,731)	(7,731)
<b>Total</b>	<b>(362,676)</b>	<b>(362,676)</b>

<sup>1</sup> Includes gain or loss on disposal of investments and investment differences due to changes in equity, net of deferred tax.

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**22. Selling and Administrative Expenses**

Selling and administrative expenses for the three-month and six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018		2017	
	Three months	Six months	Three months	Six months
Wages and salaries	209,171	401,204	179,235	364,231
Post-employment benefits (Note 16)	12,764	25,565	10,434	22,219
Employee benefits	38,219	72,324	36,904	68,861
Travel expense	14,888	28,158	13,233	24,694
Water & utilities	8,875	22,569	8,631	19,027
Packaging expense	2,039	4,033	2,009	3,432
Rental expenses	24,471	44,784	22,103	41,995
Commission expenses	104,440	198,804	83,545	163,011
Depreciation (Note 11)	28,543	55,757	23,614	47,428
Advertising expense	10,596	16,103	7,472	12,657
Freight expenses	140,005	272,891	135,108	263,341
Training expense	5,967	9,944	4,681	7,809
Amortization (Note 12)	20,820	41,070	17,620	34,429
Sample expense	5,045	9,126	5,230	9,306
Development costs	50,244	89,610	33,337	61,050
Others	92,202	167,067	60,825	117,199
<b>Total</b>	<b>768,289</b>	<b>1,459,009</b>	<b>643,981</b>	<b>1,260,689</b>

**23. Breakdown of Expenses by Nature**

Cost of sales, and selling and administrative expenses by nature for the three-month and six-month periods ended June 30, 2018 and 2017, consist of:

(in millions of Korean won)

	2018		2017	
	Three months	Six months	Three months	Six months
Changes in inventories of merchandise, finished goods, semi-finished goods and work in process	(21,878)	(276,369)	90,338	(5,457)
Raw materials and consumables used	4,025,658	7,943,159	3,384,270	7,209,585
Purchase of merchandise	341,923	637,252	344,856	666,536
Employee benefit expenses (Note 24)	619,935	1,180,724	541,919	1,084,800
Advertising expenses	10,975	16,685	7,822	13,167
Freight expenses	149,384	292,254	144,236	281,736
Commission expenses	168,325	324,583	140,577	269,981
Depreciation and amortization	362,353	717,591	352,389	702,989
Operating lease payments	22,646	46,094	22,049	43,851
Other expenses	669,241	1,369,338	626,736	1,077,764
<b>Total</b>	<b>6,348,562</b>	<b>12,251,311</b>	<b>5,655,192</b>	<b>11,344,952</b>

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**24. Employee Benefit Expenses**

Details of employee benefit expenses for the three-month and six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018		2017	
	Three months	Six months	Three months	Six months
Salaries	523,448	994,721	454,258	912,710
Post-employment benefits – Defined benefit plan (Note 16)	37,525	74,870	33,886	69,521
Post-employment benefits – Defined contribution plan (Note 16)	1,691	3,321	168	310
Others	57,271	107,812	53,607	102,259
<b>Total</b>	<b>619,935</b>	<b>1,180,724</b>	<b>541,919</b>	<b>1,084,800</b>

**25. Finance Income and Costs**

Details of finance income and costs for the three-month and six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018		2017	
	Three months	Six months	Three months	Six months
<b>Finance income</b>				
Interest income <sup>1</sup>	12,233	23,497	6,340	13,806
Dividend income	8	8	8	204
Gain on foreign exchange	43,396	79,046	34,019	77,612
Gain on foreign currency translation	12,376	13,289	23,247	28,765
Gain on valuation of derivative instruments	2,019	2,019	-	-
Gain on disposal of hedging derivatives	-	-	-	170
<b>Total</b>	<b>70,032</b>	<b>117,859</b>	<b>63,614</b>	<b>120,557</b>
<b>Finance costs</b>				
Interest expense <sup>2</sup>	29,595	55,174	26,851	53,940
Loss on foreign exchange	32,296	68,131	22,811	96,159
Loss on foreign exchange translations	84,422	56,905	6,970	7,720
Loss on redemption of debentures	-	13	-	-
<b>Total</b>	<b>146,313</b>	<b>180,223</b>	<b>56,632</b>	<b>157,819</b>

<sup>1</sup> Details of interest income for the three-month and six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018		2017	
	Three months	Six months	Three months	Six months
Deposits held by financial institutions	11,349	21,192	5,208	11,709
Non-current financial assets	-	-	-	5
Other loans and receivables	884	2,305	1,132	2,092
<b>Total</b>	<b>12,233</b>	<b>23,497</b>	<b>6,340</b>	<b>13,806</b>



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<sup>2</sup> Details of interest expense for the three-month and six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018		2017	
	Three months	Six months	Three months	Six months
Interest on bank overdraft and borrowings	23,447	33,317	20,270	41,186
Interest on finance lease liabilities	260	513	293	1,030
Interest on debentures	10,691	27,438	5,643	10,676
Other interest expenses	1,607	3,007	1,804	3,318
Capitalized interest for qualifying assets	(6,410)	(9,101)	(1,159)	(2,270)
<b>Total</b>	<b>29,595</b>	<b>55,174</b>	<b>26,851</b>	<b>53,940</b>

**26. Other Non-Operating Income**

Details of other non-operating income for the three-month and six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018		2017	
	Three months	Six months	Three months	Six months
Gain on foreign exchange	68,105	122,413	58,532	179,621
Gain on foreign currency translation	100,755	104,192	104,815	43,493
Gain on disposal of property, plant and equipment	2,884	3,019	875	1,632
Gain on disposal of intangible assets	2	2	-	4,867
Reversal of impairment loss on property, plant and equipment (Note 11)	311	311	-	-
Gain on disposal of investments in associates	-	-	1,952	1,952
Others	7,795	13,867	11,809	39,494
<b>Total</b>	<b>179,852</b>	<b>243,804</b>	<b>177,983</b>	<b>271,059</b>

**27. Other Non-Operating Expenses**

Details of other non-operating expenses for the three-month and six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018		2017	
	Three months	Six months	Three months	Six months
Loss on foreign exchange	60,149	103,552	68,780	189,233
Loss on foreign currency translation	73,363	78,359	58,498	16,623
Loss on disposal of property, plant and equipment	3,851	17,061	4,972	26,107
Loss on disposal of intangible assets	28	77	1,020	1,807
Impairment loss on property, plant and equipment (Note 11)	15,110	16,385	107	12,869
Impairment loss on intangible assets (Note 12)	1,704	1,704	1,123	4,272
Donations	2,172	5,668	13,379	17,120

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Others	5,033	14,861	34,788	65,306
<b>Total</b>	<u>161,410</u>	<u>237,667</u>	<u>182,667</u>	<u>333,337</u>

**28. Tax Expense and Deferred Tax**

Income tax expense is recognized based on the best estimate of weighted average annual income tax rate expected for the full financial year. The estimated average annual income tax rate used for the year ending December 31, 2018, is 23.9% (the estimated tax rate for the year ended December 31, 2017: 21.2%).

**29. Earnings per Share**

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

Basic earnings per share attributable to the owners of the Parent Company for the three-month and six-month periods ended June 30, 2018 and 2017, is computed as follows:

**Basic earnings per ordinary share**

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

	<u>2018</u>		<u>2017</u>	
	Three months	Six months	Three months	Six months
Profit attributable to ordinary shares <sup>1</sup>	429,796	907,846	519,199	997,376
Weighted average number of ordinary shares outstanding <sup>2</sup>	<u>68,939,927</u>	<u>68,939,927</u>	<u>68,940,610</u>	<u>68,940,610</u>
Basic earnings per share attributable to the ordinary shares (in won)	<u>6,234</u>	<u>13,169</u>	<u>7,531</u>	<u>14,467</u>

**Basic earnings per preferred share**

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

	<u>2018</u>		<u>2017</u>	
	Three months	Six months	Three months	Six months
Profit attributable to preferred shares <sup>1</sup>	47,928	101,227	57,878	111,191
Weighted average number of preferred shares outstanding <sup>2</sup>	<u>7,672,433</u>	<u>7,672,433</u>	<u>7,672,479</u>	<u>7,672,479</u>
Basic earnings per share attributable to the preferred shares (in won)	<u>6,247</u>	<u>13,194</u>	<u>7,544</u>	<u>14,492</u>

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<sup>1</sup> Profit attributable to ordinary and preferred shares are as follows:

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

	2018		2017	
	Three months	Six months	Three months	Six months
<b>Profit attributable to the equity holders of the Parent Company</b>	477,724	1,009,073	577,077	1,108,567
Dividends to the ordinary shares (A)	103,410	206,820	86,175	172,351
Dividends to the preferred shares (B)	11,604	23,209	9,687	19,373
<b>Undistributed earnings for the year</b>	362,710	779,044	481,215	916,843
Undistributed earnings available for the ordinary shares (C)	326,386	701,026	433,024	825,025
Undistributed earnings available for the preferred shares (D)	36,324	78,018	48,191	91,818
<b>Profit for the period attributable to the ordinary shares (A+C)</b>	429,796	907,846	519,199	997,376
<b>Profit for the period attributable to the preferred shares (B+D)</b>	47,928	101,227	57,878	111,191

<sup>2</sup> Weighted average numbers of shares are calculated as follows:

Ordinary shares outstanding	2018		
	Period	Number of shares	Number of days
Beginning balance	2018. 1. 1 - 2018. 6. 30	68,939,927	181
<b>Total</b>			<b>12,478,126,787</b>

Weighted average number of ordinary shares outstanding:  $12,478,126,787 / 181 = 68,939,927$  shares

Preferred shares outstanding	2018		
	Period	Number of shares	Number of days
Beginning balance	2018. 1. 1 - 2018. 6. 30	7,672,433	181
<b>Total</b>			<b>1,388,710,373</b>

Weighted average number of preferred shares outstanding:  $1,388,710,373 / 181 = 7,672,433$  shares

Ordinary shares outstanding	2017		
	Period	Number of shares	Number of days
Beginning balance	2017. 1. 1 - 2017. 6. 30	65,911,305	181
Share issuance due to business combination	2017. 1. 1 - 2017. 6. 30	4,321,243	181
Purchase of treasury shares	2017. 1. 1 - 2017. 6. 30	(1,284,891)	181
Purchase of treasury shares	2017. 1. 17 - 2017. 6. 30	(7,730)	165
<b>Total</b>			<b>12,478,250,467</b>

Weighted average number of ordinary shares outstanding:  $12,478,250,467 / 181 = 68,940,610$  shares

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Preferred shares outstanding	2017			
	Period	Number of shares	Number of days	Number of shares x days
Beginning balance	2017. 1. 1 - 2017. 6. 30	7,623,402	181	1,379,835,762
Share issuance due to business combination	2017. 1. 1 - 2017. 6. 30	59,879	181	10,838,099
Purchase of treasury shares	2017. 1. 1 - 2017. 6. 30	(10,328)	181	(1,869,368)
Purchase of treasury shares	2017. 1. 17 - 2017. 6. 30	(520)	165	(85,800)
<b>Total</b>				<b>1,388,718,693</b>

Weighted average number of preferred shares outstanding:  $1,388,718,693 / 181 = 7,672,479$  shares

Diluted earnings per share is calculated based on the weighted average number of ordinary shares outstanding, adjusted for the assumption that all of dilutive potential ordinary shares to be converted. The Group has one category of dilutive potential ordinary shares: convertible bonds, which were issued during this period. Convertible bonds are considered to be converted into potential ordinary shares and the amount, subtracting income tax effect from related gain and loss such as interest expense on convertible bonds, is added to profit for the period attributable to ordinary shares and preferred shares.

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

	2018	
	Three months	Six months
<b>Diluted earnings per ordinary shares</b>		
Profit for the period attributable to the ordinary shares	429,796	907,846
Gain and loss on convertible bonds	(619)	(247)
Profit used in calculating diluted earnings per share	429,177	907,599
Weighted average number of ordinary shares outstanding	68,939,927	68,939,927
Adjustments for calculation of diluted earnings per share	539,446	539,446
Weighted average number of ordinary shares and potential ordinary shares used as the denominator in calculating diluted earnings per share	69,479,373	69,479,373
Diluted earnings per share attributable to the ordinary shares (in won)	6,177	13,063

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

	2018	
	Three months	Six months
<b>Diluted earnings per preferred shares</b>		
Profit for the period attributable to preferred shares	47,928	101,227
Gain and loss on convertible bonds	(439)	(811)
Profit used in calculating diluted earnings per share	47,489	100,416
Weighted average number of preferred shares outstanding	7,672,433	7,672,433
Adjustments for calculation of diluted earnings per share	-	-
Weighted average number of preferred shares and potential preferred shares used as the denominator in calculating diluted earnings per share	7,672,433	7,672,433
Diluted earnings per share attributable to the preferred shares (in won)	6,190	13,088

# LG Chem, Ltd. and Subsidiaries

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#### 30. Dividends

The ₩ 460,058 million (2017: ₩ 368,055 million) of dividends for the year ended December 31, 2017, was paid to the shareholders of the Parent Company in April 2018.

#### 31. Related Party Transactions

As at June 30, 2018 and December 31, 2017, LG Corp. is an entity exercising a significant influence over the Group, which owns 33.34% of the Parent Company's ordinary shares.

Details of associates and other related parties that have sales and other transactions with the Group or have receivables and payables balances as at June 30, 2018 and December 31, 2017, are as follows, and the details of investments in subsidiaries, associates and joint ventures are described in Note 1.3:

Related party	Related party's subsidiary (Domestic)	Related party's subsidiary (overseas)	Details
SERVEONE	-		Subsidiary of LG Corp.
LG CNS Co., Ltd.	LG N-Sys Inc. and others	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 Holdings Japan	-	-	Subsidiary of LG Corp.
LG MMA Corporation	-	-	Joint venture of LG Corp.
LG Display Co., Ltd.	-	LG Display (China) Co., Ltd. and others	LG Enterprise group <sup>1</sup>
LG Electronics, Inc.	LG Innotek Co., Ltd. and others	Inspur LG Digital Mobile Communications Co., Ltd. and others	LG Enterprise group <sup>1</sup>
LG International Corp.	Pantos Logistics Co., Ltd. and others	LG International (Japan) Ltd. and others	LG Enterprise group <sup>1</sup>
LG Hausys, Ltd.	-	LG Hausys Tianjin Co., Ltd. and others	LG Enterprise group <sup>1</sup>
LG Household & Health Care Ltd.	Coca-Cola Beverage Co.	-	LG Enterprise group <sup>1</sup>
LG Uplus Corp.	-	-	LG Enterprise group <sup>1</sup>
G II R Inc.	HS AD Inc.	-	LG Enterprise group <sup>1</sup>
Silicon Works Co., Ltd.	-	-	LG Enterprise group <sup>1</sup>

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

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Sales and purchases with related parties for the six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	<b>2018</b>			
	<b>Sales and others</b>	<b>Purchase and others</b>		
		<b>Purchase of raw materials /merchandises</b>	<b>Acquisition of property, plant and equipment and intangible assets</b>	<b>Others</b>
<b>Entity with a significant influence over the Group</b>				
LG Corp.	-	-	-	33,144
<b>Associates and joint ventures</b>				
SEETEC Co., Ltd.	11,466	57,504	124	40,520
TECWIN Co., Ltd.	-	131	2,055	160
HL Greenpower Co., Ltd.	164,654	-	-	364
Others	26	-	-	1,310
<b>Other related parties</b>				
LG MMA Corporation	60,519	132,692	-	3,635
SERVEONE and its subsidiaries	6,891	273,594	297,062	83,402
LG CNS Co., Ltd. and its subsidiaries	36,747	1,105	87,738	47,758
Others	-	-	-	7,746
<b>Others</b>				
LG Display Co., Ltd. and its subsidiaries	576,206	-	1,564	-
LG Electronics Inc. and its subsidiaries	495,524	199,196	395,763	66,755
LG International Corp. and its subsidiaries	140,827	263,955	576	186,883
LG Hausys, Ltd. and its subsidiaries	105,503	1,582	942	3,661
Others	9,124	14,148	2,216	5,495
<b>Total</b>	<b>1,607,487</b>	<b>943,907</b>	<b>788,040</b>	<b>480,833</b>

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	2017			
	Sales and others	Purchase and others		
		Purchase of raw materials /merchandises	Acquisition of property, plant and equipment and intangible assets	Others
<b>Entity with a significant influence over the Group</b>				
LG Corp.	-	-	-	31,044
<b>Associates and joint ventures</b>				
SEETEC Co., Ltd.	9,147	58,921	17	45,204
TECWIN Co., Ltd.	-	138	1,730	44
HL Greenpower Co., Ltd.	116,217	324	-	-
Others	4	-	-	1,350
<b>Other related parties</b>				
LG MMA Corporation	41,128	107,017	-	3,094
SERVEONE and its subsidiaries	7,206	241,546	98,634	141,859
LG CNS Co., Ltd. and its subsidiaries	8,961	292	46,780	33,283
Others	6	-	-	6,219
<b>Others</b>				
LG Display Co., Ltd. and its subsidiaries	649,891	-	-	12
LG Electronics Inc. and its subsidiaries	477,203	122,640	63,704	9,085
LG International Corp. and its subsidiaries	157,935	242,645	167	175,120
LG Hausys, Ltd. and its subsidiaries	107,551	4,700	-	3,849
Others	13,610	14,417	362	3,888
<b>Total</b>	<b>1,588,859</b>	<b>792,640</b>	<b>211,394</b>	<b>454,051</b>

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Balances of receivables and payables arising from sales and purchases of goods and services with related parties as at June 30, 2018 and December 31, 2017, are as follows:

(in millions of Korean won)

	June 30, 2018			
	Receivables			
	Trade receivables and others	Loan receivables	Other receivables	Total
<b>Entity with a significant influence over the Group</b>				
LG Corp.	-	-	11,279	11,279
<b>Associates and joint ventures</b>				
SEETEC Co., Ltd.	1,564	-	260	1,824
TECWIN Co., Ltd.	-	-	-	-
HL Greenpower Co., Ltd.	87,235	-	-	87,235
Others	-	-	832	832
<b>Other related parties</b>				
LG MMA Corporation	10,295	-	374	10,669
SERVEONE and its subsidiaries	1,575	-	27,948	29,523
LG CNS Co., Ltd. and its subsidiaries	17,095	-	-	17,095
Others	-	-	4,900	4,900
<b>Others</b>				
LG Display Co., Ltd. and its subsidiaries	198,785	-	1,753	200,538
LG Electronics Inc. and its subsidiaries	191,303	-	24,446	215,749
LG International Corp. and its subsidiaries	38,915	-	711	39,626
LG Hausys, Ltd. and its subsidiaries	41,691	-	175	41,866
Others	1,913	-	1,279	3,192
<b>Total</b>	<b>590,371</b>	<b>-</b>	<b>73,957</b>	<b>664,328</b>

(in millions of Korean won)

	June 30, 2018			
	Payables			
	Trade payables	Borrowings	Other payables	Total
<b>Entity with a significant influence over the Group</b>				
LG Corp.	-	-	7,468	7,468
<b>Associates and joint ventures</b>				
SEETEC Co., Ltd.	11,782	-	10,555	22,337
TECWIN Co., Ltd.	-	-	798	798
HL Greenpower Co., Ltd.	-	-	-	-
Others	-	-	126	126
<b>Other related parties</b>				
LG MMA Corporation	19,901	-	-	19,901
SERVEONE and its subsidiaries	102,477	-	229,107	331,584
LG CNS Co., Ltd. and its subsidiaries	2,679	-	106,596	109,275
Others	-	-	576	576
<b>Others</b>				
LG Display Co., Ltd. and its subsidiaries	152	-	-	152
LG Electronics Inc. and its subsidiaries	173,792	-	106,558	280,350
LG International Corp. and its subsidiaries	18,394	-	54,652	73,046
LG Hausys, Ltd. and its subsidiaries	1,654	-	1,295	2,949
Others	1,987	-	6,334	8,321
<b>Total</b>	<b>332,818</b>	<b>-</b>	<b>524,065</b>	<b>856,883</b>



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	December 31, 2017			
	Receivables			Total
	Trade receivables and others	Loan receivables	Other receivables	
<b>Entity with a significant influence over the Group</b>				
LG Corp.	-	-	9,183	9,183
<b>Associates and joint ventures</b>				
SEETEC Co., Ltd.	1,752	-	279	2,031
TECWIN Co., Ltd.	-	-	-	-
HL Greenpower Co., Ltd.	60,726	-	-	60,726
Others	16	-	-	16
<b>Other related parties</b>				
LG MMA Corporation	8,663	-	482	9,145
SERVEONE and its subsidiaries	2,893	-	27,948	30,841
LG CNS Co., Ltd. and its subsidiaries	20,209	-	-	20,209
Others	-	-	4,873	4,873
<b>Others</b>				
LG Display Co., Ltd. and its subsidiaries	240,427	-	6,057	246,484
LG Electronics Inc. and its subsidiaries	287,566	-	46,116	333,682
LG International Corp. and its subsidiaries	48,332	-	891	49,223
LG Hausys, Ltd. and its subsidiaries	40,089	-	92	40,181
Others	318	-	398	716
<b>Total</b>	<b>710,991</b>	<b>-</b>	<b>96,319</b>	<b>807,310</b>

(in millions of Korean won)

	December 31, 2017			
	Payables			Total
	Trade payables	Borrowings	Other payables	
<b>Entity with a significant influence over the Group</b>				
LG Corp.	-	-	7,897	7,897
<b>Associates and joint ventures</b>				
SEETEC Co., Ltd.	10,698	-	10,759	21,457
TECWIN Co., Ltd.	-	-	2,195	2,195
HL Greenpower Co., Ltd.	-	-	-	-
Others	-	-	-	-
<b>Other related parties</b>				
LG MMA Corporation	19,140	-	-	19,140
SERVEONE and its subsidiaries	12,630	-	442,860	455,490
LG CNS Co., Ltd. and its subsidiaries	994	-	116,422	117,416
Others	-	-	557	557
<b>Others</b>				
LG Display Co., Ltd. and its subsidiaries	-	-	8,660	8,660
LG Electronics Inc. and its subsidiaries	114,892	-	127,946	242,838
LG International Corp. and its subsidiaries	35,962	-	40,581	76,543
LG Hausys, Ltd. and its subsidiaries	3,409	-	1,811	5,220
Others	2,151	-	5,779	7,930
<b>Total</b>	<b>199,876</b>	<b>-</b>	<b>765,467</b>	<b>965,343</b>

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Fund transactions with related parties for the six-month periods ended June 30, 2018 and 2017, are as follows:

*(in millions of Korean won)*

	2018		2017	
	Equity contributions in cash (capital reduction)	Loan (Repayment)	Equity contributions in cash (capital reduction)	Loan (Repayment)
<b>Associates and joint ventures</b>				
FJ Composite Materials Co., Ltd.	-	-	3,015	-
WUXI CL New Energy Technology Ltd.	559	-	1,178	-
LG Fuel Cell Systems Inc.	-	-	24,527	(9,584)
Combustion Synthesis Co., Ltd.	1,503	-	-	-
<b>Total</b>	<b>2,062</b>	<b>-</b>	<b>28,720</b>	<b>(9,584)</b>

Dividends received from related parties for the six-month periods ended June 30, 2018 and 2017, are as follows:

*(in millions of Korean won)*

	2018	2017
<b>Associates and joint ventures</b>		
SEETEC Co., Ltd.	10,000	10,000
LG VINA Chemical Co., Ltd.	810	846
<b>Total</b>	<b>10,810</b>	<b>10,846</b>

Dividends paid to related parties for the six-month periods ended June 30, 2018 and 2017, are as follows:

*(in millions of Korean won)*

	2018	2017
<b>Entity with a significant influence over the Group</b>		
LG Corp.	141,205	111,097
<b>Total</b>	<b>141,205</b>	<b>111,097</b>

Compensation for key management of the Group for the six-month periods ended June 30, 2018 and 2017, consists of:

*(in millions of Korean won)*

	2018	2017
Short-term employee benefits	37,580	39,375
Post-employment benefits	2,954	1,737
<b>Total</b>	<b>40,534</b>	<b>41,112</b>

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

There are no provisions recognized against receivables from related parties as at June 30, 2018.

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As at June 30, 2018, there is no payment guarantees provided by the Group for related parties.

**32. Cash Generated from Operations**

Reconciliation between profit before income tax and cash generated from operations for the six-month periods ended June 30, 2018 and 2017, is as follows:

<i>(in millions of Korean won)</i>	<b>2018</b>	<b>2017</b>
<b>Profit before income tax</b>	1,297,448	1,427,895
<b>Adjustments for:</b>		
Depreciation	666,140	659,003
Amortization	52,940	43,986
Post-employment benefits	74,870	69,521
Finance income	(146,568)	(85,793)
Finance costs	185,071	78,853
Foreign exchange differences	(256)	(71,632)
Loss on valuation of inventories	(2,701)	(10,494)
Gain on disposal of property, plant and equipment	(3,019)	(1,632)
Gain on disposal of intangible assets	(2)	(4,867)
Loss on disposal of property, plant and equipment	17,061	26,107
Loss on disposal of intangible assets	77	1,807
Impairment loss on property, plant and equipment	16,385	12,869
Reversal of impairment loss on property, plant and equipment	(310)	-
Impairment loss on intangible assets	1,704	4,272
Gain on disposal of investments in associates	-	(1,952)
Additions to provisions	99,060	93,255
Other expense	9,602	265
Increase in inventories	(558,770)	(11,860)
Increase in trade receivables	(548,007)	(553,662)
Decrease (increase) in other receivables	47,265	(1,647)
Decrease (increase) in other current assets	4,366	(53,172)
Increase in settlement of derivatives	-	(2,114)
Increase (decrease) in trade payables	30,518	(141,797)
Decrease in other payables	(373,341)	(41,059)
Increase (decrease) in other current liabilities	(204,929)	43,672
Decrease in net defined benefit liabilities	(9,374)	(6,421)
Decrease in provisions	(60,255)	(32,100)
Other cash flows from operations	(2,909)	1,573
<b>Cash generated from operations</b>	<u>592,066</u>	<u>1,442,876</u>

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Changes in liabilities arising from financial activities for the six-month period ended June 30, 2018, are as follows:

(in millions of Korean won)

	2018						At June 30, 2018
	At January 1, 2018	Cash flows from financing activities	Exchange differences	Amortization (transfer)	Reclassification of current portion	Effect of change in exchange rate	
Short-term borrowings	1,451,324	266,318	10,497	-	130,796	40,167	1,903,102
Long-term borrowings	546,322	72,908	15,153	-	(130,796)	(19,199)	480,388
Debentures	1,047,303	1,657,645	4,253	1,186	-	20,124	2,730,511
Conversion rights	-	2,532	(1,998)	-	-	-	534
<b>Total</b>	<b>3,044,949</b>	<b>1,999,403</b>	<b>27,905</b>	<b>1,186</b>	<b>-</b>	<b>41,092</b>	<b>5,114,535</b>

The significant non-cash transactions for the six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018	2017
Transfer of construction-in-progress	1,231,548	529,146
Transfer of machinery-in-transit	34,614	38,006
Reclassification of long-term borrowings into current portion	187,400	372,111
Reclassification of asset held for sale	-	3,405
Acquisition of an entity by means of the issuance of equity instruments	-	1,138,593

### 33. Segment Information

General information about the Group's reportable segments is as follows:

Segment	Products or services	Major customers
Basic materials & Chemicals	ABS, PC, EP, PE, PP, Acrylic, Alcohol, SAP, PVC, Synthetic rubber, Special resin, BPA, Ethylene, Propylene and others	LG Electronics Inc., OCI Company Co. Ltd., Mitsubishi Corp. and others
Energy solutions	Mobile batteries, Automotive batteries, Electricity storage batteries and others	Hewlett-Packard Co., General Motors Corp., and others
IT & Electronic materials and Advanced materials <sup>1</sup>	Polarizers, 3D FPR, LCD Photoresist, OLED materials, Battery materials and others	LG Display Co., Ltd., Samsung Display Co., Ltd., BOE, AUO and others
Life sciences <sup>2</sup>	Growth hormone, Vaccine, Antidiabetic, agricultural chemicals and others	HUADONG NINGBO, UNICEF, Intervet and others
Common and others	Crop protection products, Seeds, Fertilizers, General management, sales and R&D and others	National Agriculture Cooperative Federation and others

<sup>1</sup> The Group presents IT & Electronic materials and Advanced materials as Advanced materials business has been included in IT & Electronic materials since 2017. The comparative

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information was restated to reflect such changes.

<sup>2</sup> Life Sciences segment was disclosed separately as LG Life Sciences, Ltd. was merged into the Parent Company on January 1, 2017.

The segment information on revenue, profit and loss for the six-month periods ended June 30, 2018 and 2017, is as follows:

<i>(in millions of Korean won)</i>	2018					
	Basic materials & Chemicals	Energy solutions	IT & Electronic materials and Advanced materials	Life sciences	Common and others <sup>3</sup>	Total
Total segment revenue	9,030,264	2,738,466	1,523,876	282,066	408,610	13,983,282
Inter-segment revenue	133,978	1	241,630	1,713	517	377,839
Revenue from external customers <sup>1</sup>	8,896,286	2,738,465	1,282,246	280,353	408,093	13,605,443
Operating profit (loss) <sup>2</sup>	1,341,403	29,047	(31,597)	22,819	(7,540)	1,354,132

  

<i>(in millions of Korean won)</i>	2017					
	Basic materials & Chemicals	Energy solutions	IT & Electronic materials and Advanced materials	Life sciences	Common and others <sup>3</sup>	Total
Total segment revenue	8,813,848	2,119,164	1,475,236	264,660	440,024	13,112,932
Inter-segment revenue	88,996	-	148,901	1,050	5,255	244,202
Revenue from external customers <sup>1</sup>	8,724,852	2,119,164	1,326,335	263,610	434,769	12,868,730
Operating profit (loss) <sup>2</sup>	1,419,233	(2,894)	52,763	39,469	15,207	1,523,778

<sup>1</sup> Revenue from external customers consists of sales of goods. Interest income and dividend income are included in finance income.

<sup>2</sup> Management assesses the performance of the operating segments based on a measurement of operating profit of segment.

<sup>3</sup> Common and other segments include operating segments not qualifying as a reportable segment, supporting divisions as well as R&D divisions.

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The segment information on assets and liabilities as at June 30, 2018 and December 31, 2017, is as follows:

<i>(in millions of Korean won)</i>	<b>June 30, 2018</b>					
	<b>Basic materials &amp; Chemicals</b>	<b>Energy solutions</b>	<b>IT &amp; Electronic materials and Advanced materials</b>	<b>Life sciences</b>	<b>Common and others</b>	<b>Total</b>
Reportable segment asset <sup>1</sup>	9,941,806	6,626,978	3,591,821	1,833,169	5,405,508	27,399,282
Investments in associates and joint ventures	2,693	20,144	-	17	233,832	256,686
Reportable segment liability <sup>1</sup>	2,859,358	3,193,659	792,643	171,813	3,373,135	10,390,608

  

<i>(in millions of Korean won)</i>	<b>December 31, 2017</b>					
	<b>Basic materials &amp; Chemicals</b>	<b>Energy solutions</b>	<b>IT &amp; Electronic materials and Advanced materials</b>	<b>Life sciences</b>	<b>Common and others</b>	<b>Total</b>
Reportable segment asset <sup>1</sup>	9,307,132	5,460,448	3,503,330	1,809,248	4,961,063	25,041,221
Investments in associates and joint ventures	4,057	21,242	-	17	238,780	264,096
Reportable segment liability <sup>1</sup>	3,317,393	2,176,990	731,585	427,667	2,049,009	8,702,644

<sup>1</sup> Assets and liabilities are measured in a manner consistent with those in the financial statements, and allocated on the basis of segment operation.

The external sales and non-current assets by geographical segments from continuing operations for the six-month periods ended June 30, 2018 and 2017, and as at June 30, 2018 and December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	<b>Sales</b>		<b>Non-current assets<sup>1</sup></b>	
	<b>2018</b>	<b>2017</b>	<b>June 30, 2018</b>	<b>December 31, 2017</b>
Korea <sup>2</sup>	4,429,468	4,275,362	11,019,415	10,618,989
China	4,464,091	4,257,396	2,227,858	1,887,324
Asia	2,394,528	2,412,192	38,264	31,671
America	784,228	717,567	321,390	235,481
Europe	1,355,101	1,031,754	329,815	262,199
Others	178,027	174,459	-	-
<b>Total</b>	<b>13,605,443</b>	<b>12,868,730</b>	<b>13,936,742</b>	<b>13,035,664</b>

<sup>1</sup> Represents aggregate amount of property, plant and equipment, intangible assets and investment properties.

<sup>2</sup> Domestic sales include the exports made through local letters of credit.

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There is no single external customer that contributes over 10% of the Group's revenue for the six-month periods ended June 30, 2018 and 2017.

**34. Business Combination**

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 Parent Company merged LG Life Sciences, Ltd. on January 1, 2017.

Goodwill of ₩ 686,229 million arising from the acquisition is attributable to sales increase expected from combining the operations of the Group and Life Sciences business. Goodwill recognized through the business combination is not deductible for income tax purpose.

The following table summarizes the consideration paid for business combination, the fair value of assets acquired and liabilities assumed at the acquisition date:

*(in millions of Korean won)*

	<b>Amount</b>
<b>Consideration</b>	
Equity securities (Ordinary 4,321,243 shares, Preferred 59,879 shares) <sup>1</sup>	1,138,593
<b>Total consideration</b>	<u>1,138,593</u>
<b>Recognized amounts of identifiable assets acquired and liabilities assumed</b>	
Cash and cash equivalents	43,832
Trade and other (non-current) receivables	112,703
Inventories	123,083
Property, plant and equipment	493,321
Intangible assets	273,550
Other assets	8,315
Trade payables	(38,736)
Borrowings	(729,745)
Provisions	(6,053)
Net defined benefit liabilities	(11,922)
Other liabilities	(153,195)
Treasury shares (Ordinary 1,284,891 shares, Preferred 10,328 shares) <sup>1</sup>	337,211
<b>Fair value of identifiable net assets</b>	<u>452,364</u>
Goodwill	686,229
<b>Total</b>	<u>1,138,593</u>

<sup>1</sup> The fair value of ordinary shares, preferred shares and treasury shares acquired were based on the market price at the acquisition date.

With regard to the above business combination, share issuance cost of ₩ 73 million was deducted from equity.

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**35. Assets Held for sale**

The Group decided to dispose of Electrolyte business, 2CCL business and others upon the approval of management in February 2016 and January 2017, respectively. The related assets were reclassified as assets held for sale, and the disposal is expected to be completed in 2018. Assets and liabilities of Research Institute and FarmHwaong Co., Ltd., which were acquired during the course of the business combination of FarmHannong Co., Ltd., are also included. The assets and liabilities of Electrolyte business was completely disposed during this period, and the assets and liabilities of 2CCL business and others are expected to be disposed in 2018.

Details of assets and liabilities of disposal group classified as held for sale as at June 30, 2018 and December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	<b>June 30, 2018</b>	<b>December 31, 2017</b>
<b>Assets of disposal group</b>		
Property, plant and equipment	3,178	5,486
Intangible assets	358	358
Other receivables and others	732	751
<b>Total</b>	<b>4,268</b>	<b>6,595</b>
<b>Liabilities of disposal group</b>		
Other payables and others	30	31
<b>Total</b>	<b>30</b>	<b>31</b>

Assets of the disposal group were measured at fair value immediately before the initial classification of the assets as held for sale and the related other non-operating expenses (income) for the six-month periods ended June 30, 2018 and 2017, is as follows:

<i>(in millions of Korean won)</i>	<b>2018</b>	<b>2017</b>
Impairment loss on property, plant and equipment	-	10,382
Impairment loss on intangible assets	-	4
<b>Total</b>	<b>-</b>	<b>10,386</b>