LG Chem, Ltd. and Subsidiaries

Consolidated Interim Financial Statements March 31, 2018 and 2017

LG Chem, Ltd. and Subsidiaries Index March 31, 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 March 31, 2018, and the related consolidated interim statements of profit or loss, comprehensive income, changes in equity and cash flows for the three-month periods ended March 31, 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 May 14, 2018

This report is effective as of May 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 March 31, 2018 (Unaudited) and December 31, 2017

Assets Current assets 2,916,612 2,249,341 Trade receivables 3,5,7,31 4,708,745 4,448,669 Other receivables 3,5,7,31 3816,43 770,776 Prepaid income taxes 259 932 Other current assets 13 450,618 376,814 Inventionies 9 3,783,786 3,352,454 Assets held for sale 35 6,584 6,595 Total current assets 3,5,7 123,823 126,429 Other receivables 3,5,7 123,823 126,429 Other financial assets 3,5,8 24,491 23,782 Investments in associates and joint ventures 1,10,33 258,752 264,996 Deferred tax assets 28 28,399 281,506 Properly, plant and equipment 11 1,154,181 11,11,214,82 Investment properties 12 1,847,837 1,823,165 Total assets 13 103,810 104,163 Total assets 13 10,3810	(in millions of Korean won)	Notes	March 31, 2018 (Unaudited)	December 31, 2017
Cash and cash equivalents 3, 5, 6 2,916,612 2,249,341 Trade receivables 3, 5, 7, 31 4,708,745 4,448,669 Other receivables 3, 5, 7, 31 381,643 770,776 Prepaid income taxes 259 932 Other current assets 13 456,018 376,814 Inventories 9 3,783,786 3,524,454 Assets held for sale 35 6,584 6,595 Total current assets 12,253,647 11,205,581 Non-current assets Other receivables 3, 5, 8 24,491 23,782 Investments in associates and joint ventures 1, 10, 33 258,752 264,096 Deferred tax assets 28 283,999 281,506 Property, plant and equipment 11 1,518,116 11,211,482 Investment properties 1,024 1,027 Other non-current assets 13 103,810 104,163 Total assets 3, 5, 31 1,998,797 2,044,779 Other payables 3, 5, 31	Assets			
Trade receivables 3, 5, 7, 31 4,708,745 4,448,669 Other receivables 3, 5, 7, 31 381,643 7770,776 Prepaid income taxes 259 932 Other current assets 13 456,018 376,814 Inventories 9 3,783,786 3,52,454 Assets held for sale 35 6,584 6,595 Total current assets 12,253,647 11,205,581 Non-current assets 3,5,7 123,823 126,429 Other financial assets 3,5,8 24,491 23,782 Investments in associates and joint ventures 1,10,33 258,752 264,096 Deferred tax assets 28 283,999 281,506 Property, plant and equipment 11 11,518,116 11,211,482 Intangible assets 13 103,416 104,163 Total ann-current assets 13 103,810 104,163 Total assets 3,5,31 1,98,797 2,041,779 Other payables 3,5,31 1,98,797 2,041,779	Current assets			
Other receivables 3, 5, 7, 31 381,643 770,776 Prepaid income taxes 259 932 Other current assets 13 456,018 376,814 Inventories 9 3,783,786 3,352,454 Assets held for sale 35 6,584 6,595 Total current assets 12,253,647 11,205,581 Non-current assets 3,5,7 123,823 126,429 Other receivables 3,5,8 24,491 23,782 Investments in associates and joint ventures 1,10,33 258,752 264,096 Deferred tax assets 28 28,399 281,506 Deferred tax assets 11 1,1518,116 11,211,482 Intangible assets 12 1,847,837 1,823,155 Investment properties 12 1,847,837 1,823,155 Investment properties 13 103,810 104,163 Total non-current assets 13 103,810 104,163 Total assets 3,5,31 1,998,797 2,014,779	Cash and cash equivalents	3, 5, 6	2,916,612	2,249,341
Prepaid income taxes 255 932 Other current assets 13 456,018 376,814 Inventories 9 3,783,786 3,352,454 Assets held for sale 35 6,584 6,595 Total current assets 212,253,647 11,205,581 Non-current assets Other receivables 3,5,7 123,823 126,429 Other financial assets 3,5,8 24,491 23,782 Investments in associates and joint ventures 1,10,33 258,752 264,096 Deferred tax assets 28 283,999 281,506 Property, plant and equipment 11 11,518,116 11,211,482 Intangible assets 12 1,847,837 1,823,155 Investment properties 1 1,024 1,024 Other non-current assets 13 103,810 104,163 Total assets 3,5,31 1,98,797 2,014,779 Other payables 3,5,31 1,998,797 2,014,779 Other payables 3,5,14 <t< td=""><td>Trade receivables</td><td></td><td>4,708,745</td><td>4,448,669</td></t<>	Trade receivables		4,708,745	4,448,669
Other current assets 13 456,018 376,814 Inventories 9 3,783,786 3,352,454 Assets held for sale 35 6,584 6,595 Total current assets 12,253,647 11,205,581 Non-current assets 0 122,53,647 11,205,581 Other receivables 3,5,7 123,823 126,429 Other financial assets 3,5,8 24,491 23,782 Investments in associates and joint ventures 1,10,33 258,752 264,096 Deferred tax assets 28 283,999 281,506 Property, plant and equipment 11 11,518,116 11,211,482 Intrangible assets 12 1,847,837 1,823,155 Investment properties 12 1,847,837 1,823,155 Investment properties 13 103,810 104,163 Total non-current assets 13 103,810 104,163 Total porturent assets 3,5,31 1,998,797 2,014,779 Current liabilities 3,5,31 1,998,797<		3, 5, 7, 31		
Inventories	Prepaid income taxes		259	
Assets held for sale 35 6,584 6,595 Total current assets 12,253,647 11,205,581 Non-current assets 3 12,253,647 11,205,581 Non-current assets 3 5,7 123,823 126,429 Other financial assets 3,5,8 24,491 23,782 Investments in associates and joint ventures 1,10,33 258,752 264,096 Deferred tax assets 28 28,399 28,1506 Property, plant and equipment 11 11,518,116 11,211,482 Investment properties 12 1,847,837 1,823,155 Investment properties 13 103,810 104,163 Total non-current assets 13 103,810 104,163 Total assets 3,5,31 1,987,97 2,014,779 Other payables 3,5,31 1,987,97 2,014,779 Trade payables 3,5,31 1,987,97 2,014,779 Other payables 3,5,31 1,987,97 2,014,779 Other current liabilities 3,5,14	Other current assets		456,018	376,814
Total current assets 12,255,647 11,205,581 Non-current assets Cher receivables 3,5,7 123,823 126,429 Other financial assets 3,5,8 24,491 23,782 Investments in associates and joint ventures 1,10,33 258,752 264,096 Deferred tax assets 28 283,999 281,506 Property, plant and equipment 11 11,518,116 11,211,482 Investment properties 12 1,847,837 1,823,155 Investment properties 13 103,810 104,163 Total non-current assets 13 103,810 104,163 Total assets 26,415,499 25,041,221 Liabilities Current liabilities Trade payables 3,5,31 1,998,797 2,014,779 Other payables 3,5,31 1,998,797 2,014,779 Other payables 3,5,31 1,998,797 2,014,779 Other payables 3,5,14 1,593,245 1,451,324 Provisions 15	Inventories	9	3,783,786	3,352,454
Non-current assets 3, 5, 7 123,823 126,429 Other financial assets 3, 5, 8 24,491 23,782 Investments in associates and joint ventures 1, 10, 33 256,752 264,096 Deferred tax assets 28 283,999 281,506 Property, plant and equipment 11 11,518,116 11,211,482 Intangible assets 12 1,847,837 1,823,155 Investment properties 1,024 1,027 Other non-current assets 13 103,810 104,163 Total non-current assets 13 103,810 104,163 Total assets 2 26,415,499 25,041,221 Current liabilities Current liabilities Trade payables 3, 5, 31 1,998,797 2,014,779 Other payables 3, 5, 31 1,428,050 1,847,222 Borrowings 3, 5, 14 1,593,245 1,451,324 Provisions 15 89,502 62,940 Income tax payables 3, 5, 17 1,	Assets held for sale	35		
Other receivables 3, 5, 7 123,823 126,429 Other financial assets 3, 5, 8 24,491 23,782 Investments in associates and joint ventures 1, 10, 33 258,752 264,096 Deferred tax assets 28 283,999 281,506 Property, plant and equipment 11 11,518,116 11,211,482 Intangible assets 12 1,847,837 1,823,155 Investment properties 1,024 1,027 Other non-current assets 13 103,810 104,163 Total non-current assets 13 103,810 104,163 Total sasets 26,415,499 25,041,221 Liabilities Current liabilities Trade payables 3,5,31 1,998,797 2,014,779 Other payables 3,5,31 1,428,050 1,847,222 Borrowings 3,5,14 1,593,245 1,451,324 Provisions 15 89,502 62,940 Income tax payables 3,5,17 1,183,806 854,283 <td>Total current assets</td> <td></td> <td>12,253,647</td> <td>11,205,581</td>	Total current assets		12,253,647	11,205,581
Other financial assets 3, 5, 8 24,491 23,782 Investments in associates and joint ventures 1, 10, 33 258,752 264,096 Deferred tax assets 28 283,999 281,506 Property, plant and equipment 11 11,518,116 11,211,482 Intangible assets 12 1,847,837 1,823,155 Investment properties 1 1,024 1,027 Other non-current assets 13 103,810 104,163 Total non-current assets 13 14,161,852 13,835,640 Total assets 26,415,499 25,041,221 Liabilities 3 5,31 1,998,797 2,014,779 Other payables 3,5,31 1,998,797 2,014,779 Other payables 3,5,31 1,428,050 1,847,222 Borrowings 3,5,31 1,998,797 2,014,779 Other payables 3,5,14 1,593,245 1,451,324 Provisions 15 89,502 62,940 Income tax payables 3,5,17 1,183,806<	Non-current assets			
Investments in associates and joint ventures 1, 10, 33 258,752 264,096 Deferred tax assets 28 283,999 281,506 Property, plant and equipment 11 11,518,116 11,211,482 Intangible assets 12 1,847,837 1,823,155 Investment properties 1,024 1,027 Other non-current assets 13 103,810 104,163 Total assets 26,415,499 25,041,221 Liabilities Trade payables 3,5,31 1,998,797 2,014,779 Other payables 3,5,31 1,428,050 1,847,222 Borrowings 3,5,31 1,428,050 1,847,222 Borrowings 3,5,14 1,593,245 1,451,324 Provisions 15 89,502 62,940 Income tax payables 3,5,17 1,183,806 854,283 Liabilities held for sale 35 35 35 Total current liabilities 3,5 10,181 8,64 Non-current liabilities 3,5	Other receivables		123,823	126,429
Deferred tax assets 28 283,999 281,506 Property, plant and equipment 11 11,518,116 11,211,482 Intangible assets 12 1,847,837 1,823,155 Investment properties 1,024 1,027 Other non-current assets 13 103,810 104,163 Total non-current assets 14,161,852 13,835,640 Total assets 26,415,499 25,041,221 Liabilities Current liabilities Trade payables 3,5,31 1,998,797 2,014,779 Other payables 3,5,31 1,428,050 1,847,222 Borrowings 3,5,14 1,593,245 1,451,324 Provisions 15 89,502 62,940 Income tax payables 28 480,113 414,110 Other current liabilities 3,5,17 1,183,806 854,283 Liabilities held for sale 35 35 35 6,644,689 Non-current liabilities 3,5 10,181 8,646	Other financial assets	3, 5, 8	•	23,782
Property, plant and equipment Intangible assets 11 11,518,116 11,211,482 Intangible assets 12 1,847,837 1,823,155 Investment properties 1,024 1,027 Other non-current assets 13 103,810 104,163 Total non-current assets 14,161,852 13,835,640 Total assets 26,415,499 25,041,221 Liabilities Current liabilities Trade payables 3, 5, 31 1,998,797 2,014,779 Other payables 3, 5, 31 1,428,050 1,847,222 Borrowings 3, 5, 14 1,593,245 1,451,324 Provisions 15 89,502 62,940 Income tax payables 28 480,113 414,110 Other current liabilities 3, 5, 17 1,183,806 854,283 Liabilities held for sale 35 35 31 Total current liabilities 3, 5 10,181 8,646 Borrowings 3, 5, 14 2,643,036 1,593,625 <td>Investments in associates and joint ventures</td> <td>1, 10, 33</td> <td>258,752</td> <td>264,096</td>	Investments in associates and joint ventures	1, 10, 33	258,752	264,096
Intangible assets 12 1,847,837 1,823,155 Investment properties 1,024 1,027 Other non-current assets 13 103,810 104,163 Total non-current assets 14,161,852 13,835,640 Liabilities Current liabilities Trade payables 3,5,31 1,998,797 2,014,779 Other payables 3,5,31 1,428,050 1,847,222 Borrowings 3,5,14 1,593,245 1,451,324 Provisions 15 89,502 62,940 Income tax payables 28 480,113 414,110 Other current liabilities 3,5,17 1,183,806 854,283 Liabilities held for sale 35 35 31 Total current liabilities 3,5,14 2,643,036 6,644,689 Non-current liabilities 3,5,14 2,643,036 1,593,625 Provisions 15 153,337 163,476 Net defined benefit liabilities 16 218,115 180,681 <t< td=""><td>Deferred tax assets</td><td>28</td><td>283,999</td><td>281,506</td></t<>	Deferred tax assets	28	283,999	281,506
Investment properties 1,024 1,027 Other non-current assets 13 103,810 104,163 Total non-current assets 14,161,852 13,835,640 Total assets 26,415,499 25,041,221 Liabilities Current liabilities Trade payables 3, 5, 31 1,998,797 2,014,779 Other payables 3, 5, 31 1,428,050 1,847,222 Borrowings 3, 5, 14 1,593,245 1,451,324 Provisions 15 89,502 62,940 Income tax payables 28 480,113 414,110 Other current liabilities 3, 5, 17 1,183,806 854,283 Liabilities held for sale 35 35 31 Total current liabilities 3, 5, 17 1,183,806 854,283 Liabilities held for sale 35 35 35 Total current liabilities 3, 5, 14 2,643,036 1,593,625 Provisions 15 153,337 163,476 Net defined benefit liabi		11	11,518,116	11,211,482
Other non-current assets 13 103,810 104,163 Total non-current assets 14,161,852 13,835,640 Total assets 26,415,499 25,041,221 Liabilities Current liabilities Trade payables 3, 5, 31 1,998,797 2,014,779 Other payables 3, 5, 31 1,428,050 1,847,222 Borrowings 3, 5, 14 1,593,245 1,451,324 Provisions 15 89,502 62,940 Income tax payables 28 480,113 414,110 Other current liabilities 3, 5, 17 1,183,806 854,283 Liabilities held for sale 35 35 31 Total current liabilities 3, 5, 17 1,183,806 854,283 Non-current liabilities 3, 5, 14 2,643,036 1,593,625 Provisions 15 153,337 163,476 Net defined benefit liabilities 16 218,115 180,681 Deferred tax liabilities 16 218,115 180,681 <	Intangible assets	12		1,823,155
Total non-current assets 14,161,852 13,835,640 Total assets 26,415,499 25,041,221 Liabilities Current liabilities Trade payables 3, 5, 31 1,998,797 2,014,779 Other payables 3, 5, 31 1,428,050 1,847,222 Borrowings 3, 5, 14 1,593,245 1,451,324 Provisions 15 89,502 62,940 Income tax payables 28 480,113 414,110 Other current liabilities 35 35 31 Total current liabilities 35 35 31 Non-current liabilities 3, 5, 17 1,183,806 854,283 Some current liabilities 35 35 31 Other payables 3, 5, 17 1,183,806 6,644,689 Non-current liabilities 3, 5 10,181 8,646 Borrowings 3, 5, 14 2,643,036 1,593,625 Provisions 15 153,337 163,476 Net defined benefit liabilities 16 <t< td=""><td>Investment properties</td><td></td><td></td><td>1,027</td></t<>	Investment properties			1,027
Liabilities Current liabilities Trade payables 3, 5, 31 1,998,797 2,014,779 Other payables 3, 5, 31 1,428,050 1,847,222 Borrowings 3, 5, 14 1,593,245 1,451,324 Provisions 15 89,502 62,940 Income tax payables 28 480,113 414,110 Other current liabilities 35 35 31 Total current liabilities 35 35 31 Non-current liabilities 3, 5, 14 2,643,036 1,593,625 Norrowings 3, 5, 14 2,643,036 1,593,625 Provisions 3, 5, 14 2,643,036 1,593,625 Provisions 15 153,337 163,476 Net defined benefit liabilities 16 218,115 180,681 Deferred tax liabilities 28 38,964 42,627 Other non-current liabilities 17 68,078 68,900 Total non-current liabilities 3,131,711 2,057,955	Other non-current assets	13		
Liabilities Current liabilities Trade payables 3, 5, 31 1,998,797 2,014,779 Other payables 3, 5, 31 1,428,050 1,847,222 Borrowings 3, 5, 14 1,593,245 1,451,324 Provisions 15 89,502 62,940 Income tax payables 28 480,113 414,110 Other current liabilities 3, 5, 17 1,183,806 854,283 Liabilities held for sale 35 35 31 Total current liabilities 6,773,548 6,644,689 Non-current liabilities 3, 5, 14 2,643,036 1,593,625 Provisions 3, 5, 14 2,643,036 1,593,625 Provisions 15 153,337 163,476 Net defined benefit liabilities 16 218,115 180,681 Deferred tax liabilities 28 38,964 42,627 Other non-current liabilities 17 68,078 68,900 Total non-current liabilities 3,131,711 2,057,955 <td>Total non-current assets</td> <td></td> <td>14,161,852</td> <td>13,835,640</td>	Total non-current assets		14,161,852	13,835,640
Current liabilities Trade payables 3, 5, 31 1,998,797 2,014,779 Other payables 3, 5, 31 1,428,050 1,847,222 Borrowings 3, 5, 14 1,593,245 1,451,324 Provisions 15 89,502 62,940 Income tax payables 28 480,113 414,110 Other current liabilities 3, 5, 17 1,183,806 854,283 Liabilities held for sale 35 35 31 Total current liabilities 6,773,548 6,644,689 Non-current liabilities 3, 5, 14 2,643,036 1,593,625 Provisions 15 153,337 163,476 Net defined benefit liabilities 16 218,115 180,681 Deferred tax liabilities 28 38,964 42,627 Other non-current liabilities 17 68,078 68,900 Total non-current liabilities 17 68,078 68,900	Total assets		26,415,499	25,041,221
Trade payables 3, 5, 31 1,998,797 2,014,779 Other payables 3, 5, 31 1,428,050 1,847,222 Borrowings 3, 5, 14 1,593,245 1,451,324 Provisions 15 89,502 62,940 Income tax payables 28 480,113 414,110 Other current liabilities 3, 5, 17 1,183,806 854,283 Liabilities held for sale 35 35 31 Total current liabilities 6,773,548 6,644,689 Non-current liabilities 3, 5, 14 2,643,036 1,593,625 Provisions 15 153,337 163,476 Net defined benefit liabilities 16 218,115 180,681 Deferred tax liabilities 28 38,964 42,627 Other non-current liabilities 17 68,078 68,900 Total non-current liabilities 17 68,078 68,900				
Other payables 3, 5, 31 1,428,050 1,847,222 Borrowings 3, 5, 14 1,593,245 1,451,324 Provisions 15 89,502 62,940 Income tax payables 28 480,113 414,110 Other current liabilities 3, 5, 17 1,183,806 854,283 Liabilities held for sale 35 35 31 Total current liabilities 6,773,548 6,644,689 Non-current liabilities 3, 5 10,181 8,646 Borrowings 3, 5, 14 2,643,036 1,593,625 Provisions 15 153,337 163,476 Net defined benefit liabilities 16 218,115 180,681 Deferred tax liabilities 28 38,964 42,627 Other non-current liabilities 17 68,078 68,900 Total non-current liabilities 17 68,078 68,900	Current liabilities			
Borrowings 3, 5, 14 1,593,245 1,451,324 Provisions 15 89,502 62,940 Income tax payables 28 480,113 414,110 Other current liabilities 3, 5, 17 1,183,806 854,283 Liabilities held for sale 35 35 31 Total current liabilities 6,773,548 6,644,689 Non-current liabilities 3, 5 10,181 8,646 Borrowings 3, 5, 14 2,643,036 1,593,625 Provisions 15 153,337 163,476 Net defined benefit liabilities 16 218,115 180,681 Deferred tax liabilities 28 38,964 42,627 Other non-current liabilities 17 68,078 68,900 Total non-current liabilities 17 68,078 68,900			1,998,797	
Provisions 15 89,502 62,940 Income tax payables 28 480,113 414,110 Other current liabilities 3, 5, 17 1,183,806 854,283 Liabilities held for sale 35 35 31 Total current liabilities 6,773,548 6,644,689 Non-current liabilities 3, 5 10,181 8,646 Borrowings 3, 5, 14 2,643,036 1,593,625 Provisions 15 153,337 163,476 Net defined benefit liabilities 16 218,115 180,681 Deferred tax liabilities 28 38,964 42,627 Other non-current liabilities 17 68,078 68,900 Total non-current liabilities 3,131,711 2,057,955	• •		' '	
Income tax payables 28 480,113 414,110 Other current liabilities 3, 5, 17 1,183,806 854,283 Liabilities held for sale 35 35 31 Total current liabilities 6,773,548 6,644,689 Non-current liabilities 3, 5 10,181 8,646 Borrowings 3, 5, 14 2,643,036 1,593,625 Provisions 15 153,337 163,476 Net defined benefit liabilities 16 218,115 180,681 Deferred tax liabilities 28 38,964 42,627 Other non-current liabilities 17 68,078 68,900 Total non-current liabilities 3,131,711 2,057,955	Borrowings	3, 5, 14	1,593,245	
Other current liabilities 3, 5, 17 1,183,806 854,283 Liabilities held for sale 35 35 31 Total current liabilities 6,773,548 6,644,689 Non-current liabilities 3, 5 10,181 8,646 Borrowings 3, 5, 14 2,643,036 1,593,625 Provisions 15 153,337 163,476 Net defined benefit liabilities 16 218,115 180,681 Deferred tax liabilities 28 38,964 42,627 Other non-current liabilities 17 68,078 68,900 Total non-current liabilities 3,131,711 2,057,955			· ·	
Liabilities held for sale 35 35 31 Total current liabilities 6,773,548 6,644,689 Non-current liabilities 3,5 10,181 8,646 Borrowings 3,5,14 2,643,036 1,593,625 Provisions 15 153,337 163,476 Net defined benefit liabilities 16 218,115 180,681 Deferred tax liabilities 28 38,964 42,627 Other non-current liabilities 17 68,078 68,900 Total non-current liabilities 3,131,711 2,057,955	Income tax payables			
Total current liabilities 6,773,548 6,644,689 Non-current liabilities 3,5 10,181 8,646 Borrowings 3,5,14 2,643,036 1,593,625 Provisions 15 153,337 163,476 Net defined benefit liabilities 16 218,115 180,681 Deferred tax liabilities 28 38,964 42,627 Other non-current liabilities 17 68,078 68,900 Total non-current liabilities 3,131,711 2,057,955	Other current liabilities	3, 5, 17	1,183,806	854,283
Non-current liabilities Other payables 3, 5 10,181 8,646 Borrowings 3, 5, 14 2,643,036 1,593,625 Provisions 15 153,337 163,476 Net defined benefit liabilities 16 218,115 180,681 Deferred tax liabilities 28 38,964 42,627 Other non-current liabilities 17 68,078 68,900 Total non-current liabilities 3,131,711 2,057,955	Liabilities held for sale	35		
Other payables 3, 5 10,181 8,646 Borrowings 3, 5, 14 2,643,036 1,593,625 Provisions 15 153,337 163,476 Net defined benefit liabilities 16 218,115 180,681 Deferred tax liabilities 28 38,964 42,627 Other non-current liabilities 17 68,078 68,900 Total non-current liabilities 3,131,711 2,057,955	Total current liabilities		6,773,548	6,644,689
Borrowings 3, 5, 14 2,643,036 1,593,625 Provisions 15 153,337 163,476 Net defined benefit liabilities 16 218,115 180,681 Deferred tax liabilities 28 38,964 42,627 Other non-current liabilities 17 68,078 68,900 Total non-current liabilities 3,131,711 2,057,955	Non-current liabilities			
Provisions 15 153,337 163,476 Net defined benefit liabilities 16 218,115 180,681 Deferred tax liabilities 28 38,964 42,627 Other non-current liabilities 17 68,078 68,900 Total non-current liabilities 3,131,711 2,057,955	Other payables	3, 5	10,181	8,646
Net defined benefit liabilities 16 218,115 180,681 Deferred tax liabilities 28 38,964 42,627 Other non-current liabilities 17 68,078 68,900 Total non-current liabilities 3,131,711 2,057,955	Borrowings	3, 5, 14		
Deferred tax liabilities 28 38,964 42,627 Other non-current liabilities 17 68,078 68,900 Total non-current liabilities 3,131,711 2,057,955	Provisions	15	153,337	163,476
Other non-current liabilities 17 68,078 68,900 Total non-current liabilities 3,131,711 2,057,955	Net defined benefit liabilities	16	218,115	180,681
Total non-current liabilities 3,131,711 2,057,955	Deferred tax liabilities	28	38,964	
	Other non-current liabilities	17		68,900
Total liabilities 9,905,259 8,702,644	Total non-current liabilities			
	Total liabilities		9,905,259	8,702,644

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

(in millions of Korean won)	Notes	March 31, 2018 (Unaudited)	December 31, 2017
Equity			
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		(100,836)	(173,839)
Retained earnings	20	14,108,635	14,039,250
Equity attributable to owners of the Parent Company		16,310,915	16,168,527
Non-controlling interest		199,325	170,050
Total equity		16,510,240	16,338,577
Total liabilities and equity		26,415,499	25,041,221

LG Chem, Ltd. and Subsidiaries Consolidated Interim Statements of Profit or Loss Three-Month Periods Ended March 31, 2018 and 2017 (unaudited)

		Period Ended March 31			
(in millions of Korean won, except per share amounts)	Notes	2018	2017		
		(Unaudited)	(Unaudited)		
Revenue	31, 33	6,553,590	6,486,668		
Cost of sales	23, 31	(5,212,029)	(5,073,053)		
Gross profit		1,341,561	1,413,615		
Selling and administrative expenses	22, 23, 31	(690,720)	(616,707)		
Operating profit	33	650,841	796,908		
Finance income	5, 25	81,427	63,055		
Finance costs	5, 25	(67,510)	(107,297)		
Share of net profit of associates and joint ventures					
accounted for using the equity method	10	743	3,231		
Other non-operating income	5, 26	79,225	209,564		
Other non-operating expenses	5, 27, 35	(91,530)	(267,160)		
Profit before income tax	32	653,196	698,301		
Income tax expense	28	(100,452)	(150,204)		
Profit for the period		552,744	548,097		
Profit is attributable to:					
Owners of the Parent Company		531,349	531,490		
Non-controlling interests		21,395	16,607		
Earnings per share attributable to the					
equity holders of the Parent Company (in won)	29				
Basic and diluted earnings per ordinary share		6,934	6,936		
Basic and diluted earnings per preferred share		6,947	6,949		

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 Periods Ended March 31, 2018 and 2017 (unaudited)

		Period Ende	od Ended March 31	
(in millions of Korean won)	Notes	2018	2017	
		(Unaudited)	(Unaudited)	
Profit for the period		552,744	548,097	
Other comprehensive income				
Items that will not be reclassified to profit or loss				
Remeasurements of net defined benefit liability	16	(2,663)	(7,321)	
Gain on valuation of financial assets at fair value through other comprehensive income		2,320	-	
Shares of remeasurements of				
net defined benefit liabilities of associates		150	62	
Income tax relating to these items		(176)	1,770	
Items that may be subsequently reclassified to profit or loss				
Exchange differences on translation of foreign operations		81,096	(112,297)	
Changes in valuation of available-for-sale financial instruments		-	81	
Shares of other comprehensive income				
of joint ventures and associates	10	1,701	(3,161)	
Income tax relating to these items		(3,330)	(3,357)	
Other comprehensive income for the period, net of tax		79,098	(124,223)	
Total comprehensive income for the period		631,842	423,874	
Total comprehensive income for the period is attributable to:				
Owners of the Parent Company		602,567	415,710	
Non-controlling interest		29,275	8,164	

(in millions of Korean won)		Attributable to owners of the Parent Company							
,	Notes	Share capital	Capital surplus	Other components of equity	Accumulated other comprehensive income	Retained earnings	Total	Non- controlling interests	Total equity
Balance at January 1, 2017		369,500	1,157,772	(15,699)	(36,993)	12,462,772	13,937,352	113,615	14,050,967
Comprehensive income									
Profit for the period		-	-	-	-	531,490	531,490	16,607	548,097
Remeasurements of net defined									
benefit liability	16	-	-	-	-	(5,553)	(5,553)	2	(5,551)
Exchange differences on translation									
of foreign operations		-	-	-	(107,190)	-	(107, 190)	(8,445)	(115,635)
Change in the fair value of									
available-for-sale financial instruments		-	-	-	62	-	62	-	62
Others	_				(3,161)	62	(3,099)		(3,099)
Total comprehensive income for the period					(110,289)	525,999	415,710	8,164	423,874
Transactions with owners:									
Business combination	34	21.906	1,116,614	(337,211)			801,309		801,309
Purchase of treasury shares	35	21,900	1,110,014	(2,250)	-	-	(2,250)	-	(2,250)
Dividends	30	_	-	(2,230)	-	(368,055)	(368,055)	-	(368,055)
Total transactions with owners	- 50	21,906	1,116,614	(339,461)		(368,055)	431,004		431,004
Balance at March 31, 2017 (Unaudited)	-	391,406	2,274,386	(355,160)	(147,282)	12,620,716	14,784,066	121,779	14,905,845
	•								
Balance at January 1, 2018	-	391,406	2,274,386	(362,676)	(173,839)	14,039,250	16,168,527	170,050	16,338,577
Comprehensive income									
Profit for the period		-	-	-	-	531,349	531,349	21,395	552,744
Remeasurements of net defined									
benefit liability	16	-	-	-	-	(1,935)	(1,935)	-	(1,935)
Exchange differences on translation									
of foreign operations		-	-	-	69,886	-	69,886	7,880	77,766
Gain on valuation of financial assets									
at fair value through other comprehensive in	come	-	-	-	1,416		1,416	-	1,416
Others	-				1,701	150	1,851		1,851
Total comprehensive income for the period	-				73,003	529,564	602,567	29,275	631,842
Transactions with owners:									
Dividends	30	_	-	-	-	(460,058)	(460,058)	-	(460,058)
Others		_	_	_	_	(121)	(121)	_	(121)
Total transactions with owners	-	_				(460,179)	(460,179)		(460,179)
Balance at March 31, 2018 (Unaudited)	-	391,406	2,274,386	(362,676)	(100,836)	14,108,635	16,310,915	199,325	16,510,240
· · ·									

LG Chem, Ltd. and Subsidiaries Consolidated Inteirm Statements of Cash Flows Three-Month Periods Ended March 31, 2018 and 2017 (Unaudited)

(in millions of Korean won)		Period Ended March 31	
	Notes	2018	2017
		(Unaudited)	(Unaudited)
Cash flows from operating activities			
Cash generated from operations	32	74,846	326,630
Interest received		10,295	8,855
Interest paid		(23,636)	(27,552)
Dividends received		10,000	10,030
Income taxes paid		(34,956)	(94,340)
Net cash inflow from operating activities		36,549	223,623
Cash flows from investing activities			
Decrease in other receivables		467,508	477,419
Decrease in other non-current receivables		21,751	25,233
Proceeds from disposal of investments in associates		19,499	,
Proceeds from disposal of available-for-sale financial assets		4,659	_
Proceeds from disposal of property, plant and equipment		2,364	3,479
Proceeds from disposal of intangible assets		_, <u>-</u>	5,632
Government grants received		-	29,628
Proceeds from disposal of subsidiaries		-	343
Business combination, net of cash acquired	34	-	43,759
Increase in other receivables		(153,225)	(162,590)
Increase in other non-current receivables		(11,566)	(25,573)
Acquisition of investments in associates and joint ventures		(2,062)	(3,015)
Acquisition of financial assets		(3,016)	(1,201)
Acquisition of property, plant and equipment		(877,870)	(285,818)
Acquisition of intangible assets		(20,896)	(15,175)
Net cash inflow (outflow) from investing activities		(552,854)	92,121
Cash flows from financing activities			
Proceeds from borrowings		1,306,047	641,885
Capital contribution from non-controlling interests		1,300,047	041,000
Repayments of borrowings		(135,740)	(910,562)
Purchase of treasury shares		(133,740)	(2,250)
Net cash inflow (outflow) from financing activities		1,170,307	(270,927)
Net cash filliow (outflow) from filliancing activities		1,170,307	(210,921)
Net increase in cash and cash equivalents		654,002	44,817
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		13,269	(27,289)
Cash and cash equivalents at the end of the period in the consolidated interim statement of financial position		2,916,612	1,491,895
		,,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

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 March 31, 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 March 31, 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.

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.

March 31 2018

1.3 Consolidated Subsidiaries, Associates and Joint Ventures

	·		March	31, 2018
	Percentage of ownership (%)	Business location	Closing month	Business activities
Consolidated subsidiaries				
Ningbo LG Yongxing Chemical Co., Ltd. ¹	75	China	December	ABS/SBL manufacturing and sales
Ningbo Zhenhai LG Yongxing Trade Co., Ltd. ¹	75	China	December	ABS sales
LG Chem HK Ltd.	100	Hong Kong	December	Sales and trading
LG Chem America, Inc. ²	100	USA	December	Sales and trading
LG Chemical India Pvt. Ltd. ³	100	India	December	Synthetic resin manufacturing and sales
LG Polymers India Pvt. Ltd. ³	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.	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. ^{4,}	75	China	December	PVC, VCM, EDC manufacturing and sales
Tianjin LG BOTIAN Chemical Co., Ltd.4	56	China	December	SBS manufacturing and sales
LG Chem (China) Investment Co., Ltd.	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. ²	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. ²	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. ⁵	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.	100	Poland	December	Automotive battery research and manufacturing
LG Chem(HUIZHOU) Petrochemical Co., Ltd.	70	China	December	ABS manufacturing and sales
FarmHannong Co., Ltd. ⁶	100	Korea	December	Agricultural pesticide manufacturing
FarmHwaong Co., Ltd. ^{6,7}	58	Korea	December	Vegetables and fruit farming
Farm Hannong (Heilongjiang) Chemical Co., Ltd. ⁶	100	China	December	Agricultural pesticide manufacturing
LG Life Sciences India Pvt. Ltd.	100	India	December	Pharmaceutical products sales

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.6	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.8	100	Mexico	December	Sales and trading
FarmHannong(Thailand) Ltd. ^{6,9}	100	Thailand	December	Research and development on seeds
Associates				
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. 10	100	Brazil	December	Sales and trading
LG Chem Malaysia SDN.BHD. ¹⁰	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. ¹¹	30	China	December	ESS manufacturing and sales
LG Life Sciences Poland Ltd. ¹⁰	100	Poland	December	Pharmaceutical products sales
Combustion Synthesis Co., Ltd. ¹²	30	Japan	March	Nitride-based ceramic powder production
Joint ventures				
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

- ¹ As at March 31, 2018, Ningbo LG Yongxing Chemical Co., Ltd. owns 100% of Ningbo Zhenhai LG Yongxing Trading Co., Ltd.'s shares.
- ² During the period ended March 31, 2018, LG Chem Power Inc. was merged into LG Chem Michigan Inc. In addition, during the period ended March 31, 2018, the shares of LG Chem America, Inc. and LG NanoH2O, Inc., wholly owned by the Parent Company, was contributed to LG Chem Michigan Inc.
- ³ As at March 31, 2018, LG Chemical India Pvt. Ltd. owns 100% of LG Polymers India Pvt. Ltd.'s shares
- ⁴ As at March 31, 2018, Tianjin LG Bohai Chemical Co., Ltd. owns 20.30% of Tianjin LG BOTIAN Chemical Co., Ltd.'s shares.
- ⁵ Although the Parent Company owns less than 50% of the voting rights of Nanjing LG Chem New Energy Battery Co., Ltd., the Parent Company is considered to have control over the investee as the Parent Company can exercise the majority voting rights in its decision-making process in accordance with the shareholders' agreement.
- ⁶ As at March 31, 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 57.87% of FarmHwaong Co., Ltd.
- ⁷ As at March 31, co2018, FarmHwaong Co., Ltd.'s assets and liabilities are classified as assets and liabilities held for sale (Note 35).
- ⁸ During the period ended March 31, 2018, the Group newly acquired 100% shares of LG Chem Mexico S.A. de C.V. for ₩394 million.
- ⁹ During the period ended March 31, 2018, the Group newly acquired 100% shares of FarmHannong(Thailand) Ltd. for ₩ 2,586 million.
- ¹⁰ Classified as an investment in associate due to its small size.

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)	March 31, 2018					
Subsidiaries	Assets	Liabilities	Equity	Revenue	Profit (loss) for the period	
Ningbo LG Yongxing Chemical Co., Ltd.	1,107,087	458,841	648,246	538,322	68,450	
Ningbo Zhenhai LG Yongxing Trade Co., Ltd.	6,118	2,347	3,771	7,426	148	
LG Chem HK Ltd.	102,648	2,34 <i>1</i> 85,454	17,194	130,039	211	
		•	•	•		
LG Chem America, Inc.	195,192	175,012	20,180	170,416	828	
LG Chemical India Pvt. Ltd.	32,707	21	32,686	-	- 2.407	
LG Polymers India Pvt. Ltd. LG Chemical (Guangzhou) Engineering Plastics	126,469 106,581	45,382 40,650	81,087 65,931	60,864 52,597	3,437 (1,568)	
Co., Ltd.						
LG Chem (Nanjing) Information & Electronics Materials Co., Ltd.	2,664,258	1,490,023	1,174,235	717,508	23,440	
LG Chem (Taiwan), Ltd.	116,242	56,973	59,269	42,598	(1,212)	
LG Chem Display Materials (Beijing) Co., Ltd.	41,643	14,443	27,200	22,006	283	
Tianjin LG Bohai Chemical Co., Ltd.	343,386	235,573	107,813	140,365	10,136	
Tianjin LG BOTIAN Chemical Co., Ltd.	52,311	46,902	5,409	36,954	3,067	
LG Chem (China) Investment Co., Ltd.	357,587	184,081	173,506	13,546	1,331	
LG Chem (Tianjin) Engineering Plastics Co., Ltd.	66,939	20,147	46,792	21,142	(549)	
LG Chem Europe GmbH	267,634	235,244	32,390	161,439	2,419	
LG Chem Poland Sp. z o.o.	66,916	31,175	35,741	31,976	1,147	
LG Chem Michigan Inc.	335,648	195,828	139,820	82,536	3,632	
LGC Petrochemical India Private Ltd.	2,604	455	2,149	1,058	81	
HAENGBOKNURI CO., LTD.	2,351	932	1,419	2,005	66	
LG CHEM TK Kimya SANAYI VE TIC. Ltd. STI.	6,625	5,135	1,490	7,723	56	
LG Chem Japan Co., Ltd.	3,664	354	3,310	1,415	151	
LG NanoH2O, Inc. ¹	11,830	1,784	10,046	4,222	792	
NanoH2O (Jiangsu) Water Processing Technology Co. Ltd.	4,079	1,217	2,862	-	(172)	
Nanjing LG Chem New Energy Battery Co., Ltd.	519,749	415,519	104,230	116,049	(2,043)	
LG Chem (Chongqing) Engineering Plastics Co., Ltd.	36,126	6,298	29,828	8,550	(730)	
LG Chem Wroclaw Energy sp. z o.o.	366,754	245,374	121,380	10,752	(9,086)	
LG Chem(HUIZHOU) Petrochemical Co., Ltd.	309,979	221,185	88,794	77,415	3,042	
FarmHannong Co., Ltd. ¹	1,278,938	719,898	559,040	236,936	28,231	
LG Life Sciences India Pvt. Ltd.	6,198	4,169	2,029	2,482	(150)	
LG Life Sciences (Beijing) Co., Ltd.	1,217	10	1,207	233	(6)	
LG Life Sciences (Thailand) Ltd.	9,976	5,154	4,822	6,118	1,263	
Sarangnuri Ltd.	243	57	186	78	20	
LG Chem Hai Phong Vietnam Company Ltd.	8,650	4,710	3,940	3,499	759	
LG Chem Austrailia Pty Ltd.	705	72	633	413	100	
LG Chem Mexico S.A. de C.V.	340	34	306	-	(83)	

¹¹ During the period ended March 31, 2018, the Parent Company acquired additional shares of WUXI CL New Energy Technology Ltd. for ₩ 559 million.

¹² During the period ended March 31, 2018, the Group newly acquired shares of Combustion Synthesis Co., Ltd. for ₩ 1,503 million.

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Associates					
LG Holdings (HK) Ltd.	245,657	45,516	200,141	12,413	4,295
TECWIN Co., Ltd.	79,106	32,206	46,900	-	-
LG Chem BRASIL INTERMEDIACAO DE NEGOCIOS DO SETOR QUIMICO LTDA.	83	170	(87)	329	(131)
LG Chem Malaysia SDN.BHD.	278	43	235	178	(9)
LG Fuel Cell Systems Inc.	37,193	7,889	29,304	1,447	(13,606)
FJ Composite Material Co., Ltd.	7,356	2,983	4,373	533	(51)
WUXI CL New Energy Technology Ltd.	7,282	3,382	3,900	-	(140)
LG Life Sciences Poland Ltd.	86	81	5	27	(57)
Combustion Synthesis Co., Ltd.	1,399	22	1,377	85	(93)
Joint ventures					
LG VINA Chemical Co., Ltd.	18,388	10,224	8,164	13,376	474
HL Greenpower Co., Ltd.	184,259	146,391	37,868	-	-
SEETEC Co., Ltd.	322,763	39,074	283,689	125,471	3,254

¹ 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)	De	cember 31, 201	2017		
	Assets	Liabilities	Equity	Revenue	Profit (loss) for the period
Subsidiaries					
Ningbo LG Yongxing Chemical Co., Ltd.	1,007,732	449,049	558,683	528,347	49,107
Ningbo Zhenhai LG Yongxing Trade Co., Ltd.	10,420	6,927	3,493	9,783	212
LG Chem HK Ltd.	96,752	79,690	17,062	132,673	209
LG Chem America, Inc.	191,011	171,566	19,445	186,942	3,108
LG Chemical India Pvt. Ltd.	32,716	5	32,711	-	6
LG Polymers India Pvt. Ltd.	93,999	15,651	78,348	66,477	5,708
LG Chemical (Guangzhou) Engineering Plastics Co., Ltd.	109,443	44,342	65,101	46,608	1,110
LG Chem (Nanjing) Information & Electronics Materials Co., Ltd.	2,410,548	1,301,136	1,109,412	662,410	34,048
LG Chem (Taiwan), Ltd.	122,310	60,462	61,848	45,939	1,308
LG Chem Display Materials (Beijing) Co., Ltd.	40,158	14,196	25,962	15,064	717
Tianjin LG Bohai Chemical Co., Ltd.	349,416	255,165	94,251	132,224	8,665
Tianjin LG BOTIAN Chemical Co., Ltd.	48,438	46,298	2,140	42,332	(4,754)
LG Chem (China) Investment Co., Ltd.	324,605	153,146	171,459	15,812	2,214
LG Chem (Tianjin) Engineering Plastics Co., Ltd.	64,708	19,057	45,651	24,542	493
LG Chem Europe GmbH	231,237	202,012	29,225	126,984	4,789
LG Chem Poland Sp. z o.o.	64,841	30,877	33,964	20,907	1,094
LG Chem Michigan Inc.	232,301	138,085	94,216	51,610	7,108
LG Chem Power Inc.	18,640	6,013	12,627	11,313	713
LGC Petrochemical India Private Ltd.	2,502	390	2,112	1,044	84
HAENGBOKNURI CO., LTD.	2,292	939	1,353	1,654	(6)
LG CHEM TK Kimya SANAYI VE TIC. Ltd. STI.	6,618	5,113	1,505	5,056	104
LG Chem Japan Co., Ltd.	3,462	470	2,992	1,448	158
LG NanoH2O, Inc. ¹	10,269	971	9,298	4,215	713
NanoH2O (Jiangsu) Water Processing Technology Co. Ltd.	4,103	1,173	2,930	-	(1,733)
Nanjing LG Chem New Energy Battery Co., Ltd.	478,421	375,998	102,423	49,503	5,538
LG Chem (Chongqing) Engineering Plastics Co., Ltd.	35,028	5,559	29,469	4,564	(1,184)

LG Chem Wroclaw Energy sp. z o.o.	330,033	202,131	127,902	5,329	2,653
LG Chem(HUIZHOU) Petrochemical Co., Ltd.	290,840	208,170	82,670	75,710	(907)
FarmHannong Co., Ltd. ¹	1,152,122	621,754	530,368	253,921	34,702
LG Life Sciences India Pvt. Ltd.	7,143	4,923	2,220	2,535	(382)
LG Life Sciences (Beijing) Co., Ltd.	1,191	20	1,171	199	8
LG Life Sciences (Thailand) Ltd.	10,008	6,595	3,413	5,565	905
Sarangnuri Ltd.	227	60	167	67	17
LG Chem Hai Phong Vietnam Company Ltd.	4,480	1,266	3,214	-	-
LG Chem Austrailia Pty Ltd.	559	12	547	-	-
Associates					
LG Holdings (HK) Ltd.	249,896	60,681	189,215	11,925	3,690
TECWIN Co., Ltd.	79,106	32,206	46,900	-	-
LG Chem BRASIL INTERMEDIACAO DE	164	123	41	526	(15)
NEGOCIOS DO SETOR QUIMICO LTDA.		0	• • • • • • • • • • • • • • • • • • • •	0_0	(,
LG Chem Malaysia SDN.BHD.	252	19	233	138	(8)
LG Fuel Cell Systems Inc.	48,444	4,701	43,743	435	(8,715)
FJ Composite Material Co., Ltd.	7,052	2,858	4,194	766	122
WUXI CL New Energy Technology Ltd.	4,521	1,180	3,341	-	-
LG Life Sciences Poland Ltd.	124	72	52	-	-
Joint ventures					
LG VINA Chemical Co., Ltd.	17,539	9,242	8,297	13,390	755
HL Greenpower Co., Ltd.	190,881	151,728	39,153	85,422	331
SEETEC Co., Ltd.	344,189	43,751	300,438	124,368	6,019

¹ 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 three-month period ended March 31, 2018, are as follows:

Subsidiary Reason

LG Chem Mexico S.A. de C.V. FarmHannong(Thailand) Ltd.

Newly established Newly established

Subsidiaries excluded from the consolidation for the three-month period ended March 31, 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 consolidated interim financial statements for the three-month period ended March 31, 2018, have been prepared in accordance with Korean IFRS 1034 *Interim Financial Reporting*. These consolidated interim financial statements have been prepared in accordance with Korean IFRS which is effective or early adopted as at March 31, 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. 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)	Measurem	ent category	Carrying amount			
	Korean IFRS 1039	Korean IFRS 1109	Korean IFRS 1039	Korean IFRS 1109	Difference	
Current financial assets						
		Amortized costs	4,448,669	4,218,196	(230,473)	
Trade receivables	Amortized costs	Fair value through				
Trade receivables	Amortized costs	other comprehensive income	-	230,473	230,473	
Cash and cash equivalents	Amortized costs	Amortized costs	2,249,341	2,249,341	-	
Other receivables	Amortized costs	Amortized costs	770,776	770,776	-	
Non-current financial asse	ts					
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 $\mbox{$W$}$ 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 $\forall 16,982$ 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 $\forall 418$ 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
- (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.

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 'other non-operating income or other expenses' 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 on a forward looking basis the expected credit losses associated with its debt instruments carried at amortized cost and fair value through other comprehensive income. 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.

2.2.3 Revenue Recognition

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

(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 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

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

(in millions of Korean won)	March 31, 2018		December 31, 2017	
	Assets	Liabilities	Assets	Liabilities
USD	1,963,345	1,708,562	2,337,448	1,561,175
EUR	171,598	206,762	174,464	21,226
JPY	30,727	107,230	36,304	109,162
CNY and others	52,426	426	60,616	1,512

As at March 31, 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 income tax would have been affected as follows:

(in millions of Korean won)	March 3	March 31, 2018		r 31, 2017
	10% Increase	10% Decrease	10% Increase	10% Decrease
USD	25,478	(25,478)	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 March 31, 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.

(in millions of Korean won)	March 31, 2018		December 31, 2017		
	10% Increase	10% Decrease	10% Increase	10% Decrease	
KOSPI	209	(209)	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 three-month periods ended March 31, 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.

(in millions of Korean won)	Impact on post-tax profit		Impact on equity	
	2018	2017	2018	2017
Increase	(14,501)	(18,452)	(14,501)	(18,452)
Decrease	14,501	18,452	14,501	18,452

(2) Credit risk

Total

(in millions of Korean won)

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 March 31, 2018 and December 31, 2017, is as follows:

March 31, 2018

(8,511)

Carrying amount

7,595,168

	Amount before allowance	Impairment allowance	(maximum exposure)
Amortized cost	7,926,682	(9,237)	7,917,445
Fair value through other comprehensive income	213,335		213,335
	8,140,017	(9,237)	8,130,780
(in millions of Korean won)		December 31, 201	7 Carrying amount
	Amount before	Impairment	(maximum
	allowance	allowance	exposure)
Amortized cost	allowance 7,373,206	allowance (8,511)	=

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.

7,603,679

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.

(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)	March 31, 2018				
•	Less than	Between	Between		
	1 year	1-2 years	2-5 years	Over 5 years	
Borrowings (excluding financial					
lease liabilities)	1,651,346	391,847	1,591,408	958,335	
Finance lease liabilities	5,217	5,177	15,532	10,488	
Trade and other payables	3,426,847	7,221	2,818	142	
Total	5,083,410	404,245	1,609,758	968,965	
(in millions of Korean won)		December	31, 2017		
(in millions of Korean won)	Less than	December Between	31, 2017 Between		
(in millions of Korean won)	Less than 1 year			Over 5 years	
(in millions of Korean won) Borrowings (excluding financial		Between	Between	Over 5 years	
•		Between	Between	Over 5 years 327,225	
Borrowings (excluding financial	1 year	Between 1-2 years	Between 2-5 years	-	
Borrowings (excluding financial lease liabilities)	1 year 1,472,881	Between 1-2 years 333,734	Between 2-5 years 1,076,000	327,225	

The Group has no derivatives contracts as at March 31, 2018 and December 31, 2017.

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. 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 March 31, 2018 and December 31, 2017, were as follows:

(in millions of Korean won, except for ratios)	March 31, 2018	December 31, 2017
Total borrowings (Note 14) (A)	4,236,281	3,044,949
Less: cash and cash equivalents (B)	(2,916,612)	(2,249,341)
Net debt (C=A+B)	1,319,669	795,608
Total liabilities (D)	9,905,259	8,702,644
Total equity (E)	16,510,240	16,338,577
Total capital (F=C+E)	17,829,909	17,134,185
Gearing ratio (C/F)	7.4%	4.6%
Debt-to-equity ratio (D/E)	60.0%	53.3%

3.3 Fair Value

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

(in millions of Korean won)	March 31, 2018		December 31, 2017	
_	Carrying		Carrying	
	amount	Fair value	amount	Fair value
Financial assets (current)				
Cash and cash equivalents	2,916,612	1	2,249,341	1
Deposits held by financial institutions	215,157	1	529,701	1
Trade receivables	4,708,745	1	4,448,669	1
Other receivables (excluding				
deposits held by financial institutions)	166,486	1	241,075	1
Financial assets (non-current)				
Deposits held by financial institutions	63,946	1	64,308	1
Other receivables (excluding				
deposits held by financial institutions)	59,877	1	62,121	1
Other non-current financial assets			47.740	2
(carried at cost) Other non-current financial assets	-	-	17,718	2
(carried at fair value)				
Marketable financial assets	2,536	2,536	6,064	6,064
Non-marketable financial assets	21,955	2,330 1	0,004	0,004
Non-marketable ilitariciai assets	21,900	·	-	-
Financial liabilities (current)				
Trade and other payables	3,426,847	1	3,862,001	1
Current borrowings	1 500 105	1	1 116 107	1
(excluding finance lease liabilities) Current finance lease liabilities	1,588,105	1	1,446,187	1
	5,140		5,137	
Dividends payable	462,100	1	-	1
Financial liabilities (non-current)				
Non-current borrowings				
(excluding finance lease liabilities)	2,615,499	2,617,216	1,566,258	1,560,147
Non-current finance lease liabilities	27,537	28,856	27,367	28,776
Other non-current payables	10,181	1	8,646	1

(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 March 31, 2018 and December 31, 2017, are as follows:

(in percentage)	March 31, 2018	December 31, 2017
Discount rate	1.90%~3.21%	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 March 31, 2018 and December 31, 2017, are as follows:

(in millions of Korean won)	March 31, 2018			
	Level 1	Level 2	Level 3	Total
Financial assets/liabilities measured at fair value				
Other non-current financial assets (carried at fair value)	2,536	-	-	2,536
Financial assets/liabilities not measured at fair value Non-current borrowings				
(excluding finance lease liabilities)	-	2,617,216	-	2,617,216
Non-current finance lease liabilities	-	28,856	-	28,856

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

² 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.

(in millions of Korean won)	December 31, 2017			
,	Level 1	Level 2	Level 3	Total
Financial assets/liabilities measured at fair value Other non-current financial assets				
(carried at fair value)	6,064	-	-	6,064
Financial assets/liabilities not measured at fair value 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.

5. Financial Instruments by Category

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

(in millions of Korean won)	March 31, 2018			
Financial assets	Financial assets at amortized cost	Financial assets at fair value through profit or loss	Financial assets at fair value through other comprehensive income	Total
Cash and cash equivalents	2,916,612	-	_	2,916,612
Trade receivables	4,495,410	-	213,335	4,708,745
Other receivables	381,643	-	, -	381,643
Other non-current receivables	123,823	-	-	123,823
Other non-current financial assets		9,604	14,887	24,491
Total	7,917,488	9,604	228,222	8,155,314
lotai	7,917,400	9,004	220,222	0,100,014
(in millions of Korean won)		March	າ 31, 2018	
Financial liabilities	Financial liabilities at fair value through profit or loss	Financial liabilities at amortized cost	Other financial liabilities ¹	Total
Trade payables	-	1,998,797	-	1,998,797
Other payables	_	1,428,050	-	1,428,050
Borrowings (current)	-	1,582,044	11,201	1,593,245
Other non-current payables (dividends payable)		462,100		462,100
Other non-current payables	-	10,181	-	10,181
Borrowings (non-current)	_	2,615,499	- 27,537	2,643,036
Total		8,096,671	38,738	8,135,409
Total		0,000,071	00,700	0,100,400
(in millions of Karaan wan)		Dagamh	24 2047	
(in millions of Korean won)		Financial	per 31, 2017	
		assets at fair	Available-for-	
	Loans and	value through	sale financial	
Financial assets	receivables	profit or loss	assets	Total
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
Total	7,595,215		23,782	7,618,997

(in millions of Korean won)	December 31, 2017			
	Financial liabilities at fair value through	Financial liabilities at amortized	Other financial	
Financial liabilities	profit or loss	cost	liabilities ¹	Total
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
Total		6,880,588	35,008	6,915,596

¹ Other financial liabilities include financial lease liabilities that are not subject to the categorizations and 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 periods ended March 31, 2018 and 2017, are as follows:

(in millions of Korean won)	2018	2017
Dividend income Financial assets at fair value through other comprehensive income	<u>-</u>	_
Available-for-sale financial assets	-	196
Interest income		
Financial assets at fair value through other comprehensive income	-	5
Financial assets at amortized cost	11,264	7,461
Interest expense		
Hedging derivatives	-	-
Financial liabilities at amortized cost	(28,010)	(24,723)
Other financial liabilities	(260)	(3,476)
Gain (loss) on valuation		
Financial assets at fair value through profit or loss	-	-
Hedging derivatives	-	-
Financial assets at fair value through other comprehensive income	3,657	-
Gain (loss) on disposal		
Financial assets at fair value through profit or loss	-	-
Hedging derivatives	-	170
Financial assets at fair value through other comprehensive income	(1,337)	-

(in millions of Korean won)	2018	2017
Gain (loss) on foreign currency translation		
Financial assets at amortized cost	(15,282)	(71,981)
Financial liabilities at amortized cost	42,154	32,765
Other financial liabilities	-	24,537
Gain (loss) on foreign currency transaction		
Financial assets at amortized cost	1,396	(123,808)
Financial liabilities at amortized cost	9,417	42,005
Other financial liabilities	(93)	52,684

6. Cash and Cash Equivalents

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

(in millions of Korean won)	March 31, 2018	December 31, 2017
Bank deposits and cash on hand	451,646	598,712
Deposits held by financial institutions and others	2,464,966	1,650,629
Total	2,916,612	2,249,341

As at March 31, 2018, cash and cash equivalents include \forall 6,253 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 March 31, 2018 and December 31, 2017, are as follows:

March 31, 2018				
Gross amount	Impairment allowance	Carrying amount		
4,717,023 382,602 123,823	(8,278) (959)	4,708,745 381,643 123,823		
5,223,448	(9,237)	5,214,211		
December 31, 2017				
Gross amount	Impairment allowance	Carrying amount		
4,456,221 771,735 126,429 5,354,385	(7,552) (959) 	4,448,669 770,776 126,429 5,345,874		
	4,717,023 382,602 123,823 5,223,448 Gross amount 4,456,221 771,735 126,429	Gross amount allowance 4,717,023 (8,278) 382,602 (959) 123,823 5,223,448 (9,237) December 31, 2017 Gross Impairment allowance 4,456,221 (7,552) 771,735 (959) 126,429 -		

¹ As at March 31, 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 are as follows (Note 14):

(in millions of Korean won)	Loans and receivables (trade receivables collateralized for borrowings)			
	March 31, 2018	December 31, 2017		
Carrying amount of transferred assets	6,106	2,504		
Carrying amount of related liabilities	(6,106)	(2,504)		

² As at March 31, 2018, ₩548 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 March 31, 2018 and December 31, 2017, are as follows:

(in millions of Korean won)	March 31, 2018	December 31, 2017
Current		
Non-trade receivables	119,043	187,314
Deposits held by financial institutions ¹	215,157	529,701
Accrued income	5,653	5,126
Guarantee deposits provided	41,790	48,635
	381,643	770,776
Non-current		
Non-trade receivables	5,352	4,246
Deposits held by financial institutions ²	63,946	64,308
Loans	329	291
Guarantee deposits provided	54,196	57,584
	123,823	126,429
Total	505,466	897,205

¹ As at March 31, 2018, ₩1,338 million (2017: ₩1,338 million is pledged as a collateral for borrowings and others.

² As at March 31, 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.

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

(in millions of Korean won)	March 31, 2018		December 31, 2017	
	Trade receivables	Other receivables	Trade receivables	Other receivables
Receivables not past due	4,617,638	475,436	4,302,204	834,882
Past due but not impaired				
Up to 3 months	89,415	25,980	148,043	59,070
Between 3-6 months	2,985	2,208	311	2,078
Over 6 months	506	1,842	554	1,175
	92,906	30,030	148,908	62,323
Impaired receivables	6,479	959	5,109	959
	4,717,023	506,425	4,456,221	898,164

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

(in millions of Korean won)	March 31, 2018			
	Trade receivables		Other receivables	
	Current	Non-current	Current	Non-current
Beginning balance	7,552	-	959	-
Business combination (Note 34)	-	-	-	-
Additions	730	-	-	-
Write-off	-	-	-	-
Reversals	-	-	-	-
Exchange differences	(4)			
Ending balance	8,278		959	

(in millions of Korean won)	December 31, 2017				
	Trade rec	eivables	Other rec	Other receivables	
	Current	Non-current	Current	Non-current	
Beginning balance	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)	<u> </u>			
Ending balance	7,552		959		

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

8. Other Financial Assets

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

(in millions of Korean won)	March 31, 2018	December 31, 2017	
Other financial assets			
Financial assets at fair value through profit or loss Financial assets at fair value through other	9,604	-	
comprehensive income	14,887	-	
Available-for-sale financial assets		23,782	
	24,491	23,782	

Changes in available-for-sale financial assets for the three-month periods ended March 31, 2018 and for the year ended December 31, 2017, are as follows:

March 31, 2018	December 31, 2017
23,782	23,448
-	2,652
2,806	3,001
(5,996)	(195)
-	(209)
3,657	(5,550)
242	635
24,491	23,782
	23,782 - 2,806 (5,996) - 3,657

During the three-month period ended March 31, 2018, the Group acquired convertible promissory notes of Kryptos Biotechnologies, Inc. for \\ \psi 1,604 \text{ million and classified it as financial assets at fair value through profit or loss.}

9. Inventories

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

(in millions of Korean won)	March 31, 2018				
	Gross Amount	Valuation allowance	Carrying amount		
Merchandise	138,929	(1,712)	137,217		
Finished / Semi-finished products	2,207,474	(93,064)	2,114,410		
Work-in-process	13,190	(1,161)	12,029		
Raw materials	984,377	(14,621)	969,756		
Supplies	142,066	-	142,066		
Materials-in-transit	408,308	<u> </u>	408,308		
Total	3,894,344	(110,558)	3,783,786		

(in millions of Korean won)	December 31, 2017				
_	Gross Amount	Valuation allowance	Carrying amount		
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	<u> </u>	324,269		
Total	3,465,602	(113,148)	3,352,454		

During the three-month period ended March 31, 2018, the cost of inventories recognized as 'cost of sales' is amounted to 43,958,339 million (2017: 44,051,200 million).

10. Investments in Associates and Joint Ventures

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

(in millions of Korean won)				March	1 31, 2018				
	Beginning balance	Acquisiti / transf		á	Share of profit (loss) of associates and joint ventures	Share of other comprehensive income of associates and joint ventures	Others		nding alance
LG VINA Chemical Co., Ltd.	3,32	27	_	_	197	(259)		-	3,265
HL Greenpower Co., Ltd.	20,24		-	-	-	-		-	20,240
LG Holdings (HK) Ltd.	51,02		-	_	1,116	1,725		_	53,870
TECWIN Co., Ltd.	8,00		-	_	1,818	, -		_	9,826
SEETEC Co., Ltd. LG Chem BRASIL INTERMEDIACAO DE NEGOCIOS DO SETOR	146,74		-	(10,000)	1,626	-	,	91	138,458
QUIMICO LTDA. LG Chem Malaysia	57	79	-	-	-	-		-	579
SDN.BHD	15	50	-	_	_	_		_	150
LG Fuel Cell Systems Inc.	30,33		_	_	(3,925)	116		59	26,584
FJ Composite Materials Co.,	55,5				(=,===)				
LTD.	2,66	69	-	-	(47)	80		-	2,702
WUXI CL New Energy									
Technology Ltd.	1,00	02	559	-	(42)	39		-	1,558
LG Life Sciences Poland Ltd.		17							17
Combustion Synthesis Co.,		17	-	-	-	-		-	17
Ltd. ¹			1,503	_	_	_		_	1,503
	264,09			(10,000)	743	1,701	1	50	258,752
						cember 31, 2017			
(in millions of Korean won)					ecember 31, 201 Share of	7			
(in millions of Korean won)	Beginning balance	Business combination	Acquisitions / transfer		Share of profit (loss) of associates and joint	Share of other comprehensive income of associates and joint ventures	Changes in ownership of associates	Others	Ending balance
	balance		•	Dividend	Share of profit (loss) of associates and joint ventures	Share of other comprehensive income of associates and joint ventures	in ownership of	Others	balance
LG VINA Chemical Co., Ltd.	balance 3,874		•		Share of profit (loss) of associates and joint ventures	Share of other comprehensive income of associates and	in ownership of	-	balance 3,327
LG VINA Chemical Co., Ltd. HL Greenpower Co., Ltd.	3,874 16,927		•	Dividend	Share of profit (loss) of associates and joint ventures) 753 - 3,010	Share of other comprehensive income of associates and joint ventures	in ownership of	303	3,327 20,240
LG VINA Chemical Co., Ltd. HL Greenpower Co., Ltd. LG Holdings (HK) Ltd.	3,874 16,927 74,843		•	Dividend	Share of profit (loss) of associates and joint ventures) 753 - 3,010 - 4,281	Share of other comprehensive income of associates and joint ventures	in ownership of	-	3,327 20,240 51,029
LG VINA Chemical Co., Ltd. HL Greenpower Co., Ltd. LG Holdings (HK) Ltd. TECWIN Co., Ltd. SEETEC Co., Ltd. LG Chem BRASIL INTERMEDIACAO DE	3,874 16,927		•	Dividend	Share of profit (loss) of associates and joint ventures) 753 - 3,010 - 4,281 - 794	Share of other comprehensive income of associates and joint ventures	in ownership of	303	3,327 20,240
LG VINA Chemical Co., Ltd. HL Greenpower Co., Ltd. LG Holdings (HK) Ltd. TECWIN Co., Ltd. SEETEC Co., Ltd. LG Chem BRASIL INTERMEDIACAO DE NEGOCIOS DO SETOR QUIMICO LTDA.	3,874 16,927 74,843 7,214		•	Dividends (846	Share of profit (loss) of associates and joint ventures) 753 - 3,010 - 4,281 - 794	Share of other comprehensive income of associates and joint ventures	in ownership of	303	3,327 20,240 51,029 8,008
LG VINA Chemical Co., Ltd. HL Greenpower Co., Ltd. LG Holdings (HK) Ltd. TECWIN Co., Ltd. SEETEC Co., Ltd. LG Chem BRASIL INTERMEDIACAO DE NEGOCIOS DO SETOR	3,874 16,927 74,843 7,214 148,333		•	Dividends (846	Share of profit (loss) of associates and joint ventures) 753 - 3,010 - 4,281 - 794	Share of other comprehensive income of associates and joint ventures	in ownership of	303	3,327 20,240 51,029 8,008 146,741
LG VINA Chemical Co., Ltd. HL Greenpower Co., Ltd. LG Holdings (HK) Ltd. TECWIN Co., Ltd. SEETEC Co., Ltd. LG Chem BRASIL INTERMEDIACAO DE NEGOCIOS DO SETOR QUIMICO LTDA. LG Chem Malaysia SDN.BHD LG Fuel Cell Systems Inc. FJ Composite Materials Co.,	3,874 16,927 74,843 7,214 148,333 579 150 8,908		/ transfer	Dividend : (846	Share of profit (loss) of associates and joint ventures) 753 - 3,010 - 4,281 - 794	Share of other comprehensive income of associates and joint ventures	in ownership of	303	3,327 20,240 51,029 8,008 146,741
LG VINA Chemical Co., Ltd. HL Greenpower Co., Ltd. LG Holdings (HK) Ltd. TECWIN Co., Ltd. SEETEC Co., Ltd. LG Chem BRASIL INTERMEDIACAO DE NEGOCIOS DO SETOR QUIMICO LTDA. LG Chem Malaysia SDN.BHD LG Fuel Cell Systems Inc. FJ Composite Materials Co., Ltd. WUXI CL New Energy	3,874 16,927 74,843 7,214 148,333 579 150 8,908	combination	/ transfer	Dividend : (846	Share of profit (loss) of associates and joint ventures) 753 - 3,010 - 4,281 - 794) 8,408	Share of other comprehensive income of associates and joint ventures (454) (8,596) -	in ownership of associates	303 (19,499) - -	3,327 20,240 51,029 8,008 146,741 579 150 30,334 2,669
LG VINA Chemical Co., Ltd. HL Greenpower Co., Ltd. LG Holdings (HK) Ltd. TECWIN Co., Ltd. SEETEC Co., Ltd. LG Chem BRASIL INTERMEDIACAO DE NEGOCIOS DO SETOR QUIMICO LTDA. LG Chem Malaysia SDN.BHD LG Fuel Cell Systems Inc. FJ Composite Materials Co., Ltd. WUXI CL New Energy Technology Ltd. LG Life Sciences Poland	3,874 16,927 74,843 7,214 148,333 579 150 8,908	combination	/ transfer	Dividend : (846	Share of profit (loss) of associates and joint ventures) 753 - 3,010 - 4,281 - 794) 8,408	Share of other comprehensive income of associates and joint ventures (454) - (8,596) (587)	in ownership of associates	303 (19,499) - -	3,327 20,240 51,029 8,008 146,741 579 150 30,334 2,669 1,002
LG VINA Chemical Co., Ltd. HL Greenpower Co., Ltd. LG Holdings (HK) Ltd. TECWIN Co., Ltd. SEETEC Co., Ltd. LG Chem BRASIL INTERMEDIACAO DE NEGOCIOS DO SETOR QUIMICO LTDA. LG Chem Malaysia SDN.BHD LG Fuel Cell Systems Inc. FJ Composite Materials Co., Ltd. WUXI CL New Energy Technology Ltd.	3,874 16,927 74,843 7,214 148,333 579 150 8,908	combination	/ transfer	Dividend : (846	Share of profit (loss) of associates and joint ventures) 753 - 3,010 - 4,281 - 794) 8,408 (10,191) - (259) - (176)	Share of other comprehensive income of associates and joint ventures (454) - (8,596) (587)	in ownership of associates	303 (19,499) - -	3,327 20,240 51,029 8,008 146,741 579 150 30,334 2,669

11. Property, Plant and Equipment

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

(in millions of Korean won)						March 31,	2018				
	Land	Buildings	Structures	Machinery	Vehicles	Tools	Equipment	Others	Construction -in-progress	Machinery -in-transit	Total
Beginning balance	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 Accumulated	-	(637,025)	(521,806)	(8,840,809)	(26,143)	(669,189)	(243,973)	(136,034)	-	-	(11,074,979)
impairment	(36,952)	(38,387)	(13,948)	(147,199)	(148)	(13,041)	(2,374)	(2,152)	(43,554)		(297,755)
Acquisitions/ Transfer	641	51,379	8,138	277,540	965	47,793	26,831	1,722	555,245	43,594	1,013,848
Disposals/ Transfer	-	(14)	(21)	(9,905)	(27)	(4,150)	(287)	(1,052)	(409,132)	(23,959)	(448,547)
Exchange differences	-	17,136	3,254	35,222	18	2,746	825	-	13,379	-	72,580
Depreciation	-	(21,374)	(11,296)	(235,674)	(763)	(33,487)	(9,610)	(17,769)	-	-	(329,973)
Impairment		(1,248)		(26)							(1,274)
Ending balance	1,568,936	2,808,467	654,704	4,236,630	13,847	416,424	123,518	56,300	1,477,369	161,921	11,518,116
Cost	1,605,888	3,512,706	1,204,297	13,488,450	40,853	1,126,427	379,954	212,255	1,520,997	161,921	23,253,748
Accumulated depreciation Accumulated	-	(664,038)	(535,339)	(9,108,091)	(26,857)	(698,116)	(254,052)	(153,803)	-	-	(11,440,296)
impairment	(36,952)	(40,201)	(14,254)	(143,729)	(149)	(11,887)	(2,384)	(2,152)	(43,628)	-	(295,336)

¹ During the three-month period ended March 31, 2018, the Group newly acquired 29.54% shares of Combustion Synthesis Co., Ltd. for ₩ 1,503 million.

(in millions of Korean won)						December 3	1, 2017				
,	Land	Buildings	Structures	Machinery	Vehicles	Tools	Equipment	Others	Construction -in-progress	Machinery -in-transit	Total
Beginning balance	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 Accumulated	-	(575,932)	(479,210)	(8,305,213)	(32,439)	(611,202)	(225,767)	(138,098)	-	-	(10,367,861)
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)				(3,036)		(1,396)	(17)				(4,449)
Ending balance	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 Accumulated	-	(637,025)	(521,806)	(8,840,809)	(26,143)	(669,189)	(243,973)	(136,034)	-	-	(11,074,979)
impairment	(36,952)	(38,387)	(13,948)	(147,199)	(148)	(13,041)	(2,374)	(2,152)	(43,554)	-	(297,755)

During the three-month period ended March 31, 2018, the Group capitalized $\mbox{$\mbox{$$\sc $\sc $}$}2,691$ million of borrowing costs (2017: $\mbox{$\mbox{$$\sc $}$}1,111$ million), which 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 2.74% (2017: 2.23%).

Line items including depreciation in the consolidated statements of profit or loss for the three-month periods ended March 31, 2018 and 2017, are as follows:

(in millions of Korean won)	2018	2017
Cost of sales	301,927	305,575
Selling and administrative expenses	27,211	23,806
Others	835	915
Total	329,973	330,296

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

(in millions of Korean won)	March 31, 2018		
	Machinery	Machinery	Construction-in- progress
Cost- capitalized finance leases	44,990	43,274	1,275
Accumulated depreciation	(14,128)	(12,952)	
Net book amount	30,862	30,322	1,275

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, were 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 (reversal) 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:

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

¹ 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.

12. Intangible Assets

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

(in millions of Korean won)	March 31, 2018								
	Development costs	Industrial property rights	Goodwill	Memberships	Others	Total			
Beginning balance Separate acquisitions/	192,046	371,381	925,593	50,806	283,329	1,823,155			
Transfer Additions – internal	27,700	12,850	-	64	9,126	49,740			
development	3,116	-	-	-	-	3,116			
Disposals/ Transfer	(2,327)	(20)	-	-	-	(2,347)			
Exchange differences	225	324	(461)	21	161	270			
Amortization	(10,289)	(7,266)			(8,542)	(26,097)			
Ending balance	210,471	377,269	925,132	50,891	284,074	1,847,837			

(in millions of Korean won)	December 31, 2017							
	Development costs	Industrial property rights	Goodwill	Memberships	Others	Total		
Beginning balance	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)		
Ending balance	192,046	371,381	925,593	50,806	283,329	1,823,155		

Line items including amortization of intangible assets for the three-month periods ended March 31, 2018 and 2017, as follows:

(in millions of Korean won)	2018	2017
Cost of sales	5,847	4,402
Selling and administrative expenses	20,250	16,810
Total	26,097	21,212

The Group recognized total research and development costs of \forall 228,648 million (2017: \forall 213,116 million) as expenses.

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

tal
Amount
-
-
20,175
-
- -
20,175

(in thousands of tons	December 31, 2017								
and millions of	201	16	201	17	Total				
Korean won)	Quantity	Amount	Quantity	Amount	Quantity	Amount			
Beginning balance	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/									
disposal	62	-	58	-	120	-			
Borrowings/ Carry									
forwards between									
years	685	-	(685)	-	_	-			
Surrendered to the									
government	(7,538)	(5,133)			(7,538)	(5,133)			
Ending balance		<u> </u>	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 March 31, 2018 and December 31, 2017, are as follows:

(in millions of Korean won)	March 31, 2018	December 31, 2017
Current		
Prepayments and prepaid expenses	169,326	129,387
Prepaid value added tax	266,231	225,790
Others	20,461	21,637
Total	456,018	376,814
Non-current		
Long-term prepayments and long-term		
prepaid expenses	103,718	104,072
Others	92	91
Total	103,810	104,163

14. Borrowings

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

(in millions of Korean won)	March 31, 2018	December 31, 2017
Current		
Short-term borrowings	1,121,463	957,868
Current-portion of long-termborrowings	286,746	318,441
Current-portion of debentures	179,896	169,878
Finance lease liabilities	5,140	5,137
	1,593,245	1,451,324
Non-current		
Long-term borrowings	531,199	518,955
Debentures	2,084,300	1,047,303
Finance lease liabilities	27,537	27,367
	2,643,036	1,593,625
Total	4,236,281	3,044,949

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

(in millions of Korean won)	Bank	Latest maturity date	Interest rate(%) as at March 31, 2018	March 31, 2018	December 31, 2017
Notes discounted ¹ (Negotiable notes)	Woori Bank, others	Nov. 29, 2018	Libor + 0.52 and others	6,106	2,504
Bank loans	Nonghyup Bank, others	June. 27, 2018	2.17 and others	1,115,357	955,364
Total				1,121,463	957,868

¹ As at March 31, 2018, trade receivables transferred to financial institutions have been collateralized for borrowings (current) (Note 7).

Details of long-term borrowings as at March 31, 2018 and December 31, 2017, are as follows:

(in millions of	March 31, 2018				
Korean won)	Bank	Annual interest rate (%)	Amount in Korean won	Current	Non-current
Borrowings in Korean won	KEB Hana Bank¹	1.75	617	353	264
Borrowings in foreign	HSBC	3LIBOR+1.05	235,798	198,455	37,343
currencies	Agricultural Bank of China	USD: Libor + 0.80 CNY: PBOC ×0.90	51,774	9,539	42,235
	Construction Bank of China	PBOC ×90%	26,860	3,909	22,951
	Communications Bank of China	PBOC	12,421	2,384	10,037
	CITI	EURIBOR + 0.90	39,365	-	39,365
	Bank of America	3LIBOR + 0.90	42,674	32,009	10,665
	ING BANK	3LIBOR + 0.83	65,608	-	65,608
	UOB	6LIBOR + 1.55	24,253	485	23,768
	Standard Chartered Bank	3LIBOR + 1.60	25,040	8,347	16,693
	Sumitomo Mitsui Banking Corporation	3LIBOR + 1.05	58,874	5,334	53,540
	Mizuho Banking Corporation	3LIBOR + 0.98	74,649	-	74,649
	BNP PARIBAS	EURIBOR + 0.80	19,684	-	19,684
	CNOOC Finance	PBOC × 90	74,150	16,968	57,182
	Hangseng	Libor + 1.0	32,008	3,201	28,807
	Bank of China	3LIBOR + 0.95	34,170	5,762	28,408
Total			817,945	286,746	531,199

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

LG Chem, Ltd. and Subsidiaries Notes to the Consolidated Interim Financial Statements March 31, 2018 and 2017 (Unaudited), and December 31, 2017

(in millions of		December 31,	2017		
Korean won)		Annual	Amount in		
	Bank	interest rate (%)	Korean won	Current	Non-current
Borrowings in Korean won	KEB Hana Bank ¹	1.75	706	353	353
Borrowings in foreign	Sumitomo Mitsui Banking Corporation	Libor + 1.05	53,463	5,346	48,117
currencies	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
Total			837,396	318,441	518,955

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

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

(in millions of Korean won)		Ma	rch 31, 2018			
		Annual	Latest	Amount in		Non
	Financial institution	interest rate (%)	maturity date	Korean won	Current	Non- current
47 th Debenture	Government Employees	3.20	2018.04.30	30,000	30,000	_
(non-guaranteed/private)		0.20	2010.04.00	00,000	00,000	
48 th Debenture	NH Investment & Securities	3.77	2019.02.21	50,000	50,000	_
(non-guaranteed/public)	Co., Ltd. and others	5		33,333	30,000	
49 th Debenture	KB Asset Management Co.,	2.82	2018.12.12	100,000	100,000	_
(non-guaranteed/private)	Ltd and others			,	,	
50-1st Debenture	NH Investment & Securities	1.95	2020.05.19	120,000	-	120,000
(non-guaranteed/public)	Co., Ltd. and others					
50-2 nd Debenture	NH Investment & Securities	2.28	2022.05.19	400,000	-	400,000
(non-guaranteed/public) 50-3 rd Debenture	Co., Ltd. and others					
	NH Investment & Securities Co., Ltd. and others	2.53	2024.05.19	280,000	-	280,000
(non-guaranteed/public) 51-1st Debenture	NH Investment & Securities					
(non-guaranteed/public)	Co., Ltd. and others	2.56	2021.02.20	190,000	-	190,000
51-2 nd Debenture	NH Investment & Securities					
(non-guaranteed/public)	Co., Ltd. and others	2.88	2023.02.20	240,000	-	240,000
51-3 rd Debenture	NH Investment & Securities					
(non-guaranteed/public)	Co., Ltd. and others	3.07	2025.02.20	270,000	-	270,000
51-4 th Debenture	NH Investment & Securities					
(non-guaranteed/public)	Co., Ltd. and others	3.29	2028.02.20	300,000	-	300,000
Debentures in Korean	NH Investment & Securities	1.93	2020.02.16	100,000	_	100,000
won (non-guaranteed)	Co., Ltd. and others 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 debentur	res			(5,804)	(104)	(5,700)
Total				2,264,196	179,896	2,084,300

(in millions of Korean won)	on) December 31, 2017			7		
		Annual	Latest	Amount in		
		interest rate	maturity	Korean		Non-
	Financial institution	(%)	date	won	Current	current
47 th Debenture	Government Employees	3.20	2018.04.30	30,000	30,000	
(non-guaranteed/private)	Pension Service and others	5.20	2010.04.30	30,000	30,000	_
48 th Debenture	NH Investment & Securities	3.77	2019.02.21	50,000	_	50,000
(non-guaranteed/public)	Co., Ltd. and others					
49 th Debenture (non-guaranteed/private)	KB Asset Management Co., Ltd and others	2.82	2018.12.12	100,000	100,000	-
50-1 st Debenture	NH Investment & Securities	4.0=	0000 05 40	400.000		400.000
(non-guaranteed/public)	Co., Ltd. and others	1.95	2020.05.19	120,000	-	120,000
50-2 nd Debenture	NH Investment & Securities	2.28	2022.05.19	400.000	_	400,000
(non-guaranteed/public)	Co., Ltd. and others	2.20	2022.00.10	100,000		100,000
50-3 rd Debenture (non-quaranteed/public)	NH Investment & Securities Co., Ltd. and others	2.53	2024.05.19	280,000	-	280,000
Debentures in Korean	IBK Securities Co., Ltd. and					
won (collateralized) ¹	others	4.70	2018.03.05	40,000	40,000	
Debentures in Korean won (non-guaranteed)	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 debentur	res			(2,819)	(122)	(2,697)
Total				1,217,181	169,878	1,047,303

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

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

(in millions of Korean won)			March 31, 2018		
	Annual	Latest			
Leaser	interest rate (%)	maturity date	Total amount	Current	Non-current
Hyundai Oil Bank	3.12	2024.12.31	31,466	4,923	26,543
Others	3.7 ~ 4.13	2023.12.31	1,211	217	994
Total			32,677	5,140	27,537
(in millions of Korean won)	December 31, 2017				
	Annual	Latest			
Leaser	interest rate (%)	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
Total			32,504	5,137	27,367

The present value of finance lease liabilities as at March 31, 2018 and December 31, 2017, is as follows:

(in millions of Korean won)	Ма	rch 31, 2018	3	December 31, 2017		
	Minimum lease payments	Future finance costs	Present value	Minimum lease payments	Future finance costs	Present value
Within 1 year	5,217	77	5,140	5,253	116	5,137
Between 1-5 years	20,710	1,866	18,844	20,710	2,006	18,704
Over 5 years	10,487	1,794	8,693	10,532	1,869	8,663

15. Provisions

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

(in millions of Korean won)			March 31, 2018		
		Greenhouse			
		gas	Legal		
	Warranty ¹	emission ²	Claims ³	Restoration ⁴	Total
Beginning balance	92,662	23,069	20,629	90,056	226,416
Additions	41,586	6,690	6,647	876	55,799
Used	(26,591)		(9,756)	(3,029)	(39,376)
Ending balance	107,657	29,759	17,520	87,903	242,839
Less : current portion	(39,148)	(29,759)		(20,595)	(89,502)
Total	68,509		17,520	67,308	153,337

(in millions of Korean won)		D	ecember 31, 201	7	
		Greenhouse			
		gas	Legal		
	Warranty ¹	emission ²	Claims ³	Restoration ⁴	Total
Beginning balance	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)
Ending balance	92,662	23,069	20,629	90,056	226,416
Less : current portion	(19,521)	(23,069)	-	(20,350)	(62,940)
Total	73,141		20,629	69,706	163,476

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

² Greenhouse gas emission provisions have been accrued for estimated expenditures to be obligated for any excess emission. The estimated emission for the three-month period ended March 31, 2018 amounts to 1,963 thousand tons (2017: 1,943 thousand tons).

³ Lawsuit provisions have been accrued for certain pending cases.

⁴ As at March 31, 2018, restoration provisions have been accrued for the estimated expenses to restore land pollutions and others.

16. Net Defined Benefit Liabilities

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

(in millions of Korean won)	March 31, 2018	December 31, 2017
Present value of defined benefit obligations ¹ Fair value of plan assets Liabilities in the consolidated interim statement	1,066,126 (848,011)	1,049,511 (868,830)
of financial position	218,115	180,681

¹ The present value of retirement benefit obligations is net of existing contributions to the National Pension Plan of ₩845 million as at March 31, 2018 (2017: ₩862 million).

The amounts recognized in the consolidated interim statements of profit or loss for the three-month periods ended March 31, 2018 and 2017, are as follows:

(in millions of Korean won)	2018	2017
Current service cost ¹	35,908	34,909
Interest cost	1,437	726
Total, included in employee benefit expenses	37,345	35,635

¹ The above amounts excluded ₩258 million (2017: ₩171 million) of expenses capitalized to construction in progress and development costs.

Post-employment benefits recognized for defined contribution plan for the three-month period ended March 31, 2018, amounted to $\forall 1,630$ million (2017: $\forall 142$ million).

Post-employment benefits recognized in the consolidated interim statements of profit or loss for the three-month periods ended March 31, 2018 and 2017, are as follows:

(in millions of Korean won)	2018	2017
Cost of sales Selling and administrative expenses Total	26,174 12,801 38,975	23,992 11,785 35,777

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

(in millions of Korean won)	March 31, 2018	December 31, 2017
Beginning balance	1,049,511	885,259
Business combination (Note 34)	-	69,693
Transfer in	2,110	7,452
Transfer out	(1,963)	(2,278)
Current service cost	36,166	137,355
Past service cost	-	656
Interest expense	8,117	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	(74)	(437)
Payments from plans	(27,741)	(68,018)
Changes in consolidation scope		(45)
Ending balance	1,066,126	1,049,511

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

Beginning balance 868,830 793,087 Business combination (Note 34) - 57,771 Transfer in - - Transfer out (538) (504) Interest income 6,680 23,604 Remeasurements: Return on plan assets (excluding amounts included in interest income) (2,663) (7,398) Contributions: Employers 4 59,288 Payments from plans (23,965) (56,106) Administrative costs (337) (912) Ending balance 848,011 868,830	(in millions of Korean won)	March 31, 2018	December 31, 2017
Transfer in - - Transfer out (538) (504) Interest income 6,680 23,604 Remeasurements: Return on plan assets (excluding amounts included in interest income) (2,663) (7,398) Contributions: Employers 4 59,288 Payments from plans (23,965) (56,106) Administrative costs (337) (912)	Beginning balance	868,830	793,087
Transfer out (538) (504) Interest income 6,680 23,604 Remeasurements: Return on plan assets (excluding amounts included in interest income) (2,663) (7,398) Contributions: Employers 4 59,288 Payments from plans (23,965) (56,106) Administrative costs (337) (912)	Business combination (Note 34)	-	57,771
Interest income 6,680 23,604 Remeasurements: Return on plan assets (excluding amounts included in interest income) (2,663) (7,398) Contributions: Employers 4 59,288 Payments from plans (23,965) (56,106) Administrative costs (337) (912)	Transfer in	-	-
Remeasurements: Return on plan assets (excluding amounts included in interest income) (2,663) (7,398) Contributions: Employers 4 59,288 Payments from plans (23,965) (56,106) Administrative costs (337) (912)	Transfer out	(538)	(504)
Return on plan assets (excluding amounts included in interest income) (2,663) (7,398) Contributions: 4 59,288 Employers 4 59,288 Payments from plans (23,965) (56,106) Administrative costs (337) (912)	Interest income	6,680	23,604
included in interest income) (2,663) (7,398) Contributions: 4 59,288 Employers 4 59,288 Payments from plans (23,965) (56,106) Administrative costs (337) (912)	Remeasurements:		
Contributions: 4 59,288 Employers 4 59,288 Payments from plans (23,965) (56,106) Administrative costs (337) (912)	Return on plan assets (excluding amounts		
Employers 4 59,288 Payments from plans (23,965) (56,106) Administrative costs (337) (912)	included in interest income)	(2,663)	(7,398)
Payments from plans (23,965) (56,106) Administrative costs (337) (912)	Contributions:		
Administrative costs (337) (912)	Employers	4	59,288
	Payments from plans	(23,965)	(56,106)
Ending balance 848.011 868.830	Administrative costs	(337)	(912)_
	Ending balance	848,011	868,830

The actual return on plan assets for the three-month period ended March 31, 2018, was 44,017 million (December 31, 2017: 416,206 million).

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

	March 31, 2018	December 31, 2017
Discount rate	3.1% ~ 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 March 31, 2018, is as follows:

(in millions of Korean won)	Increase by 1%	Decrease by 1%
Discount rate: Increase (decrease) in defined benefit obligations	(107,494)	128,722
Salary growth rate: Increase (decrease) in defined benefit obligations	125,264	(106,936)

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

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

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

Plan assets as at March 31, 2018 and December 31, 2017, consist of:

(in millions of Korean won)	March 31, 2018				
	Quoted price	Unquoted price	Total	Composition (%)	
Insurance contracts with guaranteed yield	833,563	-	833,563	98	
Equity linked bonds	11,307	-	11,307	1	
Time deposits	3,141	<u> </u>	3,141	1	
	848,011	-	848,011	100	
(in millions of Korean won)		December :	31, 2017		
(in millions of Korean won)		December	31, 2017		
	Quoted price	Unquoted price	Total	Composition (%)	
Insurance contracts with guaranteed yield	854,368	_	854,368	98	
<u>.</u> ,	00.,000		001,000	00	
Equity linked bonds	11,286	-	11,286	1	
9	•	- 	,	1 1	

17. Other Current and Non-Current Liabilities

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

(in millions of Korean won)	March 31, 2018	December 31, 2017
Current		
Advances from customers	494,997	493,595
Dividends payable	462,100	-
Withholdings	77,566	91,589
Unearned revenues	15,483	9,842
Accrued expenses	133,660	259,257
Total	1,183,806	854,283
Non-current		
Long-term accrued expenses	45,673	44,663
Long-term unearned revenues	22,405	24,237
	68,078	68,900

18. Commitments and Contingencies

- (1) As at March 31, 2018, the Parent Company and certain subsidiaries have been guaranteed from the Seoul Guarantee Insurance Company for the execution of contracts and others.
- (2) As at March 31, 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 March 31, 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 Sul	osidiaries		
	KRW	USD	KRW	USD	CNY	EUR	INR	ТНВ
Limit of bank overdraft	59,100	50	-	100	930	30	-	9
Limit of the letter of credit	32,000	378	-	290	200	2	-	_
Limit of discount of notes from export	_	1,461	-	-	-	-	-	-
Limit of payment guarantees in other foreign currency	_	60	-	-	-	-	-	-
Limit of loan arrangements	-	-	76,317	1,780	7,683	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 March 31, 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 March 31, 2018, in relation to price fixing of mobile batteries, the consumers in U.S., Canada and Israel have filed three class actions and the customers have filed four separate 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 March 31, 2018, the Parent Company and certain subsidiaries have been named as a plaintiff in 15 and 20 legal actions, respectively, involving ₩27,051 million and ₩2,743 million in claims, respectively. They have been named as a defendant in 41 and 11 legal actions, respectively, with ₩57,279 million and ₩13,779 million in claims, respectively. The ultimate outcome of these cases cannot be determined at the reporting date.
- (7) As at March 31, 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 March 31, 2018, the Parent Company has entered into payment guarantee contract of US\$ 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 435 million with financial institutions in relation to custom of imported raw materials.
- (10) As at March 31, 2018 and December 31, 2017, assets pledged as collateral for the borrowings are as follows:

(in millions of Korean won)	March 31, 2018			
,	Secured amount	Borrowings / Loan	Limit	Secured party
Other receivables	300	Non-current borrowings (Won currency)	617	KEB Hana Bank
(in millions of Korean won)	December 31, 2017 Secured Secured			
	amount	Borrowings / Loan	Limit	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
	52,300		40,706	

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

(in millions of Korean won) March 31, 2018 December 31, 2017

Property, plant and equipment 2,250,223 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.

19. Share Capital

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

(in millions of Korean won					
and in shares)	Ordinary s	shares	Preferred	shares	
	Number of shares	Share capital	Number of shares	Share capital	Share premium
January 1, 2017 Share issuance due to	66,271,100	331,356	7,628,921	38,144	897,424
business combination	4,321,243	21,606	59,879	300	1,116,614
December 31, 2017	70,592,343	352,962	7,688,800	38,444	2,014,038
March 31, 2018	70,592,343	352,962	7,688,800	38,444	2,014,038

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

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

20. Retained Earnings

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

(in millions of Korean won)	March 31, 2018	December 31, 2017
Legal reserve ¹	324,135	312,894
Discretionary reserve ²	12,541,819	11,410,610
Retained earnings before appropriation	1,242,681	2,315,746
Total	14,108,635	14,039,250

¹ 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.

21. Other Components of Equity

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

(in millions of Korean won)	March 31, 2018	December 31, 2017
Treasury shares (Note 19) Capital transactions within the Group ¹	(354,945) (7.731)	(354,945) (7.731)
Total	(362,676)	(362,676)

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

² 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.

22. Selling and Administrative Expenses

Selling and administrative expenses for the three-month periods ended March 31, 2018 and 2017, are as follows:

(in millions of Korean won)	2018	2017
Wages and salaries	192,033	184,995
Post-employment benefits (Note 16)	12,801	11,785
Employee benefits	34,106	31,957
Travel expense	13,270	11,461
Water & utilities	13,694	10,396
Packaging expense	1,994	1,422
Rental expenses	20,313	19,893
Commission expenses	94,365	79,466
Depreciation (Note 11)	27,214	23,814
Advertising expense	5,507	5,185
Freight expenses	132,886	128,233
Training expense	3,976	3,128
Amortization (Note 12)	20,250	16,810
Sample expense	4,080	4,076
Development costs	39,365	27,712
Others	74,866	56,374
Total	690,720	616,707

23. Breakdown of Expenses by Nature

Cost of sales, and selling and administrative expenses by nature for the three-month periods ended March 31, 2018 and 2017, consist of:

(in millions of Korean won)	2018	2017
Changes in inventories of merchandise, finished goods, semi-finished goods and	40-1.10	(27 - 27)
work in process	(254,491)	(95,795)
Raw materials and consumables used	3,917,501	3,825,315
Purchase of merchandise	295,329	321,680
Employee benefit expenses (Note 24)	560,789	542,881
Advertising expenses	5,710	5,345
Freight expenses	142,870	137,500
Commission expenses	156,258	129,404
Depreciation and amortization	355,238	350,601
Operating lease payments	23,448	21,802
Other expenses	700,097	451,027
Total	5,902,749	5,689,760

24. Employee Benefit Expenses

Details of employee benefit expenses for the three-month periods ended March 31, 2018 and 2017, are as follows:

(in millions of Korean won)	2018	2017
Salaries Post-employment benefits – Defined benefit plan (Note 16)	471,273 37,345	458,452 35,635
Post-employment benefits – Defined contribution plan (Note 16)	1,630	142
Others	50,541	48,652
Total	560,789	542,881

25. Finance Income and Costs

Details of finance income and costs for the three-month periods ended March 31, 2018 and 2017, are as follows:

(in millions of Korean won)	2018	2017
Finance income		
Interest income ¹	11,264	7,466
Dividend income	-	196
Gain on foreign exchange	35,649	43,594
Gain on foreign currency translation	34,514	11,629
Gain on disposal of hedging derivatives	-	170
Total	81,427	63,055
Finance costs		
Interest expense ²	25,579	27,088
Loss on foreign exchange	35,834	73,348
Loss on foreign exchange translations	6,084	6,861
Loss on redemption of debentures	13	-
Total	67,510	107,297

¹ Details of interest income for the three-month periods ended March 31, 2018 and 2017, are as follows:

(in millions of Korean won)	2018	2017
Deposits held by financial institutions	9,843	6,501
Non-current financial assets	-	5
Other loans and receivables	1,421	960
Total	11,264	7,466

² Details of interest expense for the three-month periods ended March 31, 2018 and 2017, are as follows:

(in millions of Korean won)	2018	2017
Interest on bank overdraft and borrowings	9,870	20,916
Interest on finance lease liabilities	253	737
Interest on debentures	16,747	5,033
Other interest expenses	1,400	1,513
Capitalized interest for qualifying assets	(2,691)	(1,111)
Total	25,579	27,088

26. Other Non-Operating Income

Details of other non-operating income for the three-month periods ended March 31, 2018 and 2017, are as follows:

(in millions of Korean won)	2018	2017
Gain on foreign exchange	54,308	121,089
Gain on foreign currency translation	18,710	51,291
Gain on disposal of property, plant and equipment	135	757
Gain on disposal of intangible assets	-	4,867
Others	6,072	31,560
Total	79,225	209,564

27. Other Non-Operating Expenses

Details of other non-operating expenses for the three-month periods ended March 31, 2018 and 2017, are as follows:

(in millions of Korean won)	2018	2017
Loss on foreign exchange	43,403	120,454
Loss on foreign currency translation	20,268	70,738
Loss on disposal of property, plant and equipment	13,210	21,134
Loss on disposal of intangible assets	49	788
Impairment loss on property, plant and equipment (Note 11)	1,274	12,762
Impairment loss on intangible assets (Note 12)	-	3,149
Donations	3,496	3,741
Others	9,830	34,394
Total	91,530	267,160

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 23.1% (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 periods ended March 31, 2018 and 2017, is computed as follows:

Basic earnings per ordinary share

(in millions of Korean won and in number of shares)	2018	2017
Profit attributable to ordinary shares ¹ Weighted average number of ordinary shares outstanding ² Basic earnings per ordinary shares (in won)	478,050 68,939,927 6,934	478,177 68,941,301 6,936
Basic earnings per preferred share		
(in millions of Korean won and in number of shares)	2018	2017
Profit attributable to preferred shares ¹ Weighted average number of preferred shares outstanding ² Basic earnings per preferred shares (in won)	53,299 7,672,433 6,947	53,313 7,672,525 6,949
¹ Profit attributable to ordinary and preferred shares are as follows	:	
(in millions of Korean won)	2018	2017
Profit attributable to the equity holders of the Parent Company Ordinary shares dividends (A) Preferred shares dividends (B) Undistributed earnings for the year Undistributed earnings available for ordinary shares (C) Undistributed earnings available for preferred shares (D)	531,349 103,410 11,605 416,334 374,640 41,694	531,490 86,177 9,687 435,626 392,000 43,626
Profit for the year attributable to ordinary shares (A+C)	478,050	478,177

53,299

53,313

Profit for the year attributable to preferred shares (B+D)

² Weighted average numbers of shares are calculated as follows:

		2018			
Ordinary shares		Number of	Number of	Number of shares x	
outstanding	Period	shares	days	days	
Beginning balance	2018. 1. 1 - 2018. 3. 31	68,939,927	90	6,204,593,430	
Total				6,204,593,430	

Weighted average number of ordinary shares outstanding: 6,204,593,430 / 90 = 68,939,927 shares

		2018			
Preferred shares		Number of	Number of	Number of shares x	
outstanding	Period	shares	days	days	
Beginning balance	2018. 1. 1 - 2018. 3. 31	7,672,433	90	690,518,970	
Total				690,518,970	

Weighted average number of preferred shares outstanding: 690,518,970 / 90 = 7,672,433 shares

Ordinary shares outstanding		2017	7	
	Period	Number of shares	Number of days	Number of shares x days
Beginning balance Share issuance due to	2017. 1. 1 - 2017. 3. 31	65,911,305	90	5,932,017,450
business combination	2017. 1. 1 - 2017. 3. 31	4,321,243	90	388,911,870
Purchase of treasury shares	2017. 1. 1 - 2017. 3. 31	(1,284,891)	90	(115,640,190)
Purchase of treasury shares	2017. 1. 17 - 2017. 3. 31	(7,730)	74	(572,020)
Total				6,204,717,110

Weighted average number of ordinary shares outstanding: 6,204,717,110 / 90 = 68,941,301 shares

2017						
Period	Number of shares	Number of days	Number of shares x days			
2017. 1. 1 - 2017. 3. 31	7,623,402	90	686,106,180			
2017. 1. 1 - 2017. 3. 31	59,879	90	5,389,110			
2017. 1. 1 - 2017. 3. 31	(10,328)	90	(929,520)			
2017. 1. 17 - 2017. 3. 31	(520)	74	(38,480) 690,527,290			
	2017. 1. 1 - 2017. 3. 31 2017. 1. 1 - 2017. 3. 31 2017. 1. 1 - 2017. 3. 31	Period Shares 2017. 1. 1 - 2017. 3. 31 7,623,402 2017. 1. 1 - 2017. 3. 31 59,879 2017. 1. 1 - 2017. 3. 31 (10,328)	Period shares days 2017. 1. 1 - 2017. 3. 31 7,623,402 90 2017. 1. 1 - 2017. 3. 31 59,879 90 2017. 1. 1 - 2017. 3. 31 (10,328) 90			

Weighted average number of preferred shares outstanding: 690,527,290 / 90 = 7,672,525 shares

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

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 March 31, 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 March 31, 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 ¹
LG Electronics, Inc.	LG Innotek Co., Ltd. and others	Inspur LG Digital Mobile Communications Co., Ltd. and others	LG Enterprise group ¹
LG International Corp.	Pantos Logistics Co., Ltd. and others	LG International (Japan) Ltd. and others	LG Enterprise group ¹
LG Hausys, Ltd.	-	LG Hausys Tianjin Co., Ltd. and others	LG Enterprise group ¹
LG Household & Health Care Ltd.	Coca-Cola Beverage Co.	-	LG Enterprise group ¹
LG Uplus Corp.	-	-	LG Enterprise group ¹
G Ⅱ R Inc.	HS AD Inc.	-	LG Enterprise group ¹
Silicon Works Co., Ltd.	-	-	LG Enterprise group ¹

¹ 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.

Sales and purchases with related parties for the three-month periods ended March 31, 2018 and 2017, are as follows:

(in millions of Korean won)	2018				
		P	urchase and others		
	Sales and others	Purchase of raw materials /merchandises	Acquisition of property, plant and equipment and intangible assets	Others	
Entity with a significant influence over the Group					
LG Corp.	-	-	-	15,723	
Associates and joint ventures					
SEETEC Co., Ltd.	5,270	29,259	-	20,185	
TECWIN Co., Ltd.	-	96	1,021	4	
HL Greenpower Co., Ltd.	70,346	-	-	-	
Others	8	-	-	767	
Other related parties					
LG MMA Corporation	30,781	64,723	-	2,086	
SERVEONE and its subsidiaries	3,332	131,112	101,383	40,250	
LG CNS Co., Ltd. and its subsidiaries	31,331	102	31,055	24,267	
Others	-	-	-	4,317	
Others					
LG Display Co., Ltd. and its subsidiaries	296,701	-	1,564	-	
LG Electronics Inc. and its subsidiaries	241,350	74,629	112,837	7,113	
LG International Corp. and its subsidiaries	74,767	137,436	485	88,626	
LG Hausys, Ltd. and its subsidiaries	52,733	628	-	2,009	
Others	3,944	7,235	367	2,298	
Total	810,563	445,220	248,712	207,645	

(in millions of Korean won)	2017				
		P	urchase and others		
	Sales and others	Purchase of raw materials /merchandises	Acquisition of property, plant and equipment and intangible assets	Others	
Entity with a significant influence over the Group					
LG Corp.	-	-	-	15,219	
Associates and joint ventures					
SEETEC Co., Ltd.	5,269	28,666	-	24,313	
TECWIN Co., Ltd.	-	122	1,003	5	
HL Greenpower Co., Ltd.	49,160	-	-	-	
Others	7	-	-	674	
Other related parties					
LG MMA Corporation	19,921	52,691	-	1,882	
SERVEONE and its subsidiaries	3,202	122,737	84,013	29,793	
LG CNS Co., Ltd. and its subsidiaries	2,477	39	12,888	14,800	
Others	4	-	-	3,341	
Others					
LG Display Co., Ltd. and its subsidiaries	330,244	-	-	5	
LG Electronics Inc. and its subsidiaries	240,194	56,489	23,123	4,284	
LG International Corp. and its subsidiaries	88,504	127,170	2	84,495	
LG Hausys, Ltd. and its subsidiaries	54,342	2,291	-	2,016	
Others	9,824	7,441	333	1,562	
Total	803,148	397,646	121,362	182,389	

Balances of receivables and payables arising from sales and purchases of goods and services as at March 31, 2018 and December 31, 2017, are as follows:

(in millions of Korean won)	March 31, 2018					
	Receivables					
	Trade receivables and others	Loan receivables	Other receivables	Total		
Entity with a significant influence over the Group						
LG Corp.	-	-	11,279	11,279		
Associates and joint ventures						
SEETEC Co., Ltd.	1,134	-	249	1,383		
TECWIN Co., Ltd.	-	-	-	-		
HL Greenpower Co., Ltd.	69,912	-	-	69,912		
Others	-	-	24	24		
Other related parties						
LG MMA Corporation	10,457	-	452	10,909		
SERVEONE and its subsidiaries	2,330	-	27,948	30,278		
LG CNS Co., Ltd. and its subsidiaries	45,925	-	-	45,925		
Others	-	-	4,893	4,893		
Others						
LG Display Co., Ltd. and its subsidiaries	220,327	-	2,431	222,758		
LG Electronics Inc. and its subsidiaries	209,817	-	23,742	233,559		
LG International Corp. and its subsidiaries	47,168	-	711	47,879		
LG Hausys, Ltd. and its subsidiaries	40,014	-	264	40,278		
Others	184	-	1,182	1,366		
Total	647,268	_	73,175	720,443		

(in millions of Korean won)	March 31, 2018					
		Payab	oles			
	Trade payables	Borrowings	Other payables	Total		
Entity with a significant influence over the Group						
LG Corp.	-	-	156,149	156,149		
Associates and joint ventures						
SEETEC Co., Ltd.	10,074	-	10,286	20,360		
TECWIN Co., Ltd.	-	-	1,231	1,231		
HL Greenpower Co., Ltd.	-	-	-	-		
Others	-	-	58	58		
Other related parties						
LG MMA Corporation	19,440	-	-	19,440		
SERVEONE and its subsidiaries	70,840	-	272,022	342,862		
LG CNS Co., Ltd. and its subsidiaries	170	-	97,421	97,591		
Others	-	-	1,208	1,208		
Others						
LG Display Co., Ltd. and its subsidiaries	-	-	6,148	6,148		
LG Electronics Inc. and its subsidiaries	184,188	-	25,269	209,457		
LG International Corp. and its subsidiaries	39,265	-	48,831	88,096		
LG Hausys, Ltd. and its subsidiaries	1,531	-	667	2,198		
Others	2,836		7,256	10,092		
Total	328,344		626,546	954,890		

(in millions of Korean won)	December 31, 2017				
		Receiva	ables		
	Trade receivables and others	Loan receivables	Other receivables	Total	
Entity with a significant influence over the Group					
LG Corp.	-	_	9,183	9,183	
Associates and joint ventures			5,123	2,122	
SEETEC Co., Ltd.	1,752	-	279	2,031	
TECWIN Co., Ltd.	-	_	<u>-</u>	-	
HL Greenpower Co., Ltd.	60,726	-	-	60,726	
Others	16	-	-	16	
Other related parties					
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	
Others					
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	
Total	710,991		96,319	807,310	
(in millions of Korean won)		December	31. 2017		
(III III III III III III III III III II		Payab			
	Trade payables	Borrowings	Other payables	Total	
Entity with a ciamificant influence area the Craun					
Entity with a significant influence over the Group LG Corp.			7,897	7,897	
Associates and joint ventures	-	-	7,097	7,097	
SEETEC Co., Ltd.	10,698	_	10,759	21,457	
TECWIN Co., Ltd.	10,000	_	2,195	2,195	
HL Greenpower Co., Ltd.		_	2,100	2,100	
Others	_	_	_	_	
Other related parties					
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	
Others					
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	

Total

199,876 -

765,467

965,343

Fund transactions with related parties for the three-month periods ended March 31, 2018 and 2017, are as follows:

(in millions of Korean won)	20	18	2017		
	Equity contributions in cash (capital reduction)	Loan (Repayment)	Equity contributions in cash (capital reduction)	Loan (Repayment)	
Associates and joint ventures					
FJ Composite Materials Co., Ltd.	-	-	3,015	-	
WUXI CL New Energy Technology Ltd.	559				
Total	559		3,015		

Dividends received from related parties for the three-month periods ended March 31, 2018 and 2017, are as follows:

(in millions of Korean won)	2018	2017
Associates and joint ventures		
SEETEC Co., Ltd.	10,000	10,000
Total	10,000	10,000

There are no dividends paid by the Group to related parties for the three-month periods ended March 31, 2018 and 2017.

Compensation for key management of the Group for the three-month periods ended March 31, 2018 and 2017, consists of:

(in millions of Korean won)	2018	2017
Short-term employee benefits	16,902	21,354
Post-employment benefits	1,412	884
Total	18,314	22,238

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 March 31, 2018.

As at March 31, 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 three-month periods ended March 31, 2018 and 2017, is as follows:

(in millions of Korean won)	2018	2017
Profit before income tax	653,196	698,301
Adjustments for:		
Depreciation	329,141	329,389
Amortization	26,097	21,212
Post-employment benefits	37,345	35,635
Finance income	(64,489)	(67,338)
Finance costs	51,932	106,035
Foreign exchange differences	(136)	(57,671)
Loss on valuation of inventories	(6,027)	(3,569)
Gain on disposal of property, plant and equipment	(135)	(757)
Gain on disposal of intangible assets	-	(4,867)
Loss on disposal of property, plant and equipment	13,210	21,134
Loss on disposal of intangible assets	49	788
Impairment loss on property, plant and equipment	1,274	12,762
Impairment loss on intangible assets	-	3,149
Additions to provisions	55,799	42,953
Other expense (income)	2,945	(16,337)
Increase in inventories	(394,396)	(220,199)
Increase in trade receivables	(225,552)	(468,546)
Decrease (increase) in other receivables	38,963	(11,263)
Increase in other current assets	(25,832)	(36,952)
Increase in settlement of derivatives	-	(2,114)
Increase (decrease) in trade payables	(42,277)	116,876
Decrease in other payables	(184,555)	(56,203)
Decrease in other current liabilities	(144,401)	(106,488)
Decrease in provisions	(2,758)	(14,443)
Decrease in net defined benefit liabilities	(39,376)	(3,176)
Other cash flows from operations	(5,171)	8,319
Cash generated from operations	74,846	326,630

Changes in liabilities arising from financial activities for the three-month period ended March 31, 2018, are as follows:

(in millions of Korean wo	on)	2018					
	At January 1, 2018	Cash flows from financing activities	Exchange differences	Amortization (transfer)	Reclassification of current portion	Effect of change in exchange rate	At March 31, 2018
Short-term borrowings	1,451,324	83,765	(10,809)	-	50,191	18,774	1,593,245
Long-term borrowings	546,322	43,557	(18,135)	-	(47,188)	34,180	558,736
Debentures	1,047,303	1,042,985		(2,985)	(3,003)		2,084,300
Total	3,044,949	1,170,307	(28,944)	(2,985)		52,954	4,236,281

The significant non-cash transactions for the three-month periods ended March 31, 2018 and 2017, are as follows:

(in millions of Korean won)	2018	2017
Transfer of construction-in-progress	409,132	305,744
Transfer of machinery-in-transit	23,959	32,257
Reclassification of long-term borrowings into current portion	50,044	86,329
Reclassification of asset held for sale	-	2,404
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 ¹	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 ²	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

¹ The Group presents IT & Electronic materials and Advanced materials as Advanced materials business has been included in IT & Electronic materials since 2017. The comparative information was restated to reflect such changes.

² 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 three-month periods ended March 31, 2018 and 2017, is as follows:

(in millions of			2018			
Korean won)	Basic materials & Chemicals	Energy solutions	IT & Electronic materials and Advanced materials	Life sciences	Common and others ³	Total
Total segment revenue	4,359,078	1,244,497	759,230	131,149	239,729	6,733,683
Inter-segment revenue Revenue from external	66,731	-	112,362	743	257	180,093
customers ¹	4,292,347	1,244,497	646,868	130,406	239,472	6,553,590
Operating profit (loss) ²	636,944	2,060	(9,682)	7,034	14,485	650,841
(in millions of			2017			
Korean won)	Basic materials & Chemicals	Energy solutions	IT & Electronic materials and Advanced materials	Life sciences	Common and others ³	Total
Total segment revenue	4,495,295	999,369	727,043	129,441	256,060	6,607,208
Inter-segment revenue Revenue from external	46,127	-	70,300	91	4,022	120,540
customers ¹	4,449,168	999,369	656,743	129,350	252,038	6,486,668
Operating profit (loss) 2	733,705	(10,352)	29,336	20,580	23,639	796,908

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

² Management assesses the performance of the operating segments based on a measurement of operating profit of segment.

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

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

(in millions of			March 31,	2018		
Korean won)	Basic materials & Chemicals	Energy solutions	IT & Electronic materials and Advanced materials	Life sciences	Common and others	Total
Reportable segment asset ¹ Investments in associates and joint	9,579,758	5,845,500	3,480,557	1,811,460	5,698,224	26,415,499
ventures	3,995	21,796	-	17	232,944	258,752
Reportable segment liability ¹	3,507,466	2,352,961	743,858	375,318	2,925,656	9,905,259
(in millions of			December 3°	1, 2017		
(in millions of Korean won)	Basic materials & Chemicals	Energy solutions	December 3' IT & Electronic materials and Advanced materials	Life sciences	Common and others	Total
Korean won) Reportable segment asset ¹ Investments in	materials &	0,	IT & Electronic materials and Advanced	Life		Total 25,041,221
Korean won) Reportable segment asset ¹	materials & Chemicals	solutions	IT & Electronic materials and Advanced materials	Life sciences	and others	

¹ 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 three-month periods ended March 31, 2018 and 2017, and as at March 31, 2018 and December 31, 2017, are as follows:

(in millions of Korean won)	Sales	;	Non-curre	nt assets¹
	2018	2017	March 31, 2018	December 31, 2017
Korea ²	2,162,313	2,183,606	10,768,690	10,618,989
China	2,130,518	2,172,330	2,006,764	1,887,324
Asia	1,149,692	1,223,266	33,202	31,671
America	371,138	341,528	274,079	235,481
Europe	658,053	484,963	284,242	262,199
Others	81,876	80,975	-	-
Total	6,553,590	6,486,668	13,366,977	13,035,664

¹ Represents aggregate amount of property, plant and equipment, intangible assets and investment properties.

² Domestic sales include the exports made through local letters of credit.

There is no single external customer contributes over 10% of the Group's revenue for the threemonth periods ended March 31, 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.

(in millions of Korean won)	Amount
Consideration	
Equity securities	
(Ordinary 4,321,243 shares, Preferred 59,879 shares) ¹	1,138,593
Total consideration	1,138,593
Recognized amounts of identifiable assets acquired and liabilities assumed	
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) ¹	337,211
Fair value of identifiable net assets	452,364
Goodwill	686,229
Total	1,138,593

¹ 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.

35. Assets Held for sale

The Group decided to dispose of Electrolyte business, 2CCL business and others with 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 was acquired during the course of the business combination of FarmHannong Co., Ltd., are also included. The disposal is expected to be completed in 2018.

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

(in millions of Korean won)	March 31, 2018	December 31, 2017
Assets of disposal group		
Property, plant and equipment	5,486	5,486
Intangible assets	358	358
Other receivables and others	741	751
Total	6,585	6,595
Liabilities of disposal group		
Other payables and others	35	31_
Total	35	31

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 three-month periods ended March 31, 2018 and 2017, is as follows:

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

36. Event after the Reporting Period

With the approval of the Board of Directors on April 10, 2018, the Group decided the issuance of the 1-1st and 1-2nd registered non-guaranteed overseas exchangeable bonds and issued the 1-1st of $\mbox{$W234,850$}$ million and 1-2nd of $\mbox{$W$}$ 414,655 million, respectively and $\mbox{$W$}$ 649,505 million in total. The exchange period is from May 27, 2018 to April 6, 2021 and the maturity date is April 16, 2021.