

LG Chem, Ltd.

**Separate Financial Statements and
Internal Control over Financial Reporting
December 31, 2020 and 2019**

LG Chem, Ltd.
Index
December 31, 2020 and 2019

	Page(s)
Independent Auditor's Report	1 - 4
Separate Financial Statements	
Separate Statements of Financial Position	5 - 6
Separate Statements of Profit or Loss	7
Separate Statements of Comprehensive Income	8
Separate Statements of Changes in Equity	9
Separate Statements of Cash Flows	10
Notes to the Separate Financial Statements	11 – 97
Report on Independent Auditor's Audit of Internal Control over Financial Reporting	98 - 99
Report on the Effectiveness of the Internal Control over Financial Reporting	100



Independent Auditor's Report

(English Translation of a Report Originally Issued in Korean)

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

Opinion

We have audited the accompanying separate financial statements of LG Chem, Ltd. (the Company), which comprise the separate statements of financial position as at December 31, 2020 and 2019, and separate statements of profit or loss, separate statements of comprehensive income, separate statements of changes in equity and separate statements of cash flows for the years then ended, and notes to the separate financial statements, including a summary of significant accounting policies and other explanatory information.

In our opinion, the accompanying separate financial statements present fairly, in all material respects, the separate financial position of LG Chem, Ltd. as at December 31, 2020 and 2019, and its separate financial performance and its separate cash flows for the years then ended in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS).

We also have audited, in accordance with Korean Standards on Auditing, the Company's Internal Control over Financial Reporting as of December 31, 2020, based on Conceptual Framework for Designing and Operating Internal Control over Financial Reporting, and our report dated March 11, 2021 expressed an unqualified opinion.

Basis for Opinion

We conducted our audits in accordance with Korean Standards on Auditing. Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are independent of the Company in accordance with the ethical requirements of the Republic of Korea that are relevant to our audit of the separate financial statements and we have fulfilled our other ethical responsibilities in accordance with the ethical requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Emphasis of Matter

Without modifying our opinion, we draw attention to Note 4 to the separate financial statements. Note 4 to the separate financial statements describes management's plans and action taken to resolve uncertainty relating to the impact of Coronavirus disease 2019 (COVID-19) on the Group's productivity and ability to satisfy customer's orders, and to solve these events or circumstances.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the separate financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

(1) Goodwill impairment assessment for Life Sciences Cash Generating Unit

Why this matter was determined to be a key audit matter

We focused on goodwill impairment assessment due to the significance of size of goodwill balance (₩723,756 million as at December 31, 2020) and because the measurement of the 'recoverable amount' of the Group's Cash Generating Units (CGUs) involves management's judgements about the future results of the business, discount rate and adjustments arising from the perspective of market participants. Details are described in Note 12.

In particular, we focused our audit effort on the goodwill recognized in relation to the Life Sciences CGU (₩686,229 million as at December 31, 2020) which is the most significant element among all relevant CGUs with goodwill. The Life Sciences business was acquired by the Group in 2017 and has not recognized impairment on goodwill since then. We focused on this area due to the significance of size of goodwill balance

How this matter was addressed the in our audit

Audit procedures we performed to address this key audit matter include:

- Understanding, evaluation and testing of the design and operating effectiveness of relevant internal controls in place in connection with impairment assessment of goodwill including review and approval by management of future cash flow forecasts and assumptions applied in the assessment.
- Evaluation of valuation model used by management to estimate value-in-use.
- Comparison of future cash flow forecasts used to estimate value-in-use with the budgets approved by the management except for the cash flows relating to specific fixed assets adjusted from the perspective of market participants.
- Comparison of the current year actual results with the prior year forecasts to assess whether management's forecasts include optimistic assumptions.
- Evaluation of management's assumptions used to estimate value-in-use.
 - Comparison of estimated revenue growth rate, operating margin rate and capital expenditures applied to estimate value-in-use with historical performances of the CGU and the current market condition to evaluate whether applied assumptions are consistent.
 - Evaluation of long-term growth rate by considering economic and industry forecasts
 - Comparison of the discount rate used by the management with the discount rate independently calculated by us using observable information in the market.

- Evaluation of CGUs identification and testing of book values allocated to CGUs
- Evaluation of sensitivity analysis performed by management on the discount rate and terminal growth rate

Other Matter

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

Responsibilities of Management and Those Charged with Governance for the Financial Statements

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

In preparing the separate financial statements, management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Company or to cease operations.

Those charged with governance are responsible for overseeing the Company's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the separate financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Korean Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Korean Standards on Auditing, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the separate financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the separate financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the separate financial statements, including the disclosures, and whether the separate financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the separate financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditor's report is Kibok Lee, Certified Public Accountant.

Seoul, Korea

March 11, 2021

This report is effective as of March 11, 2021, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying separate financial statements and notes thereto. Accordingly, the readers of the audit report should understand that there is a possibility that the above audit report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

LG Chem, Ltd.
Separate Statements of Financial Position
December 31, 2020 and 2019

<i>(in millions of Korean won)</i>	Notes	2020	2019
Assets			
Current assets			
Cash and cash equivalents	3, 5, 6	852,668	1,002,263
Trade receivables	3, 5, 7, 31	2,198,988	3,981,935
Other receivables	3, 5, 7, 31	145,612	366,141
Prepaid income taxes		-	110,525
Other current financial assets	3, 5, 8	-	10,879
Other current assets	13	119,288	207,596
Inventories	9	1,591,578	2,670,294
Assets held for sale	34	26,150	-
Total current assets		4,934,284	8,349,633
Non-current assets			
Other receivables	3, 5, 7	158,566	505,489
Other financial assets	3, 5, 8	51,699	135,922
Investments in subsidiaries	10	8,793,551	5,151,116
Investments in associates and joint ventures	10	157,642	198,967
Deferred income tax assets	28	-	281,828
Property, plant and equipment	11	10,096,185	10,621,415
Intangible assets	12	1,630,149	1,680,815
Investment properties	36	22,803	53,328
Other non-current assets	13	5,271	48,573
Total non-current assets		20,915,866	18,677,453
Total assets		25,850,150	27,027,086
Liabilities			
Current liabilities			
Trade payables	3, 5, 31	877,035	1,738,053
Other payables	3, 5, 31	3,192,441	2,199,997
Borrowings	3, 5, 14	256,561	149,126
Other financial liabilities	3, 5, 8	18,015	27,194
Provisions	15	13,448	448,662
Income tax payables		205,375	-
Other current liabilities	17	345,330	413,248
Total current liabilities		4,908,205	4,976,280
Non-current liabilities			
Other payables	3, 5	4,226	8,233
Borrowings	3, 5, 14	3,277,409	5,174,881
Other financial liabilities	3, 5, 8	-	930
Provisions	15	22,889	114,593
Net defined benefit liabilities	16	58,265	159,182
Deferred income tax liabilities	28	559,817	-
Other non-current liabilities	17	55,834	132,757

LG Chem, Ltd.
Separate Statements of Financial Position
December 31, 2020 and 2019

<i>(in millions of Korean won)</i>	Notes	2020	2019
Total non-current liabilities		<u>3,978,440</u>	<u>5,590,576</u>
Total liabilities		<u>8,886,645</u>	<u>10,566,856</u>
Equity			
Share capital	1, 19	391,406	391,406
Capital surplus		2,701,242	2,283,378
Other components of equity	21	(35,699)	(354,945)
Accumulated other comprehensive income		15,495	28,797
Retained earnings	20	<u>13,891,061</u>	<u>14,111,594</u>
Total equity		<u>16,963,505</u>	<u>16,460,230</u>
Total liabilities and equity		<u>25,850,150</u>	<u>27,027,086</u>

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

LG Chem, Ltd.
Separate Statements of Profit or Loss
Years Ended December 31, 2020 and 2019

<i>(in millions of Korean won, except per share amounts)</i>	Notes	2020	2019
Revenue	31	20,830,009	21,809,592
Cost of sales	23, 31	<u>(16,483,775)</u>	<u>(17,844,346)</u>
Gross profit		4,346,234	3,965,246
Selling and administrative expenses	22, 23, 31	<u>(3,231,797)</u>	<u>(3,341,081)</u>
Operating profit		1,114,437	624,165
Finance income	25	421,562	328,468
Finance costs	25	(782,028)	(275,662)
Other non-operating income	26	834,210	380,791
Other non-operating expenses	27	<u>(765,000)</u>	<u>(502,523)</u>
Profit before income tax	32	823,181	555,239
Income tax expense		<u>(840,780)</u>	<u>(99,507)</u>
Profit (loss) from continuing operations		<u>(17,599)</u>	<u>455,732</u>
Loss from discontinued operations	34	<u>(80,624)</u>	<u>(89,808)</u>
Profit (loss) for the year		<u>(98,223)</u>	<u>365,924</u>
Earnings (losses) per share for profit from continuing operations (in won)	29		
Basic earnings (losses) per ordinary share		(234)	5,944
Basic earnings (losses) per preferred share		(184)	5,994
Diluted earnings (losses) per ordinary share		(234)	5,679
Diluted earnings (losses) per preferred share		(184)	5,729
Earnings (losses) per share (in won)			
Basic earnings (losses) per ordinary share		(1,283)	4,771
Basic earnings (losses) per preferred share		(1,233)	4,821
Diluted earnings (losses) per ordinary share		(1,283)	4,527
Diluted earnings (losses) per preferred share		(1,233)	4,577

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

LG Chem, Ltd.
Separate Statements of Comprehensive Income
Years Ended December 31, 2020 and 2019

(in millions of Korean won)

	Notes	2020	2019
Profit (loss) for the year		<u>(98,223)</u>	<u>365,924</u>
Other comprehensive income			
<i>Items that will not be reclassified to profit or loss</i>		17,585	(24,432)
Remeasurements of net defined benefit liability	16	21,231	(68,778)
Gain on valuation of financial assets at fair value through other comprehensive income		3,025	35,079
Income tax relating to these items		(6,671)	9,267
<i>Items that may be subsequently reclassified to profit or loss</i>		411	28,890
Cash flow hedges		567	39,848
Income tax relating to these items		(156)	(10,958)
Other comprehensive income for the year, net of tax		<u>17,996</u>	<u>4,458</u>
Total comprehensive income (loss) for the year		<u>(80,227)</u>	<u>370,382</u>

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

LG Chem, Ltd.
Separate Statements of Changes in Equity
Years Ended December 31, 2020 and 2019

<i>(in millions of Korean won)</i>	Notes	Share capital	Capital surplus	Other components of equity	Accumulated other comprehensive income	Retained earnings	Total equity
Balance at January 1, 2019		391,406	2,283,378	(354,945)	(25,525)	14,255,592	16,549,906
Comprehensive income							
Profit for the year		-	-	-	-	365,924	365,924
Remeasurements of net defined benefit liability	16	-	-	-	-	(49,864)	(49,864)
Gain on valuation of financial assets at fair value through other comprehensive income		-	-	-	25,432	-	25,432
Cash flow hedges		-	-	-	28,890	-	28,890
Total comprehensive income for the year		-	-	-	54,322	316,060	370,382
Transactions with owners							
Dividends	30	-	-	-	-	(460,058)	(460,058)
Total transactions with owners		-	-	-	-	(460,058)	(460,058)
Balance at December 31, 2019		391,406	2,283,378	(354,945)	28,797	14,111,594	16,460,230
Balance at January 1, 2020		391,406	2,283,378	(354,945)	28,797	14,111,594	16,460,230
Comprehensive income (loss)							
Loss for the year		-	-	-	-	(98,223)	(98,223)
Remeasurements of net defined benefit liability	16	-	-	-	-	15,393	15,393
Gain on valuation of financial assets at fair value through other comprehensive income		-	-	-	2,192	-	2,192
Cash flow hedges		-	-	-	(15,494)	15,905	411
Total comprehensive loss for the year		-	-	-	(13,302)	(66,925)	(80,227)
Transactions with owners							
Disposal of treasury shares		-	417,864	319,246	-	-	737,110
Dividends	30	-	-	-	-	(153,608)	(153,608)
Total transactions with owners		-	417,864	319,246	-	(153,608)	583,502
Balance at December 31, 2020		391,406	2,701,242	(35,699)	15,495	13,891,061	16,963,505

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

LG Chem, Ltd.
Separate Statements of Cash Flows
Years Ended December 31, 2020 and 2019

<i>(in millions of Korean won)</i>	Notes	2020	2019
Cash flows from operating activities			
Cash generated from operations	32	5,326,138	2,408,957
Interest received		28,000	26,999
Interest paid		(152,564)	(95,195)
Dividends received		108,240	84,910
Income taxes paid		(73,135)	(482,520)
Net cash inflow from operating activities		<u>5,236,679</u>	<u>1,943,151</u>
Cash flows from investing activities			
Decrease in other receivables		500	554
Decrease in other non-current receivables		26,850	20,555
Proceeds from disposal of investments in associates and joint ventures		382,974	16,149
Proceeds from disposal of investments in subsidiaries		-	12,108
Proceeds from disposal of financial instruments		91,159	1,116
Proceeds from disposal of property, plant and equipment		32,765	80,822
Proceeds from disposal of intangible assets		17,066	19,410
Government grants received		889	7,076
Proceeds from disposal of assets held for sale		52,114	-
Increase in other non-current receivables		(83,197)	(411,186)
Acquisition of investments in subsidiaries		(1,294,981)	(1,500,123)
Acquisition of investments in associates and joint ventures		(44,006)	(46,526)
Acquisition of financial instruments		(10,400)	(10,750)
Acquisition of property, plant and equipment		(2,187,196)	(2,800,070)
Acquisition of intangible assets		(124,583)	(250,894)
Business combination		-	(529)
Split-off		(1,251,298)	-
Net cash outflow from investing activities		<u>(4,391,344)</u>	<u>(4,862,288)</u>
Cash flows from financing activities			
Proceeds from borrowings		897,317	2,763,638
Repayments of borrowings		(1,732,731)	(63,259)
Dividends		(153,608)	(460,058)
Net cash inflow (outflow) from financing activities		<u>(989,022)</u>	<u>2,240,321</u>
Net decrease in cash and cash equivalents		(143,687)	(678,816)
Cash and cash equivalents at the beginning of the year		1,002,263	1,690,862
Effects of exchange rate changes on cash and cash equivalents		(5,908)	(9,783)
Cash and cash equivalents at the end of year in the separate statement of financial position		<u>852,668</u>	<u>1,002,263</u>

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

LG Chem, Ltd.

Notes to the Separate Financial Statements

December 31, 2020 and 2019

1. General Information

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

As at December 31, 2020, the Company has its manufacturing facilities in Yeosu, Daesan, Cheongju, Ulsan, Naju, Iksan, Paju, Osong, Onsan and Gimcheon and engages in petrochemical, advanced materials, and life sciences business.

As described in Note 37, on December 1, 2020, LG Energy Solution Co., Ltd. was newly established through the split-off of energy solution business division of the Company and related assets and liabilities of energy solution division have been transferred to LG Energy Solution Co., Ltd.

The Company is authorized to issue 292 million shares of ordinary shares with par value of ₩ 5,000 per share. As at December 31, 2020, the 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 Company is LG Corp., which owns 33.34% of the Company's ordinary shares. Preferred shareholders have no voting rights but are entitled to receive dividends at a rate 1% more than those paid to ordinary shareholders.

2. Summary of Significant Accounting Policies

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

2.1 Basis of Preparation

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

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

The financial statements have been prepared on a historical cost basis, except for the following:

- Certain financial assets and liabilities (including derivative instruments) – measured at fair value
- Assets held for sale – measured at fair value less costs to sell, and
- Defined benefit pension plans – plan assets measured at fair value.

The preparation of financial statements requires the use of critical accounting estimates. Management also needs to exercise judgement in applying the Company's accounting policies. The areas involving a higher degree of judgment or complexity, or areas where assumptions and estimates are significant to the separate financial statements are disclosed in Note 4.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

2.2 Changes in Accounting Policy and Disclosures

(a) New and amended standards adopted by the Company

The Company has applied the following standards and amendments for the first time for their annual reporting period commencing January 1, 2020.

- Amendments to Korean IFRS 1001 *Presentation of Financial Statements* and Korean IFRS 1008 *Accounting Policies, Changes in Accounting Estimates and Errors – Definition of Material*

The amendments clarify the definition of material. Information is material if omitting, misstating or obscuring it could reasonably be expected to influence the decisions that the primary users of general-purpose financial statements make on the basis of those financial statements. The amendments do not have a significant impact on the financial statements.

- Amendments to Korean IFRS 1103 *Business Combination – Definition of a Business*

The amended definition of a business requires an acquisition to include an input and a substantive process that together significantly contribute to the ability to create outputs and the definition of output excludes the returns in the form of lower costs and other economic benefits. If substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets, an entity may elect to apply an optional concentration test that permits a simplified assessment of whether an acquired set of activities and assets is not a business. The amendments do not have a significant impact on the financial statements.

- Amendments to Korean IFRS 1109 *Financial Instruments*, Korean IFRS 1039 *Financial Instruments: Recognition and Measurement* and Korean IFRS 1107 *Financial Instruments: Disclosure – Interest Rate Benchmark Reform*

The amendments allow to apply the exceptions when forward-looking analysis is performed in relation the application of hedge accounting while uncertainties arising from interest rate benchmark reform exist. The exceptions require the Company assumes that the interest rate benchmark on which the hedged items and the hedging instruments are based on is not altered as a result of interest rate benchmark reform, when determining whether the expected cash flows are highly probable, whether an economic relationship between the hedged item and the hedging instrument exists, and when assessing the hedging relationship is highly effective.

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

The following new accounting standards and interpretations have been published that are not mandatory for December 31, 2020 reporting periods and have not been early adopted by the Company.

- Amendments to Korean IFRS 1116 *Lease – Practical expedient for COVID-19 - Related Rent Exemption, Concessions, Suspension*

As a practical expedient, a lessee may elect not to assess whether a rent concession occurring as a direct consequence of the COVID-19 pandemic is a lease modification, and the amounts recognized in profit or loss as a result of applying this exemption should be disclosed. The amendments should be applied for annual periods beginning on or after June 1, 2020, and earlier application is permitted. The Company does not expect that these amendments have a significant impact on the financial statements.

LG Chem, Ltd.

Notes to the Separate Financial Statements

December 31, 2020 and 2019

- Amendments to Korean IFRS 1109 *Financial Instruments*, Korean IFRS 1039 *Financial Instruments: Recognition and Measurement*, Korean IFRS 1107 *Financial Instruments: Disclosure*, Korean IFRS 1104 *Insurance Contracts* and Korean IFRS 1116 *Lease – Interest Rate Benchmark Reform*

In relation to interest rate benchmark reform, the amendments provide exceptions including adjust effective interest rate instead of book amounts when interest rate benchmark of financial instruments at amortized costs is replaced, and apply hedge accounting without discontinuance although the interest rate benchmark is replaced in hedging relationship. The amendments should be applied for annual periods beginning on or after January 1, 2021, and earlier application is permitted. The Company does not expect that these amendments have a significant impact on the financial statements.

- Amendments to Korean IFRS 1103 *Business Combination – Reference to the Conceptual Framework*

The amendments update a reference of definition of assets and liabilities qualify for recognition in revised Conceptual Framework for Financial Reporting. However, the amendments add an exception for the recognition of liabilities and contingent liabilities within the scope of Korea IFRS 1037 *Provisions, Contingent Liabilities and Contingent Assets*, and Korean IFRS 2121 *Levies*. The amendments also confirm that contingent assets should not be recognized at the acquisition date. The amendments should be applied for annual periods beginning on or after January 1, 2022, and earlier application is permitted. The Company does not expect that these amendments have a significant impact on the financial statements.

- Amendments to Korean IFRS 1016 *Property, Plant and Equipment - Proceeds before intended use*

The amendments prohibit an entity from deducting from the cost of an item of property, plant and equipment any proceeds from selling items produced while the entity is preparing the asset for its intended use. Instead, the entity will recognize the proceeds from selling such items, and the costs of producing those items, in profit or loss. The amendments should be applied for annual periods beginning on or after January 1, 2022, and earlier application is permitted. The Company is in review for the impact of these amendments on the financial statements.

- Amendments to Korean IFRS 1037 *Provisions, Contingent Liabilities and Contingent Assets - Onerous Contracts : Cost of Fulfilling a Contract*

The amendments clarify that the direct costs of fulfilling a contract include both the incremental costs of fulfilling the contract and an allocation of other costs directly related to fulfilling contracts when assessing whether the contract is onerous. The amendments should be applied for annual periods beginning on or after January 1, 2022, and earlier application is permitted. The Company does not expect that these amendments have a significant impact on the financial statements.

- Annual improvements to Korean IFRS 2018-2020

Annual improvements of Korean IFRS 2018-2020 Cycle should be applied for annual periods beginning on or after January 1, 2022, and earlier application is permitted. The Company does not expect that these amendments have a significant impact on the financial statements.

- Korean IFRS 1101 *First time Adoption of Korean International Financial Reporting Standards* – Subsidiaries that are first-time adopters
- Korean IFRS 1109 *Financial Instruments* – Fees related to the 10% test for derecognition of financial liabilities

LG Chem, Ltd.

Notes to the Separate Financial Statements

December 31, 2020 and 2019

- Korean IFRS 1116 *Leases* – Lease incentives
- Korean IFRS 1041 *Agriculture* – Measuring fair value

- Amendments to Korean IFRS 1001 *Presentation of Financial Statements - Classification of Liabilities as Current or Non-current*

The amendments clarify that liabilities are classified as either current or non-current, depending on the substantive rights that exist at the end of the reporting period. Classification is unaffected by the likelihood that an entity will exercise right to defer settlement of the liability or the expectations of management. Also, the settlement of liability include the transfer of the entity's own equity instruments, however, it would be excluded if an option to settle them by the entity's own equity instruments if compound financial instruments is met the definition of equity instruments and recognized separately from the liability. The amendments should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted. The Company does not expect that these amendments have a significant impact on the financial statements.

2.3 Subsidiaries, Joint Ventures, and Associates

The financial statements of the Company are the separate financial statements prepared in accordance with Korean IFRS 1027 *Separate Financial Statements*. Investments in subsidiaries, joint ventures and associates are recognized at cost. Management applied the carrying amounts under the previous K-GAAP at the time of transition to Korean IFRS as deemed cost of investments. The Company recognizes dividend income from subsidiaries, joint ventures and associates in profit or loss when its right to receive the dividend is established.

2.4 Foreign Currency Translation

(a) *Functional and presentation currency*

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

(b) *Transactions and balances*

Foreign currency transactions are translated into the functional currency using the exchange rates at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation of monetary assets and liabilities denominated in foreign currencies at year end exchange rates are generally recognized in profit or loss. They are recognized in other comprehensive income if they relate to qualifying cash flow hedges, qualifying effective portion of net investment hedges, or are attributable to monetary part of the net investment in a foreign operation.

Foreign exchange gains and losses that relate to borrowings are presented in the statement of profit or loss, within 'finance income or costs'. All other foreign exchange gains and losses are presented in the statement of profit or loss within 'other non-operating income or expenses'.

Foreign exchange gains and losses on non-monetary items are recognized as part of gains and losses resulting from the changes in fair value. Foreign exchange gains and losses on equity investments measured at fair value through profit or loss are recognized in profit or loss and those on equity investments measured at fair value through other comprehensive income are recognized in other comprehensive income.

LG Chem, Ltd.

Notes to the Separate Financial Statements

December 31, 2020 and 2019

2.5 Cash and Cash Equivalents

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

2.6 Financial Assets

(a) Classification

The Company classifies its financial assets in the following measurement categories:

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

Financial assets are classified on the basis of the entity's business model for managing the financial assets and the contractual cash flow characteristics of the financial assets.

Gains and losses on financial assets measured at fair value are recognized either in 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 Company reclassifies debt investments only when its business model for managing those assets changes.

Subsequent changes in the fair value of investments in equity instruments that are not held for trading are recognized in other comprehensive income.

(b) Measurement

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

Financial assets with embedded derivatives are considered in their entirety when determining whether their cash flows are solely payment of principal and interest.

A. *Debt instruments*

Subsequent measurement of debt instruments depends on the Company's business model for managing the asset and the cash flow characteristics of the asset. The Company 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 is included in 'finance income' using the effective interest rate method.
- **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 and interest, 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 (reversal of impairment loss), interest income and foreign exchange gains and losses which are

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

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 is included in 'finance income' using the effective interest rate method. Foreign exchange gains and losses are presented in 'finance income/costs' or 'other non-operating income/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 'finance income/costs' or 'other non-operating income/expenses' in the period in which it arises.

B. Equity instruments

The Company subsequently measures all equity investments at fair value. Where the Company's management has elected to present fair value gains and losses on equity investments, which held for long-term investment or strategic purpose, in other comprehensive income, there is no subsequent reclassification of fair value gains and losses to profit or loss following the derecognition of the investment. Dividend income from such investments continue to be recognized in profit or loss as 'finance income' when the right to receive payments is established. Changes in the fair value of financial assets at fair value through profit or loss are recognized in 'Finance income or costs' in the statement of profit or loss as applicable. Impairment loss (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 Company 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 and lease receivables, the Company applies the simplified approach, which requires expected lifetime credit losses to be recognized from initial recognition of the receivables.

(d) Recognition and Derecognition

Regular way purchases and sales of financial assets are recognized or derecognized on trade-date, the date on which the Company commits to purchase or sell the asset. Financial assets are derecognized when the rights to receive cash flows from the financial assets have expired or have been transferred and the Company has transferred substantially all the risks and rewards of ownership.

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

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

2.7 Derivative Financial Instruments

Derivatives are initially recognized at fair value on the date a derivative contract is entered into and are subsequently remeasured to their fair value at the end of each reporting period. The accounting for subsequent changes in fair value depends on whether the derivative is designated as a hedging instrument, and if so, the nature of the item being hedged. The Company has hedge relationships and designates certain derivatives as either:

- hedges of the fair value of recognized assets or liabilities or a firm commitment (fair value hedges)
- hedges of a particular risk associated with the cash flows of recognized assets and liabilities and highly probable forecast transactions (cash flow hedges), or
- hedges of a net investment in a foreign operation (net investment hedges)

At inception of the hedge relationship, the Company documents the economic relationship between hedging instruments and hedged items including whether changes in the cash flows of the hedging instruments are expected to offset changes in the cash flows of hedged items.

The full fair value of a hedging derivative is classified as a non-current asset or liability when the remaining maturity of the hedged item is more than 12 months; it is classified as a current asset or liability when the remaining maturity of the hedged item is less than 12 months. A non-derivative financial asset and a non-derivative financial liability is classified as a current or non-current based on its expected maturity and its settlement, respectively.

Cash flow hedge

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is recognized in the cash flow hedge reserve within equity, limited to the cumulative change in fair value (present value) of the hedged item (the present value of the cumulative change in the future expected cash flows of the hedged item) from the inception of the hedge. The ineffective portion is recognized in 'other non-operating income (expenses)'.

When option contracts are used to hedge forecast transactions, the Company designates only the intrinsic value of the option contract as the hedging instrument. Gains or losses relating to the effective portion of the change in intrinsic value of the option contracts are recognized in the cash flow hedge reserve within equity. The changes in the time value of the option contracts that relate to the hedged item ('aligned time value') are recognized within the costs of hedging in other comprehensive income within equity.

When forward contracts are used to hedge forecast transactions, the Company generally designates only the change in fair value of the forward contract related to the spot element as the hedging instrument. Gains or losses relating to the effective portion of the change in the spot element of the forward contracts are recognized in the cash flow hedge reserve within equity. The change in the forward element of the contract that relates to the hedged item is recognized within other comprehensive income within equity. In some cases, the Company may designate the full change in fair value of the forward contract (including forward points) as the hedging instrument. In such cases, the gains or losses relating to the effective portion of the change in fair value of the entire forward contract are recognized in the cash flow hedge reserve within equity.

Amounts accumulated in equity are reclassified in the periods when the hedged item affects profit or loss, as follows:

- Where the hedged item subsequently results in the recognition of a non-financial asset (such as inventory), both the deferred hedging gains and losses and the deferred time value of the option contracts or deferred forward points, if any, are included within the initial cost of the

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

asset. The deferred amounts are ultimately recognized in profit or loss as the hedged item affects profit or loss (for example through cost of sales).

- The gain or loss relating to the effective portion of the interest rate swaps hedging variable rate borrowings is recognized in profit or loss within 'finance cost' at the same time as the interest expense on the hedged borrowings.

When a hedging instrument expires, or is sold, terminated, exercised, or when a hedge no longer meets the criteria for hedge accounting, any accumulated cash flow hedge reserve at that time remains in equity until the forecast transaction occurs, resulting in the recognition of a non-financial asset such as inventory. When the forecast transaction is no longer expected to occur, the cash flow hedge reserve and deferred costs of hedging that were reported in equity are immediately reclassified to profit or loss.

Changes in the fair value of any derivative instrument that does not qualify for hedge accounting are recognized immediately in profit or loss within 'other non-operating income (expenses)' or 'finance income (costs)' based on the nature of transactions.

2.8 Trade Receivables

At initial recognition, trade receivables are measured at the amount of unconditional consideration, unless the trade receivables contain a significant financing component. Trade receivables are subsequently measured at amortized cost using the effective interest method, less loss allowance.

2.9 Inventories

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

2.10 Assets Held for sale

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

2.11 Property, Plant and Equipment

Property, plant and equipment are stated at historical cost less accumulated depreciation and accumulated impairment losses. Historical cost includes expenditure that is directly attributable to the acquisition of the items. Depreciation of all property, plant and equipment, except for land, is calculated using the straight-line method to allocate their cost or revalued amounts, net of their residual values, over their estimated useful lives as follows:

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

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

LG Chem, Ltd.

Notes to the Separate Financial Statements

December 31, 2020 and 2019

2.12 Investment Property

Investment property is property held to earn rentals or for capital appreciation or both. An investment property is measured initially at its cost. An investment property is measured after initial measurement at depreciated cost (less any accumulated impairment losses.) The Company depreciates investment properties, except for land, using the straight-line method over their useful lives of 25 ~ 50 years.

2.13 Borrowing Costs

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

2.14 Government Grants

Grants from the government are recognized at their fair value where there is a reasonable assurance that the grant will be received and the Company will comply with all attached conditions. Government grants related to assets are presented in the statement of financial position by deducting the grant in arriving at the carrying amount of the asset, and government grants related to income are deferred and later deducted from the related expense.

2.15 Intangible Assets

The excess of consideration transferred and amount of acquisition-date fair value of any previous equity interest in the acquired entity over the fair value of the net identifiable assets acquired is recorded as goodwill. Goodwill is carried at its cost less accumulated impairment losses. Impairment losses on goodwill are not reversed.

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

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

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

2.16 Research and Development

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

LG Chem, Ltd.

Notes to the Separate Financial Statements

December 31, 2020 and 2019

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

Generally, internally generated development projects have the following stages; formulation and selection of a project, verification of idea and technology, development and testing, decision of commercialization, test of final application. Expenditures can be capitalized as intangible assets only after the decision of commercialization. Expenditures incurred in other stages are recognized as expenses on the research phase.

Internally generated development projects in the Life Sciences business have the following stages; formulation of potential candidates, preclinical research, clinical researches such as phase 1, 2 and 3 trials, approval of regulatory body and new product launch. Expenditures incurred from new drug development project are recognized as expensed on the research phase. However, expenditures incurred during clinical phase 1~3 trials from development projects for generic drugs or biosimilars are recognized as intangible assets depending on the nature of the products.

Expenditures incurred from technology license agreement with the third parties are recognized as intangible assets.

Development costs previously recognized as an expense are not recognized as an asset in a subsequent period. Capitalized development costs that are recognized as intangible assets are amortized using the straight-line method over their estimated useful lives when the assets are available for use and are tested for impairment.

2.17 Impairment of Non-financial Assets

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

2.18 Trade and Other Payables

These amounts represent liabilities for goods and services provided to the Group prior to the end of reporting period which are unpaid. Trade and other payables are presented as current liabilities, unless payment is not due within 12 months after the reporting period. They are recognized initially at their fair value and subsequently measured at amortized cost using the effective interest method.

LG Chem, Ltd.

Notes to the Separate Financial Statements

December 31, 2020 and 2019

2.19 Financial Liabilities

(a) Classification and measurement

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

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

(b) Derecognition

Financial liabilities are removed from the statement of financial position when it is extinguished; for example, when the obligation specified in the contract is discharged or cancelled or expired or when the terms of an existing financial liability are substantially modified. The difference between the carrying amount of a financial liability extinguished or transferred to another party and the consideration paid (including any non-cash assets transferred or liabilities assumed) is recognized in profit or loss.

2.20 Financial Guarantee Contracts

Financial guarantee contracts are recognized as a financial liability at the time the guarantee is issued. The liability is initially measured at fair value, subsequently at the higher of following and recognized in the statement of financial position within 'other financial liabilities'.

- the amount determined in accordance with the expected credit loss model under Korean IFRS 1109 *Financial Instruments* and
- the amount initially recognized less, where appropriate, the cumulative amount of income recognized in accordance with Korean IFRS 1115 *Revenue from Contracts with Customers*

2.21 Compound Financial Instruments

Compound financial instruments that the Company has issued are exchangeable bonds that can be exchanged with equity instruments at the option of the holder.

The liability component of this compound financial instrument is recognized initially at the fair value and subsequently recognized at amortized cost until exchange or maturity of the bonds. The exchange component is subsequently measured at fair value until exchange or maturity of the bonds. Any directly attributable transaction costs are allocated to the liability and equity components in proportion to their initial carrying amounts.

2.22 Current and Deferred Tax

The tax expense for the period consists of current and deferred tax. Current and deferred tax is recognized in profit or loss, except to the extent that it relates to items recognized in other comprehensive income or directly in equity. In this case, the tax is also recognized in other comprehensive income or directly in equity, respectively.

The current income tax expense is measured at the amount expected to be paid to the taxation

LG Chem, Ltd.

Notes to the Separate Financial Statements

December 31, 2020 and 2019

authorities, using the tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period. Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation, and considers whether it is probable that a taxation authority will accept an uncertain tax treatment. The Company measures its tax balances either based on the most likely amount or the expected value, depending on which method provides a better prediction of the resolution of the uncertainty.

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

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

The Company recognizes a deferred tax liability all taxable temporary differences associated with investments in subsidiaries, associates, and interests in joint arrangements, except to the extent that the Company is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. In addition, The Company recognizes a deferred tax asset for all deductible temporary differences arising from such investments to the extent that it is probable the temporary difference will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets and liabilities and when the deferred tax balances relate to the same taxation authority. Current tax assets and tax liabilities are offset when the Company has a legally enforceable right to offset and intends either to settle on a net basis, or to realize the assets and settle the liability simultaneously.

2.23 Provisions

Provisions for warranties, site restorations, and legal claims are recognized when the Company has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required to settle the obligation and the amount can be reliably estimated. Provisions are measured at the present value of management's best estimate of the expenditure required to settle the present obligation at the end of the reporting period, and the increase in the provision due to the passage of time is recognized as interest expense.

2.24 Greenhouse Gas Emissions Permits and Obligations

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

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

2.25 Employee Benefits

(a) Post-employment benefits

The Company operates both defined contribution and defined benefit pension plans. For defined contribution plans, the Company pays contribution to publicly or privately administered pension insurance plans on mandatory, contractual or voluntary basis. The Company has no further payment obligation once the contribution has been paid. The contribution is recognized as employee benefit expense when they are due. A defined benefit plan is a pension plan that is not a defined contribution plan.

Generally, post-employment benefits are payable after the completion of employment, and the benefit amount depended on the employee's age, periods of service or salary levels. The liability recognized in the statement of financial position in respect of defined benefit pension plans is the present value of the defined benefit obligation at the end of the reporting period less the fair value of plan assets. The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid, and that have terms approximating to the terms of the related obligation. Remeasurement gains and losses arising from experience adjustments and changes in actuarial assumptions are recognized in the period in which they occur, directly in other comprehensive income.

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

(b) Other long-term employee benefits

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

2.26 Revenue Recognition

(a) Identify performance obligation

With regard to the contract of selling products to the customer, the Company identifies the services provided separately to the customer as a different performance obligation. When the Company 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 Company 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

LG Chem, Ltd.

Notes to the Separate Financial Statements

December 31, 2020 and 2019

lapsed, or the Company has objective evidence that all criteria for acceptance have been satisfied.

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

(c) Sales return

A gross contract liability for the expected refunds to customers is recognized as adjustment to revenue, and the Company 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 Company 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.

2.27 Lease

Lease activities and accounting policies of the Company

Lease income from operating leases where the Company is a lessor is recognized in income on a straight-line basis over the lease term. Initial direct costs incurred in obtaining an operating lease are added to the carrying amount of the underlying asset and recognized as expense over the lease term on the same basis as lease income. The respective leased assets are included in the statement of financial position based on their nature.

The Company leases various machinery, real estate and cars. Lease contracts are typically made for fixed periods, but may have extension options. Lease terms are negotiated on an individual basis and contain a wide range of different terms and conditions. The lease agreements do not impose any covenants, but leased assets may not be used as security for borrowing purposes.

At the commencement date, the Company recognizes a right-of-use asset and a lease liability. Each lease payment is allocated between the liability and finance cost. The finance cost is charged to profit or loss over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period. The right-of-use asset is depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis.

Assets and liabilities arising from a lease are initially measured on a present value basis. Lease liabilities include the net present value of the following lease payments:

- Fixed payments (including in-substance fixed payments), less any lease incentives receivable
- Variable lease payment that are based on an index or a rate, initially measured using the index or rate as at the commencement date

LG Chem, Ltd.

Notes to the Separate Financial Statements

December 31, 2020 and 2019

- Amounts expected to be payable by the Company (the lessee) under residual value guarantees
- The exercise price of a purchase option if the Company (the lessee) is reasonably certain to exercise that option, and
- Payments of penalties for terminating the lease, if the lease term reflects the Company (the lessee) exercising that option

If the Company is reasonably certain to exercise a purchase option, the right-of-use asset is depreciated over the useful life of the underlying asset.

The lease payments are discounted using the interest rate implicit in the lease. If that rate cannot be determined, the lessee's incremental borrowing rate is used, being the rate that the lessee would have to pay to borrow the funds necessary to obtain an asset of similar value in a similar economic environment with similar terms and conditions.

Right-of-use assets are measured at cost comprising the following:

- the amount of the initial measurement of lease liability
- any lease payments made at or before the commencement date less any lease incentives received
- any initial direct costs, and
- restoration costs

Payments associated with short-term leases or leases of low-value assets are recognized on a straight-line basis as an expense in profit or loss. Short-term leases are leases with a lease term of 12 months or less. Low-value assets comprise IT-equipment and small items of office furniture.

(a) Variable lease payments

Some property leases contain variable payment terms that are linked to sales generated from a warehouse. Variable lease payments that depend on usage are recognized in profit or loss in the period in which the condition that triggers those payments occurs.

(b) Extension and termination options

Extension and termination options are included in a number of leases across the Company. These terms are used to maximize operational flexibility in terms of managing contracts. The majority of extension and termination options held are exercisable only by the Company and not by the respective lessor.

The Company determines the lease term as the non-cancellable period of a lease within the period for which the contract is enforceable, together with both (a) periods covered by an option to extend the lease if the lessee is reasonably certain to exercise that option; and (b) periods covered by an option to terminate the lease if the lessee is reasonably certain not to exercise that option. When both lessee and lessor have the right to terminate the lease without permission from the other party, the Company considers the contractual termination payments in determining the period for which the contract is enforceable.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

3. Financial Risk Management

3.1 Financial risk factors

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

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

(a) Market risk

1) Foreign exchange risk

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

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

As at December 31, 2020 and 2019, the Company's monetary assets and liabilities denominated in currencies other than its functional currency, are as follows:

<i>(in millions of Korean won)</i>	2020		2019	
	Assets	Liabilities	Assets	Liabilities
USD	1,815,013	527,283	3,548,166	2,692,491
EUR	149,222	66,340	446,572	1,087,954
JPY	1,966	60,225	26,354	62,200
CNY and others	83,922	8,291	541,877	7,851

As at December 31, 2020 and 2019, if the Company's functional currency had weakened / strengthened by 10% against the US dollar with all other variables held constant, profit before income tax would have been affected as follows:

<i>(in millions of Korean won)</i>	2020		2019	
	10% Increase	10% Decrease	10% Increase	10% Decrease
USD	128,773	(128,773)	85,568	(85,568)

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

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

2) Price risk

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

The table below summarizes the impact of increases/decreases of the listed stock price index on the Company's equity before tax effects as at December 31, 2020 and 2019. 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 Company's equity instruments moved in line with the index.

(in millions of Korean won)

	2020		2019	
	10% Increase	10% Decrease	10% Increase	10% Decrease
KOSDAQ	-	-	676	(676)
NASDAQ	997	(997)	819	(819)
HSI	-	-	7,944	(7,944)
	<u>997</u>	<u>(997)</u>	<u>9,439</u>	<u>(9,439)</u>

3) Interest rate risk

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

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

The Company has no floating rate deposits and borrowings outstanding at the end of the reporting period.

(b) Credit risk

Credit risk arises from trade receivables that the Company holds, as well as debt instruments at amortized cost or fair value through other comprehensive income.

A. Trade receivables

The Company applies the simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for trade receivables. To measure the expected credit losses, trade receivables have been grouped based on shared credit risk characteristics and the days past due. The loss allowance provision as at December 31, 2020 and 2019, is as follows. Expected credit losses include forward-looking information.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

<i>(in millions of Korean won)</i>	Receivables not past due¹	Receivables past due but not impaired¹	Impaired receivables²	Total
December 31, 2020				
(Trade receivables)				
Gross carrying amount	2,161,591	37,163	2,733	2,201,487
Expected loss rate	0.1%	0.1%	48.7%	0.1%
Loss allowance provision	1,131	36	1,332	2,499
December 31, 2019				
(Trade receivables)				
Gross carrying amount	3,374,960	607,497	3,524	3,985,981
Expected loss rate	0.0%	0.0%	65.0%	0.1%
Loss allowance provision	1,523	231	2,292	4,046

¹ See Note 7.(3) for aging analysis

² Impaired receivables are those for which impairment indicators have been confirmed, such as significant lack of collectability.

Movements in the loss allowance provision for trade receivables for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	Trade receivables	
	2020	2019
Beginning balance	4,046	5,948
Increase in loss allowance recognized in profit or loss during the year	(748)	(1,122)
Receivables written off during the year as uncollectible	(640)	(780)
Decrease due to split-off	(159)	-
Ending balance	2,499	4,046

As at December 31, 2020, the carrying amount of trade receivables representing the maximum exposure to credit risk amounts to ₩ 2,201,487 million (2019: ₩ 3,985,981 million).

B. Other financial at assets amortized cost

Movements in loss allowance provision for other financial assets at amortized cost for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Beginning balance	2,109	2,109
Increase in loss allowance recognized as 'other non-operating expenses' in profit or loss during the year	2	1,903
Receivables written off during the year as uncollectible	-	(1,903)
Ending balance	2,111	2,109

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

All of the financial assets at amortized costs are considered to have low credit risk, and the loss allowance recognized during the period was, therefore, limited to 12 months expected losses.

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

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

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

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

(c) Liquidity risk

The Company monitors rolling forecasts of the Company's liquidity requirements to ensure it has sufficient cash to meet operational needs while maintaining sufficient headroom on its undrawn committed borrowing facilities at all times so that the Company does not breach borrowing limits or covenants (where applicable) on any of its borrowing facilities. The Company's liquidity management policy involves projecting cash flows in major currencies and considering the level of liquid assets necessary to meet these, monitoring balance sheet liquidity ratios against internal and external regulatory requirements and maintaining debt financing plans.

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

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

(in millions of Korean won)

	2020			
	Less than 1 year	Between 1-2 years	Between 2-5 years	Over 5 years
Borrowings (excluding lease liabilities)	298,407	627,415	1,753,211	1,074,696
Lease liabilities	36,666	21,024	28,547	63,706
Trade and other payables ¹	4,069,476	4,225	-	-
Total	4,404,549	652,664	1,781,758	1,138,402

(in millions of Korean won)

	2019			
	Less than 1 year	Between 1-2 years	Between 2-5 years	Over 5 years
Borrowings (excluding finance lease liabilities)	232,655	961,501	2,813,084	1,923,735
Finance lease liabilities	30,959	10,956	23,723	47,829
Trade and other payables	3,938,050	8,190	43	-
Total	4,201,664	980,647	2,836,850	1,971,564

¹ Included ₩ 2,099,936 million of financial liabilities due to a financial institution relating to reverse factoring arrangement. The Parent Company has entered into reverse factoring arrangement (interest rate: CD 91 days + 0.92 ~ 1.04%) with a financial institution whereby suppliers receive payments from the financial institution on the due date of each invoice and the Parent Company pays to the financial institution at the end of extended credit period as agreed in the reverse factoring arrangement (2019: ₩ 862,452 million).

2) As at December 31, 2020 the merchandise (raw materials) swap contracts for cash flow hedges the the Company had entered into were transferred to LG Energy Solution Co., Ltd. due to the split-off.

(in millions of Korean won)

	2020				
	Purpose of the contracts	Hedged items	Financial institution	Maturity	Fair value
Merchandise (raw materials) swap	Cash flow hedges	Non-ferrous metal	Citi bank	~2021.12	-

Details of derivative assets and liabilities as at December 31, 2020 and 2019, are as follows.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

<i>(in millions of Korean won)</i>	2020		2019	
	Assets	Liabilities	Assets	Liabilities
Merchandise (raw materials) swap ^{1,2}	-	-	21,371	-
Total	-	-	21,371	-

¹ Gain (loss) resulting from the contracts to avoid cash flow fluctuation risk of expected future transaction is accounted for as accumulated other comprehensive income. And it is all effective to avoid cash flow fluctuation risk (Note 5).

² ₩567 million of gain on valuation was recognized in other comprehensive income in 2020 and the accumulated gain on valuation was transferred to LG Energy Solution Co., Ltd. due to the split-off.

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

<i>(in millions of Korean won)</i>	2020			
	Less than 1 year	Between 1-2 years	Between 2-5 years	Over 5 years
Financial guarantee contracts ^{1,2}	190,000	-	-	-

	2019			
	Less than 1 year	Between 1-2 years	Between 2-5 years	Over 5 years
Financial guarantee contracts ¹	1,672,676	-	-	-

¹ The Company has provided financial guarantee for subsidiaries. The amount represents the maximum amount of the guarantee as at December 31, 2020 and 2019, in which the guarantee could be called (Note 18).

² Financial guarantees provided by the Company for the liability of LG Chem Wroclaw Energy sp.zo.o. were transferred to LG Energy Solution Co., Ltd. according to the split-off.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

3.2 Capital Risk Management

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

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

The gearing ratios and debt-to-equity ratios at December 31, 2020 and 2019, were as follows:

<i>(in millions of Korean won, except for ratios)</i>	2020	2019
Total borrowings (Note 14) (A)	3,533,970	5,324,007
Less: cash and cash equivalents (B)	<u>(852,668)</u>	<u>(1,002,263)</u>
Net debt (C=A+B)	<u>2,681,302</u>	<u>4,321,744</u>
Total liabilities (D)	8,886,645	10,566,856
Total equity (E)	<u>16,963,505</u>	<u>16,460,230</u>
Total capital (F=C+E)	<u>19,644,807</u>	<u>20,781,974</u>
Gearing ratio (C/F)	13.6%	20.8%
Debt-to-equity ratio (D/E)	52.4%	64.2%

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

3.3 Fair Value

(a) Carrying amount and fair value of financial instruments by category as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won)

	2020		2019	
	Carrying amount	Fair value	Carrying amount	Fair value
Financial assets (current)				
Cash and cash equivalents	852,668	1	1,002,263	1
Trade receivables	2,198,988	1	3,981,935	1
Other receivables	145,612	1	366,141	1
Current derivative financial assets	-	-	10,879	10,879
Financial assets (non-current)				
Deposits held by financial institutions	106,121	1	106,621	1
Other receivables (excluding deposits held by financial institutions)	52,445	1	398,868	1
Other non-current financial assets (carried at fair value)				
Marketable financial assets (excluding derivative instruments)	7,679	7,679	83,172	83,172
Non-marketable financial assets ³	44,020	44,020	42,258	42,258
Non-current derivative financial assets	-	-	10,492	10,492
Financial liabilities (current)				
Trade and other payables	4,069,476	1	3,938,050	1
Current borrowings (excluding exchangeable bonds and lease liabilities)	189,973	1	119,949	1
Current borrowings (exchangeable bonds)	32,500	32,763	-	-
Current lease liabilities	34,088	2	29,177	2
Current derivative financial liabilities (exchange rights)	16,797	16,797	-	-
Other current financial liabilities (excluding derivative liabilities)	1,218	1	27,194	1
Financial liabilities (non-current)				
Non-current borrowings (excluding lease liabilities)	3,183,528	3,213,522	5,109,507	5,212,400
Non-current lease liabilities	93,881	2	65,374	2
Other non-current payables	4,226	1	8,233	1
Other non-current financial liabilities (exchange rights)	-	-	930	930

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 Fair values for these financial assets and liabilities are not disclosed above in accordance with related Korean IFRS.

³ Acquisition costs of these financial assets approximate their fair values.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

(b) 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 using Korean won currency note yield in the same credit grade with the Company (AA+), and the applied discount rates as at December 31, 2020 and 2019, are as follows:

<i>(in percentage)</i>	2020	2019
Discount rate	0.97%~2.27%	1.63%~2.24%

(c) Fair Value Hierarchy

Items that are measured at fair value are categorized by the fair value hierarchy levels, and the defined levels are as follows:

- Quoted prices (unadjusted) in active markets for identical assets or liabilities that an entity can access at the measurement date (Level 1).
- All inputs other than quoted prices included in level 1 that are observable (either directly that is, prices, or indirectly that is, derived from prices) for the asset or liability (Level 2).
- Unobservable inputs for the asset or liability (Level 3).

Fair value hierarchy classifications of the financial instruments that are measured at fair value or its fair value is disclosed as at December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020			
	Level 1	Level 2	Level 3	Total
Financial assets/liabilities measured at fair value				
Other non-current financial assets (Marketable financial assets)	7,679	-	-	7,679
Other non-current financial assets (Non-marketable financial assets)	-	-	44,020	44,020
Current financial liabilities (exchange rights) ¹	-	-	16,797	16,797
Financial assets/liabilities not measured at fair value				
Current borrowings (exchangeable bonds)	-	-	32,763	32,763
Non-current borrowings (excluding lease liabilities)	-	3,213,522	-	3,213,522

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

¹ Movements in exchange rights are as follows.

(in millions of Korean won)

	USD		EUR		Total	
	2020	2019	2020	2019	2020	2019
Beginning Balance	42	14,350	888	16,034	930	30,384
Exchange	(89,961)	-	(188,303)	-	(278,264)	-
Redemption	(70)	-	-	-	(70)	-
Evaluation	89,989	(14,308)	204,212	(15,146)	294,201	(29,454)
Ending Balance	-	42	16,797	888	16,797	930

(in millions of Korean won)

	2019			
	Level 1	Level 2	Level 3	Total
Financial assets/liabilities measured at fair value				
Other non-current financial assets (Marketable financial assets)	83,172	-	-	83,172
Other non-current financial assets (Non-marketable financial assets)	-	-	42,258	42,258
Current derivative financial assets	-	10,879	-	10,879
Non-current derivative financial assets	-	10,492	-	10,492
Non-current derivative financial liabilities (exchange rights)	-	-	930	930
Financial assets/liabilities not measured at fair value				
Non-current borrowings (excluding lease liabilities)	-	4,560,647	651,753	5,212,400

(d) Valuation Technique and the Inputs

Valuation techniques and inputs used in level 3 fair value measurements are as follows:

(in millions of Korean won)

	2020				
	Fair value	Level	Valuation Technique	Inputs	Coverage of Level 3 inputs
Financial liabilities					
- Exchangeable Bond					
Exchangeable Bond	32,763	3	Binominal option pricing model	Annual rates of credit volatility	-0.5%p ~ +0.5%p
Exchange right	16,797	3	Binominal option pricing model	Annual rates of credit volatility Underlying asset (equity) volatility	-0.5%p ~ +0.5%p -5.0% ~ +5.0%

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

(in millions of Korean won)

	2019				
	Fair value	Level	Valuation Technique	Inputs	Coverage of Level 3 inputs
Financial liabilities					
– Exchangeable Bond					
Exchangeable Bond	651,753	3	Binominal option pricing model	Annual rates of credit volatility	-0.5%p ~ +0.5%p
Exchange right	930	3	Binominal option pricing model	Annual rates of credit volatility Underlying asset (equity) volatility	-0.5%p ~ +0.5%p -5.0% ~ +5.0%

(e) Sensitivity analysis for Recurring Fair Value Measurements Categorized Within Level 3

Sensitivity analysis of financial instruments is performed to measure favorable and unfavorable changes in the fair value of financial instruments which are affected by the unobservable parameters, using a statistical technique. When the fair value is affected by more than two input parameters, the most favorable or most unfavorable amounts are presented.

The results of the sensitivity analysis for the effect on profit or loss from changes in inputs for exchangeable bonds categorized as level 3 and subject to sensitivity analysis, are as follows:

(in millions of Korean won)

	2020	
	The effect on profit	The effect on loss
Financial liabilities – Exchangeable Bond		
Annual rates of credit volatility	47	(48)
Financial liabilities – Exchange right		
Annual rates of credit volatility	40	(41)
Underlying asset (equity) volatility	44	(129)

(in millions of Korean won)

	2019	
	The effect on profit	The effect on loss
Financial liabilities – Exchangeable Bond		
Annual rates of credit volatility	4,130	(4,177)
Financial liabilities – Exchange right		
Annual rates of credit volatility	112	(107)
Underlying asset (equity) volatility	497	(580)

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

4. Critical Accounting Estimates and Assumptions

The preparation of financial statements requires the Company to make estimates and assumptions concerning the future. Management also needs to exercise judgement in applying the Company's accounting policies. 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 resulting accounting estimates may differ from the related actual results. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below.

The spread of COVID-19 during 2020 has a significant impact on the domestic and international economies. This may affect the Company's financial position and business performance.

Significant accounting estimates and assumptions used in the preparation of financial statements may be adjusted according to fluctuations in uncertainty arising from COVID-19, and the ultimate impact of COVID-19 on the Company's business, financial position, and management performance is currently unpredictable.

(a) Impairment test of goodwill

The Company tests whether goodwill has suffered any impairment on an annual basis. The recoverable amount of a cash generating unit (CGU) is determined based on value-in-use or fair value less cost of disposal calculations. (Note 12).

(b) Income taxes

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

(c) Provisions

The Company recognizes provisions for product warranties and others as explained in Note 15. These provisions are estimated based on the past experience.

(d) Fair value of financial instruments

The fair value of financial instruments that are not traded in an active market is determined by using valuation techniques. The Company uses its judgment to select a variety of methods and make assumptions that are mainly based on market conditions existing at the end of each reporting period (Note 3.3).

(e) Impairment of financial assets

The provision for impairment for financial assets is based on assumptions about risk of default and expected loss rates. The Company uses judgement in making these assumptions and selecting the inputs to the impairment calculation based on the Company's past experience, existing market conditions as well as forward looking estimates at the end of each reporting period (Note 3.1 (b)).

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

(f) Net defined benefit liability

The present value of net defined benefit liability depends on a number of factors that are determined on an actuarial basis using a number of assumptions including the discount rate (Note 16).

(g) Lease

In determining the lease term, management considers all facts and circumstances that create an economic incentive to exercise an extension option, or not exercise a termination option. Extension options (or periods after termination options) are only included in the lease term if the lease is reasonably certain to be extended (or not terminated).

When both lessee and lessor have the right to terminate the lease without permission from the other party, the Company considers the contractual termination payments in determining the period for which the contract is enforceable.

The lease term is reassessed if an option is actually exercised (or not exercised) or the Company becomes obliged to exercise (or not exercise) it. The assessment of reasonable certainty is only revised if a significant event or a significant change in circumstances occurs, which affects this assessment, and that is within the control of the lessee.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

5. Financial Instruments by Category

(a) Categorizations of financial instruments as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won)

Financial assets	2020				Total
	Financial assets at amortized cost	Financial assets at fair value through profit or loss	Financial assets at fair value through other comprehensive income	Other Financial asset ¹	
Cash and cash equivalents	852,668	-	-	-	852,668
Trade receivables	2,144,495	-	54,493	-	2,198,988
Other receivables	125,949	-	19,663	-	145,612
Other non-current receivables	158,566	-	-	-	158,566
Other non-current financial assets	-	26,196	25,503	-	51,699
Total	3,281,678	26,196	99,659	-	3,407,533

(in millions of Korean won)

Financial liabilities	2020			Total
	Financial liabilities at amortized cost	Financial liabilities at fair value through profit or loss	Other financial liabilities ²	
Trade payables	877,035	-	-	877,035
Other payables	3,192,441	-	-	3,192,441
Borrowings (current)	222,473	-	34,088	256,561
Other current financial liabilities	-	16,797	1,218	18,015
Other non-current payables	4,226	-	-	4,226
Borrowings (non-current)	3,183,528	-	93,881	3,277,409
Total	7,479,703	16,797	129,187	7,625,687

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

(in millions of Korean won)

Financial assets	2019				Total
	Financial assets at amortized cost	Financial assets at fair value through profit or loss	Financial assets at fair value through other comprehensive income	Other Financial asset ¹	
Cash and cash equivalents	1,002,263	-	-	-	1,002,263
Trade receivables	3,770,420	-	211,515	-	3,981,935
Other receivables	358,794	-	7,347	-	366,141
Other non-current receivables	505,489	-	-	-	505,489
Other current financial assets	-	-	-	10,879	10,879
Other non-current financial assets	-	23,634	101,796	10,492	135,922
Total	5,636,966	23,634	320,658	21,371	6,002,629

(in millions of Korean won)

Financial liabilities	2019			Total
	Financial liabilities at fair value through profit or loss	Financial liabilities at amortized cost	Other financial liabilities ²	
Trade payables	-	1,738,053	-	1,738,053
Other payables	-	2,199,997	-	2,199,997
Borrowings (current)	-	119,949	29,177	149,126
Other current financial liabilities	-	-	27,194	27,194
Other non-current financial liabilities	930	-	-	930
Other non-current payables	-	8,233	-	8,233
Borrowings (non-current)	-	5,109,507	65,374	5,174,881
Total	930	9,175,739	121,745	9,298,414

¹ Other financial assets include derivative assets.

² Other financial liabilities include lease liabilities and derivatives liabilities.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

(b) Net gains or losses on each category of financial instruments for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Dividend income		
Financial assets at fair value through other comprehensive income	2,538	1,512
Interest income		
Financial assets at amortized cost	27,135	34,614
Interest expense		
Financial liabilities at amortized cost	(162,965)	(116,358)
Other financial liabilities	(2,331)	(2,142)
Financial assets at amortized cost ¹	(246)	(2,527)
Financial assets at fair value through other comprehensive income ¹	(631)	(3,018)
Gain (loss) on valuation		
Financial assets at fair value through profit or loss	3,898	-
Financial assets at fair value through other comprehensive income	3,025	35,079
Derivative instruments	(309,421)	69,303
Exchange differences		
Financial assets at amortized cost	(197,253)	75,837
Financial liabilities at amortized cost	98,336	(75,714)
Other financial liabilities	(10,522)	187

¹ Fees paid to financial institutions for factoring

6. Cash and Cash Equivalents

Details of cash and cash equivalents as at December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Bank deposits and cash on hand	127,821	81,494
Deposits held by financial institutions and others	724,847	920,769
Total	852,668	1,002,263

As at December 31, 2020, cash and cash equivalents include ₩ 1,963 million which is subject to a restriction on the use in association with the national R&D projects.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

7. Trade and Other Receivables

(a) Trade and other receivables and its provisions for impairment as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won)

	2020		
	Gross amount	Provision for impairment	Carrying amount
Trade receivables	2,201,487	(2,499)	2,198,988
Other current receivables	147,723	(2,111)	145,612
Other non-current receivables	158,566	-	158,566
Total	2,507,776	(4,610)	2,503,166

(in millions of Korean won)

	2019		
	Gross amount	Provision for impairment	Carrying amount
Trade receivables	3,985,981	(4,046)	3,981,935
Other current receivables	368,250	(2,109)	366,141
Other non-current receivables	505,489	-	505,489
Total	4,859,720	(6,155)	4,853,565

(b) Details of other receivables as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won)

	2020	2019
Current		
Non-trade receivables	123,276	329,151
Accrued income	9	8,702
Guarantee deposits provided	22,327	28,288
	<u>145,612</u>	<u>366,141</u>
Non-current		
Non-trade receivables	25,251	18,339
Deposits held by financial institutions ¹	106,121	106,621
Loans	-	331,480
Guarantee deposits provided	27,194	49,049
	<u>158,566</u>	<u>505,489</u>
Total	304,178	871,630

¹ As at December 31, 2020, ₩ 106,100 million (2019: ₩ 106,600 million) is restricted from being withdrawn in relation to large, small and medium-sized companies cooperation agreement and others. In addition, ₩ 21 million is restricted from withdrawal in connection with maintaining checking accounts (2019: ₩ 21 million).

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

(c) The aging analysis of trade and other receivables as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won)

	2020		2019	
	Trade receivables	Other receivables	Trade receivables	Other receivables
Receivables not past due	2,161,591	304,094	3,374,960	861,254
Past due but not impaired				
Up to 3 months	37,163	84	607,497	10,376
Between 3-6 months	34,433	76	464,382	6,772
Over 6 months	1,452	8	123,132	2,838
	1,278	-	19,983	766
Impaired receivables	2,733	2,111	3,524	2,109
	2,201,487	306,289	3,985,981	873,739

(d) Movements on the provision for impairment of trade and other receivables for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)

	2020			
	Trade receivables		Other receivables	
	Current	Non-current	Current	Non-current
Beginning balance	4,046	-	2,109	-
Provisions for impairment	(748)	-	2	-
Write-off	(640)	-	-	-
Decrease due to split-off	(159)	-	-	-
Ending balance	2,499	-	2,111	-

(in millions of Korean won)

	2019			
	Trade receivables		Other receivables	
	Current	Non-current	Current	Non-current
Beginning balance	5,948	-	2,109	-
Provisions for impairment	(1,122)	-	1,903	-
Write-off	(780)	-	(1,903)	-
Decrease due to split-off	-	-	-	-
Ending balance	4,046	-	2,109	-

(e) As at December 31, 2020 and 2019, the carrying amounts of trade and other receivables are approximation of their fair values.

(f) The Company transferred trade and other receivables to financial institutions for ₩ 97,642 million at December 31, 2020 (2019: ₩ 407,463 million), and derecognized the trade and other receivables from the financial statements at the date of disposal, as substantial all the risks and rewards were transferred.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

8. Other Financial Assets and Liabilities

(a) Details of other financial assets and liabilities as at December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Other financial assets		
Derivative financial assets (futures contract) (current)	-	10,879
Financial assets at fair value through other comprehensive income (excluding futures contract) (non-current)	25,503	101,796
Derivative financial assets (futures contract) (non-current)	-	10,492
Financial assets at fair value through profit or loss (excluding futures contract) (non-current)	26,196	23,634
	<u>51,699</u>	<u>146,801</u>
Other financial liabilities		
Financial guarantee contracts	1,218	27,194
Financial liabilities at fair value through profit or loss (exchange right) (current)	16,797	-
Financial liabilities at fair value through profit or loss (exchange right) (non-current)	-	930
	<u>18,015</u>	<u>28,124</u>

(b) Changes in equity and debt instruments included in other financial assets for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Beginning balance	125,430	80,575
Acquisitions / Transfer	10,505	10,892
Disposals	(91,159)	(1,116)
Gain on valuation (before income tax effects), through other comprehensive income	3,025	35,079
Gain on valuation, through profit or loss	3,898	-
Ending balance	<u>51,699</u>	<u>125,430</u>

According to the split-off, ₩ 26,339 million in currency futures contract liabilities and ₩ 21,938 million in commodity (raw material) swap derivatives were transferred to LG Energy Solution co., Ltd.

(c) No impairment losses on other financial assets were recognized for the years ended December 31, 2020 and 2019.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

9. Inventories

(a) Details of inventories as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won)

	2020		
	Gross amount	Valuation allowance	Carrying amount
Merchandise	20,502	(65)	20,437
Finished / Semi-finished products	861,257	(55,332)	805,925
Work-in-process	22,668	-	22,668
Raw materials	457,193	(10,132)	447,061
Supplies	113,919	-	113,919
Materials-in-transit	181,568	-	181,568
Total	1,657,107	(65,529)	1,591,578

(in millions of Korean won)

	2019		
	Gross amount	Valuation allowance	Carrying amount
Merchandise	48,566	(794)	47,772
Finished / Semi-finished products	1,574,003	(79,788)	1,494,215
Work-in-process	9,771	-	9,771
Raw materials	653,671	(13,872)	639,799
Supplies	126,387	-	126,387
Materials-in-transit	352,350	-	352,350
Total	2,764,748	(94,454)	2,670,294

(b) During the year, the cost of inventories recognized as expense and included in 'cost of sales' amounted to ₩ 12,980,183 million (2019: ₩ 13,785,403 million).

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

10. Investments in Subsidiaries, Associates and Joint ventures

(a) Changes in investments in subsidiaries, associates and joint ventures for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Beginning balance	5,350,083	3,857,939
Additions / Transfer	8,254,097	1,546,649
Impairment ^{1,2}	(144,919)	(21,158)
Reclassified as held-for-sale ³	(13,444)	-
Transfer due to split-off ⁴	(4,452,376)	-
Others ^{5,6}	(42,248)	(33,347)
Ending balance	<u>8,951,193</u>	<u>5,350,083</u>

¹ The Company reviews whether there are any events or changes in circumstances indicate that assets might be impaired at the end of each reporting period. If the indications are present, the recoverable amount of that asset is estimated by future cashflow discount method or other method. If the recoverable amount is less than its carrying amount, the carrying amount of the asset shall be reduced and the impairment loss shall be recognized.

² Impairment loss recognized as other non-operating expenses and key assumptions used to determine value in use are as follows:

<i>(in millions of Korean won and in percentage)</i>	2020	2019
	FarmHannong Co., Ltd.	Ugimag Korea Co., Ltd
Impaired amount	144,919	21,158
Pre-tax discount rate	11.6%	6.56%
Terminal growth rate	1%	0%

³ Upon the approval of management, the Company decided to dispose of LCD polarizer business (June 2020). The related assets and liabilities were reclassified as assets held for sale. The disposal of LCD polarizer business was completed in February 2021.

⁴ During 2020, LG Chem (Nanjing) Information & Electronics Materials Co.,Ltd., LG Chem Michigan Inc., Nanjing LG Chem New Energy Battery Co., Ltd., LG Chem Wroclaw Energy sp. z o.o., LG Chem Australia Pty Ltd., LG Chem Nanjing Energy Solution Co.,Ltd., VINFAST LITHIUM BATTERY PACK LLC., WUXI CL New Energy Technology Ltd., Jiangxi VL Battery Co.,Ltd, HL Greenpower Co., Ltd. have been transferred to LG Energy Solution Co., Ltd. due to the split-off.

⁵ LG Holdings (HK) Ltd. had completed its equal capital reduction for ₩ 15,788 million during 2019 and has been disposed of during 2020.

⁶ During 2019, LG Chem HK Ltd. and NanoH2O (Jiangsu) Water Processing Technology Co. Ltd. were liquidated.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

(b) Details of investments in subsidiaries, associates and joint ventures as at December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won and in percentage)</i>	Location	Percentage of ownership (%)		Carrying amount	
		2020	2019	2020	2019
Subsidiaries					
Ningbo LG Yongxing Chemical Co.,Ltd.	China	75	75	135,908	135,908
LG Energy Solution co., Ltd. ¹	Korea	100	-	6,915,141	-
LG Chemical India Pvt. Ltd.	India	100	100	54,929	54,929
LG Chemical (Guangzhou) Engineering Plastics Co.,Ltd.	China	100	100	21,911	21,911
LG Chem (Nanjing) Information & Electronics Materials Co.,Ltd. ²	China	-	81	-	1,138,401
LG Chem (Taiwan), Ltd.	Taiwan	100	100	18	18
LG Chem Display Materials (Beijing) Co., Ltd. ³	China	90	90	-	13,444
Tianjin LG Bohai Chemical Co.,Ltd.	China	68	68	77,871	77,871
Tianjin LG BOTIAN Chemical Co.,Ltd.	China	58	58	10,423	10,423
LG Chem (China) Investment Co.,Ltd.	China	100	100	264,233	264,233
LG Chem (Tianjin) Engineering Plastics Co.,Ltd.	China	90	90	14,733	14,733
LG Chem Europe GmbH	Germany	100	100	3,085	3,085
LG Chem Poland Sp. z o.o.	Poland	100	100	26,948	26,948
LG Chem Michigan Inc. ²	USA	-	100	-	377,337
LGC Petrochemical India Private Ltd.	India	100	100	299	299
HAENGBOKNURI CO.,LTD.	Korea	100	100	600	600
LG CHEM TK Kimya SANAYI VE TIC. Ltd. STI.	Turkey	100	100	174	174
LG Chem Japan Co.,Ltd.	Japan	100	100	1,406	1,406
Nanjing LG Chem New Energy Battery Co., Ltd.	China	-	50	-	88,706
LG Chem (Chongqing) Engineering Plastics Co., Ltd.	China	100	100	37,410	37,410
LG Chem Wroclaw Energy sp. z o.o. ²	Poland	-	100	-	1,396,269
LG Chem(HUIZHOU) Petrochemical Co., Ltd.	China	70	70	99,001	99,001
LG Chem Hai Phong Veitnam Co.,Ltd.	Vietnam	100	100	3,079	3,079
LG Chem Austrailia Pty Ltd. ²	Australia	-	100	-	429
LG Chem Mexico S.A. de C.V.	Mexico	100	100	394	394
LG Chem Hai Phong Engineering Plastics Co.,Ltd.	Vietnam	100	100	15,344	15,344
LG Chem (Guangzhou) Information & Electronics Materials Co.,Ltd. ⁸	China	100	100	184,491	184,491
FarmHannong Co.,Ltd. ⁴	Korea	100	100	579,581	724,500
LG Chem Life Sciences India Pvt. Ltd.	India	100	100	2,170	2,170
LG Chem Life Sciences (Beijing) Co.,Ltd.	China	100	100	1,233	1,233
LG Chem Life Sciences (Thailand) Ltd.	Thailand	100	100	431	431
LG Chem Life Sceience Innovation Center, Inc. ⁵	USA	100	-	1,702	-
LG CHEM FUND I LLC ⁶	USA	100	100	40,178	24,068
LEYOU NEW ENERGY MATERIALS(WUXI)CO.,LTD. ⁷	China	51	51	169,113	151,474
Ugimag Korea Co., Ltd. ⁸	Korea	100	100	30,862	6,362
LG Chem Nanjing Energy Solution Co.,Ltd. ²	China	-	100	-	274,035
LG Chem America, Inc. ⁵	USA	100	-	32,283	-

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

LG NanoH2O, Inc. ⁵	USA	100	-	38,414	-
Uniseal, Inc. ⁵	USA	100	-	30,186	-
				<u>8,793,551</u>	<u>5,151,116</u>
Associates					
LG Holdings (HK) Ltd. ⁹	Hong Kong	-	26	-	42,248
TECWIN Co.,Ltd.	Korea	21	21	2,861	2,861
LG Chem BRASIL INTERMEDICAO DE NEGOCIOS DO SETOR QUIMICO LTDA. ¹⁰	Brazil	100	100	579	579
LG Chem Malaysia SDN.BHD. ¹⁰	Malaysia	100	100	150	150
FJ Composite Material Co., Ltd.	Japan	33	33	3,016	3,016
WUXI CL New Energy Technology Ltd. ²	China	-	30	-	1,737
LG Chem Life Sciences Poland Ltd. ¹⁰	Poland	100	100	17	17
HUAJIN NEW ENERGY MATERIALS(QUZHOU)CO.,LTD ¹¹	China	49	49	89,523	67,330
VINFAST LITHIUM BATTERY PACK LLC. ²	Vietnam	-	35	-	5,323
Jiangxi VL Battery Co.,Ltd ²	China	-	-	-	-
				<u>96,146</u>	<u>123,261</u>
Joint ventures					
LG Vina chemical Co.,Ltd.	Vietnam	50	50	3,080	3,080
HL Greenpower Co.,Ltd. ²	Korea	-	49	-	14,210
SEETEC Co.,Ltd.	Korea	50	50	58,416	58,416
				<u>61,496</u>	<u>75,706</u>
Total				<u>157,642</u>	<u>198,967</u>

¹ During 2020, the Company acquired shares of LG Energy Solution Co., Ltd., a newly established entity through the split-off of energy solution business division from the Company, for ₩ 6,915,141 million.

² During 2020, LG Chem (Nanjing) Information & Electronics Materials Co.,Ltd., LG Chem Michigan Inc., Nanjing LG Chem New Energy Battery Co., Ltd., LG Chem Wroclaw Energy sp. z o.o., LG Chem Australia Pty Ltd., LG Chem Nanjing Energy Solution Co.,Ltd., VINFAST LITHIUM BATTERY PACK LLC., WUXI CL New Energy Technology Ltd., Jiangxi VL Battery Co.,Ltd and HL Greenpower Co.,Ltd. have been transferred to LG Energy Solution Co., Ltd. according to the split-off.

³ During 2020, the Company reclassified shares of LG Chem Display Materials (Beijing) Co., Ltd. of ₩ 13,444 million as non-current assets held for sale.

⁴ During 2020, the Company recognized impairment loss of ₩ 144,919 million for FarmHannong Co.,Ltd.

⁵ During 2020, the Company acquired shares of LG Chem Life Science Innovation Center, Inc., LG Chem America, Inc., LG NanoH2O, Inc., and Uniseal, Inc. from LG Chem Michigan Inc. for ₩ 102,585 million according to the split-off of energy solution business division.

⁶ During 2020, the Company acquired additional shares of LG CHEM FUND I LLC for ₩ 16,110 million.

⁷ During 2020, the Company acquired additional shares of LEYOU NEW ENERGY MATERIALS(WUXI) Co.,Ltd. for ₩ 17,639 million.

⁸ During 2020, the Company acquired additional shares of Ugimag Korea Co., Ltd. for ₩ 24,500 million.

⁹ During 2020, the Company has disposed of LG Holdings (HK) Ltd.

¹⁰ Classified as an investment in associate due to its small size.

¹¹ During 2020, the Company acquired additional shares of HUAJIN NEW ENERGY MATERIALS(QUZHOU)CO.,LTD for ₩ 22,191 million.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

11. Property, Plant and Equipment

(a) Changes in property, plant and equipment for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	2020											
	Land	Buildings	Structures	Machinery	Vehicles	Tools	Equipment	Others	Right-of-use assets	Construction -in-progress	Machinery -in-transit	Total
Beginning balance	1,247,766	2,515,249	802,725	3,530,647	3,434	398,009	114,682	175,123	92,717	1,581,035	160,028	10,621,415
Cost	1,284,718	3,120,778	1,331,742	11,860,563	26,424	1,124,510	357,401	378,824	126,123	1,666,659	160,028	21,437,770
Accumulated depreciation	-	(580,822)	(521,145)	(8,151,131)	(22,893)	(714,723)	(240,363)	(197,978)	(33,331)	-	-	(10,462,386)
Accumulated impairment	(36,952)	(24,707)	(7,872)	(178,785)	(97)	(11,778)	(2,356)	(5,723)	(75)	(85,624)	-	(353,969)
Acquisitions/ Transfer	177	379,952	68,353	762,969	1,441	120,564	51,824	38,837	72,595	2,317,554	258,442	4,072,708
Disposals/ Transfer	(157)	(3,984)	(199)	(45,876)	(3)	(5,922)	(485)	(1,979)	(2,191)	(1,612,730)	(72,345)	(1,745,871)
Depreciation	-	(69,439)	(47,286)	(706,256)	(1,359)	(116,998)	(34,714)	(99,491)	(34,737)	-	-	(1,110,280)
Impairment	-	(1,662)	(8,639)	(39,509)	-	(10,148)	(60)	(195)	(86)	(1,704)	(260)	(62,263)
Reversal of impairment	-	-	-	-	-	-	-	-	-	220	-	220
Transfer to assets held for sale (Note 34)	-	-	-	(7,733)	(12)	(2,805)	(40)	-	-	-	-	(10,590)
Split-off	(223,170)	(863,101)	(37,759)	(178,801)	(641)	(161,958)	(34,526)	-	(2,393)	(143,581)	(23,224)	(1,669,154)
Ending balance	1,024,616	1,957,015	777,195	3,315,441	2,860	220,742	96,681	112,295	125,905	2,140,794	322,641	10,096,185
Cost	1,060,900	2,395,008	1,329,896	10,575,612	22,433	696,284	298,035	413,151	187,255	2,217,048	322,641	19,518,263
Accumulated depreciation	-	(415,241)	(538,185)	(7,124,438)	(19,488)	(464,216)	(199,410)	(294,938)	(61,337)	-	-	(9,117,253)
Accumulated impairment	(36,284)	(22,752)	(14,516)	(135,733)	(85)	(11,326)	(1,944)	(5,918)	(13)	(76,254)	-	(304,825)

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

(in millions of Korean won)	2019											
	Land	Buildings	Structures	Machinery	Vehicles	Tools	Equipment	Others	Right-of- use assets	Construction -in-progress	Machinery -in-transit	Total
Beginning balance	1,123,590	2,311,548	720,774	3,043,583	11,015	340,661	114,223	115,903	-	1,369,361	174,116	9,324,774
Cost	1,160,542	2,863,091	1,216,503	10,775,322	36,473	992,866	331,043	315,051	-	1,416,372	174,116	19,281,379
Accumulated depreciation	-	(529,521)	(490,109)	(7,605,723)	(25,353)	(640,512)	(214,792)	(196,996)	-	-	-	(9,703,006)
Accumulated impairment	(36,952)	(22,022)	(5,620)	(126,016)	(105)	(11,693)	(2,028)	(2,152)	-	(47,011)	-	(253,599)
Changes in accounting policies	-	-	(17,697)	(9,668)	-	-	-	-	82,582	-	-	55,217
Restated beginning balance	<u>1,123,590</u>	<u>2,311,548</u>	<u>703,077</u>	<u>3,033,915</u>	<u>11,015</u>	<u>340,661</u>	<u>114,223</u>	<u>115,903</u>	<u>82,582</u>	<u>1,369,361</u>	<u>174,116</u>	<u>9,379,991</u>
Acquisitions/ Transfer	128,058	307,095	147,189	1,338,598	4,364	178,913	34,095	144,767	26,411	2,452,813	195,797	4,958,100
Disposals/ Transfer	(3,882)	(37,140)	(390)	(96,900)	(10,087)	(4,714)	(875)	(174)	(319)	(2,202,062)	(208,708)	(2,565,251)
Depreciation	-	(63,127)	(44,865)	(674,547)	(1,860)	(116,027)	(32,340)	(81,802)	(15,882)	-	-	(1,030,450)
Impairment	-	(3,139)	(2,298)	(70,600)	-	(824)	(429)	(3,571)	(75)	(39,077)	(1,177)	(121,190)
Reversal of impairment	-	12	12	181	2	-	8	-	-	-	-	215
Ending balance	<u>1,247,766</u>	<u>2,515,249</u>	<u>802,725</u>	<u>3,530,647</u>	<u>3,434</u>	<u>398,009</u>	<u>114,682</u>	<u>175,123</u>	<u>92,717</u>	<u>1,581,035</u>	<u>160,028</u>	<u>10,621,415</u>
Cost	1,284,718	3,120,778	1,331,742	11,860,563	26,424	1,124,510	357,401	378,824	126,123	1,666,659	160,028	21,437,770
Accumulated depreciation	-	(580,822)	(521,145)	(8,151,131)	(22,893)	(714,723)	(240,363)	(197,978)	(33,331)	-	-	(10,462,386)
Accumulated impairment	(36,952)	(24,707)	(7,872)	(178,785)	(97)	(11,778)	(2,356)	(5,723)	(75)	(85,624)	-	(353,969)

(b) During the year, the Company capitalized ₩ 34,550 million of borrowing costs (2019: ₩ 22,865 million) in relation to acquisition of property, plant and equipment, on property, plant and equipment. The capitalization rate of borrowings used to determine the amount of borrowing costs eligible for capitalization is 2.37% (2019: 2.48%).

(c) Line items including depreciation in the separate statements of profit or loss for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)	2020	2019
Cost of sales	957,622	895,328
Selling and administrative expenses	146,754	122,708
Others	795	2,358
Discontinued operations	5,109	10,056
Total	<u>1,110,280</u>	<u>1,030,450</u>

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

(d) Lease

(i) Amounts recognized in the statement of financial position

The statement of financial position shows the following amounts relating to leases:

<i>(in millions of Korean won)</i>	2020	2019
Right-of-use assets ¹		
Real-estate	109,010	75,184
Machinery	9,004	11,850
Vehicles	7,891	5,683
	<u>125,905</u>	<u>92,717</u>

¹ Included in the line item 'Property, plant and equipment' in the statements of financial position.

Additions to the right-of-use assets during the 2020 financial year were ₩ 72,595 million. (2019: ₩ 82,582 million)

<i>(in millions of Korean won)</i>	2020	2019
Lease liabilities ¹		
Current	34,088	29,177
Non-current	93,881	65,374
	<u>127,969</u>	<u>94,551</u>

¹ Included in the line item 'borrowings' in the statements of financial position.

(ii) Amounts recognized in the statement of profit or loss

The statement of profit or loss shows the following amounts relating to leases:

<i>(in millions of Korean won)</i>	2020	2019
Depreciation of right-of-use assets		
Real-estate	26,620	9,337
Machinery	2,895	2,962
Vehicles and others	5,222	3,583
	<u>34,737</u>	<u>15,882</u>
Interest expense relating to lease liabilities (included in finance cost)	2,331	2,142
Expense relating to short-term leases (included in cost of goods sold and administrative expenses)	14,167	30,941
Expense relating to leases of low-value assets that are not short-term leases (included in cost of goods sold and administrative expenses)	13,024	9,578
Expense relating to variable lease payments not included in lease liabilities (included in cost of goods sold and administrative expenses)	-	22

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

The total cash outflow for leases during year ended December 31, 2020 was ₩ 63,333 million.
(2019: ₩ 51,002 million)

12. Intangible Assets

(a) Changes in intangible assets for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)

	2020						
	Development costs	Software	Industrial property rights	Goodwill	Memberships	Others	Total
Beginning balance	56,375	231,063	442,187	723,756	46,842	180,592	1,680,815
Separate acquisitions/ Transfer ¹	-	267,285	123,359	-	867	10,320	401,831
Additions – internal development	4,116	-	-	-	-	-	4,116
Disposals/ Transfer	-	(1,591)	(4,023)	-	(16,623)	(7,901)	(30,138)
Amortization	(4,814)	(85,001)	(41,866)	-	-	(16,140)	(147,821)
Impairment	-	(26)	(1,447)	-	-	-	(1,473)
Transfer to assets held for sale (Note 34)	-	-	(5,124)	-	-	-	(5,124)
Split-off	-	(116,905)	(145,495)	-	(9,218)	(439)	(272,057)
Ending balance	55,677	294,825	367,591	723,756	21,868	166,432	1,630,149

¹ Intangible assets acquired from Dupont related to S-OLED are included.

(in millions of Korean won)

	2019						
	Development costs	Software	Industrial property rights	Goodwill	Memberships	Others	Total
Beginning balance	75,399	173,286	270,419	723,756	50,234	182,178	1,475,272
Separate acquisitions/ Transfer ¹	5,272	124,397	215,116	-	67	40,079	384,931
Additions – internal development	16,870	-	-	-	-	-	16,870
Disposals/ Transfer	(7,822)	(12,502)	(4,455)	-	(3,459)	(10,149)	(38,387)
Amortization	(4,532)	(54,014)	(35,304)	-	-	(17,127)	(110,977)
Impairment	(28,812)	(104)	(3,589)	-	-	(14,389)	(46,894)
Ending balance	56,375	231,063	442,187	723,756	46,842	180,592	1,680,815

¹ Intangible assets acquired from Dupont related to S-OLED are included.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

(b) Line items including amortization of intangible assets for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Cost of sales	33,459	21,865
Selling and administrative expenses	114,099	88,402
Discontinued operations	263	710
Total	147,821	110,977

(c) The Company recognized total research and development costs of ₩ 1,023,180 million (2019: ₩ 1,003,225 million) as expenses.

(d) Goodwill is allocated to the Company's CGUs identified for each operating segment. The carrying amounts of goodwill allocation by CGUs as at December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020				Total
	Merger of LG Petrochemical Co., Ltd	Acquisition of SAP business	Acquisition of PSAA business	Acquisition of LG Life Sciences, Ltd,	
CGUs					
Petrochemicals					
NCC	2,639	-	-	-	2,639
ABS	1,472	-	-	-	1,472
PO	1,054	-	-	-	1,054
PVC	808	-	-	-	808
Acrylic	350	25,222	-	-	25,572
Plasticizer	53	-	-	-	53
BPA	467	-	-	-	467
Others	1,350	-	-	-	1,350
Advanced Materials					
PSAA	-	-	4,112	-	4,112
Life Sciences					
Life sciences	-	-	-	686,229	686,229
Total	8,193	25,222	4,112	686,229	723,756

<i>(in millions of Korean won)</i>	2019				Total
	Merger of LG Petrochemical Co., Ltd	Acquisition of SAP business	Acquisition of PSAA business	Acquisition of LG Life Sciences, Ltd,	
CGUs					
Petrochemicals					
NCC	2,639	-	-	-	2,639
ABS	1,472	-	-	-	1,472
PO	1,054	-	-	-	1,054
PVC	808	-	-	-	808
Acrylic	350	25,222	-	-	25,872
Plasticizer	53	-	-	-	53
BPA	467	-	-	-	467

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

Others	1,350	-	-	-	1,350
Advanced Materials					
PSAA	-	-	4,112	-	4,112
Life Sciences					
Life sciences	-	-	-	686,229	686,229
Total	<u>8,193</u>	<u>25,222</u>	<u>4,112</u>	<u>686,229</u>	<u>723,756</u>

The recoverable amounts of CGUs have been determined based on value-in-use or fair value less cost of disposal calculations. Value-in-use calculations use pre-tax cash flow projections based on financial budgets approved by management covering a five-year period. Fair value less cost of disposal reflects expectation of future business and usage pattern of assets from the perspective of market participants. Management determined the estimated pre-tax cash flow based on past performance and its expectations of market development. Discount rates applied by the management are the pre-tax discount rates reflecting specific risks relating to the relevant operating segments. Taking into account the uncertainties relating to COVID-19, discount rates have been determined based on average values of input parameters (e.g. market risk premium) for longer observable period than before.

During 2020, key assumptions used for calculation of value in use and fair value less cost of disposal are as follows:

<i>(in millions of Korean won)</i>	2020	
	Pre-tax discount rate	Growth rate for subsequent years after five years
Acquisition of LG Petrochemical Co., Ltd.	7.8%	0.0%
Acquisition of SAP business	7.7%	0.0%
Acquisition of PSAA business	7.8%	0.0%
Acquisition of LG Life Sciences	11.3%	3.0%

The results of the sensitivity analysis for the fair value less cost of disposal calculation of Life Sciences CGU are as follows:

<i>(in millions of Korean won)</i>	0.5% Increase	0.5% Decrease
Discount rate		
Increase(decrease) in fair value	(138,675)	162,305
Growth rate		
Increase(decrease) in fair value	113,949	(97,435)

(e) Changes in greenhouse gas emission permits for the years ended December 31, 2020 and 2019, are as follows:

<i>(in thousands of tons and millions of Korean won)</i>	2020			
	2019		2020	
	Quantity	Amount	Quantity	Amount
Beginning balance	7,583	4,375	7,479	-
Allocation with nil consideration	650	-	3	-
Purchase/Sale	138	3,525	-	-
Borrowings/Carry forwards between	41	-	(41)	-

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

years Surrendered to the government	(8,412)	(7,900)	-	-
Ending balance	<u>-</u>	<u>-</u>	<u>7,441</u>	<u>-</u>

<i>(in thousands of tons and millions of Korean won)</i>	2019					
	2018		2019		2020	
	Quantity	Amount	Quantity	Amount	Quantity	Amount
Beginning balance	7,809	7,359	7,479	-	-	-
Allocation with nil consideration	65	-	-	-	7,479	-
Purchase/Sale	100	2,790	130	4,375	-	-
Borrowings/Carry forwards between years	26	-	(26)	-	-	-
Surrendered to the government	(8,000)	(10,149)	-	-	-	-
Ending balance	<u>-</u>	<u>-</u>	<u>7,583</u>	<u>4,375</u>	<u>7,479</u>	<u>-</u>

13. Other Current and Non-current Assets

Details of other current and non-current assets as at December 31, 2020 and 2019, consist of:

<i>(in millions of Korean won)</i>	2020	2019
Current		
Prepayments to suppliers and prepaid expense	36,106	30,543
Prepaid value added tax	75,933	76,151
Others	7,249	100,902
Total	<u>119,288</u>	<u>207,596</u>
Non-current		
Long-term prepayments and prepaid expenses	5,241	48,543
Others	30	30
Total	<u>5,271</u>	<u>48,573</u>

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

14. Borrowings

(a) Borrowings as at December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Current		
Current-portion of debentures	222,473	119,949
Current-portion of lease liabilities	34,088	29,177
	256,561	149,126
Non-current		
Debentures	3,183,528	5,109,507
Lease liabilities	93,881	65,374
	3,277,409	5,174,881
Total	3,533,970	5,324,007

(b) Details of debentures as at December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>		2020				
Financial institution	Annual interest rate (%)	Latest maturity date	Amount in Korean won	Current	Non-current	
50-2nd Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	2.28	2022.5.19	400,000	-	400,000
50-3rd Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	2.53	2024.5.19	280,000	-	280,000
51-1st Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	2.56	2021.2.20	190,000	190,000	-
51-2nd Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	2.88	2023.2.20	240,000	-	240,000
51-3rd Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	3.07	2025.2.20	270,000	-	270,000
51-4th Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	3.29	2028.2.20	300,000	-	300,000
52-1st Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	2.02	2022.3.13	160,000	-	160,000
52-2nd Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	2.11	2024.3.13	240,000	-	240,000
52-3rd Debenture (non-guaranteed/public)¹	NH Investment & Securities Co., Ltd. and others	2.21	2026.3.13	-	-	-
52-4th Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	2.40	2029.3.13	400,000	-	400,000
53-1st Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	1.57	2023.2.19	350,000	-	350,000
53-2nd Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	1.65	2025.2.19	250,000	-	250,000
53-3rd Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	1.72	2027.2.19	50,000	-	50,000
53-4th Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	1.91	2030.2.19	250,000	-	250,000
USD foreign currency debenture with maturity	CITI and others	3.25	2024.10.15	-	-	-

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

in 2024 ¹					
USD foreign currency					
debenture with maturity	CITI and others				
in 2029 ¹		3.63	2029.4.15	-	-
EUR foreign currency					
debenture with maturity	CITI and others				
in 2023 ¹		0.50	2023.4.15	-	-
1-1 st USD Overseas					
Exchangeable bonds ^{2,4}	Credit Suisse	-	2020.10.7	-	-
1-2 nd EUR Overseas					
Exchangeable bonds ^{3,4}	Credit Suisse	-	2021.1.14	32,787	32,787
Less: discount on debentures				(6,786)	(314)
Total				3,406,001	222,473
					3,183,528

(in millions of Korean won)

		2019				
	Financial institution	Annual interest rate (%)	Latest maturity date	Amount in Korean won	Current	Non-current
50-1 st Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	1.95	2020.5.19	120,000	120,000	-
50-2 nd Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	2.28	2022.5.19	400,000	-	400,000
50-3 rd Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	2.53	2024.5.19	280,000	-	280,000
51-1 st Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	2.56	2021.2.20	190,000	-	190,000
51-2 nd Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	2.88	2023.2.20	240,000	-	240,000
51-3 rd Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	3.07	2025.2.20	270,000	-	270,000
51-4 th Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	3.29	2028.2.20	300,000	-	300,000
52-1 st Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	2.02	2022.3.13	160,000	-	160,000
52-2 nd Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	2.11	2024.3.13	240,000	-	240,000
52-3 rd Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	2.21	2026.3.13	200,000	-	200,000
52-4 th Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	2.40	2029.3.13	400,000	-	400,000
1-1 st USD Overseas						
Exchangeable bonds ²	Credit Suisse	-	2021.4.16	254,716	-	254,716
1-2 nd EUR Overseas						
Exchangeable bonds ³	Credit Suisse	-	2021.4.16	408,950	-	408,950
USD foreign currency						
debenture with maturity	CITI and others					
in 2024		3.25	2024.10.15	578,900	-	578,900
USD foreign currency						
debenture with maturity	CITI and others					
in 2029		3.63	2029.4.15	578,900	-	578,900
EUR foreign currency						
debenture with maturity	CITI and others					
in 2023		0.50	2023.4.15	648,715	-	648,715

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

Less: discount on debentures	(40,725)	(51)	(40,674)
Total	<u>5,229,456</u>	<u>119,949</u>	<u>5,109,507</u>

¹ The 52-3rd Debenture (non-guaranteed/public) of ₩ 200 billion, USD foreign currency debenture of ₩ 1,104.4 billion, and EUR foreign currency debenture of ₩ 660.8 billion were transferred to LG Energy Solution Co., Ltd. according to the split-off of energy solution division of the Company.

² Details of 1-1st USD overseas exchangeable bonds are as follows:

Details

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

³ Details of 1-2nd EUR overseas exchangeable bonds are as follows:

Details

Aggregate principal amount	EUR 315,200,000
Issue price	EUR 315,200,000
Coupon rate (%)	0.00
Issue date	April 16, 2018
Maturity date	April 16, 2021
Redemption	- Redemption at maturity: Outstanding bond principal, which is not repaid early or which call option is not exercised on, is repaid at maturity as a lump sum. - Prepayment: The issuer has a call option.
Underlying shares	775,128 registered ordinary shares (treasury shares)
Exchange price (Korean won/shares)	533,600

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

Exchange period	From May 27, 2018 to April 06, 2021
Call option by the issuer	<ul style="list-style-type: none"> - Share price (based on closing price) is higher than 130% of exchange price for more than 20 trading days during 30 consecutive trading days in a row, after 1 year from the closing date. - The amount of outstanding bonds is less than 10% in aggregate principal amount of the bonds originally issued (clean up call). - As a result of changes relating to tax laws in Korea, the issuer becomes obliged to pay any additional amounts.
Call option by bondholders	<ul style="list-style-type: none"> - The shares cease to be listed or admitted to trading or are suspended for a period equal to or exceeding 30 consecutive trading days. - The occurrence of a change of control

⁴ As the conditions for the execution of call options have been satisfied for the year ended December 31, 2020, exchangeable bonds of USD 219,800,000 were exchanged with 509,113 treasury shares and the remaining exchangeable bonds of USD 200,000 have been early repaid on October 7, 2020. In January 2021, exchangeable bonds of EUR 290,700,000 were exchanged with 714,856 treasury shares and EUR 22,300,000 were additionally exchanged with 54,834 treasury shares and the remaining exchangeable bonds of EUR 2,200,000 have been early repaid on January 14, 2021.

Details of finance lease liabilities as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won)

Leaser	2020				
	Annual interest rate (%)	Latest maturity date	Total amount	Current	Non-current
Hyundai Oil Bank and others	1.98 ~ 3.01	2068.12.31	127,969	34,088	93,881

(in millions of Korean won)

Leaser	2019				
	Annual interest rate (%)	Latest maturity date	Total amount	Current	Non-current
Hyundai Oil Bank and others	1.98 ~ 4.13	2068.12.31	94,551	29,177	65,374

15. Provisions

Changes in the carrying amount of provisions for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)

	2020				
	Warranty ¹	Greenhouse gas emission ²	Legal claims ³	Restoration ⁴	Total
Beginning balance	534,351	25,157	370	3,377	563,255
Effect of split-off	(546,647)	(746)	(336)	-	(547,729)
Additions (reversal)	304,616	(12,478)	(34)	22,394	314,498
Used	(285,419)	(7,900)	-	(368)	(293,687)
Ending balance	6,901	4,033	-	25,403	36,337
Less : current portion	(4,951)	(4,033)	-	(4,464)	(13,448)
Total	1,950	-	-	20,939	22,889

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

(in millions of Korean won)

	2019				
	Warranty ¹	Greenhouse gas emission ²	Legal claims ³	Restoration ⁴	Total
Beginning balance	173,193	11,700	358	3,738	188,989
Additions	610,732	23,606	12	85	634,435
Used	(249,574)	(10,149)	-	(446)	(260,169)
Ending balance	534,351	25,157	370	3,377	563,255
Less : current portion	(423,505)	(25,157)	-	-	(448,662)
Total	110,846	-	370	3,377	114,593

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

² Greenhouse gas emission provisions have been accrued for estimated expenditures to be obligated for any excess emission. The estimated emission for the year ended December 31, 2020, amounts to 7,886 thousand tons (2019: 7,905 thousand tons).

³ Lawsuit provisions have been accrued for certain pending cases.

⁴ Restoration provisions have been accrued based on the estimated expenses to restore land pollutions.

16. Net Defined Benefit Liability

(a) Details of net defined benefit liabilities recognized in the statements of financial position as at December 31, 2020 and 2019, are as follows:

(in millions of Korean won)

	2020	2019
Present value of defined benefit obligations ¹	936,965	1,285,980
Fair value of plan assets	(878,700)	(1,126,798)
Liability in the separate statement of financial position	<u>58,265</u>	<u>159,182</u>

¹ The present value of retirement benefit obligations is net of existing contributions to the National Pension Plan of ₩ 649 million as at December 31, 2020 (2019: ₩ 732 million).

(b) The amounts recognized in the separate statements of profit or loss for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)

	2020	2019
Current service cost ¹	170,964	154,249
Net interest cost	3,557	5,203
Total, included in employee benefit expenses	<u>174,521</u>	<u>159,452</u>

¹ The above amounts excluded ₩ 5,138 million (2019: ₩ 1,719 million) of expenses capitalized to construction in progress and development costs.

(c) Post-employment benefits recognized for defined contribution plan for the year ended December 31, 2020, amounted to ₩ 7,298 million (2019: ₩ 6,218 million).

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

(d) Post-employment benefits recognized in the separate statements of profit or loss for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Cost of sales	111,904	105,173
Selling and administrative expenses	67,693	54,051
Discontinued operations	2,222	6,446
Total	<u>181,819</u>	<u>165,670</u>

(e) Movements in the present value of defined benefit obligations for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Beginning balance	1,285,980	1,108,144
Transfer in	6,106	20,715
Transfer out	(1,436)	(5,445)
Decrease in defined benefit obligations due to disposal and merger	(455,133)	-
Current service cost	176,102	155,968
Interest expense	29,221	29,194
Remeasurements:		
Actuarial loss from change in demographic assumptions	7,943	6,124
Actuarial loss (gain) from change in financial assumptions	(24,874)	74,680
Actuarial gain from experience adjustments	(10,239)	(21,594)
Others	1,201	2,917
Payments from plans	(77,906)	(84,723)
Ending balance	<u>936,965</u>	<u>1,285,980</u>

(f) Movements in the fair value of plan assets for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Beginning balance	1,126,798	913,995
Transfer out	(725)	(185)
Increase (decrease) in assets due to disposal and merger	(415,772)	-
Interest income	25,664	23,991
Remeasurements:		
Return on plan assets (excluding amounts included in interest income)	(4,738)	(6,651)
Contributions:		
Employers	220,000	270,000
Payments from plans	(72,228)	(73,262)
Administrative costs	(299)	(1,090)

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

Ending balance	<u>878,700</u>	<u>1,126,798</u>
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(g) The actual return on plan assets for the year ended December 31, 2020, was ₩ 20,926 million (2019: ₩ 17,340 million).

(h) The significant actuarial assumptions as at December 31, 2020 and 2019, are as follows:

	2020	2019
Discount rate	2.5%	2.4%
Salary growth rate	5.0%	5.0%

(i) The sensitivity analysis for changes in key actuarial assumptions as at December 31, 2020, is as follows:

<i>(in millions of Korean won)</i>	Increase by 0.5%	Decrease by 0.5%
Discount rate:		
Increase (decrease) in defined benefit obligations	(51,000)	55,899
Salary growth rate:		
Increase (decrease) in defined benefit obligations	54,251	(50,081)

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.

(j) Plan assets as at December 31, 2020 and 2019, consist of:

<i>(in millions of Korean won)</i>	2020		2019	
	Amount	Composition	Amount	Composition
Insurance contracts with guaranteed yield	878,700	100%	1,126,798	100%

Plan assets consist of various debt instruments with principal and interest protection and others which have no quoted market prices in an active market.

(k) As at December 31, 2020, the weighted average duration of defined benefit obligation is 13.13 years.

The Company reviews the funding level on an annual basis and has a policy of eliminating deficit from the fund. Expected contributions to post-employment benefit plans for the year ending December 31, 2021 are ₩ 176,684 million.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

17. Other Current and Non-current Liabilities

Details of other current and non-current liabilities as at December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Current		
Advances from customers	31,453	150,141
Withholding	74,579	92,050
Unearned revenues	22,060	32,182
Accrued expenses	217,238	138,875
Total	<u>345,330</u>	<u>413,248</u>
Non-current		
Long-term accrued expenses	40,562	58,786
Long-term unearned revenues	15,272	15,272
Long-term advances from customers	-	58,699
Total	<u>55,834</u>	<u>132,757</u>

18. Commitments and Contingencies

- (a) The company is jointly liable for liabilities of LG Energy Solutions Co., Ltd. as at December 1, 2020, a newly established company through the split-off from the Parent Company.
- (b) As at December 31, 2020, the Company has been guaranteed from the Seoul Guarantee Insurance Company for the execution of contracts and others.
- (c) As at December 31, 2020, the Company has bank overdraft agreements with several banks for up to ₩ 20,400 million, and has entered into contracts with several financial institutions, and for letters of credit for up to ₩ 22,000 million and US\$ 356 million, foreign currency purchase agreement for up to US\$ 397 million, and for the guaranteed payments in foreign currency for up to US\$ 41 million. The Company also has comprehensive credit line of credit agreements with several financial institutions for up to ₩ 20,000 million (including bank overdraft of ₩ 5,000 million), US\$ 55 million (relating to trade finance and import/export), and other credit limit of US\$ 55 million.
- (d) As at December 31, 2020, the Company has B2B purchase arrangements with several financial institutions amounting to ₩ 330,000 million, as well as enterprise general fund arrangement with limit of ₩ 350,000 million.
- (e) As at December 31, 2020, the Company has reverse factoring agreements, and utilized the facility for ₩ 739,616 million provided by Shinhan Card and utilized the facility for ₩ 1,360,320 million provided by Woori Card.
- (f) In addition, as at December 31, 2020, the Company have been named as a plaintiff in 9 legal actions involving ₩ 20,711 million, and as a defendant in 7 legal actions with ₩ 4,612 million. The ultimate outcome of these cases cannot be determined at the reporting date.
- (g) As at December 31, 2020, the Company is under investigation by the related authorities in relation to the manipulation of the emission of fine dust-causing substance in the Yeosu Industrial Complex, and the final outcome of these investigations cannot be determined at the reporting date. As at December 31, 2020, the Company shut down the relevant production facilities.
- (h) The Company has entered into manufacture and production technical contracts with ExxonMobil and others.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

- (i) The Company has entered into a license agreement with LG Corp. to use trademarks on the products that the Company manufactures and sells, and on the services the Company provides in relation to its business.
- (j) As at December 31, 2020, the Company has contracts of US\$ 8 million in guarantees with financial institutions in regard to warranty for certain products.
- (k) As at December 31, 2020, the Company has guaranteed the repayment of various obligations of its subsidiaries. The outstanding balance of such guarantees as at December 31, 2020, amounts to ₩ 190,000 million (2019: ₩ 1,672,676 million). Details of guarantees provided as at December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>			<u>Amount of guarantee</u>		<u>Outstanding loan amount</u>	
Guarantee beneficiary	Financial institution	Guarantee period	2020	2019	2020	2019
LG Chem Wroclaw Energy sp. z o.o ¹	Citibank	2017.7.31 ~ 2020.4.6	-	38,949	-	38,949
LG Chem Wroclaw Energy sp. z o.o ¹	Citibank	2017.7.28 ~ 2021.7.27	-	25,966	-	25,966
LG Chem Wroclaw Energy sp. z o.o ¹	Citibank	2018.11.2 ~ 2023.11.2	-	64,914	67,381	64,914
LG Chem Wroclaw Energy sp. z o.o ¹	Citibank	2018.12.12 ~ 2021.7.27	-	32,457	-	13,606
LG Chem Wroclaw Energy sp. z o.o ¹	ING	2017.9.1 ~ 2022.9.1	-	64,914	67,381	64,914
LG Chem Wroclaw Energy sp. z o.o ¹	ING	2018.11.23 ~ 2023.11.23	-	64,914	67,381	64,914
LG Chem Wroclaw Energy sp. z o.o ¹	ING	2018.11.23 ~ 2023.11.23	-	25,966	26,952	25,966
LG Chem Wroclaw Energy sp. z o.o ¹	MUFG	2019.1.16 ~ 2024.1.31	-	64,914	67,381	64,914
LG Chem Wroclaw Energy sp. z o.o ¹	MUFG	2019.1.16 ~ 2022.1.31	-	64,914	67,381	64,914
LG Chem Wroclaw Energy sp. z o.o ¹	SMBC	2019.2.1 ~ 2020.11.25	-	25,966	-	25,966
LG Chem Wroclaw Energy sp. z o.o ¹	Hana Bank	2019.2.6 ~ 2024.3.31	-	259,658	269,523	259,658
LG Chem Wroclaw Energy sp. z o.o ¹	Citibank	2019.3.22 ~ 2024.3.31	-	64,914	67,381	64,914
LG Chem Wroclaw Energy sp. z o.o ¹	SMBC	2019.9.25 ~ 2020.11.24	-	129,829	134,761	129,829
LG Chem Wroclaw Energy sp. z o.o ¹	Citibank	2019.8.20 ~ 2024.8.20	-	64,914	67,381	64,914
LG Chem Wroclaw Energy sp. z o.o ¹	EBRD	2019.9.25 ~ 2026.9.24	-	129,829	134,761	129,829
LG Chem Wroclaw Energy sp. z o.o ¹	HSBC	2019.11.25 ~ 2020.11.23	-	129,829	-	129,829
LG Chem Wroclaw Energy sp. z o.o ¹	KB Kookmin Bank	2019.11.29 ~ 2020.11.28	-	129,829	-	12,983
LG Chem Wroclaw Energy sp. z o.o ¹	SMBC	2020.2.7 ~ 2023.2.6	-	-	134,761	-
LG Chem Wroclaw Energy sp. z o.o ¹	SMBC	2020.2.7 ~ 2027.2.5	-	-	67,381	-
LG Chem Wroclaw Energy sp. z o.o ¹	EBRD	2020.3.26 ~ 2027.3.26	-	-	202,142	-

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

Energy sp. z o.o ¹							
LG Chem Wroclaw							
Energy sp. z o.o ¹	DBS	2020.3.11 ~ 2023.3.11	-	-	134,761	-	
LG Chem Wroclaw							
Energy sp. z o.o ¹	EIB	2020.3.16 ~ 2031.3.6	-	-	646,854	-	
	Korea						
	Development						
	Bank / The						
	Export-Import						
LG Chem Wroclaw	Bank of Korea /						
Energy sp. z o.o ¹	Nonghyup Bank	2020.4.29 ~ 2022.4.29	-	-	741,188	-	
	Korea						
	Development						
	Bank / The						
LG Chem Wroclaw	Export-Import						
Energy sp. z o.o ¹	Bank of Korea /	2020.11.26 ~ 2021.11.26	-	-	134,761	-	
FarmHannong Co.,Ltd.	Creditors	2017.2.16 ~ 2020.2.16	-	100,000	-	100,000	
FarmHannong Co.,Ltd.	Creditors	2017.2.16 ~ 2022.2.16	100,000	100,000	100,000	100,000	
FarmHannong Co.,Ltd.	Creditors	2018.3.2 ~ 2021.3.2	50,000	50,000	50,000	50,000	
FarmHannong Co.,Ltd.	Creditors	2018.3.2 ~ 2023.3.2	40,000	40,000	40,000	40,000	
Total			190,000	1,672,676	3,289,512	1,536,979	

¹ Financial guarantees provided by the Company for LG Chem Wroclaw Energy sp. z o. o. have been transferred to LG Energy Solution Co., Ltd. according to the split-off of energy solution division.

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

Further, as at December 31, 2020, the Company provided no financial guarantee to its associates in relation to their borrowings.

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

<i>(in millions of Korean won)</i>	2020	2019
Property, plant and equipment	403,201	922,832

19. Share Capital

(a) Changes in share capital and share premium for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won and in shares)</i>	Ordinary shares		Preferred shares		Share premium
	Number of shares	Share capital	Number of shares	Share capital	
January 1, 2019	70,592,343	352,962	7,688,800	38,444	2,014,454
December 31, 2019	70,592,343	352,962	7,688,800	38,444	2,014,454
December 31, 2020	70,592,343	352,962	7,688,800	38,444	2,014,454

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

(b) Changes in treasury shares for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won and in shares)</i>	Number of shares		Carrying amount	Gain on disposal of treasury shares
	Ordinary shares	Preferred shares		
January 1, 2019	1,652,417	16,367	354,945	13,855
December 31, 2019	1,652,417	16,367	354,945	13,855
Decrease in treasury shares due to exercise of exchange rights	(1,187,575)	-	(319,246)	417,864
Others	-	1	-	-
December 31, 2020	464,842	16,368	35,699	431,719

20. Retained Earnings

Retained earnings as at December 31, 2020 and 2019, consist of:

<i>(in millions of Korean won)</i>	2020	2019
Legal reserve ¹	195,703	195,703
Discretionary reserve ²	13,762,283	13,599,831
Retained earnings before appropriation	(66,925)	316,060
Total	13,891,061	14,111,594

¹ The Commercial Code of the Republic of Korea requires the 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.

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

21. Other Components of Equity

Details of other components of equity as at December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Treasury shares (Note 19)	(35,699)	(354,945)

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

22. Selling and Administrative Expenses

Selling and administrative expenses for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Wages and salaries	721,035	674,107
Post-employment benefits (Note 16)	67,693	54,051
Employee benefits	142,341	136,287
Travel expense	25,734	61,029
Water & utilities	52,647	50,070
Packaging expenses	5,739	9,282
Rental expenses	89,154	96,944
Commission expenses	742,363	617,212
Depreciation	148,101	123,934
Advertising expense	22,337	30,673
Freight expenses	430,305	427,371
Training expense	13,469	22,442
Amortization (Note 12)	114,099	88,402
Sample expense	11,835	13,180
Development costs	224,996	232,343
Others	419,949	703,754
Total	3,231,797	3,341,081

23. Breakdown of Expenses by Nature

Cost of sales, and selling and administrative expenses by nature for the years ended December 31, 2020 and 2019, consist of:

<i>(in millions of Korean won)</i>	2020	2019
Changes in inventories of merchandise, finished goods, semi-finished goods and work in process	654,877	(110,067)
Raw materials and consumables used	11,335,921	12,895,488
Purchase of merchandise	989,385	999,982
Employee benefit expenses (Note 24)	2,114,975	1,920,053
Advertising expenses	23,379	31,895
Freight expenses	458,069	454,056
Commission expenses	949,705	804,900
Depreciation and amortization	1,253,281	1,129,529
Rentals and fees	30,163	46,316
Other expenses	1,905,817	3,013,275
Total	19,715,572	21,185,427

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

24. Employee Benefit Expenses

Details of employee benefit expenses for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Salaries	1,761,211	1,596,254
Post-employment benefits – Defined benefit plan (Note 16)	172,420	153,099
Post-employment benefits – Defined contribution plan (Note 16)	7,177	6,125
Others	174,167	164,575
Total	<u>2,114,975</u>	<u>1,920,053</u>

25. Finance Income and Costs

Details of finance income and costs for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Finance income		
Interest income ¹	27,135	34,614
Dividend income	92,595	100,374
Exchange differences	297,934	163,881
Gain on derivative instruments	-	29,599
Gain on financial assets	3,898	-
Total	<u>421,562</u>	<u>328,468</u>
Finance costs		
Interest expense ²	131,623	101,180
Exchange differences	340,417	174,209
Loss on valuation of derivative instruments	309,988	273
Total	<u>782,028</u>	<u>275,662</u>

¹ Details of interest income for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Deposits held by financial institutions	12,339	25,938
Other loans and receivables	14,796	8,676
Total	<u>27,135</u>	<u>34,614</u>

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

² Details of interest expense for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Interest related to financial institutions	877	5,545
Interest on finance lease liabilities	2,331	2,139
Interest on debentures	138,937	114,759
Other interest expenses	24,028	1,602
Capitalized interest for qualifying assets	(34,550)	(22,865)
Total	131,623	101,180

26. Other Non-Operating Income

Details of other non-operating income for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Exchange differences	419,069	340,235
Gain on disposal of property, plant and equipment	2,245	7,339
Gain on disposal of intangible assets	149	72
Reversal of impairment loss on property, plant and equipment (Note 11)	220	215
Gain on disposal of associates and joint ventures	341,015	599
Others	71,512	32,331
Total	834,210	380,791

27. Other Non-Operating Expenses

Details of other non-operating expenses for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Exchange differences	486,025	329,597
Loss on disposal of property, plant and equipment	25,541	21,668
Loss on disposal of intangible assets	1,451	862
Impairment loss on property, plant and equipment (Note 11)	60,190	52,455
Impairment loss on intangible assets (Note 12)	1,410	45,924
Donations	12,168	14,143
Impairment loss on investments in subsidiaries	144,919	21,158
Others	33,296	16,716
Total	765,000	502,523

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

28. Tax Expense and Deferred Tax

(a) Income tax expense for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Current tax on profit for the year	399,670	102,141
Adjustments in respect of prior years	(10,634)	51,789
Deferred tax movement in temporary differences	619,342	(77,019)
Deferred tax - credit carryforwards	(329)	4,678
	<u>1,008,048</u>	<u>81,589</u>
Deferred tax charged directly to equity	(181,470)	(20,605)
Current tax charged directly to equity	(5,839)	18,914
Effect of discontinued operations	20,041	19,609
Income tax expense	<u>840,780</u>	<u>99,507</u>

(b) The aggregate current and deferred tax charged directly to equity (other comprehensive income) for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Current tax		
Remeasurements of net defined benefits liabilities	(5,839)	18,914
Deferred tax		
Loss on disposal of financial assets at fair value through other comprehensive income	(5,262)	-
Gain (loss) on valuation of financial assets at fair value through other comprehensive income	4,430	(9,647)
Loss on disposal of treasury shares	(180,482)	-
Loss on valuation of derivative instruments	(156)	(10,958)
Total	<u>(187,309)</u>	<u>(1,691)</u>

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

(c) Movements in deferred tax assets (liabilities) for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)

	2020				
	Beginning balance	Increase (decrease)			Ending balance
		Profit (loss) for the year	Other comprehensive income (loss)	Split-off	
Defined benefit liability	347,371	29,261	-	(119,472)	257,160
Plan assets	(309,869)	(46,113)	-	113,186	(242,796)
Provision for impairment on receivables	235	-	-	-	235
Property, plant and equipment	47,223	23,052	-	-	70,275
Investments in subsidiaries, associates and joint ventures	(6,250)	5,204	-	-	(1,046)
Accrued income	(20)	17	-	-	(3)
Others	196,660	(449,293)	(181,470)	(216,345)	(650,448)
	<u>275,350</u>	<u>(437,872)</u>	<u>(181,470)</u>	<u>(222,631)</u>	<u>(566,623)</u>
Tax credit carryforwards	6,478	329	-	-	6,807
Deferred income tax assets (Liabilities)	<u>281,828</u>	<u>(437,543)</u>	<u>(181,470)</u>	<u>(222,631)</u>	<u>(559,816)</u>

(in millions of Korean won)

	2019			
	Beginning balance	Increase (decrease)		Ending balance
		Profit (loss) for the year	Other comprehensive income (loss)	
Defined benefit liability	299,565	47,806	-	347,371
Plan assets	(251,348)	(58,521)	-	(309,869)
Provision for impairment on receivables	254	(19)	-	235
Property, plant and equipment	40,671	6,552	-	47,223
Investments in subsidiaries, associates and joint ventures	15,142	(21,392)	-	(6,250)
Accrued income	(308)	288	-	(20)
Others	94,355	122,910	(20,605)	196,660
	<u>198,331</u>	<u>97,624</u>	<u>(20,605)</u>	<u>275,350</u>
Tax credit carryforwards	11,156	(4,678)	-	6,478
Deferred income tax assets	<u>209,487</u>	<u>92,946</u>	<u>(20,605)</u>	<u>281,828</u>

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

(d) The reconciliations between income tax expense and accounting profit for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Profit before income tax expense¹	722,517	445,822
Tax at domestic tax rates applicable	188,330	112,239
Tax effects of:		
Income not subject to tax	(36,482)	(19,851)
Expenses not deductible for tax purposes	9,521	29,654
Unrecognized deferred income tax for temporary differences in the current year	758,122	5,285
Tax credit	(149,047)	(88,472)
Others	50,296	41,043
Effect of discontinued operations	20,041	19,609
Income tax expense	840,780	99,507
Effective tax rate (income tax expense/ profit before income tax)	116.37%	22.32%

¹ The amount before taking into account the discontinued operating income.

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

(f) Details of deductible (taxable) temporary differences unrecognized as deferred tax assets (liabilities) as at December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Investment in subsidiaries, associates and joint ventures	3,610,119	62,795
Land	488	488
Goodwill	(694,422)	(694,422)
Total	2,916,185	(631,139)

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

29. Earnings per Share

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

(a) Basic earnings per share for profit from continuing operations and earnings per share for the years ended December 31, 2020 and 2019, are computed as follows:

Basic earnings per ordinary share from continuing operations

<i>(in millions of Korean won and in number of shares)</i>	2020	2019
Profit (loss) from continuing operations attributable to ordinary shares ¹	(16,187)	409,747
Weighted average number of ordinary shares outstanding ²	69,177,128	68,939,926
Basic earnings (losses) per ordinary share from continuing operations <i>(in won)</i>	<u>(234)</u>	<u>5,944</u>

Basic earnings per ordinary share

<i>(in millions of Korean won and in number of shares)</i>	2020	2019
Profit (loss) attributable to ordinary shares ¹	(88,762)	328,933
Weighted average number of ordinary shares outstanding ²	69,177,128	68,939,926
Basic earnings (losses) per ordinary shares <i>(in won)</i>	<u>(1,283)</u>	<u>4,771</u>

Basic earnings per preferred share from continuing operations

<i>(in millions of Korean won and in number of shares)</i>	2020	2019
Profit (loss) from continuing operations attributable to preferred share ¹	(1,412)	45,985
Weighted average number of preferred shares outstanding ²	7,672,433	7,672,433
Basic earnings (losses) per preferred share from continuing operations <i>(in won)</i>	<u>(184)</u>	<u>5,994</u>

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

Basic earnings per preferred share

<i>(in millions of Korean won and in number of shares)</i>	2020	2019
Profit (loss) attributable to preferred shares ¹	(9,461)	36,991
Weighted average number of preferred shares outstanding ²	7,672,433	7,672,433
Basic earnings (losses) per preferred shares <i>(in won)</i>	<u>(1,233)</u>	<u>4,821</u>

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

<i>(in millions of Korean won)</i>	2020	2019
Profit (loss) from continuing operations attributable to the equity holders of the Parent Company	(17,599)	455,732
Ordinary shares dividends (A)	691,771	137,880
Preferred shares dividends (B)	77,108	15,728
Undistributed earnings (losses) from continuing operation for the year	(786,478)	302,124
Undistributed earnings (losses) available for ordinary shares (C)	(707,958)	271,867
Undistributed earnings (losses) available for preferred shares (D)	(78,520)	30,257
Profit (loss) from continuing operations for the year attributable to ordinary shares (A+C)	(16,187)	409,747
Profit (loss) from continuing operations for the year attributable to preferred shares (B+D)	(1,412)	45,985
 <i>(in millions of Korean won)</i>	 2020	 2019

Profit (loss) attributable to the equity holders of the Parent Company	(98,223)	365,924
Ordinary shares dividends (A)	691,771	137,880
Preferred shares dividends (B)	77,108	15,728
Undistributed earnings (losses) for the year	(867,102)	212,316
Undistributed earnings (losses) available for ordinary shares (C)	(780,533)	191,053
Undistributed earnings (losses) available for preferred shares (D)	(86,569)	21,263
Profit (loss) for the year attributable to ordinary shares (A+C)	(88,762)	328,933
Profit (loss) for the year attributable to preferred shares (B+D)	(9,461)	36,991

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

² Weighted average numbers of shares are calculated as follows:

Ordinary shares outstanding	Period	2020		
		Number of shares	Number of days	Number of shares x days
Beginning balance	2020. 1. 1 - 2020. 12. 31	68,939,926	366	25,232,012,916
Exchange of treasury shares	2020. 8. 1 - 2020. 12. 31	47,277	153	7,233,381
	2020. 9. 1 - 2020. 12. 31	446,115	122	54,426,030
	2020. 10. 1 - 2020. 12. 31	16,212	92	1,491,504
	2020. 11. 1 - 2020. 12. 31	50,658	61	3,090,138
	2020. 12. 1 - 2020. 12. 31	663,707	31	20,574,917
Total				25,318,828,886

Weighted average number of ordinary shares outstanding: $25,318,828,886 / 366 = 69,177,128$ shares

Preferred shares outstanding	Period	2020		
		Number of shares	Number of days	Number of shares x days
Beginning balance	2020. 1. 1 - 2020. 12. 31	7,672,433	366	2,808,110,478
Total				2,808,110,478

Weighted average number of preferred shares outstanding: $2,808,110,478 / 366 = 7,672,433$ shares

Ordinary shares outstanding	Period	2019		
		Number of shares	Number of days	Number of shares x days
Beginning balance	2019. 1. 1 - 2019. 12. 31	68,939,926	365	25,163,072,990
Total				25,163,072,990

Weighted average number of ordinary shares outstanding: $25,163,072,990 / 365 = 68,939,926$ shares

Preferred shares outstanding	Period	2019		
		Number of shares	Number of days	Number of shares x days
Beginning balance	2019. 1. 1 - 2019. 12. 31	7,672,433	365	2,800,438,045
Total				2,800,438,045

Weighted average number of preferred shares outstanding: $2,800,438,045 / 365 = 7,672,433$ shares

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

As at December 31, 2020, the Company did not calculate diluted earnings per share due to antidilution.

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

2019

Diluted earnings per ordinary shares from continuing operations

Profit from continuing operation for the year attributable to ordinary shares	409,747
Loss on exchangeable bonds (after tax effects)	(10,910)
Profit from continuing operation used in calculating diluted earnings per share from continuing operation	398,837
Weighted average number of ordinary shares outstanding	68,939,926
Adjustments for calculation of diluted earnings per share:	
Assumed exchange of exchangeable bonds	1,284,734
Weighted average number of ordinary shares and potential ordinary shares used as the denominator in calculating diluted earnings per share from continuing operation	70,224,660
Diluted earnings per share from continuing operation attributable to the ordinary shares <i>(in won)</i>	5,679

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

2019

Diluted earnings per ordinary shares

Profit for the year attributable to the ordinary shares	328,933
Loss on exchangeable bonds (after tax effects)	(11,058)
Profit used in calculating diluted earnings per share	317,875
Weighted average number of ordinary shares outstanding	68,939,926
Adjustments for calculation of diluted earnings per share:	
Assumed exchange of exchangeable bonds	1,284,734
Weighted average number of ordinary shares and potential ordinary shares used as the denominator in calculating diluted earnings per share	70,224,660
Diluted earnings per share attributable to the ordinary shares <i>(in won)</i>	4,527

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

2019

Diluted earnings per preferred share from continuing operations

Profit from continuing operation for the year attributable to preferred shares	45,985
Loss on exchangeable bonds (after tax effects)	(2,026)
Profit from continuing operation used in calculating diluted earnings per share from continuing operation	43,959
Weighted average number of preferred shares outstanding	7,672,433
Adjustments for calculation of diluted earnings per share:	
Assumed exchange of exchangeable bonds	-
Weighted average number of preferred shares and potential preferred shares used as the denominator in calculating diluted earnings per share from continuing operation	7,672,433
Diluted earnings per share from continuing operation attributable to preferred shares <i>(in won)</i>	5,729

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

<i>(in millions of Korean won and in number of shares)</i>	2019
Diluted earnings per preferred shares	
Profit for the year attributable to preferred shares	36,991
Loss on exchangeable bonds (after tax effects)	(1,878)
Profit used in calculating diluted earnings per share	<u>35,113</u>
Weighted average number of preferred shares outstanding	7,672,433
Adjustments for calculation of diluted earnings per share:	
Assumed exchange of exchangeable bonds	<u>-</u>
Weighted average number of preferred shares and potential preferred shares used as the denominator in calculating diluted earnings per share	<u>7,672,433</u>
Diluted earnings per share attributable to the preferred shares (<i>in won</i>)	<u><u>4,577</u></u>

Basic and diluted earnings (losses) per share attributable to ordinary and preferred shares from discounted operations for the years ended December 31, 2020 and 2019, are as follows:

<i>(in Korean won)</i>	2020	2019
Basic (losses) per ordinary share from discounted operations	(1,049)	(1,173)
Basic (losses) per preferred share from discounted operations	(1,049)	(1,173)
Diluted (losses) per ordinary share from discounted operations	(1,049)	(1,152)
Diluted (losses) per preferred share from discounted operations	(1,049)	(1,152)

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

30. Dividends

(a) Details of dividends for the years ended December 31, 2020 and 2019, are as follows:

	2020	2019
Number of shares entitled to dividends: shares issued and outstanding (par value per share: ₩ 5,000)		
Ordinary shares	70,127,501	68,939,926
Preferred shares	7,672,432	7,672,433
Dividend per share (<i>in Korean won, %</i>)		
Ordinary shares: cash	10,000 (200%)	2,000 (40%)
Preferred shares: cash	10,050 (201%)	2,050 (41%)
Cash dividends to distribute (<i>in millions of Korean won</i>)		
Ordinary shares	701,275	137,880
Preferred shares	77,108	15,728
	<u>778,383</u>	<u>153,608</u>

(b) Dividend payout ratios for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Dividends (A)	778,383	153,608
Profit (loss) attributable to the ordinary equity holders of the Parent Company (B)	(98,223)	365,924
Dividend payout ratio (A/B)	<u>-</u>	<u>41.98%</u>

(c) Dividend yield ratios for the years ended December 31, 2020 and 2019, are as follows:

<i>(in Korean won)</i>	2020		2019	
	Ordinary shares	Preferred Shares	Ordinary shares	Preferred Shares
Dividend per share (A)	10,000	10,050	2,000	2,050
Market value at the end of year (B) ¹	808,750	377,375	312,000	171,500
Dividend yield ratio (A/B)	<u>1.24%</u>	<u>2.66%</u>	<u>0.64%</u>	<u>1.20%</u>

¹ Average price in the stock market during one week preceding two business days before shareholder list closing date for the general shareholders' meeting.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

31. Related Party Transactions

(a) As at December 31, 2020 and 2019, LG Corp. is an entity exercising a significant influence over the Company as it owns 33.34% of the Company's ordinary shares.

(b) Details of other related parties that have sales and other transactions with the Company or have receivables and payables balances, other than consolidated subsidiaries, associates and joint ventures (Note 10), as at December 31, 2020 and 2019, are as follows:

Related party	Related party's subsidiary (Domestic)	Related party's subsidiary (Overseas)	Details
S&I corp.	S&I CM	S&I CM NANJING Co., Ltd. and others	Subsidiary of LG Corp.
LG CNS Co., Ltd.	Biz Tech Partners Co., Ltd. and others	LG CNS America Inc. and others	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. and others	LG Household & Health Care trading (Shanghai) Co.,Ltd.	LG Enterprise group ¹
LG Uplus Corp.	LG HelloVision Corp.	-	LG Enterprise group ¹
GIIR Inc.	HS AD Inc.	-	LG Enterprise group ¹
Silicon Works Co., Ltd.	-	-	LG Enterprise group ¹
SERVEONE ²	-	Serveone(Nanjing).Co.,Ltd. and others	LG Enterprise group ¹

¹ Although these entities are not the related parties of the Company in accordance with Korean IFRS 1024, the entities belong to a large enterprise group in accordance with the Monopoly Regulation and Fair Trade Act.

² During 2019, SERVEONE has been excluded from other related parties as S&I corp. has sold its shares of SERVEONE.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

(c) Sales and purchases with related parties for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)

	2020					Others
	Sales and others	Purchase of raw materials /merchandises	Acquisition of property, plant and equipment and intangible assets	Acquisition of right-of-use assets	Interest expense	
Entity with a significant influence over the Company						
LG Corp.	14	-	-	-	167	60,718
Subsidiaries						
LG Energy Solution Co.,Ltd.	23,674	-	-	-	-	1,970
Ningbo LG Yongxing Chemical Co.,Ltd.	102,860	3,681	-	-	-	444
LG Chem America, Inc.	638,310	-	-	-	-	1,028
LG Chem (Nanjing) Information & Electronic Materials Co.,Ltd.	683,526	1,662,368	-	-	-	5,391
LG Chemical (Guangzhou) Engineering Plastics Co.,Ltd.	44,386	2,633	-	-	-	-
LG Chem (Taiwan), Ltd.	58,953	-	-	-	-	6,988
LG Chem Display Materials (Beijing) Co.,Ltd.	4,297	-	-	-	-	14
Tianjin LG Bohai Chemical Co.,Ltd.	116,529	-	-	-	-	-
LG Chem (China) Investment Co.,Ltd.	-	-	-	-	-	44,204
LG Chem (Tianjin) Engineering Plastics	13,357	615	-	-	-	53
LG Chem Europe GmbH	484,954	-	-	-	-	59,587
LG Chem Poland Sp. z o.o.	22,107	-	-	-	-	34
LG NanoH2O, LLC.	25,372	-	-	-	-	12,998
LG Chem Michigan Inc.	267,522	1,596	-	-	-	33,287
Nanjing LG Chem New Energy Battery Co.,Ltd.	123,161	859,981	-	-	-	41
LG Chem Wroclaw Energy sp. z o.o.	1,680,540	1,955	-	-	-	9,150
LG Chem (Guangzhou) I&E Materials Co.,Ltd.	148,352	18	-	-	-	1,116
LG Chem Nanjing Energy Solution Co.,Ltd.	69,241	351,938	-	-	-	509
Others	173,091	19,535	2	-	-	29,432

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

Associates and joint ventures

SEETEC Co., Ltd.	66,396	135,799	10	618	86	78,908
TECWIN Co., Ltd.	339	318	4,662	-	-	211
HL Greenpower Co., Ltd.	853,423	-	-	-	-	3,530
Others	53	4,678	-	-	-	2,482

Other related parties

LG MMA Corporation ²	84,388	135,179	-	-	-	3,320
S&I Corp. and its subsidiaries	267	27,015	328,981	-	-	76,005
LG CNS Co., Ltd. and its subsidiaries	12,132	4,479	234,921	-	16	76,516
Others	14	-	-	-	-	15,433

Others

LG Display Co., Ltd. and its subsidiaries	468,405	98	-	-	-	95
LG Electronics Inc. and its subsidiaries	775,401	168,409	28,698	-	-	27,827
LG International Corp. and its subsidiaries	57,832	263,481	1,272	-	-	337,158
LG Hausys, Ltd. and its subsidiaries	167,253	1,861	5,665	-	1	6,227
Others	7,844	22,499	2,060	1,605	29	5,846

Total	7,173,993	3,668,136	606,271	2,223	299	900,576
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(in millions of Korean won)

2019

Purchase and others

	Sales and others	Purchase of raw materials /merchandises	Acquisition of property, plant and equipment and intangible assets	Acquisition of right-of-use assets	Interest expense	Others
Entity with a significant influence over the Company						
LG Corp.	2,655	-	-	-	-	53,885
Subsidiaries						
Ningbo LG Yongxing Chemical Co.,Ltd.	86,914	1,224	-	-	-	18
LG Chem HK Ltd.	10,724	-	-	-	-	-
LG Chem America, Inc.	582,352	-	-	-	-	2,471
LG Chem (Nanjing) Information & Electronics Materials Co.,Ltd.	854,435	1,532,582	-	-	-	2,733
LG Chemical (Guangzhou) Engineering Plastics Co.,Ltd.	41,552	9,917	-	-	-	-
LG Chem (Taiwan), Ltd.	54,465	-	-	-	-	5,652

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

LG Chem Display Materials (Beijing) Co.,Ltd.	62	-	-	-	-	8,132
Tianjin LG Bohai Chemical Co.,Ltd.	2,213	-	-	-	-	-
LG Chem (China) Investment Co.,Ltd.	44	-	-	-	-	34,414
LG Chem (Tianjin) Engineering Plastics Co.,Ltd.	12,162	13	-	-	-	19
LG Chem Europe GmbH	599,099	-	-	-	-	37,960
LG Chem Poland Sp. z o.o.	20,476	-	-	-	-	1,947
LG NanoH2O, LLC	11,132	-	-	-	-	8,628
LG Chem Michigan Inc.	43,359	5,813	-	-	-	33,503
Nanjing LG Chem New Energy Battery Co.,Ltd.	51,230	669,773	-	-	-	-
LG Chem Wroclaw Energy sp. z o.o.	773,387	1,938	-	-	-	3,667
Others	203,539	861	-	-	-	20,575
Associates and joint ventures						
SEETEC Co., Ltd.	44,097	152,533	337	2,775	14	65,623
TECWIN Co., Ltd.	3	37	3,188	-	-	127
HL Greenpower Co., Ltd.	611,193	-	-	-	-	719
Others	219	27	-	-	-	2,252
Other related parties						
LG MMA Corporation ¹	82,539	149,210	-	-	-	4,474
S&I Corp. and its subsidiaries ²	8,062	318,257	274,657	-	-	77,701
LG CNS Co., Ltd. and its subsidiaries	13,242	3,401	115,830	-	-	53,316
Others	-	-	-	-	-	14,223
Others						
LG Display Co., Ltd. and its subsidiaries	504,522	130	-	-	-	-
LG Electronics Inc. and its subsidiaries	599,867	161,548	29,895	-	-	40,225
LG International Corp. and its subsidiaries	135,219	181,793	761	-	-	257,314
LG Hausys, Ltd. and its subsidiaries	142,553	6,266	2,950	113	-	5,251
Others	11,217	17,759	829	280	2	6,508
Total	5,502,533	3,213,082	428,447	3,168	16	741,337

¹ Net sales and purchase amounts after offsetting for Raffinate transactions with LG MMA.

² SERVEONE has been excluded from the related parties as at December 31, 2019 since S&I corporation sold its shares of SERVEONE in 2019. Transactions with SERVEONE until the sale of shares have been included in the above information.

(d) Balances of receivables and payables arising from sales and purchases of goods and services as at December 31, 2020 and 2019, are as follows:

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

(in millions of Korean won)

	2020			Total
	Trade receivables and others	Loan receivables	Other receivables	
Entity with a significant influence over the Company				
LG Corp.	-	-	12,395	12,395
Subsidiaries				
LG Energy Solution Co.,Ltd.	20,351	-	6,972	27,323
Ningbo LG Yongxing Chemical Co.,Ltd.	3,612	-	2,196	5,808
LG Chem America, Inc.	163,936	-	-	163,936
LG Chem (Nanjing) Information & Electronic Materials Co.,Ltd.	75,438	-	27,154	102,592
LG Chemical (Guangzhou) Engineering Plastics Co.,Ltd.	9,355	-	4,966	14,321
LG Chem (Taiwan), Ltd.	15,190	-	3,137	18,327
LG Chem Display Materials (Beijing) Co.,Ltd.	-	-	16	16
Tianjin LG Bohai Chemical Co.,Ltd.	4,665	-	325	4,990
LG Chem (China) Investment Co.,Ltd.	-	-	-	-
LG Chem (Tianjin) Engineering Plastics	2,068	-	1,441	3,509
LG Chem Europe GmbH	103,411	-	163	103,574
LG Chem Poland Sp. z o. o.	6,256	-	3,018	9,274
LG NanoH2O, LLC.	9,959	-	-	9,959
LG Chem Michigan Inc.	4,173	-	602	4,775
Nanjing LG Chem New Energy Battery Co.,Ltd.	4,047	-	11	4,058
LG Chem Wroclaw Energy sp. z o.o.	232,308	-	3,900	236,208
LG Chem (Guangzhou) I&E Materials Co.,Ltd.	51,790	-	4,351	56,141
LG Chem Nanjing Energy Solution Co.,Ltd.	1,538	-	-	1,538
Others	49,276	-	6,903	56,179
Associates and joint ventures				
SEETEC Co., Ltd.	3,820	-	201	4,021
TECWIN Co., Ltd.	-	-	-	-
HL Greenpower Co., Ltd.	-	-	-	-
Others	-	-	22	22
Other related parties				
LG MMA Corporation	3,186	-	504	3,690
S&I Corp. and its subsidiaries	-	-	8,462	8,462
LG CNS Co., Ltd. and its subsidiaries	-	-	-	-
Others	-	-	2,562	2,562
Others				
LG Display Co., Ltd. and its subsidiaries	66,258	-	25,528	91,786
LG Electronics Inc. and its subsidiaries	73,447	-	131	73,578
LG International Corp. and its subsidiaries	-	-	-	-
LG Hausys, Ltd. and its subsidiaries	34,272	-	31	34,303
Others	128	-	1,160	1,288
Total	938,484	-	116,151	1,054,635

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

(in millions of Korean won)

	2020				Total
	Trade payables	Borrowings	Payables Lease liabilities	Other payables	
Entity with a significant influence over the Company					
LG Corp.	-	-	11,934	3,349	15,283
Subsidiaries					
LG Energy Solution Co.,Ltd.	-	-	-	2,765	2,765
Ningbo LG Yongxing Chemical Co.,Ltd.	813	-	-	3	816
LG Chem America, Inc.	-	-	-	254	254
LG Chem (Nanjing) Information & Electronic Materials Co.,Ltd.	14,299	-	-	-	14,299
LG Chemical (Guangzhou) Engineering Plastics Co.,Ltd.	389	-	-	4	393
LG Chem (Taiwan), Ltd.	-	-	-	2,767	2,767
LG Chem Display Materials (Beijing) Co.,Ltd.	-	-	-	670	670
Tianjin LG Bohai Chemical Co.,Ltd.	-	-	-	-	-
LG Chem (China) Investment Co.,Ltd.	-	-	-	5,068	5,068
LG Chem (Tianjin) Engineering Plastics	34	-	-	2	36
LG Chem Europe GmbH	-	-	-	2,847	2,847
LG Chem Poland Sp. z o. o.	-	-	-	3	3
LG NanoH2O, LLC.	-	-	-	5,263	5,263
LG Chem Michigan Inc.	-	-	-	1	1
Nanjing LG Chem New Energy Battery Co.,Ltd.	-	-	-	4	4
LG Chem Wroclaw Energy sp. z o.o.	-	-	-	168	168
LG Chem (Guangzhou) I&E Materials Co.,Ltd.	635	-	-	161	796
LG Chem Nanjing Energy Solution Co.,Ltd.	-	-	-	1	1
Others	3,196	-	-	2,530	5,726
Associates and joint ventures					
SEETEC Co., Ltd.	14,977	-	26,014	9,884	50,875
TECWIN Co., Ltd.	-	-	-	574	574
HL Greenpower Co., Ltd.	-	-	-	-	-
Others	194	-	-	272	466
Other related parties					
LG MMA Corporation	13,088	-	-	-	13,088
S&I Corp. and its subsidiaries	-	-	-	106,712	106,712
LG CNS Co., Ltd. and its subsidiaries	-	-	1,206	61,940	63,146
Others	-	-	-	187	187
Others					
LG Display Co., Ltd. and its subsidiaries	-	-	-	-	-
LG Electronics Inc. and its subsidiaries	16,152	-	-	16,793	32,945
LG International Corp. and its subsidiaries	6,591	-	-	35,478	42,069
LG Hausys, Ltd. and its subsidiaries	-	-	-	3,955	3,955
Others	1,820	-	1,101	5,563	8,484
Total	72,188	-	40,255	267,218	379,661

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

(in millions of Korean won)

	2019			Total
	Trade receivables and others	Loan receivables	Other receivables	
Entity with a significant influence over the Company				
LG Corp.	-	-	12,391	12,391
Subsidiaries				
Ningbo LG Yongxing Chemical Co.,Ltd.	9,735	-	18,823	28,558
LG Chem America, Inc.	265,291	-	-	265,291
LG Chem (Nanjing) Information & Electronics Materials Co.,Ltd.	274,781	331,495	42,361	648,637
LG Chemical (Guangzhou) Engineering Plastics Co.,Ltd.	10,400	-	3,211	13,611
LG Chem (Taiwan), Ltd.	20,104	-	20	20,124
LG Chem Display Materials (Beijing) Co.,Ltd.	33	-	1,214	1,247
Tianjin LG Bohai Chemical Co.,Ltd.	-	-	275	275
LG Chem (China) Investment Co.,Ltd.	-	-	-	-
LG Chem (Tianjin) Engineering Plastics Co.,Ltd.	2,764	-	803	3,567
LG Chem Europe GmbH	267,117	-	325	267,442
LG Chem Poland Sp. z o.o.	7,812	-	1,628	9,440
LG NanoH2O, LLC	4,020	-	-	4,020
LG Chem Michigan Inc.	44,017	-	9,889	53,906
Nanjing LG Chem New Energy Battery Co.,Ltd.	8,565	-	120	8,685
LG Chem Wroclaw Energy sp. z o.o.	593,266	-	115,402	708,668
LG Chem (Guangzhou) I&E Materials Co.,Ltd.	80,768	-	36	80,804
LG Chem Nanjing Energy Solution Co.,Ltd.	16,742	-	8	16,750
Others	57,627	-	6,796	64,423
Associates and joint ventures				
SEETEC Co., Ltd.	4,140	-	636	4,776
TECWIN Co., Ltd.	-	-	-	-
HL Greenpower Co., Ltd.	54,908	-	-	54,908
Others	-	-	10	10
Other related parties				
LG MMA Corporation	8,425	-	823	9,248
S&I Corp. and its subsidiaries ¹	-	-	24,274	24,274
LG CNS Co., Ltd. and its subsidiaries	7,650	-	-	7,650
Others	-	-	4,356	4,356
Others				
LG Display Co., Ltd. and its subsidiaries	59,096	-	-	59,096
LG Electronics Inc. and its subsidiaries	214,183	-	21,092	235,275
LG International Corp. and its subsidiaries	13,215	-	-	13,215
LG Hausys, Ltd. and its subsidiaries	17,789	-	49	17,838
Others	40	-	1,096	1,136
Total	2,042,488	331,495	265,638	2,639,621

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

(in millions of Korean won)

	2019				Total
	Trade payables	Borrowings	Payables Lease liabilities	Other payables	
Entity with a significant influence over the Company					
LG Corp.	-	-	14,863	1,360	16,223
Subsidiaries					
Ningbo LG Yongxing Chemical Co.,Ltd.	122	-	-	10	132
LG Chem America, Inc.	-	-	-	2,866	2,866
LG Chem (Nanjing) Information & Electronics Materials Co.,Ltd.	337,059	-	-	41,083	378,142
LG Chemical (Guangzhou) Engineering Plastics Co.,Ltd.	198	-	-	9	207
LG Chem (Taiwan), Ltd.	-	-	-	2,292	2,292
LG Chem Display Materials (Beijing) Co.,Ltd.	-	-	-	690	690
Tianjin LG Bohai Chemical Co.,Ltd.	187	-	-	-	187
LG Chem (China) Investment Co.,Ltd.	-	-	-	5,378	5,378
LG Chem (Tianjin) Engineering Plastics Co.,Ltd.	88	-	-	3	91
LG Chem Europe GmbH	-	-	-	12,006	12,006
LG Chem Poland Sp. z o.o.	-	-	-	4	4
LG NanoH2O, LLC	-	-	-	6,533	6,533
LG Chem Michigan Inc.	1,486	-	-	7,297	8,783
Nanjing LG Chem New Energy Battery Co.,Ltd.	82,594	-	-	31	82,625
LG Chem Wroclaw Energy sp. z o.o.	1,661	-	-	14,530	16,191
LG Chem (Guangzhou) I&E Materials Co.,Ltd.	195	-	-	62	257
LG Chem Nanjing Energy Solution Co.,Ltd.	539	-	-	2	541
Others	203	-	-	3,557	3,760
Associates and joint ventures					
SEETEC Co., Ltd.	15,781	-	1,402	11,375	28,558
TECWIN Co., Ltd.	-	-	-	1,633	1,633
HL Greenpower Co., Ltd.	-	-	-	65	65
Others	-	-	-	258	258
Other related parties					
LG MMA Corporation	13,234	-	-	-	13,234
S&I Corp. and its subsidiaries ¹	-	-	-	161,372	161,372
LG CNS Co., Ltd. and its subsidiaries	-	-	1,206	88,877	90,083
Others	-	-	-	403	403
Others					
LG Display Co., Ltd. and its subsidiaries	17	-	-	-	17
LG Electronics Inc. and its subsidiaries	58,184	-	-	39,673	97,857
LG International Corp. and its subsidiaries	5,736	-	-	47,044	52,780
LG Hausys, Ltd. and its subsidiaries	512	-	50	5,621	6,183
Others	1,593	-	168	3,829	5,590
Total	519,389	-	17,689	457,863	994,941

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

(e) Fund transactions with related parties for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)

	2020						
	Dividends received	Dividends paid	Equity contributions in cash (capital reduction)	Loans		Borrowings ¹	
Loans				Repayment	Borrowings	Repayment	
Entity with a significant influence over the Company							
LG Corp.	-	47,068	-	-	-	167	14,699
Subsidiaries							
LG Energy Solution Co.,Ltd. ²	-	-	6,915,141	-	-	41	1,038
Ningbo LG Yongxing Chemical Co.,Ltd.	72,121	-	-	-	-	-	-
LG Chemical (Guangzhou) Engineering Plastics Co.,Ltd.	2,401	-	-	-	-	-	-
LG Chem (Taiwan), Ltd.	3,253	-	-	-	-	-	-
LG Chem Display Materials (Beijing) Co.,Ltd.	4,241	-	-	-	-	-	-
FarmHannong Co., Ltd	-	-	-	-	-	-	-
LG Chem America Inc.	-	-	32,283	-	-	-	-
LG NanoH2O, LLC..	-	-	38,414	-	-	-	-
Uniseal, Inc.	-	-	30,186	-	-	-	-
LG Chem Life Science Innovation Center, Inc	-	-	1,702	-	-	-	-
LG Chem Fund I LLC	-	-	16,111	-	-	-	-
LEYOU NEW ENERGY MATERIALS(WUXI) Co.,LTD	-	-	17,639	-	-	-	-
Ugimag Korea Co., Ltd.	-	-	24,500	-	-	-	-
LG Chem Michigan Inc.	-	-	206,240	-	-	-	-
LG Chem Wroclaw Energy sp. Z o.o.	-	-	413,739	-	-	-	-
LG Chem Nanjing Energy Solution Co.,Ltd.	-	-	514,137	-	-	-	-
Associates and joint ventures							
SEETEC Co., Ltd.	10,000	-	-	-	-	86	3,506
TECWIN Co., Ltd.	314	-	-	-	-	-	-
HUAJIN NEW ENERGY MATERIALS(QUZHOU) CO.,LTD	-	-	22,191	-	-	-	-
WUXI CL New Energy Technology	-	-	-	-	-	-	-

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

Jiangxi VL Battery Co.,Ltd	-	-	21,814	-	-	-	-
Other related parties							
LG CNS Co., Ltd.	-	-	-	-	-	16	1,190
Others							
LG Hausys, Ltd.	-	-	-	-	-	56	8
LG HOUSEHOLD & HEALTH CARE LTD	-	-	-	-	-	29	697
Total	92,330	47,068	8,254,097	-	-	395	21,138

(in millions of Korean won)

	2019						
	Dividends received	Dividends paid	Equity contributions in cash (capital reduction)	Loans		Borrowings ¹	
Loans				Repayment	Borrowings	Repayment	
Entity with a significant influence over the Company							
LG Corp.	-	141,205	-	-	-	-	-
Subsidiaries							
LG Chem HK Ltd.	10,724	-	-	-	-	-	-
Ningbo LG Yongxing Chemical Co.,Ltd.	71,557	-	-	-	-	-	-
LG Chem (Nanjing) Information & Electronics Materials Co.,Ltd.	-	-	288,053	337,040	-	-	-
LG Chem (Taiwan), Ltd.	5,384	-	-	-	-	-	-
LG Chem (China) Investment Co.,Ltd.	-	-	68,591	-	-	-	-
LG Chem Michigan Inc.	-	-	1,128	-	-	-	-
LG Chem Wroclaw Energy sp. z o.o.	-	-	743,355	-	-	-	-
LG Chem Life Sciences (Thailand) Ltd.	-	-	-	-	554	-	-
LG Chem Fund I LLC	-	-	15,273	-	-	-	-
LEYOU NEW ENERGY MATERIALS(WUXI) Co.,LTD	-	-	51,580	-	-	-	-
Ugimag Korea Co., Ltd.	-	-	4,500	-	-	-	-
LG Chem Nanjing Energy Solution Co., Ltd.	-	-	161,466	-	-	-	-
Associates and joint ventures							
SEETEC Co., Ltd.	10,000	-	-	-	-	2,775	1,027
LG Holdings (HK) Ltd.	-	-	(15,789)	-	-	-	-
HUAJIN NEW ENERGY MATERIALS(QUZHOU) CO.,LTD	-	-	27,676	-	-	-	-
VINFAST LITHIUM	-	-	5,323	-	-	-	-

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

BATTERY PACK LLC.

Others

LG Hausys, Ltd.	-	-	-	-	-	113	39
LG HOUSEHOLD & HEALTH CARE LTD	-	-	-	-	-	280	105
Total	<u>97,665</u>	<u>141,205</u>	<u>1,351,156</u>	<u>337,040</u>	<u>554</u>	<u>3,168</u>	<u>1,171</u>

¹ The amounts represent lease liabilities that were recognized or repaid for the years ended December 31, 2020 and 2019.

² Included transactions related to the split-off of energy solution division of the Company into LG Energy Solution Co., Ltd.

(f) Compensation for key management of the Company for the years ended December 31, 2020 and 2019, consists of:

<i>(in millions of Korean won)</i>	2020	2019
Short-term employee benefits	88,895	77,651
Post-employment benefits	<u>6,308</u>	<u>4,344</u>
Total	<u>95,203</u>	<u>81,995</u>

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

There is no provision recognized for receivables of related parties as at December 31, 2020 and no impairment loss on receivables for related parties are recognized for the years ended December 31, 2020 and 2019.

Details of the guarantees manufactured by the Company for related parties at the reporting date are disclosed in Note 18.

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

32. Cash generated from operations

(a) Reconciliation between profit before income tax and cash generated from operations for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Profit before income tax	722,517	445,822
Profit before income tax from continuing operations	823,181	555,239
Loss before income tax from discontinued operations	(100,664)	(109,417)
Adjustments for:		
Depreciation	1,110,832	1,029,318
Amortization	147,821	110,977
Post-employment benefits	174,521	159,452
Finance income	(224,359)	(184,089)
Finance costs	585,228	220,755
Foreign exchange differences	14,170	(59)
Loss on valuation of inventories	(3,884)	5,487
Gain on disposal of property, plant and equipment	(16,298)	(8,715)
Gain on disposal of intangible assets	(149)	(72)
Loss on disposal of property, plant and equipment	26,180	22,824
Loss on disposal of intangible assets	1,451	1,663
Impairment loss on property, plant and equipment	62,264	121,190
Reversal of impairment loss on property, plant and equipment	(220)	(215)
Impairment loss on intangible assets	1,473	46,894
Impairment loss on investments in associates	144,919	21,158
Gain on disposal of investments in associates	(341,015)	(599)
Loss on disposal of investments in subsidiaries	-	5,421
Gain on disposal of business	(32,085)	-
Additions to provisions	314,498	634,435
Other expenses	11,896	3,639
Decrease (increase) in inventories	317,376	(241,641)
Decrease (increase) in trade receivables	106,854	(31,801)
Increase in other receivables	(291,959)	(32,196)
Decrease (increase) in other current assets	69,651	(52,888)
Settlement of derivative assets	(733)	-
Increase (decrease) in trade payables	1,497,917	(187,775)
Increase in other payables	1,298,622	855,569
Increase (decrease) in other current liabilities	128,306	(39,166)
Decrease in net defined benefit liabilities	(217,071)	(264,916)
Decrease in provisions	(285,787)	(260,169)
Other cash flows from operations	3,202	28,654
Cash generated from operations	5,326,138	2,408,957

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

(b) Changes in liabilities arising from financial activities for the year ended December 31, 2020, are as follows:

<i>(in millions of Korean won)</i>	2020							At December 31, 2020
	At January 1, 2020	Cash flows from financing activities	Reclassification of current portion	Amortization (transfer)	Lease liabilities	Split-off	Others	
Short-term borrowings	29,177	(34,694)	40,579	-	-	(1,170)	195	34,087
Long-term borrowings	65,374	-	(40,579)	-	70,341	(1,255)	-	93,881
Debentures	5,229,456	777,084	-	16,563	-	(1,951,409)	(665,694)	3,406,000
Exchange rights	930	-	-	-	-	-	15,867	16,797
Other payables for the reverse factoring arrangement	856,287	(1,577,805)	-	-	-	-	2,802,825	2,081,307
	<u>6,181,224</u>	<u>(835,415)</u>	<u>-</u>	<u>16,563</u>	<u>70,341</u>	<u>(1,953,834)</u>	<u>2,153,193</u>	<u>5,632,072</u>

(c) The significant non-cash transactions for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Reclassification of construction-in-progress	1,612,730	2,202,062
Reclassification of machinery-in-transit	72,345	208,708
Reclassification of long-term borrowings into current portion	903,097	159,189
Other payables related to acquisitions of property, plant and equipment and intangible assets	602,608	862,452
Reclassification of other payables under the reverse factoring arrangement	2,802,825	719,040
Reclassification into non-current assets held for sale	29,158	-
Conversion of exchangeable bonds into treasury shares	917,592	-
Transfer of related assets due to split-off	10,016,932	-
Transfer of related liabilities and equities due to split-off	4,353,089	-

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

33. Appropriation of Retained Earnings

The appropriation of retained earnings for the year ended December 31, 2020, is expected to be appropriated at the shareholders' meeting on March 25, 2021. The appropriation date for the year ended December 31, 2019, was March 20, 2020.

The appropriation of retained earnings for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Unappropriated retained earnings carried over from prior year	-	-
Profit (loss) for the year	(98,223)	365,924
Remeasurements of net defined benefit liabilities	15,393	(49,864)
Cash flow hedge	15,905	-
Retained earnings available for appropriation	<u>(66,925)</u>	<u>316,060</u>
Transfer from other reserves		
Reserve for technology development	<u>845,308</u>	<u>-</u>
Appropriation of retained earnings		
Legal reserve	-	-
Dividends	778,383	153,608
Reserve for technology development	-	162,452
	<u>778,383</u>	<u>316,060</u>
Unappropriated retained earnings to be carried forward	<u>-</u>	<u>-</u>

34. Assets Held for Sale and Discontinued Operations

34.1 Assets Held for Sale

Upon the approval of management, the Company decided to dispose of acrylic film business (December 2020) and LCD polarizer business (June 2020). The related assets were reclassified as assets held for sale. The disposal of acrylic film business is expected to be completed in the second half of 2021 and the disposal of LCD polarizer business has been completed in February 2021.

(a) Details of assets of disposal group classified as assets held for sale as at December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Assets of disposal group		
Property, plant and equipment	7,668	-
Intangible assets	5,038	-
Investment in subsidiaries	13,444	-
Total	<u>26,150</u>	<u>-</u>

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

- (b) Assets of the disposal group were measured at net fair value immediately before the initial classification as assets as held for sale and there are no other non-operating expenses (income) recognized from the measurement for the years ended December 31, 2020 and 2019.

34.2 Discontinued Operations

The Company decided to discontinue Glass substrate business with the resolution of the Board of Directors in January 2020 and substantially discontinued the related business as of March 2020. In addition, the Company decided to dispose of LCD polarizer business with the resolution of the Board of Directors in June 2020, and the disposal has been completed in February 2021. Profit and loss from the related operations are presented as discontinued operations and the comparative separate statements of profit or loss have been restated.

Comprehensive income information from discontinued operation for the years ended December 31, 2020 and 2019, are as follows:

(in millions of Korean won)

	2020		
	LCD polarizer	Glass substrate	Total
Revenue	177,226	43,901	221,127
Expense	(238,145)	(83,646)	(321,791)
Loss before income tax of discontinued operation	(60,919)	(39,745)	(100,664)
Income tax benefits	12,128	7,912	20,040
Loss after income tax of discontinued operations	(48,791)	(31,833)	(80,624)

(in millions of Korean won)

	2019		
	LCD polarizer	Glass substrate	Total
Revenue	465,804	57,440	523,244
Expense	(461,976)	(170,685)	(632,661)
Gain (loss) before income tax of discontinued operation	3,828	(113,245)	(109,417)
Income tax benefits (expense)	(686)	20,295	19,609
Gain (loss) after income tax of discontinued operations	3,142	(92,950)	(89,808)

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

Net cash flows from discontinued operations for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020		
	LCD polarizer	Glass substrate	Total
Net cash inflow from operating activities	57,363	(3,995)	53,368
Net cash inflow (outflow) from investing activities	(441)	33,111	32,670
Net cash outflow from financing activities	(56,922)	(29,116)	(86,038)
<i>(in millions of Korean won)</i>	2019		
	LCD polarizer	Glass substrate	Total
Net cash inflow (outflow) from operating activities	62,566	(16,862)	45,704
Net cash inflow (outflow) from investing activities	(2,957)	(38,820)	(41,777)
Net cash inflow (outflow) from financing activities	(59,609)	55,682	(3,927)

35. Assets and Liabilities related to Contracts with Customers

(a) Assets and liabilities related to contracts with customers as at December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Contract assets		
Total contract assets	-	-
Contract liabilities		
Advances in relation to revenue from the Company's main business activities	26,145	164,557
Expected services to be transferred	-	3,500
Expected customer incentives	1,536	6,818
Unearned revenue	25,696	34,247
Expected refunds	902	2,634
Total contract liabilities	<u>54,279</u>	<u>211,756</u>

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

Revenue recognized in relation to contract liabilities

- (b) Revenue recognized in the current year that was included in the contract liability balance at the beginning of the year, and revenue recognized in the current year from performance obligations satisfied (or partially satisfied) in previous years are as follows.

<i>(in millions of Korean won)</i>	2020	2019
Revenue recognized in the current year from the contract liability balance at the beginning of the year	132,408	52,875
Advances in relation to revenue from the Company's main business activities	116,305	46,272
Unearned revenue	12,603	2,068
Expected services to be transferred	3,500	4,535
Revenue recognized from performance obligations satisfied in previous years	-	-

36. Investment Properties

- (a) Details of investment properties as at December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020			2019				
	Cost	Accumulated depreciation	Accumulated impairment	Book amount	Cost	Accumulated depreciation	Accumulated impairment	Book amount
Land	4,216	-	-	4,216	4,368	-	-	4,368
Buildings	30,140	(11,361)	(192)	18,587	61,242	(12,202)	(80)	48,960
	<u>34,356</u>	<u>(11,361)</u>	<u>(192)</u>	<u>22,803</u>	<u>65,610</u>	<u>(12,202)</u>	<u>(80)</u>	<u>53,328</u>

- (b) Changes in investment properties for the years ended December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020			2019		
	Land	Building	Total	Land	Building	Total
Beginning balance	4,368	48,960	53,328	486	529	1,015
Acquisitions/transfers	-	17,338	17,338	3,882	49,657	53,539
Disposals/transfers	(152)	(5,221)	(5,373)	-	-	-
Depreciation	-	(1,347)	(1,347)	-	(1,226)	(1,226)
Transfer	-	(41,143)	(41,143)	-	-	-
Ending balance	<u>4,216</u>	<u>18,587</u>	<u>22,803</u>	<u>4,368</u>	<u>48,960</u>	<u>53,328</u>

- (c) The fair value of investment properties is measured either by independent professional appraisers with certified qualification or measured based on official appraised value of land and available information from recent transactions of similar properties, and it is classified as

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

'level 3' of the fair value hierarchy. The fair value of investment properties as at December 31, 2020, is ₩ 30,298 million.

Rental income from investment properties under operating lease is ₩ 6,439 million, and operating expenses incurred for investment properties that generated rental income (including maintenance and repair expenses) are ₩ 1,335 million. Operating expenses incurred for investment properties that do not generate rental income (including maintenance and repair expenses) are ₩12 million.

(d) Operating lease

Investment properties are leased to tenants under operating leases with monthly rent payments. Where considered necessary to reduce credit risk, the Company may obtain bank guarantees for the term of the lease.

Although the Company is exposed to changes in the residual value at the end of the current leases, the Company typically enters into new operating leases and therefore will not immediately realize any reduction in residual value at the end of these leases. Expectations about the future residual values are reflected in the fair value of investment properties.

The future minimum lease payments expected to be received in relation to the above operating lease agreement for investment properties as at December 31, 2020 and 2019, are as follows:

<i>(in millions of Korean won)</i>	2020	2019
Within one year	1,304	6,848
Within two years	173	-
Within five years	215	-
	<u>1,692</u>	<u>6,848</u>

37. Split-off

Upon the resolution of Board of Directors on September 17, 2020, the Company decided to split off its energy solution division into LG Energy Solution Co., Ltd. Assets and liabilities related to the energy solution division of the Company were transferred to LG Energy Solution Co., Ltd., a newly established entity and 100% of shares of LG Energy Solution Co., Ltd. were issued to the Company as a consideration according to the split-off plan. The split-off was approved by shareholders' meeting on October 30, 2020. Details of the split-off are as follows.

	Details
Method	Split-off
Related Entities	LG Chem Co., Ltd. (surviving company after the split-off) LG Energy Solution Co., Ltd. (newly established entity for the split-off)
Approval of shareholders's meeting	October 30, 2020
Effective split-off date	December 1, 2020

LG Chem, Ltd.
Notes to the Separate Financial Statements
December 31, 2020 and 2019

Acquisition cost of investment in subsidiary resulting from the split-off was measured based on the net book value of assets and liabilities transferred. Details of assets and liabilities transferred are as follows.

<i>(in millions of Korean won)</i>	Amount
Assets	
Cash and cash equivalents	1,251,298
Trade receivables	1,552,070
Inventories	756,250
Investments in associates and joint ventures	4,452,376
Property, plant and equipment	1,669,154
Intangible assets	272,057
Other assets	1,315,025
Total assets	11,268,230
Liabilities	
Trade payables	1,224,818
Borrowings	1,953,835
Other liabilities	1,174,436
Total liabilities	4,353,089
Net assets transferred (Investment in subsidiary)	6,915,141

38. Events after the reporting period

(a) The Company decided to issue publicly offered bonds at the Management Committee held on January 25, 2021. In accordance with the resolution, publicly offered bonds of KRW 1,200 billion were issued on February 19th.

<i>(in millions of Korean won)</i>	Expiry date	Amount
54-1 st Debenture (non-guaranteed/public)	2024.02.19	350,000
54-2 nd Debenture (non-guaranteed/public)	2026.02.19	270,000
54-3 rd Debenture (non-guaranteed/public)	2028.02.19	200,000
54-4 th Debenture (non-guaranteed/public)	2031.02.19	260,000
54-5 th Debenture (non-guaranteed/public)	2036.02.19	120,000

(b) The sale of LCD polarizer business, which was classified as assets held for sale upon the resolution of the Board of Directors in June 2020, was completed in February 2021.

39. Approval of Issuance of the Financial Statements

The separate financial statements 2020 were approved for issue by the Board of Directors on March 4, 2021 and are subject to change with approval of shareholders at their Annual General Meeting.

Report on Independent Auditor's Audit of Internal Control over Financial Reporting

(English Translation of a Report Originally Issued in Korean)

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

Opinion on Internal Control over Financial Reporting

We have audited LG Chem, Ltd. (the Company) Internal Control over Financial Reporting as of December 31, 2020, based on *Conceptual Framework for Designing and Operating Internal Control over Financial Reporting*.

In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on *Conceptual Framework for Designing and Operating Internal Control over Financial Reporting*.

We also have audited, in accordance with Korean Standards on Auditing, the separate financial statements of the Company, which comprise the separate statements of financial position as at December 31, 2020 and 2019, and the separate statements of profit or loss, separate statements of comprehensive income, separate statements of changes in equity and separate statements of cash flow for the years then ended, and notes to the separate financial statements including a summary of significant accounting policies, and our report dated on March 11, 2021, expressed unqualified opinion.

Basis for Opinion on Internal Control over Financial Reporting

We conducted our audit in accordance with Korean Standards on Auditing. Our responsibility under these standards are further described in the *Auditor's Responsibilities for the Audit of the Internal Control over Financial Reporting* section of our report. We are independent of the Company in accordance with the ethical requirements of the Republic of Korea that are relevant to our audit of internal control over financial reporting and we have fulfilled our other ethical responsibilities in accordance with the ethical requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management and Those Charged with Governance for Internal Control over Financial Reporting

Management is responsible for designing, implementing and maintaining effective internal control over financial reporting, and for its assessment about the effectiveness of internal control over financial reporting, included in the accompanying *Report on the Effectiveness of Internal Control over Financial Reporting*.

Those charged with governance have the responsibilities for overseeing internal control over financial reporting.

Auditor's Responsibilities for the Audit of Internal Control over Financial Reporting

Our responsibility is to express opinion on the Company's internal control over financial reporting based on our audit. We conducted the audit in accordance with Korean Standards on Auditing. Those

standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

An audit of internal control over financial reporting involves performing procedures to obtain audit evidence about whether a material weakness exists. The procedures selected depend on the auditor's judgment, including the assessment of the risks that a material weakness exists. An audit includes obtaining an understanding of internal control over financial reporting and testing and evaluating the design and operating effectiveness of internal control over financial reporting based on the assessed risk.

Definition and Inherent Limitations of Internal Control over Financial Reporting

An entity's internal control over financial reporting is a process effected by those charged with governance, management, and other personnel, designed to provide reasonable assurance regarding the preparation of reliable separate financial statements in accordance with International Financial Reporting Standards as adopted by the Republic of Korea. An entity's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the entity; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of separate financial statements in accordance with International Financial Reporting Standards as adopted by the Republic of Korea, and that receipts and expenditures of the entity are being made only in accordance with authorizations of management and those charged with governance; and (3) provide reasonable assurance regarding prevention, or timely detection and correction of unauthorized acquisition, use, or disposition of the entity's assets that could have a material effect on the separate financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent, or detect and correct, misstatements. Also, projections of any assessment of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

The engagement partner on the audit resulting in this independent auditor's report is Kibok Lee, Certified Public Accountant.

Seoul, Korea

March 11, 2021

This report is effective as of March 11, 2021, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the Company's internal control over financial reporting thereto. Accordingly, the readers of the audit report should understand that there is a possibility that the above audit report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

Report on the Effectiveness of Internal Control over Financial Reporting

(English Translation of a Report Originally Issued in Korean)

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

We, as the Chief Executive Officer (“CEO”) and the Internal Control over Financial Reporting (“ICFR”) Officer of LG Chem, Ltd. (“the Company”), assessed the effectiveness of the design and operation of the Company’s Internal Control over Financial Reporting for the year ended December 31, 2020.

The Company’s management, including ourselves, is responsible for designing and operating ICFR. We assessed the design and operating effectiveness of the ICFR in the prevention and detection of an error or fraud which may cause material misstatements in the preparation and disclosure of reliable separate financial statements.

We designed and operated ICFR in accordance with *Conceptual Framework for Designing and Operating Internal Control over Financial Reporting* established by the Operating Committee of Internal Control over Financial Reporting in Korea (the ICFR Committee). And, we conducted an evaluation of ICFR based on *Management Guideline for Evaluating and Reporting Effectiveness of Internal Control over Financial Reporting* established by the ICFR Committee.

Based on the assessment results, we believe that the Company’s ICFR, as at December 31, 2020, is designed and operating effectively, in all material respects, in accordance with *Conceptual Framework for Designing and Operating Internal Control over Financial Reporting*.

We certify that this report does not contain any untrue statement of a fact or omit to state a fact necessary to be presented herein. We also certify that this report does not contain or present any statement which cause material misunderstandings, and we have reviewed and verified this report with sufficient due care.

January 27, 2021

Hak -Cheol Shin, Chief Executive Officer

Dong-Seok Cha, Internal Control over Financial Reporting Officer