

LG ENERGY SOLUTION, LTD.

Separate Financial Statements

As of and For the Years Ended December 31, 2023 and 2022

(With the Independent Auditor's Report Thereon)

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Independent Auditor's Report

English Translation of Independent Auditor's Report Originally Issued in Korean on March 7, 2024.

To the Shareholders and the Board of Directors of LG Energy Solution, Ltd.:

Audit Opinion

We have audited the separate financial statements of LG Energy Solution, Ltd. (the "Company"), which comprise the separate statement of financial position as of December 31, 2023 and 2022, respectively, and the separate statement of profit or loss, the separate statement of comprehensive income, separate statement of changes in equity and separate statement of cash flows, all expressed in Korean won, for the years then ended, and notes to the separate financial statements, including material accounting policy information.

In our opinion, the accompanying separate financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2023 and 2022, respectively, and its financial performance and its cash flows for the years then ended in accordance with Korean International Financial Reporting Standards ("K-IFRSs").

We have also audited, in accordance with the Korean Standards on Auditing ("KSAs"), the internal control over financial reporting of the Company as of December 31, 2023, based on the 'Conceptual Framework for Design and Operation of Internal Control over Financial Reporting' and our report dated March 7, 2024, expressed an unqualified opinion.

Basis for Audit Opinion

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

Key Audit Matters

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

GM Recall Warranty Provisions

1) Description of Key Audit Matter

As stated in Note 4 of the separate financial statements, the warranty provisions for voluntary recalls related to the customers are estimated based on the number of vehicles subject to recall, the expected total repair costs, and the cost-sharing ratio, etc. General Motors Company ("GM"), the Company's customer, voluntarily decided to recall certain vehicles during the year ended December 31, 2021, and the estimated amount of the warranty provisions the Company has recognized for this recall is ₩96,857 million, as of December 31, 2023.



We have assessed this item as a Key Audit Matter, considering that the recognized amount of the warranty provision is material, and the significant management judgment is involved in estimation.

2) How our audit addressed the Key Audit Matter

Our procedures included the following:

- Evaluate whether the Company's policies and internal controls for recognizing and measuring the warranty provisions are effectively designed and operated.
- Perform the following procedures to assess the reasonableness of the key assumptions used by management:
 - Compare the underlying data with external and internal sources of information.
 - Engage an auditor's expert to evaluate the reasonableness of the key assumptions and variables used by management.
- Evaluate the competence and objectivity of the external expert engaged by management.
- Independently recalculate the balance of the warranty provisions.
- Assess the adequacy of the related footnote disclosures.

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

Management is responsible for the preparation of the accompanying separate financial statements in accordance with K-IFRS, and for such internal control as they determine 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 of the Company 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, or has no realistic alternative but to do so.

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

Auditor's Responsibilities for the Audit of the Separate 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 KSAs 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 separate financial statements.

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

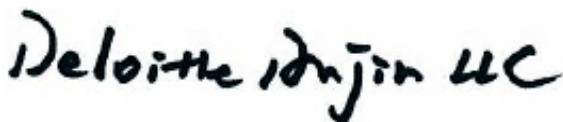
- Identify and assess the risks of material misstatement of the separate financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks and obtain audit evidence that is sufficient and appropriate to provide a basis for our audit opinion. The risk of 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 the 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 audits and significant audit findings, including any significant deficiencies in internal control that we identify during our audits.

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 audits 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 Kiu Seok Seo.



March 7, 2024

This report is effective as of March 7, 2024, the auditor's report date. Certain subsequent events or circumstances may have occurred between the auditor's report date and the time the auditor's report is read. Such events or circumstances could significantly affect the separate financial statements and may result in modifications to the auditor's report.

LG ENERGY SOLUTION, LTD.

Separate financial statements
as of and for the years ended December 31, 2023 and 2022

“The accompanying separate financial statements, including all footnotes and disclosures, have been prepared by, and are the responsibility of, the Company.”

Young Soo Kwon
Chief Executive Officer
LG Energy Solution, Ltd.

LG Energy Solution, Ltd.
Separate statements of financial position
As of December 31, 2023 and 2022

(Korean won in millions)

	<u>Notes</u>		<u>December 31, 2023</u>		<u>December 31, 2022</u>
Assets					
Current assets					
Cash and cash equivalents	3,5,6	₩	1,855,224	₩	4,828,152
Trade receivables	3,5,7,30		2,289,892		2,207,153
Other receivables	3,5,7,30		1,173,761		1,232,735
Prepaid income taxes	27		15,132		19,657
Other current financial assets	3,5,8		65,400		-
Other current assets	13		118,776		109,119
Inventories	9		<u>1,265,558</u>		<u>1,598,728</u>
			6,783,743		9,995,544
Non-current assets					
Trade receivables	3,5,7		127,946		120,698
Other receivables	3,5,7,30		153,173		168,940
Other non-current financial assets	3,5,8		287,187		360,295
Investments in subsidiaries	10		9,847,300		7,311,276
Investments in associates and joint ventures	10		271,463		236,270
Deferred tax assets	27		1,598,516		1,541,995
Property, plant and equipment	11,18		3,383,740		2,504,936
Intangible assets	12		712,217		513,483
Investment properties	33		212,650		213,289
Other non-current assets	13,16		<u>168,004</u>		<u>236,084</u>
			16,762,196		13,207,266
Total assets		₩	<u>23,545,939</u>	₩	<u>23,202,810</u>
Liabilities					
Current liabilities					
Trade payables	3,5,30	₩	1,097,287	₩	1,605,551
Other payables	3,5,30		983,134		961,370
Borrowings	3,5,11,14,31		670,418		691,115
Other current financial liabilities	3,5,8		58,440		66,054
Current provisions	15		374,710		804,254
Other current liabilities	17,32		<u>326,930</u>		<u>479,751</u>
			3,510,919		4,608,095
Non-current liabilities					
Other non-current payables	3,5,30		3,368		3,315
Borrowings	3,5,11,14,31		3,149,383		1,501,942
Other non-current financial liabilities	3,5,8		68,368		322
Non-current provisions	15		152,295		121,298
Other non-current liabilities	17,32		<u>60,112</u>		<u>173,266</u>
			3,433,526		1,800,143
Total liabilities		₩	<u>6,944,445</u>	₩	<u>6,408,238</u>
Equity					
Share capital	19	₩	117,000	₩	117,000
Capital surplus	19		17,589,722		17,589,722
Accumulated other comprehensive income			(53,516)		46,640
Accumulated deficit	20		<u>(1,051,712)</u>		<u>(958,790)</u>
Total equity			<u>16,601,494</u>		<u>16,794,572</u>
Total liabilities and equity		₩	<u>23,545,939</u>	₩	<u>23,202,810</u>

The accompanying notes are an integral part of the separate financial statements.

LG Energy Solution, Ltd.
Separate statements of profit or loss
For the years ended December 31, 2023 and 2022

(Korean won in millions)

	Notes	2023	2022
Revenue	21,30,32	₩ 12,288,439	₩ 10,581,787
Cost of sales	21,22,30	9,881,450	8,962,110
Gross profit	21	2,406,989	1,619,677
Selling and administrative expenses	21,22,30	2,725,903	2,296,187
Operating loss	21	(318,914)	(676,510)
Finance income	24,30	615,296	350,059
Finance costs	24,30	575,148	294,184
Other non-operating income	25	729,536	537,713
Other non-operating expenses	26	424,544	600,393
Gain (loss) before income tax benefit		26,226	(683,315)
Income tax expense (benefit)	27	91,915	(155,188)
Loss for the year	20	₩ (65,689)	₩ (528,127)
Loss per share attributable to the equity holders of the company (in Korean won)	28		
Basic or diluted losses per share		₩ (281)	₩ (2,276)

The accompanying notes are an integral part of the separate financial statements.

LG Energy Solution, Ltd.
Separate statements of comprehensive income
For the years ended December 31, 2023 and 2022

(Korean won in millions)

	Notes	2023	2022
Loss for the year	₩	(65,689)	₩ (528,127)
Other comprehensive income:			
Items that will not be subsequently reclassified to profit or loss:			
Remeasurements of net defined benefit liabilities	16	(35,317)	68,517
Gain (loss) on valuation of financial assets at FVOCI	5	(129,038)	60,047
Income tax effect of other comprehensive income		<u>37,621</u>	<u>(35,355)</u>
		(126,734)	93,209
Items that may be subsequently reclassified to profit or loss:			
Loss on cash flow hedge	5	(850)	(1,154)
Income tax effect of other comprehensive income		<u>195</u>	<u>317</u>
		(655)	(837)
Other comprehensive income (loss) for the year, net of tax		(127,389)	92,372
Total comprehensive loss for the year, net of tax	₩	<u>(193,078)</u>	₩ <u>(435,755)</u>

The accompanying notes are an integral part of separate financial statements.

LG Energy Solution, Ltd.
Separate statements of changes in equity
For the years ended December 31, 2023 and 2022

(Korean won in millions)

	Notes	Share capital	Capital surplus	Accumulated other comprehensive income(loss)	Retained earnings (accumulated deficit)	Total
As of January 1, 2022		₩ 100,000	₩ 7,510,351	₩ 3,943	₩ (480,338)	₩ 7,133,956
Comprehensive income (loss) for the period:						
Loss for the year		-	-	-	(528,127)	(528,127)
Remeasurements of net defined benefit liabilities	16	-	-	-	49,675	49,675
Gain (loss) on valuation of financial assets at FVOCI	5	-	-	43,534	-	43,534
Loss on cash flow hedge	5	-	-	(837)	-	(837)
Total comprehensive income for the year		-	-	42,697	(478,452)	(435,755)
Transactions with owners						
Capital increase		17,000	10,079,371	-	-	10,096,371
Total transactions with owners		17,000	10,079,371	-	-	10,096,371
As of December 31, 2022		<u>₩ 117,000</u>	<u>₩ 17,589,722</u>	<u>₩ 46,640</u>	<u>₩ (958,790)</u>	<u>₩ 16,794,572</u>
As of January 1, 2023		₩ 117,000	₩ 17,589,722	₩ 46,640	₩ (958,790)	₩ 16,794,572
Comprehensive income(loss) for the period:						
Loss for the year		-	-	-	(65,689)	(65,689)
Remeasurements of net defined benefit liabilities	16	-	-	-	(27,233)	(27,233)
Gain (loss) on valuation of financial assets at FVOCI	5	-	-	(99,501)	-	(99,501)
Loss on cash flow hedge	5	-	-	(655)	-	(655)
Total comprehensive income(loss) for the year		-	-	(100,156)	(92,922)	(193,078)
As of December 31, 2023		<u>₩ 117,000</u>	<u>₩ 17,589,722</u>	<u>₩ (53,516)</u>	<u>₩ (1,051,712)</u>	<u>₩ 16,601,494</u>

The accompanying notes are an integral part of the separate financial statements.

LG Energy Solution, Ltd.
Separate statements of cash flows
For the years ended December 31, 2023 and 2022

(Korean won in millions)

	Notes	2023	2022
Cash flows from operating activities:			
Cash generated from operations	31 ₩	(684,103) ₩	(2,535,066)
Interest received		129,514	133,035
Interest paid		(76,063)	(54,298)
Dividends received		329,775	-
Income tax paid(refund)		(105,378)	63,803
Net cash used in operating activities		(406,255)	(2,392,526)
Cash flows from investing activities:			
Cash inflow from investing activities:			
Decrease in other receivables		13,866	6,203,749
Decrease in other non-current receivables		4,750	3,132
Proceeds from disposal of financial assets		-	1,287
Proceeds from disposal of property, plant and equipment		67,476	6,656
Proceeds from disposal of intangible assets		1,454	6,246
Government grants received		14,079	300
		101,625	6,221,370
Cash outflow for investing activities:			
Increase in other receivables		-	(6,214,378)
Increase in other non-current receivables		(12,813)	(21,308)
Acquisition of investments in subsidiaries		(2,498,895)	(2,055,365)
Acquisition of investments in associates		(62,331)	-
Acquisition of financial instruments		(84,652)	(102,340)
Acquisition of property, plant and equipment		(1,491,141)	(871,243)
Acquisition of intangible assets		(87,192)	(78,243)
Other cash outflow for investing activities		(4,431)	-
		(4,241,455)	(9,342,877)
Net cash used in investing activities		(4,139,830)	(3,121,507)
Cash flows from financing activities:			
Cash inflow from financing activities:			
Increase in borrowings	31	2,325,688	149,607
Capital increase		-	10,096,371
		2,325,688	10,245,978
Cash outflow for financing activities:			
Repayment of borrowings and others	31	(748,608)	(162,729)
		(748,608)	(162,729)
Net cash provided by financing activities		1,577,080	10,083,249
Net increase (decrease) in cash and cash equivalents		(2,969,005)	4,569,216
Cash and cash equivalents at the beginning of the year		4,828,152	257,032
Effects of exchange rate changes on cash and cash equivalents		(3,923)	1,904
Cash and cash equivalents at the end of the year		₩ 1,855,224	₩ 4,828,152

The accompanying notes are an integral part of the Separate financial statements.

1. GENERAL:

General information about LG Energy Solution, Ltd. (the “Company”) is as follows:

1.1 Company Information

The Company, a split-off of LG Chem, Ltd.’s battery division, was incorporated on December 1, 2020.

As of December 31, 2023, the Company is engaged in the battery industry with its manufacturing facilities located in Ochang.

The Company’s shares have been listed on the Korea Exchange since January 27, 2022, and the share capital is ₩117,000 million as of December 31, 2023. The largest shareholder of the Company is LG Chem, Ltd., which holds 81.84% of the Company’s ordinary shares.

The Company is authorized to issue 800 million shares (₩500 per share) and has issued 234 million of ordinary shares as of December 31, 2023.

1.2 Business Overview

The Company is engaged in the battery business.

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

2. BASIS OF PREPARATION AND CHANGES IN ACCOUNTING POLICIES:

2.1 Basis of Preparation

The Company prepares its separate financial statements in accordance with Korean International Financial Reporting Standards (“K-IFRS”) 1027 *Separate Financial Statements*. The separate financial statements require a parent or an investor with joint control of, or significant influence over, an investee to account for their investment assets in accordance with the cost method or the method prescribed in K-IFRS 1109 *Financial Instruments* or using the equity method of accounting as prescribed in K-IFRS 1028 *Investments in Associates and Joint Ventures*.

The principal accounting policies are set out below. Except for the effect of the Amendments to K-IFRSs and new interpretations set out below, the principal accounting policies used to prepare the separate financial statements as of and for the year ended December 31, 2023, are consistent with the accounting policies used to prepare the separate financial statements as of and for the year ended December 31, 2022.

The accompanying separate financial statements have been prepared on the historical cost basis except for certain non-current assets and financial instruments that are measured at fair values, as explained in the accounting policies below. Historical cost is based on the fair values of the consideration given.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, regardless of whether that price is directly observable or estimated using another valuation technique. In estimating the fair value of an asset or a liability, the Company takes into account the characteristics of the asset or liability if market participants would take those characteristics into account when pricing the asset or liability at the measurement date. Fair value for measurement and/or disclosure purposes in these separate financial statements is determined on such a basis, except for share-based payment transactions that are within the scope of K-IFRS 1102 *Share-based payment*, leasing transactions that are within the scope of K-IFRS 1116 *Leases*, and measurements that have some similarities to fair value but are not fair value, such as net realizable value in K-IFRS 1002 *Inventories* or value in use in K-IFRS 1036 *Impairment of Assets*.

The directors have, at the time of approving the separate financial statements, a reasonable expectation that the Company has adequate resources to continue in operational existence for the foreseeable future. Thus, they continue to adopt the going-concern basis of accounting in preparing the separate financial statements.

2.2 Changes in Accounting Policies and Disclosures

1) New and amended K-IFRSs and new interpretations that are effective for the current year

- K-IFRS 1117 *Insurance Contracts*

K-IFRS 1117 establishes the principles for the recognition, measurement, presentation and disclosure of insurance contracts and supersedes K-IFRS 1104 *Insurance Contracts*.

K-IFRS 1117 outlines a general model, which is modified for insurance contracts with direct participation features, described as the variable fee approach. The general model is simplified if certain criteria are met by measuring the liability for remaining coverage using the premium allocation approach. The general model uses current assumptions to estimate the amount, timing and uncertainty of future cash flows and it explicitly measures the cost of that uncertainty. It takes into account market interest rates and the impact of policyholders' options and guarantees.

The Company does not have any contracts that meet the definition of an insurance contract under K-IFRS 1117.

- K-IFRS 1001 *Presentation of Financial Statements* and *IFRS Practice Statement 2 Making Materiality Judgements* – Disclosure of Accounting Policies (Amendment)

The amendment changes the requirements in K-IFRS 1001 with regard to disclosure of accounting policies. The amendments replace all instances of the term 'significant accounting policies' with 'material accounting policy information.' Accounting policy information is material if, when considered together with other information included in an entity's financial statements, it can reasonably be expected to influence decisions that the primary users of general-purpose financial statements make on the basis of those financial statements.

The supporting paragraphs in K-IFRS 1001 are also amended to clarify that accounting policy information that relates to immaterial transactions, other events or conditions is immaterial and need not be disclosed. Accounting policy information may be material because of the nature of the related transactions, other events or conditions, even if the amounts are immaterial. However, not all accounting policy information relating to material transactions, other events or conditions is itself material.

The International Accounting Standards Board has also developed guidance and examples to explain and demonstrate the application of the 'four-step materiality process' described in IFRS Practice Statement 2.

-K-IFRS 1001 *Presentation of Financial Statements* – Disclosure of financial liabilities with clauses to adjust exercise price (Amendment)

The amendment requires disclosure of valuation gains or losses (limited to those recognized in the profit or loss) of the conversion options or warrants (or financial liabilities including them), if all or part of the financial instrument with exercise price that is adjusted depending on the issuer's share price change is classified as financial liability as defined in paragraph 11.(2) of K-IFRS 1032.

K-IFRS 1008 *Accounting Policies, Changes in Accounting Estimates and Errors* – Definition of Accounting Estimates (Amendment)

The amendment replaces the definition of a change in accounting estimates with a definition of accounting estimates. Under the new definition, accounting estimates are "monetary amounts in financial statements that are subject to measurement uncertainty." The definition of a change in accounting estimates was deleted.

K-IFRS 1012 *Income Taxes* - Deferred Tax related to Assets and Liabilities arising from a Single Transaction (Amendment)

The amendment introduces a further exception from the initial recognition exemption. Under the amendment, an entity does not apply the initial recognition exemption for transactions that give rise to equal taxable and deductible temporary differences. Depending on the applicable tax law, equal taxable and deductible temporary differences may arise on initial recognition of an asset and liability in a transaction that is not a business combination and affects neither accounting profit nor taxable profit.

Following the amendment to K-IFRS 1012, an entity is required to recognize the related deferred tax asset and liability, with the recognition of any deferred tax asset being subject to the recoverability criteria in K-IFRS 1012.

- K-IFRS 1012 *Income Taxes* - International Tax Reform—Pillar Two Model Rules (Amendment)

The amendment clarifies that the standard applies to income taxes arising from tax law enacted or substantively enacted to implement the Pillar Two model rules published by the OECD, including tax law that implements qualified domestic minimum top-up taxes described in those rules.

The amendments introduce a temporary exception to the accounting requirements for deferred taxes in K-IFRS 1012, so that an entity would neither recognize nor disclose information about deferred tax assets and liabilities related to Pillar Two income taxes.

2) At the date of authorization of these separate financial statements, the Company has not applied the following new and revised K-IFRSs that have been issued but are not yet effective:

- K-IFRS 1001 *Presentation of Financial Statements* - Classification of Liabilities as Current or Non-current (Amendment)

The amendment clarifies that the classification of liabilities as current or non-current is based on rights that are in existence at the end of the reporting period, specify that classification is unaffected by expectations about whether an entity will exercise its right to defer settlement of a liability, explain that rights are in existence if covenants are complied with at the end of the reporting period, and introduce a definition of ‘settlement’ to make clear that settlement refers to the transfer to the counterparty of cash, equity instruments, other assets or services.

The amendments are applied retrospectively for annual periods beginning on or after January 1, 2024, with early application permitted. If an entity applies this amendments for an earlier period, it is also required to apply the 2023 amendments early.

- K-IFRS 1001 *Presentation of Financial Statements* – Non-current Liabilities with Covenants (Amendment)

The amendment specifies that only covenants that an entity is required to comply with on or before the end of the reporting period affect the entity’s right to defer settlement of a liability for at least 12 months after the reporting date. Such covenants affect whether the right exists at the end of the reporting period, even if compliance with the covenant is assessed only after the reporting date.

The amendments also specify that the right to defer settlement of a liability for at least 12 months after the reporting date is not affected if an entity only has to comply with a covenant after the reporting period. However, if the entity’s right to defer settlement of a liability is subject to the entity complying with covenants within 12 months after the reporting period, an entity discloses information that enables users of financial statements to understand the risk of the liabilities becoming repayable within 12 months after the reporting period. This would include information about the covenants (including the nature of the covenants and when the entity is required to comply with them), the carrying amount of related liabilities and facts and circumstances, if any, that indicate that the entity may have difficulties complying with the covenants.

The amendments are applied retrospectively for annual reporting periods beginning on or after January 1, 2024. Earlier application of the amendments is permitted. If an entity applies the amendments for an earlier period, it is also required to apply the 2020 amendments early.

- K-IFRS 1007 *Statement of Cash Flows* and K-IFRS 1107 *Financial Instruments: Disclosures* - Supplier Finance Arrangements (Amendment)

The amendment adds a disclosure objective to K-IFRS 1007 stating that an entity is required to disclose information about its supplier finance arrangements that enables users of financial statements to assess the effects of those arrangements on the entity's liabilities and cash flows. In addition, K-IFRS 1107 was amended to add supplier finance arrangements as an example within the requirements to disclose information about an entity's exposure to concentration of liquidity risk.

The term 'supplier finance arrangements' is not defined. Instead, the amendments describe the characteristics of an arrangement for which an entity would be required to provide the information.

To meet the disclosure objective, an entity will be required to disclose in aggregate for its supplier finance arrangements:

- The condition of commitment.
- The carrying amount, and associated line items presented in the entity's statement of financial position, of the liabilities that are part of the arrangements
- The carrying amount and associated line items for which the suppliers have already received payment from the finance providers
- Ranges of payment due dates for both those financial liabilities that are part of a supplier finance arrangement and comparable trade payables that are not part of a supplier finance arrangement
- Liquidity risk information

The amendments, which contain specific transition reliefs for the first annual reporting period in which an entity applies the amendments, are applicable for annual reporting periods beginning on or after January 1, 2024. Earlier application is permitted.

- K-IFRS 1116 *Leases* - Lease Liability in a Sale and Leaseback (Amendment)

The amendment to K-IFRS 1116 adds subsequent measurement requirements for sale and leaseback transactions that satisfy the requirements in K-IFRS 1115 to be accounted for as a sale. The amendments require the seller-lessee to determine 'lease payments' or 'revised lease payments' such that the seller-lessee does not recognize a gain or loss that relates to the right of use retained by the seller-lessee, after the commencement date.

The amendments are effective for annual reporting periods beginning on or after January 1, 2024. Earlier application is permitted.

- K-IFRS 1001 *Presentation of Financial Statements* – Disclosure of Virtual Assets (Amendment)

The amendment to K-IFRS 1001 add additional disclosure requirements required by other standards for transactions related to virtual assets, setting out disclosure requirement for each case of 1) holding virtual assets, 2) holding virtual assets on behalf of customer, and 3) issuing virtual assets.

When holding a virtual asset, disclosure on the general information about virtual assets, the accounting policy applied and each virtual asset's acquisition method, cost and the fair value at the end of the reporting period is required. Also, when issuing a virtual asset, the entity's obligations and status of fulfilment of the obligation related to the issued virtual asset, the timing and amount of the recognized revenue of the sold virtual asset, the number of virtual assets held after issuance and important contract details shall be disclosed.

The amendments are effective for annual reporting periods beginning on or after January 1, 2024. Earlier application is permitted.

The Company does not anticipate that the application of the enactment and amendments will have a significant impact on its separate financial statements.

2.3 Subsidiaries, Joint Ventures, and Associates

The financial statements of the Company are the separate financial statements prepared in accordance with K-IFRS 1027 *Separate Financial Statements*. Investments in subsidiaries, joint ventures and associates are recognized at a cost under the direct equity method. The Company recognizes dividend income from subsidiaries, joint ventures and associates in profit or loss when its right to receive the dividend is established.

The Company determines whether impairments should be recognized on investments in subsidiaries, joint ventures and associates, in accordance with K-IFRS 1036 *Impairment of Assets*. If there are indications of impairment, the Company performs impairment testing by comparing the carrying amount of investments with their recoverable amounts (the higher of net fair value and value in use), in accordance with K-IFRS 1036 *Impairment of Assets*. The difference between the recoverable amount and the carrying amount of these investment assets is recognized as impairment losses.

2.4 Revenue Recognition

(1) 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 expired, the warranties are recognized as revenue and are identified as a separate performance obligation when the Company provides additional warranties for the quality of the product or when the customer has the option to purchase additional warranties separately.

(2) A performance obligation satisfied at a point in time

The revenue from the sale of goods is recognized at the time they are delivered to the customer. Delivery occurs when the products have been shipped to the specific location, the risks of obsolescence and loss have been transferred to the customer, and either the customer has accepted the products in accordance with the sales contract, the acceptance provisions have lapsed or the 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 the discounts and the refund, and the volume discounts are calculated based on the periodical forecast sales. The warranty provision for the sales and refund is reasonably estimated and recognized properly.

(3) 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.

2.5 Lease

(1) The Company as lessee

The Company assesses whether a contract is or contains a lease, at the inception of the contract. The Company recognizes a right-of-use asset and a corresponding lease liability with respect to all lease arrangements in which it is the lessee, except for short-term leases (defined as leases with a lease term of 12 months or less) and leases of low-value assets (such as tablets and personal computers, small items of office furniture and telephones). For these leases, the Company recognizes the lease payments as an operating expense on a straight-line basis over the term of the lease, unless another systematic basis is more representative of the time pattern in which economic benefits from the leased assets are consumed.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the rate implicit in the lease. If this rate cannot be readily determined, the Company uses its incremental borrowing rate.

The incremental borrowing rate depends on the term, currency and start date of the lease and is determined based on a series of inputs, including: the risk-free rate based on government bond rates; a country-specific risk adjustment; a credit risk adjustment based on bond yields; and an entity-specific adjustment when the risk profile of the entity that enters into the lease is different to that of the Company and the lease does not benefit from a guarantee from the Company.

Lease payments included in the measurement of the lease liability comprise:

- Fixed lease payments (including in-substance fixed payments), less any lease incentives receivable
- Variable lease payments that depend on an index or rate, initially measured using the index or rate at the commencement date
- The amount expected to be payable by the lessee under residual value guarantees
- The exercise price of purchase options, if the lessee is reasonably certain to exercise the options
- Payments of penalties for terminating the lease, if the lease term reflects the exercise of an option to terminate the lease.

The lease liability is included in the measurement of the borrowings.

The lease liability is subsequently measured by increasing the carrying amount to reflect interest on the lease liability (using the effective interest method) and by reducing the carrying amount to reflect the lease payments made.

The Company remeasures the lease liability (and makes a corresponding adjustment to the related right-of-use asset) whenever:

- The lease term has changed or there is a significant event or change in circumstances resulting in a change in the assessment of exercise of a purchase option, in which case the lease liability is remeasured by discounting the revised lease payments using a revised discount rate.
- The lease payments change due to changes in an index or rate or a change in expected payment under a guaranteed residual value, in which cases the lease liability is remeasured by discounting the revised lease payments using an unchanged discount rate (unless the lease payments change is due to a change in a floating interest rate, in which case a revised discount rate is used).
- A lease contract is modified and the lease modification is not accounted for as a separate lease, in which case the lease liability is remeasured based on the lease term of the modified lease by discounting the revised lease payments using a revised discount rate at the effective date of the modification.

The right-of-use assets comprise the initial measurement of the corresponding lease liability, lease payments made at or before the commencement day, plus any lease incentives received and any initial direct costs. They are subsequently measured at cost, less accumulated depreciation and impairment losses.

Whenever the Company incurs an obligation for costs to dismantle and remove a leased asset, restore the site on which it is located or restore the underlying asset to the condition required by the terms and conditions of the lease, a provision is recognized and measured under K-IFRS 1037. To the extent that the costs relate to a right-of-use asset, the costs are included in the related right-of-use asset, unless those costs are incurred to produce inventories.

Right-of-use assets are depreciated over the shorter period of the lease term and useful life of the right-of-use asset. If a lease transfers ownership of the underlying asset or the cost of the right-of-use asset reflects that the Company expects to exercise a purchase option, the related right-of-use asset is depreciated over the useful life of the underlying asset. The depreciation starts at the commencement date of the lease.

The right-of-use assets are included in the property, plant and equipment in the separate statements of financial position.

The Company applies K-IFRS 1036 to determine whether a right-of-use asset is impaired and accounts for any identified impairment loss as described in the Property, Plant and Equipment policy, as stated in Note 2.14.

Variable rents that do not depend on an index or rate are not included in the measurement of the lease liability and the right-of-use asset. The related payments are recognized as an expense in the period in which the event or condition that triggers those payments occurs and are included in profit or loss.

As a practical expedient, K-IFRS 1116 permits a lessee not to separate non-lease components, and instead account for any lease and associated non-lease components as a single arrangement. The Company has not used this practical expedient. For contracts that contain a lease component and one or more additional lease or non-lease components, The Company allocates the consideration in the contract to each lease component on the basis of the relative stand-alone price of the lease component and the aggregate stand-alone price of the non-lease components.

(2) The Company as lessor

Leases for which the Company is a lessor are classified as a finance or operating leases. Whenever the terms of the lease transfer substantially all the risks and rewards of ownership to the lessee, the contract is classified as a finance lease. All other leases are classified as operating leases.

When the Company is an intermediate lessor, it accounts for the head lease and the sub-lease as two separate contracts. The sublease is classified as a finance or operating lease by reference to the right-of-use asset arising from the head lease.

Rental income from operating leases is recognized on a straight-line basis over the term of the relevant lease. Initial direct costs incurred in negotiating and arranging an operating lease are added to the carrying amount of the leased asset and recognized on a straight-line basis over the lease term.

Amounts due from lessees under finance leases are recognized as receivables at the amount of the Company's net investment in the leases. Finance lease income is allocated to accounting periods so as to reflect a constant periodic rate of return on the Company's net investment outstanding in respect of the leases.

Subsequent to initial recognition, the Company regularly reviews the estimated unguaranteed residual value and applies the impairment requirements of K-IFRS 1109, recognizing an allowance for expected credit losses on the lease receivables.

Finance lease income is calculated with reference to the gross carrying amount of the lease receivables, except for credit-impaired financial assets for which interest income is calculated with reference to their amortized cost (i.e., after a deduction of the loss allowance).

When a contract includes both lease and non-lease components, the Company applies K-IFRS 1115 to allocate the consideration under the contract to each component.

2.6 Foreign currencies

The separate financial statements of the Company are presented in the currency of the primary economic environment in which the entity operates (its functional currency). For the purpose of the separate financial statements, the results and financial position of each group entity are expressed in Korean won, which is the functional currency of the entity and the presentation currency for the separate financial statements.

In preparing the separate financial statements of the Company, transactions in currencies other than the entity's functional currency (foreign currencies) are recognized at the rates of exchange prevailing at the dates of the transactions. At the end of each reporting period, monetary items denominated in foreign currencies are retranslated at the rates prevailing at that date. Non-monetary items carried at fair value that are denominated in foreign currencies are retranslated at the rates prevailing at the date when the fair value was determined. Non-monetary items that are measured in terms of historical cost in a foreign currency are not retranslated.

Exchange differences are recognized in profit or loss in the period in which they arise except for:

- exchange differences on foreign currency borrowings relating to assets under construction for future productive use, which are included in the cost of those assets when they are regarded as an adjustment to interest costs on those foreign currency borrowings
- exchange differences on transactions entered into in order to hedge certain foreign currency risks
- exchange differences on monetary items receivable from or payable to a foreign operation for which settlement is neither planned nor likely to occur (therefore forming part of the net investment in the foreign operation), which are recognized initially in other comprehensive income and reclassified from equity to profit or loss on disposal or partial disposal of the net investment

2.7 Borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of qualifying assets, which are assets that necessarily take a substantial period of time to get ready for their intended use or sale, are added to the cost of those assets, until such time as the assets are substantially ready for their intended use or sale.

To the extent that variable rate borrowings are used to finance a qualifying asset and are hedged in an effective cash flow hedge of interest rate risk, the effective portion of the derivative is recognized in other comprehensive income and reclassified to profit or loss when the qualifying asset impacts profit or loss. To the extent that fixed-rate borrowings are used to finance a qualifying asset and are hedged in an effective fair value hedge of interest rate risk, the capitalized borrowing costs reflect the hedged interest rate.

Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the borrowing costs eligible for capitalization.

All other borrowing costs are recognized in profit or loss in the period in which they are incurred.

2.8 Government grants

Government grants are not recognized until there is a reasonable assurance that the Company will comply with the conditions attached to them and that the grants will be received.

The benefit of a government loan at a below-market rate of interest is treated as a government grant, measured as the difference between proceeds received and the fair value of the loan based on prevailing market interest rates.

Government grants related to assets are presented in the separate statements of financial position by deducting the grant from the carrying amount of the asset (including property, plant and equipment). The related grant is recognized in profit or loss over the life of a depreciable asset as a reduced depreciation expense.

Government grants related to revenue are recognized as income over the corresponding period, in accordance with systematic criteria to match against the costs intended to preservation. Also, government grants received as immediate financial support to the company, without offsetting against previously incurred costs or losses, and without anticipation of future related costs, are recognized as current income when the right to receive such grants arises.

Government grants toward staff retraining costs are recognized as income over the periods necessary to match them with the related costs and are deducted in reporting the related expense.

2.9 Retirement benefit costs and termination benefits

Contributions to defined contribution retirement benefit plans are recognized as an expense when employees have rendered service entitling them to the contributions.

For defined benefit retirement benefit plans, the cost of providing benefits is determined using the Projected Unit Credit Method, with actuarial valuations being carried out at the end of each annual reporting period. Remeasurements comprising actuarial gains and losses, the effect of the asset ceiling (if applicable) and the return on plan assets (excluding interest) are recognized immediately in the separate statements of financial position with a charge or credit to the separate statements of comprehensive income in the period in which they occur. Remeasurements recognized in the separate statements of comprehensive income are not reclassified. Past service cost is recognized in profit or loss when the plan amendment or curtailment occurs, or when the Company recognizes related restructuring costs or termination benefits, if earlier. Gains or losses on the settlement of a defined benefit plan are recognized when the settlement occurs.

Net interest is calculated by applying a discount rate to the net defined benefit liability or asset. Defined benefit costs are split into three categories:

- Service costs, which includes current service cost, past service cost and gains and losses on curtailments and settlements;
- Net interest expense or income
- Remeasurements.

Service costs are recognized within cost of sales and selling and administrative expenses, and net interest expense or income are recognized within financial costs, and the remeasurement component in other comprehensive income. Curtailment gains and losses are accounted for as past service costs.

The retirement benefit obligation recognized in the separate statements of financial position represents the actual deficit or surplus in the Company's defined benefit plans. Any surplus resulting from this calculation is limited to the present value of any economic benefits available in the form of refunds from the plans or reductions in future contributions to the plans.

2.10 Taxation

Income tax expense represents the sum of the tax currently payable and deferred tax.

(1) Current tax

The tax currently payable is based on taxable profit for the year. Taxable profit differs from net profit as reported in the separate statement of profit or loss and comprehensive income because of items of income or expense that are taxable or deductible in other years and items that are never taxable or deductible. The Company's liability for current tax is calculated using tax rates that have been enacted or substantively enacted by the end of the reporting period.

A provision is recognized for those matters for which the tax determination is uncertain, but it is considered probable that there will be a future outflow of funds to a tax authority. The provisions are measured at the best estimate of the amount expected to become payable. The assessment is based on the judgement of tax professionals within the Company supported by previous experience in respect of such activities and in certain cases based on specialist independent tax advice.

(2) Deferred tax

Deferred tax is the tax expected to be payable or recoverable on differences between the carrying amounts of assets and liabilities in the financial statements and the corresponding tax bases used in the computation of taxable profit, and is accounted for using the liability method. Deferred tax liabilities are generally recognized for all taxable temporary differences. Deferred tax assets are generally recognized for all deductible temporary differences to the extent that it is probable that taxable profits will be available against which those deductible temporary differences can be utilized. Such deferred tax assets and liabilities are not recognized if the temporary difference arises from goodwill or from the initial recognition (other than in a business combination) of other assets and liabilities in a transaction that affects neither the taxable profit nor the accounting profit.

Deferred tax liabilities are recognized for taxable temporary differences associated with investments in subsidiaries and associates, and interests in joint ventures, except where the Company is able to control the reversal of the temporary difference, and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred tax assets arising from deductible temporary differences associated with such investments and interests are only recognized to the extent that it is probable that there will be sufficient taxable profits against which to utilize the benefits of the temporary differences, and they are expected to reverse in the foreseeable future.

The carrying amount of deferred tax assets is reviewed at the end of each reporting period and reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow all or part of the asset to be recovered.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the period in which the liability is settled or the asset realized, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period. The measurement of deferred tax liabilities and assets reflects the tax consequences that would follow from the manner in which the Company expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities.

Deferred tax assets and liabilities are offset if, and only if, the Company has a legally enforceable right to offset current tax assets against current tax liabilities, and the deferred tax assets and liabilities relate to income taxes levied by the same taxation authority on either the same taxable entity or different taxable entities, which intend either to settle current tax liabilities and assets on a net basis, or to realize the assets and settle the liabilities simultaneously, in each future period in which significant amounts of deferred tax liabilities or assets are expected to be settled or recovered.

For the purpose of measuring deferred tax liabilities and deferred tax assets for investment properties that are measured using the fair value model, the carrying amounts of such properties are presumed to be recovered entirely through sale, unless the presumption is rebutted. The presumption is rebutted when the investment property is depreciable and is held within a business model whose objective is to consume substantially all of the economic benefits embodied in the investment properties over time, rather than through sale.

(3) Current and deferred taxes for the year

Current and deferred taxes are recognized in profit or loss, except when they relate to items that are recognized in other comprehensive income or directly in equity, in which case, the current and deferred tax are also recognized in other comprehensive income or directly in equity, respectively. Where current tax or deferred tax arises from the initial accounting for a business combination, the tax effect is included in the accounting for the business combination.

2.11 Property, plant and equipment

Property, plant and equipment are stated at cost, less subsequent accumulated depreciation and accumulated impairment losses. The cost of an item of property, plant and equipment is directly attributable to their purchase or construction, which includes any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management. It also includes the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located.

Subsequent costs are recognized in the carrying amount of an asset or as a separate asset if it is probable that future economic benefits associated with the assets will flow into the Company and the cost of an asset can be measured reliably. Routine maintenance and repairs are expensed as incurred.

The Company does not depreciate land. Depreciation expense is computed using the straight-line method based on the estimated useful lives of the assets as follows:

	<u>Useful lives</u>
Buildings	25–50 years
Structures	6–50 years
Machinery	6–15 years
Others	1–12 years

If each part of an item of property, plant and equipment has a cost that is significant in relation to the total cost of the item, it is depreciated separately.

The Company reviews the depreciation method, the estimated useful lives and residual values of property, plant and equipment at the end of each annual reporting period. If expectations differ from previous estimates, the changes are accounted for as a change in an accounting estimate.

An item of property, plant and equipment is derecognized upon disposal or when no future economic benefits are expected to arise from the continued use of the asset. Any gain or loss arising on the derecognition of the property (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in the profit or loss in the period in which the property is derecognized.

2.12 Investment property

Investment properties are properties held to earn rentals and/or for capital appreciation (including property under construction for such purposes). Investment properties are measured initially at cost, including transaction costs. Subsequent to initial recognition, investment properties are reported at cost, less accumulated depreciation and accumulated impairment losses.

Subsequent costs are recognized in the carrying amount of an asset or as a separate asset if it is probable that future economic benefits associated with the assets will flow into the Company and the cost of an asset can be measured reliably. Routine maintenance and repairs are expensed as incurred.

The estimated useful lives, residual values and depreciation method are reviewed at the end of each reporting period, with the effect of any changes in estimate accounted for on a prospective basis.

An investment property is derecognized upon disposal or when the investment property is permanently withdrawn from use and no future economic benefits are expected from the disposal. Any gain or loss arising on the derecognition of the property (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in the profit or loss in the period in which the property is derecognized.

2.13 Intangible assets

(1) Intangible assets acquired separately

Intangible assets with finite useful lives that are acquired separately are carried at cost, less accumulated amortization and accumulated impairment losses. Amortization is recognized on a straight-line basis over their estimated useful lives. The estimated useful life and amortization method are reviewed at the end of each reporting period, with the effect of any changes in estimate being accounted for on a prospective basis. Intangible assets with indefinite useful lives that are acquired separately are carried at cost, less accumulated impairment losses.

	Useful lives
Software	6 years
Development costs	6 years
Industrial property rights	1–10 years
Others	6–10 years

(2) Internally generated intangible assets - research and development expenditure

Expenditure on research activities is recognized as an expense in the period in which it is incurred.

An internally-generated intangible asset arising from development (or from the development phase of an internal project) is recognized if, and only if, all of the following conditions have been demonstrated:

- The technical feasibility of completing the intangible asset so that it will be available for use or sale;
- The intention to complete the intangible asset and use or sell it
- The ability to use or sell the intangible asset
- How the intangible asset will generate probable future economic benefits
- The availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset
- The ability to measure reliably the expenditure attributable to the intangible asset during its development.

Expenditure arising from development (or from the development phase of an internal project) is recognized as an intangible asset if, only if, the development project is designed to produce new or substantially improved products, and the Company can demonstrate the technical and economic feasibility and measure reliably the resources attributable to the intangible asset during its development.

The amount initially recognized for internally generated intangible assets is the sum of the expenditure incurred from the date when the intangible asset first meets the recognition criteria. Where no internally generated intangible asset can be recognized, development expenditure is recognized in profit or loss in the period in which it is incurred.

Subsequent to initial recognition, internally-generated intangible assets are reported at cost, less accumulated amortization and accumulated impairment losses, on the same basis as intangible assets that are acquired separately.

(3) Intangible assets acquired in a business combination

Intangible assets that are acquired in a business combination are recognized separately from goodwill and are initially recognized at their fair value at the acquisition date (which is regarded as their cost). Subsequent to initial recognition, intangible assets acquired in a business combination are reported at cost, less accumulated amortization and accumulated impairment losses, on the same basis as intangible assets that are acquired separately.

(4) Derecognition of intangible assets

An intangible asset is derecognized on disposal, or when no future economic benefits are expected from its use. Gains or losses arising from the derecognition of an intangible asset, measured as the difference between the net disposal proceeds and the carrying amount of the asset, are recognized in profit or loss when the asset is derecognized.

(5) Patents and trademarks

Patents and trademarks are measured initially at purchase cost and are amortized on a straight-line basis over their estimated useful lives.

2.14 Impairment of tangible and intangible assets other than goodwill

At each reporting date, the Company reviews the carrying amounts of its tangible and intangible assets to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss (if any). When it is not possible to estimate the recoverable amount of an individual asset, the Company estimates the recoverable amount of the cash-generating unit to which the asset belongs. Where a reasonable and consistent basis of allocation can be identified, corporate assets are also allocated to individual cash-generating units, or otherwise they are allocated to the smallest Company of cash-generating units for which a reasonable and consistent allocation basis can be identified.

Intangible assets with indefinite useful lives and intangible assets not yet available for use are tested for impairment at least annually, and whenever there is an indication that the asset may be impaired.

Recoverable amount is the higher of fair value, less costs to sell or value in use. If the recoverable amount of an asset (or a cash-generating unit) is estimated to be less than its carrying amount, the carrying amount of the asset (or the cash-generating unit) is reduced to its recoverable amount and the reduced amount is recognized in profit or loss.

Where an impairment loss subsequently reverses, the carrying amount of the asset (or a cash-generating unit) is increased to the revised estimate of its recoverable amount, but so that the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognized for the asset (or the cash-generating unit) in prior years. A reversal of an impairment loss is recognized immediately in profit or loss.

2.15 Inventories

Inventories are stated at the lower of cost and net realizable value. Cost of inventories, except for those in in-transit measured using specific identification of their individual costs, are measured under the weighted-average method and consists of the purchase price, cost of conversion and other costs incurred in bringing the inventories to their present location and condition. Net realizable value represents the estimated selling price for inventories, less all estimated costs of completion and costs necessary to make the sale.

When inventories are sold, the carrying amount of those inventories is recognized as an expense (cost of sales) in the period in which the related revenue is recognized. The amount of any write-down of inventories to net realizable value and all losses of inventories is recognized as an expense in the period the write-down or loss occurs. The amount of any reversal of any write-down of inventories, arising from an increase in net realizable value, is recognized as a reduction in the amount of inventories recognized as an expense in the period in which the reversal occurs.

2.16 Provisions

Provisions are recognized when the Company has a present obligation (legal or constructive) as a result of a past event, it is probable that the Company will be required to settle the obligation, and a reliable estimate can be made of the amount of the obligation.

The amount recognized as a provision is the best estimate of the consideration required to settle the present obligation at the end of the reporting period, taking into account the risks and uncertainties surrounding the obligation. When a provision is measured using the cash flows estimated to settle the present obligation, its carrying amount is the present value of those cash flows (where the effect of the time value of money is material). The discount rate used is a pretax rate that reflects current market assessments of the time value of money and the risks specific to the liability. Where discounting is used, the increase in the provision due to the passage is recognized in profit or loss as borrowing cost.

When some or all of the economic benefits required to settle a provision are expected to be recovered from a third party, a receivable is recognized as an asset if it is virtually certain that reimbursement will be received and the amount of the receivable can be measured reliably.

At the end of each reporting period, the remaining provision balance is reviewed and assessed to determine if the current best estimate is being recognized. If the existence of an obligation to transfer economic benefit is no longer probable, the related provision is reversed during the period.

2.17 Cash and cash equivalents

In the separate statements of financial position, cash and bank balances comprise cash (i.e., cash on hand and demand deposits) and cash equivalents. Cash equivalents are short-term (generally with original maturity of three months or less), highly liquid investments that are readily convertible to a known amount of cash and which are subject to an insignificant risk of changes in value. Cash equivalents are held for the purpose of meeting short-term cash commitments rather for investment or other purposes.

Bank balances for which use by the Company is subject to third-party contractual restrictions are included as part of cash unless the restrictions result in a bank balance no longer meeting the definition of cash. If the contractual restrictions to use the cash extend beyond 12 months after the end of the reporting period, the related amounts are classified as non-current in the separate statements of financial position.

For the purposes of the separate statements of cash flows, cash and cash equivalents consist of cash and cash equivalents as defined above, net of outstanding bank overdrafts, which are repayable on demand and form an integral part of the Company's cash management. Such overdrafts are presented as short-term borrowings in the separate statements of financial position.

2.18 Financial Instruments

Financial assets and financial liabilities are recognized in the Company's separate statements of financial position when the Company becomes a party to the contractual provisions of the instrument.

Financial assets and financial liabilities are initially measured at fair value, except for trade receivables that do not have significant financing components, which are measured at transaction price. Transaction costs that are directly attributable to the acquisition or issue of financial assets and financial liabilities (other than financial assets and financial liabilities at fair value through profit or loss (FVPL)) are added to or deducted from the fair value of the financial assets or financial liabilities, as appropriate, on initial recognition. Transaction costs directly attributable to the acquisition of financial assets or financial liabilities at FVPL are recognized immediately in profit or loss.

2.19 Financial assets

All regular-way purchases or sales of financial assets are recognized and derecognized on a trade date basis. Regular way purchases or sales are purchases or sales of financial assets that require delivery of assets within the time frame established by regulation or convention in the marketplace.

All recognized financial assets are measured subsequently in their entirety at either amortized cost or fair value, depending on the classification of the financial assets.

(1) Classification of financial assets

Debt instruments that meet the following conditions are measured subsequently at amortized cost:

- The financial asset is held within a business model whose objective is to hold financial assets in order to collect contractual cash flows
- The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Debt instruments that meet the following conditions are measured subsequently at fair value through other comprehensive income (FVOCI):

- The financial asset is held within a business model whose objective is achieved by both collecting contractual cash flows and selling the financial assets
- The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

By default, all other financial assets are measured subsequently at FVPL

Despite the foregoing, the Company may make the following irrevocable election / designation at initial recognition of a financial asset:

- The Company may irrevocably elect to present subsequent changes in fair value of an equity investment in other comprehensive income if certain criteria are met (see (1-3) below)
- The Company may irrevocably designate a debt investment that meets the amortized cost or FVOCI criteria as measured at FVPL if doing so eliminates or significantly reduces an accounting mismatch (see (1-4) below).

1-1) Amortized cost and effective interest method

The effective interest method is a method of calculating the amortized cost of a debt instrument and of allocating interest income over the relevant period. For financial assets other than purchased or originated credit-impaired financial assets (i.e., assets that are credit-impaired on initial recognition), the effective interest rate is the rate that exactly discounts estimated future cash receipts (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts), excluding expected credit losses, through the expected life of the debt instrument, or, where appropriate, a shorter period, to the gross carrying amount of the debt instrument on initial recognition. For purchased or originated credit-impaired financial assets, a credit-adjusted effective interest rate is calculated by discounting the estimated future cash flows, including expected credit losses, to the amortized cost of the debt instrument on initial recognition.

The amortized cost of a financial asset is the amount at which the financial asset is measured at initial recognition, minus the principal repayments, plus the cumulative amortization using the effective interest method of any difference between that initial amount and the maturity amount, adjusted for any loss allowance. The gross carrying amount of a financial asset is the amortized cost of a financial asset before adjusting for any loss allowance.

Interest income is recognized using the effective interest method for debt instruments measured subsequently at amortized cost and at FVOCI. For financial assets other than purchased or originated credit-impaired financial assets, interest income is calculated by applying the effective interest rate to the gross carrying amount of a financial asset, except for financial assets that have subsequently become credit-impaired (see below). For financial assets that have subsequently become credit-impaired, interest income is recognized by applying the effective interest rate to the amortized cost of the financial asset. If, in subsequent reporting periods, the credit risk on the credit-impaired financial instrument improves so that the financial asset is no longer credit-impaired, interest income is recognized by applying the effective interest rate to the gross carrying amount of the financial asset.

For purchased or originated credit-impaired financial assets, the Company recognizes interest income by applying the credit-adjusted effective interest rate to the amortized cost of the financial asset from initial recognition. The calculation does not revert to the gross basis even if the credit risk of the financial asset subsequently improves so that the financial asset is no longer credit-impaired.

Interest income is recognized in profit or loss and is included in the "finance income" line item.

1-2) Debt instruments classified as at FVOCI

Debt instruments are initially measured at fair value, plus transaction costs. Subsequently, changes in the carrying amount of these corporate bonds as a result of foreign exchange gains and losses, impairment gains or losses, and interest income calculated using the effective interest method are recognized in profit or loss. The amounts that are recognized in profit or loss are the same as the amounts that would have been recognized in profit or loss if these corporate bonds had been measured at amortized cost. All other changes in the carrying amount of these corporate bonds are recognized in other comprehensive income and accumulated under the heading of investments revaluation reserve. When these corporate bonds are derecognized, the cumulative gains or losses previously recognized in other comprehensive income are reclassified to profit or loss.

1-3) Equity instruments designated as at FVOCI

On initial recognition, the Company may make an irrevocable election (on an instrument-by-instrument basis) to designate investments in equity instruments as at FVOCI. Designation at FVOCI is not permitted if the equity investment is held for trading or if it is contingent consideration recognized by an acquirer in a business combination.

Investments in equity instruments at FVOCI are initially measured at fair value, plus transaction costs. Subsequently, they are measured at fair value with gains and losses arising from changes in fair value recognized in other comprehensive income and accumulated in the investments revaluation reserve. The cumulative gain or loss is not reclassified to profit or loss on disposal of the equity investments, instead, it is transferred to retained earnings.

Dividends on these investments in equity instruments are recognized in profit or loss in accordance with K-IFRS 1109, unless the dividends clearly represent a recovery of part of the cost of the investment. Dividends are included in the 'finance income' line item in profit or loss.

The Company designated all investments in equity instruments that are not held for trading as at FVOCI on initial recognition.

A financial asset is held for trading if:

- It has been acquired principally for the purpose of selling it in the near term
- On initial recognition it is part of a portfolio of identified financial instruments that the Company manages together and has evidence of a recent actual pattern of short-term profit-taking; or
- It is a derivative (except for a derivative that is a financial guarantee contract or a designated and effective hedging instrument).

1-4) Financial assets at FVPL

Financial assets that do not meet the criteria for being measured at amortized cost or FVOCI are measured at FVPL. Specifically:

- Investments in equity instruments are classified as at FVPL, unless the Company designates an equity investment that is neither held for trading nor a contingent consideration arising from a business combination as at FVOCI on initial recognition (see (1-3) above).
- Debt instruments that do not meet the amortized cost criteria or the FVOCI criteria (see (1-1) and (1-2) above) are classified as at FVPL. In addition, debt instruments that meet either the amortized cost criteria or the FVOCI criteria may be designated as at FVPL upon initial recognition if such designation eliminates or significantly reduces a measurement or recognition inconsistency (so called 'accounting mismatch') that would arise from measuring assets or liabilities or recognizing the gains and losses on them on different bases.

Financial assets at FVPL are measured at fair value at the end of each reporting period, with any fair value gains or losses recognized in profit or loss to the extent they are not part of a designated hedging relationship (see hedge accounting policy). The net gain or loss recognized in profit or loss includes interest earned on the financial asset and is included in the 'financial income' line item. Fair value is determined in the manner described in Note 3.

(2) Foreign exchange gains and losses

The carrying amount of financial assets that are denominated in a foreign currency is determined in that foreign currency and translated at the spot rate at the end of each reporting period. Specifically;

- For financial assets measured at amortized cost that are not part of a designated hedging relationship, exchange differences are recognized in profit or loss in the 'other non-operating income (expenses)' line item
- For debt instruments measured at FVOCI that are not part of a designated hedging relationship, exchange differences on the amortized cost of the debt instrument are recognized in profit or loss in the 'other non-operating income (expenses)' line item. As the foreign currency element recognized in profit or loss is the same as if it was measured at amortized cost, the residual foreign currency element based on the translation of the carrying amount (at fair value) is recognized in other comprehensive income in the investments revaluation reserve
- For financial assets measured at FVPL that are not part of a designated hedging relationship, exchange differences are recognized in profit or loss in the 'other non-operating income (expenses)' line item as part of the fair value gain or loss
- For equity instruments measured at FVOCI, exchange differences are recognized in other comprehensive income in the investments revaluation reserve.

(3) Impairment of financial assets

The Company recognizes a loss allowance for expected credit losses on investments in debt instruments that are measured at amortized cost or at FVOCI, lease receivables, trade receivables and contract assets, as well as on financial guarantee contracts. The amount of expected credit losses is updated at each reporting date to reflect changes in credit risk since the initial recognition of the respective financial instrument.

The Company always recognizes lifetime ECL for trade receivables, contract assets and lease receivables. The expected credit losses on these financial assets are estimated using a provision matrix based on the Company's historical credit loss experience, adjusted for factors that are specific to the debtors, general economic conditions and an assessment of both the current and the forecast direction of conditions at the reporting date, including time value of money where appropriate.

For all other financial instruments, the Company recognizes lifetime ECL when there has been a significant increase in credit risk since initial recognition. However, if the credit risk on the financial instrument has not increased significantly since initial recognition, the Company measures the loss allowance for that financial instrument at an amount equal to 12-month ECL.

Lifetime ECL represents the expected credit losses that will result from all possible default events over the expected life of a financial instrument. In contrast, 12-month ECL represents the portion of lifetime ECL that is expected to result from default events on a financial instrument that are possible within 12 months after the reporting date.

(4) Measurement and recognition of expected credit losses

The measurement of expected credit losses is a function of the probability of default, loss-given default (i.e., the magnitude of the loss if there is a default) and the exposure at default. The assessment of the probability of default and loss given default is based on historical data adjusted by forward-looking information as described above. As for the exposure at default, for financial assets, this is represented by the assets' gross carrying amount at the reporting date; for financial guarantee contracts, the exposure includes the amount of guaranteed debt that has been drawn down as at the reporting date, together with any additional guaranteed amounts expected to be drawn down by the borrower in the future by default date determined based on historical trend, the Company's understanding of the specific future financing needs of the debtors, and other relevant forward-looking information.

For financial assets, the expected credit loss is estimated as the difference between all contractual cash flows that are due to the Company in accordance with the contract and all the cash flows that the Company expects to receive, discounted at the original effective interest rate. For a lease receivable, the cash flows used for determining the expected credit losses are consistent with the cash flows used in measuring the lease receivable in accordance with K-IFRS 1116 *Leases*.

For a financial guarantee contract, as the Company is required to make payments only in the event of a default by the debtor in accordance with the terms of the instrument that is guaranteed, the expected loss allowance is the expected payments to reimburse the holder for a credit loss that it incurs less any amounts that the Company expects to receive from the holder, the debtor or any other party.

If the Company has measured the loss allowance for a financial instrument at an amount equal to lifetime ECL in the previous reporting period, but determines at the current reporting date that the conditions for lifetime ECL are no longer met, the Company measures the loss allowance at an amount equal to 12-month ECL at the current reporting date, except for assets for which simplified approach was used.

The Company recognizes an impairment gain or loss in profit or loss for all financial instruments with a corresponding adjustment to their carrying amount through a loss allowance account, except for investments in debt instruments that are measured at FVOCI, for which the loss allowance is recognized in other comprehensive income and accumulated in the investment revaluation reserve, and does not reduce the carrying amount of the financial asset in the separate statement of financial position.

(5) Derecognition of financial assets

The Company derecognizes a financial asset only when the contractual rights to the cash flows from the asset expire, or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another entity.

If the Company neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the Company recognizes its retained interest in the asset and an associated liability for amounts it may have to pay. If the Company retains substantially all the risks and rewards of ownership of a transferred financial asset, the Company continues to recognize the financial asset and also recognizes collateralized borrowing for the proceeds received.

On derecognition of a financial asset measured at amortized cost, the difference between the asset's carrying amount and the sum of the consideration received and receivable is recognized in profit or loss. In addition, on the derecognition of an investment in a debt instrument classified as at FVOCI, the cumulative gain or loss previously accumulated in the investments revaluation reserve is reclassified to profit or loss. In contrast, on derecognition of an investment in equity instrument which the Company has elected on initial recognition to measure at FVOCI, the cumulative gain or loss previously accumulated in the investments revaluation reserve is not reclassified to profit or loss, but is transferred to retained earnings.

2.20 Financial liabilities and equity instruments

(1) Financial liabilities

All financial liabilities are measured subsequently at amortized cost using the effective interest method or at FVPL. However, financial liabilities that arise when a transfer of a financial asset does not qualify for derecognition or when the continuing involvement approach applies, and financial guarantee contracts issued by the Company, are measured in accordance with the specific accounting policies set out below.

1-1) Financial liabilities at FVPL

Financial liabilities are classified as at FVPL when the financial liability is (i) contingent consideration of an acquirer in a business combination, (ii) held for trading or (iii) it is designated as at FVPL.

A financial liability is classified as held for trading if either:

- It has been acquired principally for the purpose of repurchasing it in the near term
- On initial recognition it is part of a portfolio of identified financial instruments that the Company manages together and has a recent actual pattern of short-term profit-taking
- It is a derivative that is not designated and effective as a hedging instrument.

A financial liability other than a financial liability held for trading or contingent consideration of an acquirer in a business combination may be designated as at FVPL upon initial recognition if either:

- Such designation eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise
- The financial liability forms part of a Company of financial assets or financial liabilities or both, which is managed and its performance is evaluated on a fair value basis, in accordance with the Company's documented risk management or investment strategy, and information about the grouping is provided internally on that basis
- It forms part of a contract containing one or more embedded derivatives, and K-IFRS 1109 permits the entire combined contract to be designated as at FVPL.

Financial liabilities at FVPL are measured at fair value, with any gains or losses arising on changes in fair value recognized in profit or loss to the extent that they are not part of a designated hedging relationship (see Hedge accounting policy). The net gain or loss recognized in profit or loss incorporates any interest paid on the financial liability and is included in the 'PL:Financial costs' line item in profit or loss.

However, for financial liabilities that are designated as at FVPL, the amount of change in the fair value of the financial liability that is attributable to changes in the credit risk of that liability is recognized in other comprehensive income, unless the recognition of the effects of changes in the liability's credit risk in other comprehensive income would create or enlarge an accounting mismatch in profit or loss. The remaining amount of change in the fair value of the liability is recognized in profit or loss. Changes in fair value attributable to a financial liability's credit risk that are recognized in other comprehensive income are not subsequently reclassified to profit or loss; instead, they are transferred to retained earnings upon derecognition of the financial liability.

Gains or losses on financial guarantee contracts issued by the Company that are designated by the Company as at FVPL are recognized in profit or loss.

1-2) Financial liabilities measured subsequently at amortized cost

Financial liabilities that are not (i) contingent consideration of an acquirer in a business combination, (ii) held-for-trading, or (iii) designated as at FVPL, are measured subsequently at amortized cost using the effective interest method.

The effective interest method is a method of calculating the amortized cost of a financial liability and of allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts) through the expected life of the financial liability, or (where appropriate) a shorter period, to the amortized cost of a financial liability.

(2) Financial guarantee contracts

A financial guarantee contract is a contract that requires the issuer to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payments when due in accordance with the terms of a debt instruments.

Financial guarantee contract liabilities are measured initially at their fair values and, if not designated as at FVPL and do not arise from a transfer of an asset, are measured subsequently at the higher of:

- The amount of the loss allowance determined in accordance with K-IFRS 1109
- The amount recognized initially less, where appropriate, cumulative amortization recognized in accordance with KIFRS 1115.

(3) Foreign exchange gains and losses

For financial liabilities that are denominated in a foreign currency and are measured at amortized cost at the end of each reporting period, the foreign exchange gains and losses are determined based on the amortized cost of the instruments. These foreign exchange gains and losses are recognized in the 'other non-operating income (expenses)' line item in profit or loss for financial liabilities that are not part of a designated hedging relationship. For those which are designated as a hedging instrument for a hedge of foreign currency risk, foreign exchange gains and losses are recognized in other comprehensive income and accumulated in a separate component of equity.

The fair value of financial liabilities denominated in a foreign currency is determined in that foreign currency and translated at the spot rate at the end of the reporting period. For financial liabilities that are measured as at FVPL, the foreign exchange component forms part of the fair value gains or losses and is recognized in profit or loss for financial liabilities that are not part of a designated hedging relationship.

(4) Derecognition of financial liabilities

The Company derecognizes financial liabilities when, and only when, the Company's obligations are discharged, canceled or have expired. The difference between the carrying amount of the financial liability derecognized and the consideration paid and payable is recognized in profit or loss.

When the Company exchanges with the existing lender one debt instrument into another one with substantially different terms, such exchange is accounted for as an extinguishment of the original financial liability and the recognition of a new financial liability. Similarly, the Company accounts for substantial modification of terms of an existing liability or part of it as an extinguishment of the original financial liability and the recognition of a new liability. It is assumed that the terms are substantially different if the discounted present value of the cash flows under the new terms, including any fees paid net of any fees received and discounted using the original effective interest rate, is at least 10 percent different from the discounted present value of the remaining cash flows of the original financial liability. If the modification is not substantial, the difference between: (1) the carrying amount of the liability before the modification; and (2) the present value of the cash flows after modification should be recognized in profit or loss as the modification gain or loss with other non-operating income(expense).

2.21 Derivative financial instruments

The Company enters into a variety of derivative financial instruments to manage its exposure to interest rate and foreign exchange rate risks, including foreign exchange forward contracts, options and interest rate swaps.

Derivatives are recognized initially at fair value at the date a derivative contract is entered into and are subsequently remeasured to their fair value at each reporting date. The resulting gain or loss is recognized in profit or loss immediately, unless the derivative is designated and effective as a hedging instrument, in which event the timing of the recognition in profit or loss depends on the nature of the hedge relationship.

A derivative with a positive fair value is recognized as a financial asset, whereas a derivative with a negative fair value is recognized as a financial liability. Derivatives are not offset in the separate financial statements, unless the Company has both legally enforceable right and intention to offset. A derivative is presented as a non-current asset or a non-current liability if the remaining maturity of the instrument is more than 12 months and it is not due to be realized or settled within 12 months. Other derivatives are presented as current assets or current liabilities.

(1) Hedge accounting

The Company designates certain derivatives as hedging instruments in respect of foreign currency risk and interest rate risk in fair value hedges cash flow hedges, or hedges of net investments in foreign operations. Hedges of foreign exchange risk on firm commitments are accounted for as cash flow hedges.

At the inception of the hedge relationship, the Company documents the relationship between the hedging instrument and the hedged item, along with its risk management objectives and its strategy for undertaking various hedge transactions. Furthermore, at the inception of the hedge and on an ongoing basis, the Company documents whether the hedging instrument is effective in offsetting changes in fair values or cash flows of the hedged item attributable to the hedged risk, which is when the hedging relationships meet all of the following hedge effectiveness requirements:

- There is an economic relationship between the hedged item and the hedging instrument
- The effect of credit risk does not dominate the value changes that result from that economic relationship
- The hedge ratio of the hedging relationship is the same as that resulting from the quantity of the hedged item that the Company actually hedges and the quantity of the hedging instrument that the Company actually uses to hedge that quantity of hedged item.

If a hedging relationship ceases to meet the hedge effectiveness requirement relating to the hedge ratio, but the risk management objective for that designated hedging relationship remains the same, the Company adjusts the hedge ratio of the hedging relationship (i.e., rebalances the hedge) so that it meets the qualifying criteria again.

The Company designates the full change in the fair value of a forward contract (i.e., including the forward elements) as the hedging instrument for all of its hedging relationships involving forward contracts.

The Company designates only the intrinsic value of options as a hedging instrument as a means to hedge risks associated with forecast transactions. Time value changes (i.e., undesignated elements) are recognized in profit or loss in accordance with K-IFRS 1039 *Financial Instruments: Recognition and Measurement*. The changes in the fair value of the aligned time value of the option are recognized in other comprehensive income in accordance with K-IFRS 1109 *Financial Instruments*. The amount accumulated in equity is either reclassified to the profit or loss or derecognized from equity and included in the book value of non-financial items during when the hedged item affects the profit or loss.

The Company designates only the intrinsic value of option contracts as a hedging instrument, i.e., excluding the time value of the option. The changes in the fair value of the aligned time value of the option are recognized in other comprehensive income and accumulated in the cost of hedging reserve. If the hedged item is transaction-related, the time value is reclassified to profit or loss when the hedged item affects profit or loss. If the hedged item is time-period related, then the amount accumulated in the cost of hedging reserve is reclassified to profit or loss on a rational basis – the Company applies straight-line amortization. Those reclassified amounts are recognized in profit or loss in the same line as the hedged item. If the hedged item is a non-financial item, then the amount accumulated in the cost of hedging reserve is removed directly from equity and included in the initial carrying amount of the recognized non-financial item. Furthermore, if the Company expects that some or all of the loss accumulated in cost of hedging reserve will not be recovered in the future, that amount is immediately reclassified to profit or loss.

1-1) Fair value hedges

The fair value change on qualifying hedging instruments is recognized in profit or loss except when the hedging instrument hedges an equity instrument designated at FVOCI, in which case it is recognized in other comprehensive income.

The carrying amount of a hedged item not already measured at fair value is adjusted for the fair value change attributable to the hedged risk with a corresponding entry in profit or loss. For debt instruments measured at FVOCI, the carrying amount is not adjusted as it is already at fair value, but the hedging gain or loss is recognized in profit or loss instead of other comprehensive income. When the hedged item is an equity instrument designated at FVOCI, the hedging gain or loss remains in other comprehensive income to match that of the hedging instrument.

Where hedging gains or losses are recognized in profit or loss, they are recognized in the same line as the hedged item.

The Company discontinues hedge accounting only when the hedging relationship (or a part thereof) ceases to meet the qualifying criteria (after rebalancing, if applicable). This includes instances when the hedging instrument expires or is sold, terminated or exercised. The discontinuation is accounted for prospectively. The fair value adjustment to the carrying amount of the hedged item arising from the hedged risk is amortized to profit or loss from that date.

1-2) Cash flow hedges

The effective portion of changes in the fair value of derivatives and other qualifying hedging instruments that are designated and qualify as cash flow hedges is recognized in other comprehensive income and accumulated under the heading of cash flow hedging reserve, limited to the cumulative change in fair value of the hedged item from the inception of the hedge. The gain or loss relating to the ineffective portion is recognized immediately in profit or loss, and is included in the other non-operating line item.

Amounts previously recognized in other comprehensive income and accumulated in equity are reclassified to profit or loss in the periods when the hedged item affects profit or loss, in the same line as the recognized hedged item. However, when the hedged forecast transaction results in the recognition of a non-financial asset or a non-financial liability, the gains and losses previously recognized in other comprehensive income and accumulated in equity are removed from equity and included in the initial measurement of the cost of the non-financial asset or non-financial liability. This transfer does not affect other comprehensive income. Furthermore, if the Company expects that some or all of the loss accumulated in the cash flow hedging reserve will not be recovered in the future, that amount is immediately reclassified to profit or loss.

The Company discontinues hedge accounting only when the hedging relationship (or a part thereof) ceases to meet the qualifying criteria (after rebalancing, if applicable). This includes instances when the hedging instrument expires or is sold, terminated or exercised. The discontinuation is accounted for prospectively. Any gain or loss recognized in other comprehensive income and accumulated in cash flow hedge reserve at that time remains in equity and is reclassified to profit or loss when the forecast transaction occurs. When a forecast transaction is no longer expected to occur, the gain or loss accumulated in the cash flow hedge reserve is reclassified immediately to profit or loss.

2.22 Accounting Treatment related to the Emission Rights Cap and Trade Scheme

The Company classifies the emission rights as intangible assets. Emission rights allowances the government allocated free of charge are measured at nil, and emission rights allowances purchased are measured at cost, which the Company paid to purchase the allowances. If emission rights the government allocated free of charge are sufficient to settle the emission rights allowances allotted for a vintage year, the emissions liabilities are measured at nil. However, for the emissions liabilities that exceed the allowances allocated free of charge, the shortfall is measured at best estimate at the end of the reporting period.

3. FINANCIAL RISK MANAGEMENT:

3.1 Financial Risk Factors

The Company's activities expose it to a variety of financial risks: market, credit and liquidity risks. 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 board of directors. The finance team identifies, evaluates and hedges financial risks in close cooperation with the Company's operating units. The board of directors reviews and approves written principles for overall risk management, as well as written policies covering specific areas, such as foreign exchange risk, interest rate risk and credit risk; use of derivative financial instruments and non-derivative financial instruments; and investment of excess liquidity.

(1) Market risk

1) Foreign exchange risk

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

Management has set up a policy to require each division of the Company to manage its foreign exchange risk against its functional currency. The Company manages maximum loss for currency risk exposures within an acceptable range by using a currency risk management model and employs who are exclusively responsible for currency risk management.

The Company makes certain investments in foreign operations, whose net assets are exposed to foreign exchange risk. This exposure is managed primarily through borrowings denominated in the relevant foreign currencies.

Monetary assets and liabilities denominated in foreign currencies as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023		December 31, 2022	
	Assets	Liabilities	Assets	Liabilities
USD	3,507,510	3,814,710	3,281,276	2,916,172
EUR	270,280	82,410	365,069	754,930
JPY	10,486	15,421	12,873	14,243
CNY and others	124,856	8,478	177,069	3,807

With all other variables held constant as of December 31, 2023 and 2022, a hypothetical change in exchange rates by 10% would have increased (decreased) the Company's profit before income tax as follows (Korean won in millions):

	December 31, 2023		December 31, 2022	
	10% Increase	10% Decrease	10% Increase	10% Decrease
USD	(30,720)	30,720	36,510	(36,510)
EUR	18,787	(18,787)	(38,986)	38,986
JPY	(494)	494	(137)	137
CNY and others	11,638	(11,638)	17,326	(17,326)

The above sensitivity analysis has been performed for monetary assets and liabilities denominated in foreign currencies as of December 31, 2023 and 2022.

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As of December 31, 2023, the Company entered into foreign currency forwards and foreign currency swaps to hedge change in exchange rates and the details are as follows (Korean won in millions):

	Contractor	Contract amount (in millions)	Contract exchange rate	Contract inception date	Contract maturity	Book amount	
						Assets	Liabilities
Currency forward(*)	Shinhan Bank	USD 500	1,135.60	2020.10.14	2024.10.15	₩ 65,388	₩ -
	KB Kookmin Bank	USD 500	1,102.83	2020.11.24	2029.04.16	47,138	-
	JP Morgan	USD 200	1,337.60	2023.09.25	2026.09.25	-	10,945
Currency swap(*)	Shinhan Bank	USD 200	1,337.60	2023.09.25	2026.09.25	-	10,722
	KDB Bank	USD 400	1,337.60	2023.09.25	2028.09.25	-	30,788
	Woori Bank	USD 200	1,337.60	2023.09.25	2028.09.25	-	15,407

(*) A derivative where hedge accounting is not applied.

2) Price risk

The Company is exposed to price risks from equity instruments. As of December 31, 2023, the fair value of equity instruments is ₩90,494 million. With all other variables held constant, a price change in equity instruments by 10% would have changed the Company's equity by ₩9,049 million before tax.

(2) Credit risk

Credit risk arises from trade receivables that the Company holds, as well as financial assets at amortized cost or at FVOCI.

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

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

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

1) Trade receivables

The Company applies the simplified approach in measuring expected credit losses, which uses lifetime expected provisions 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 provisions for receivables as of December 31, 2023 and 2022, are as follows. Expected credit losses include forward-looking information (Korean won in millions):

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	Receivables not past due (*)	Receivables past due but not impaired (*)	Total
December 31, 2023 (Trade receivables)			
Gross carrying amount	₩ 2,385,614	₩ 32,224	₩ 2,417,838
Expected loss rate	-	-	-
Provisions for receivables	-	-	-
December 31, 2022 (Trade receivables)			
Gross carrying amount	2,191,068	136,783	2,327,851
Expected loss rate	-	-	-
Provisions for receivables	-	-	-

(*) See Note 7.(3) for aging analysis.

Changes in the provisions for trade receivables for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	2023	2022
Beginning	₩ -	₩ 4
Additions (reversal) of provisions recognized in profit or loss during the current period	-	(4)
Ending	₩ -	₩ -

As of December 31, 2023, the carrying amount of trade receivables representing the maximum exposure to credit risk amounts to ₩2,417,838 million (as of December 31, 2022, ₩2,327,851 million).

2) Other financial assets at amortized cost

As of December 31, 2023, the provision for other financial assets measured at amortized cost does not exist (as of December 31, 2022, were ₩54 million).

All of the financial assets at amortized cost are considered to have low credit risk, and the provisions recognized during the period were, therefore, limited to 12 months' expected losses.

3) Debt instruments measured at FVOCI

Debt instruments measured at FVOCI include trade receivables to be discounted. The provisions for these instruments are recognized in profit or loss and reduce the amount that would have been recognized in other comprehensive income as a loss on fair value change.

(3) Liquidity risk

The finance team of the Company monitors rolling forecasts of the Company's liquidity requirements to ensure it has sufficient cash to meet operational needs while maintaining the limit of unused borrowings at an appropriate level 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 considers the Company's financing plans, covenants on the debt contracts, target financial ratios and, if applicable, other external regulatory requirements on the currency and others.

- 1) The table below analyzes the Company groupings based on the remaining period from the reporting date to the contractual maturity date. Cash flows presented below are gross cash flows before discount and include cash flows for interests (Korean won in millions):

		December 31, 2023			
		Less than 1 year	Between 1 year-2 years	Between 2-5 years	More than 5 years
Non-derivative instruments:					
Borrowings	₩	809,298	₩ 266,085	₩ 2,660,107	₩ 656,385
Lease liabilities		27,736	24,625	9,180	-
Trade and other payables		2,080,421	2,924	444	-
		2,917,455	293,634	2,669,731	656,385
Derivative instruments:					
Currency forwards and swaps settled in gross:					
Inflows		(644,700)	-	(1,289,400)	(644,700)
Outflows		567,800	-	1,337,600	551,415
		(76,900)	-	48,200	(93,285)
	₩	2,840,555	₩ 293,634	₩ 2,717,931	₩ 563,100
		December 31, 2022			
		Less than 1 year	Between 1 year-2 years	Between 2-5 years	More than 5 years
Non-derivative instruments:					
Borrowings	₩	726,969	₩ 681,641	₩ 274,444	₩ 668,105
Lease liabilities		16,855	20,223	22,798	106
Trade and other payables		2,566,921	3,001	314	-
		3,310,745	704,865	297,556	668,211
Derivative instruments:					
Currency forwards settled in gross:					
Inflows		-	(633,650)	-	(633,650)
Outflows		-	567,800	-	551,415
		-	(65,850)	-	(82,235)
	₩	3,310,745	₩ 639,015	₩ 297,556	₩ 585,976

- 2) As of December 31, 2023 and 2022, the Company has entered into swap contracts, to which cash flow hedge accounting is applied, to avoid fluctuations in the market price of raw materials (Korean won in millions):

	Purpose of the contracts	Hedged items	Financial institution	Maturity	2023 fair value		2022 Fair value	
					Asset	Liability	Asset	Liability
Merchandise (raw materials) swap (*)	Cash flow hedge	Non-ferrous metal	Citibank, SC	2026.12	₩ 27	₩ 1,697	₩ -	₩ 819

- (*) Gain (loss) on the contracts that hedge the cash flow risk of forecast transaction is recognized in accumulated other comprehensive income and is fully effective portion for hedging.

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3) Details of financial guaranteed contracts by maturity are as follows (Korean won in millions):

	December 31, 2023			
	Less than 1 year	Between 1-2 years	Between 2-5 years	More than 5 years
Financial guarantee contracts (*)	₩ 3,504,027	₩ -	₩ -	₩ -

	December 31, 2022			
	Less than 1 year	Between 1-2 years	Between 2-5 years	More than 5 years
Financial guarantee contracts (*)	₩ 3,622,099	₩ -	₩ -	₩ -

(*) The Company has provided financial guarantees for subsidiaries, etc., and the amount represents the maximum amount that can be required to guarantee as of December 31, 2023 and 2022. As of December 31, 2023, the total limit amount of committed payment guarantee is ₩5,364,738 million(as of December 31, 2022, was ₩4,152,813 million) (see Note 18).

3.2 Capital Risk Management

The Company's objectives for managing capital are to safeguard the Company's ability to continue to provide profits to shareholders and other stakeholders as a going concern 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 separate statements of financial position, plus net debt.

The gearing ratio and debt-to-equity ratio as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023	December 31, 2022
Total borrowings (Note 14) (A)	₩ 3,819,801	₩ 2,193,057
Less: cash and cash equivalents (B)	(1,855,224)	(4,828,152)
Net debt (C=A+B)	1,964,577	(2,635,095)
Total liabilities (D)	6,944,445	6,408,238
Total equity (E)	16,601,494	16,794,572
Total capital (F=C+E)	₩ 18,566,071	₩ 14,159,477
Gearing ratio (C/F)	10.6%	(*)
Debt-to-equity ratio (D/E)	41.8%	38.2%

(*) The gearing ratios as of December 31, 2022, were not computed since the net debt was negative.

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3.3 Fair Value Estimation

(1) The carrying amount and fair value of financial instruments by category as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023		December 31, 2022	
	Carrying amount	Fair value	Carrying amount	Fair value
Financial assets (current):				
Cash and cash equivalents	₩ 1,855,224	(*)	₩ 4,828,152	(*)
Trade receivables	2,289,892	(*)	2,207,153	(*)
Other receivables (excluding due from financial institutions)	1,168,761	(*)	1,232,735	(*)
Due from financial institutions	5,000	(*)	-	(*)
Current derivative financial assets	12	12	-	-
Current derivative financial assets (currency forward)	65,388	65,388	-	-
Financial assets (non-current):				
Non-current trade receivables	127,946	(*)	120,698	(*)
Non-current other receivables (excluding due from financial institutions)	93,159	(*)	98,926	(*)
Due from financial institutions	60,014	(*)	70,014	(*)
Other non-current financial assets:				
Marketable financial assets	12,255	12,255	25,358	25,358
Non-marketable financial assets	210,602	210,602	240,903	240,903
Non-current derivative financial assets	17,192	17,192	4,559	4,559
Non-current derivative financial assets (currency forward)	47,138	47,138	89,475	89,475
Financial liabilities (current):				
Trade and other payables	2,080,421	(*)	2,566,921	(*)
Current borrowings (excluding lease liabilities)	643,895	(*)	675,078	(*)
Current derivative financial liabilities	1,191	1,191	497	497
Other current financial liabilities	57,249	(*)	65,557	(*)
Financial liabilities (non-current):				
Non-current borrowings (excluding lease liabilities)	3,116,289	3,238,725	1,459,956	1,386,138
Other non-current payables	3,368	(*)	3,315	(*)
Non-current derivative financial liabilities	506	506	322	322
Non-current derivative financial liabilities (currency swap)	67,862	67,862	-	-

(*) Fair values for these financial assets and liabilities are not disclosed above as their carrying amounts are reasonable approximations of their fair values.

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

Fair values of financial liabilities (non-current) are calculated by discounting the expected cash outflows by yield of the company's Korean won-denominated corporate bonds with the specified credit rating (AA0). The applied discount rates as of December 31, 2023 and 2022, are as follows:

	December 31, 2023	December 31, 2022
Discount rate	3.79% ~ 4.79%	4.94% ~ 5.33%

(3) 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 the Company 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)

As of December 31, 2023 and 2022, the fair value hierarchy of the financial instruments that are measured at fair value or for which fair value is disclosed is as follows (Korean won in millions):

		December 31, 2023			
		Level 1	Level 2	Level 3	Total
Financial assets/liabilities measured at fair value:					
Current derivative financial assets	₩	- ₩	12 ₩	- ₩	12
Current derivative financial assets (currency forward)		-	65,388	-	65,388
Non-current derivative financial assets		-	15	17,177	17,192
Non-current derivative financial assets (currency forward)		-	47,138	-	47,138
Other non-current financial assets (marketable financial assets)		12,255	-	-	12,255
Other non-current financial assets (non-marketable financial assets)		-	-	210,602	210,602
Current derivative financial liabilities		-	1,191	-	1,191
Non-current derivative financial liabilities		-	506	-	506
Non-current derivative financial liabilities (currency swap)		-	67,862	-	67,862
Financial assets/liabilities not measured at fair value:					
Non-current borrowings (excluding lease liabilities)		-	3,238,725	-	3,238,725
		December 31, 2022			
		Level 1	Level 2	Level 3	Total
Financial assets/liabilities measured at fair value:					
Non-current derivative financial assets	₩	- ₩	- ₩	4,559 ₩	4,559
Non-current derivative financial assets (currency forward)		-	89,475	-	89,475
Other non-current financial assets (marketable financial assets)		25,358	-	-	25,358
Other non-current financial assets (non-marketable financial assets)		-	-	240,903	240,903
Current derivative financial liabilities		-	497	-	497
Non-current derivative financial liabilities		-	322	-	322
Financial assets/liabilities not measured at fair value:					
Non-current borrowings (excluding lease liabilities)		-	1,386,138	-	1,386,138

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(4) Valuation techniques and inputs used in the fair value measurements categorized within Level 3 of the fair value hierarchy as of December 31, 2023 and 2022, are as follows:

		December 31, 2023		
<u>(In millions of Korean won)</u>		Fair Value	Valuation technique	Unobservable significant inputs
				Coverage of inputs (weighted average)
Non-listed shares:				
Volta Energy Solutions S.a.r.l	₩	50,914	Discounted cash flows model	Perpetual growth rate 1.00% Weighted average cost of capital 11.05%
Shanghai Greatpower Technology Co., Ltd.		21,715	Discounted cash flows model	Perpetual growth rate 1.00% Weighted average cost of capital 11.31%
Non-current derivatives:				
Put option on Volta Energy Solution S.a.r.l		17,177	Binominal option-pricing model	Volatility 31.51% Risk-free rate 4.57%

(5) Changes in Level 3 of the financial instruments for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	2023	2022
Beginning	₩ 245,462	₩ 113,951
Increase	67,212	69,225
Profit(loss) for the period	13,601	(12,474)
Other comprehensive (loss) income	(98,496)	74,760
Ending	₩ 227,779	₩ 245,462

4. SIGNIFICANT ACCOUNTING ESTIMATES AND ASSUMPTIONS:

The preparation of separate financial statements requires the Company to make estimates and assumptions concerning the future. Management also needs to exercise judgment 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 significant estimates and assumptions made by management on the application of the Company's separate financial statements are the same as those of the annual separate financial statements as of and for the year ended December 31, 2022. 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.

(1) Income taxes

If certain portion of the taxable income is not used for investments, increases in wages or dividends, the Company is liable to pay additional income tax calculated based on the tax laws. Accordingly, the measurement of current and deferred income taxes is affected by these tax effects. As the Company's income tax is dependent on investments, increases in wages and dividends, there is an uncertainty measuring the final tax effects.

(2) Provisions

The Company recognizes provisions for product warranties as explained in Note 15. These provisions are estimated based on past experience. Provisions related to voluntary recalls by the Company's customers are estimated based on the number of vehicles subject to recall, estimated total repair cost and cost-sharing ratio.

(3) Fair value of financial instruments

The fair value of financial instruments that are not traded in an active market is determined 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 as of December 31, 2023 (see Note 3.3).

(4) Impairment of financial assets

The provision for impairment of financial assets is based on assumptions about risk of default and expected loss rates. The Company uses judgment in making these assumptions and selecting the inputs to the impairment calculation based on the Company's past experience and existing market conditions, as well as forward-looking estimates at the end of each reporting period (see Note 3.1.(2)).

(5) Net defined benefit liabilities (Assets)

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

(6) 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. Periods covered by the extension option (or the termination option) are only included in the lease term if the lease is reasonably certain to be extended (or not terminated).

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.

5. FINANCIAL INSTRUMENTS BY CATEGORY:

(1) Categorizations of financial instruments as of December 31, 2023 and 2022, are as follows (Korean won in millions):

December 31, 2023					
Financial assets	Financial assets at amortized cost	Financial assets at FVPL	Financial assets at FVOCI (*1)	Other financial assets (*2)	Total
Cash and cash equivalents	₩ 1,855,224	₩ -	₩ -	₩ -	₩ 1,855,224
Trade receivables	2,289,892	-	-	-	2,289,892
Non-current trade receivables	127,946	-	-	-	127,946
Other current receivables	1,173,761	-	-	-	1,173,761
Other non-current receivables	153,173	-	-	-	153,173
Other current financial assets	-	65,388	-	12	65,400
Other non-current financial assets	-	196,678	90,494	15	287,187
	₩ 5,599,996	₩ 262,066	₩ 90,494	₩ 27	₩ 5,952,583

December 31, 2023				
Financial liabilities	Financial liabilities at amortized cost	Financial liabilities at FVPL	Other financial liabilities (*3)	Total
Trade payables	₩ 1,097,287	₩ -	₩ -	₩ 1,097,287
Other payables	983,134	-	-	983,134
Other non-current payables	3,368	-	-	3,368
Current borrowings	643,895	-	26,523	670,418
Non-current borrowings	3,116,289	-	33,094	3,149,383
Other current financial liabilities	57,249	-	1,191	58,440
Other non-current financial liabilities	-	67,862	506	68,368
	₩ 5,901,222	₩ 67,862	₩ 61,314	₩ 6,030,398

(*1) At initial recognition, the Company made an irrevocable election to designate investments in equity instruments as at FVOCI. These instruments are held for the strategic purposes, not for short-term trading.

(*2) Other financial assets include derivative assets.

(*3) Other financial liabilities include lease liabilities and derivative liabilities.

December 31, 2022				
Financial assets	Financial assets at amortized cost	Financial assets at FVPL	Financial assets at FVOCI(*1)	Total
Cash and cash equivalents	₩ 4,828,152	₩ -	₩ -	₩ 4,828,152
Trade receivables	2,207,153	-	-	2,207,153
Non-current trade receivables	120,698	-	-	120,698
Other receivables	1,232,735	-	-	1,232,735
Other non-current receivables	168,940	-	-	168,940
Other non-current financial assets	-	158,201	202,094	360,295
	₩ 8,557,678	₩ 158,201	₩ 202,094	₩ 8,917,973

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	December 31, 2022			
	Financial liabilities	Financial liabilities	Other financial	Total
		at amortized cost	liabilities (*2)	
Trade payables	₩	1,605,551	₩ -	₩ 1,605,551
Other payables		961,370	-	961,370
Other non-current payables		3,315	-	3,315
Borrowings (current)		675,078	16,037	691,115
Borrowings (non-current)		1,459,956	41,986	1,501,942
Other current financial liabilities		65,557	497	66,054
Other non-current financial liabilities		-	322	322
	₩	<u>4,770,827</u>	₩ <u>58,842</u>	₩ <u>4,829,669</u>

(*1) At initial recognition, the Company made an irrevocable election to designate investments in equity instruments as at FVOCI. These instruments are held for the strategic purposes, not for short-term trading.

(*2) Other financial liabilities include lease liabilities and derivative liabilities.

(2) Net gains (losses) on each category of financial instruments for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	2023	2022
Interest income:		
Financial assets at amortized cost	₩ 128,027	₩ 142,730
Interest expense:		
Financial liabilities at amortized cost	(93,022)	(57,392)
Other financial liabilities	(1,122)	(958)
(Losses) gains on valuation:		
Financial assets at FVOCI (*)	(129,038)	54,229
Derivative instruments	(33,123)	20,515
Exchange differences:		
Financial assets at amortized cost	100,185	14,302
Financial liabilities at amortized cost	(67,947)	(167,496)
Financial assets at FVPL	1,063	241

(*) Changes in fair value are recognized in profit or loss or in other comprehensive income.

6. CASH AND CASH EQUIVALENTS:

(1) Details of cash and cash equivalents as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	<u>December 31, 2023</u>	<u>December 31, 2022</u>
Bank deposits and cash on hand	₩ 6,524	₩ 8,326
Cash equivalents	1,848,700	4,819,826
	<u>₩ 1,855,224</u>	<u>₩ 4,828,152</u>

(2) As of December 31, 2023, there are no cash and cash equivalents subject to restriction on use.

7. TRADE AND OTHER RECEIVABLES:

(1) Trade and other receivables and their provisions for impairment are as follows (Korean won in millions):

	<u>December 31, 2023</u>			<u>December 31, 2022</u>		
	<u>Gross amount</u>	<u>Provision for impairment</u>	<u>Carrying amount</u>	<u>Gross amount</u>	<u>Provision for impairment</u>	<u>Carrying amount</u>
Trade receivables	₩ 2,289,892	₩ -	₩ 2,289,892	₩ 2,207,153	₩ -	₩ 2,207,153
Non-current trade receivables	127,946	-	127,946	120,698	-	120,698
Other current receivables	1,173,761	-	1,173,761	1,232,789	(54)	1,232,735
Other non-current receivables	153,173	-	153,173	168,940	-	168,940
	<u>₩ 3,744,772</u>	<u>₩ -</u>	<u>₩ 3,744,772</u>	<u>₩ 3,729,580</u>	<u>₩ (54)</u>	<u>₩ 3,729,526</u>

(2) Details of other receivables as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	<u>December 31, 2023</u>	<u>December 31, 2022</u>
Current:		
Non-trade receivables	₩ 1,154,699	₩ 1,213,949
Deposits from financial institutions (*)	5,000	-
Accrued income	3,582	5,068
Loan	-	8,773
Guarantee deposits provided	10,480	4,945
	<u>1,173,761</u>	<u>1,222,735</u>
Non-current:		
Non-trade receivables	61,125	69,421
Deposits from financial institutions (*)	60,014	70,014
Guarantee deposits provided	32,034	29,505
	<u>153,173</u>	<u>168,940</u>
	<u>₩ 1,326,934</u>	<u>₩ 1,401,675</u>

(*) As of December 31, 2023, the deposits from financial institutions (current) are subject to withdrawal restrictions, which include ₩5,000 million for the loans in relation to the employee stock ownership, and the deposits from financial institutions (non-current) are subject to withdrawal restrictions, which include ₩60,000 million for the Agreement on the Win-Win Growth Cooperation.

(3) The aging analysis of trade and other receivables as of December 31, 2023 and 2022, is as follows (Korean won in millions):

	December 31, 2023		December 31, 2022	
	Trade receivables	Other receivables	Trade receivables	Other receivables
Receivables not past due	₩ 2,385,614	₩ 1,316,073	₩ 2,191,068	₩ 1,369,119
Past due, but not impaired:				
Up to 3 months	15,838	10,861	136,783	21,943
Between 3-6 months	16,386	-	-	10,613
More than 6 months	-	-	-	-
	32,224	10,861	136,783	32,556
Impaired receivables	-	-	-	54
	₩ 2,417,838	₩ 1,326,934	₩ 2,327,851	₩ 1,401,729

(4) Changes in the provision for impairment of trade and other receivables for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	2023		2022	
	Trade receivables	Other receivables	Trade receivables	Other receivables
Beginning	₩ -	₩ 54	₩ 4	₩ 54
Additions (reversal)	-	-	(4)	-
Write-off	-	(54)	-	-
Ending	₩ -	₩ -	₩ -	₩ 54

(5) The fair values of trade receivables and other receivables as of December 31, 2023 and 2022, are not significantly different from their carrying amounts.

8. OTHER FINANCIAL ASSETS AND LIABILITIES:

(1) Details of other financial assets and liabilities as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023	December 31, 2022
Other financial assets:		
Financial assets at FVOCI	₩ 90,494	₩ 202,094
Cash flow hedge	27	-
Financial assets at FVPL	262,066	158,201
	₩ 352,587	₩ 360,295
Other financial liabilities:		
Financial guarantee contracts	₩ 57,249	₩ 65,557
Cash flow hedge	1,697	819
Financial liabilities at FVPL	67,862	-
	₩ 126,808	₩ 66,376

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(2) Changes in equity securities included in other financial assets for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	<u>2023</u>	<u>2022</u>
Beginning	₩ 202,094	₩ 111,184
Acquisitions/transfer	17,438	36,681
Valuation gain(loss) (before income tax deduction), other comprehensive income item	(129,038)	60,047
Valuation loss (before income tax deduction), profit or loss item	-	(5,818)
Ending	<u>₩ 90,494</u>	<u>₩ 202,094</u>

The Company has entered into a put option contracts to secure the investment capital for its equity securities held in Volta Energy Solutions S.a.r.l. The major terms of the agreements are as follows:

- Exercise date: From three years after the acceptance date (initial investment date, January 27, 2021) to the following three years
- Exercise price: The amount contributed, less any dividends received from the date of contribution up to the exercise
- Other term: The option cannot be exercised once Volta Energy Solutions S.a.r.l is listed.

9. INVENTORIES:

(1) Details of inventories as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	<u>December 31, 2023</u>			<u>December 31, 2022</u>		
	<u>Gross amount</u>	<u>Valuation allowance</u>	<u>Carrying amount</u>	<u>Gross amount</u>	<u>Valuation allowance</u>	<u>Carrying amount</u>
Merchandise	₩ 233,113	₩ (2,910)	₩ 230,203	₩ 71,268	₩ (2,350)	₩ 68,918
Finished/semifinished products	1,013,658	(102,993)	910,665	1,183,533	(115,993)	1,067,540
Raw materials	83,359	(2,419)	80,940	249,960	(1,094)	248,866
Supplies	15,288	(5,174)	10,114	15,404	-	15,404
Materials in transit	33,636	-	33,636	198,000	-	198,000
	<u>₩ 1,379,054</u>	<u>₩ (113,496)</u>	<u>₩ 1,265,558</u>	<u>₩ 1,718,165</u>	<u>₩ (119,437)</u>	<u>₩ 1,598,728</u>

(2) The amount of inventories expensed as cost of sales for the years ended December 31, 2023 and 2022, was ₩9,803,613 million and ₩8,896,199 million, respectively.

10. INVESTMENTS IN SUBSIDIARIES, ASSOCIATES AND JOINT VENTURES:

(1) Changes in investments in subsidiaries, associates and joint ventures for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	<u>2023</u>	<u>2022</u>
Beginning	₩ 7,547,546	₩ 5,492,181
Acquisitions	2,598,354	2,055,365
Disposals/Impairment	(27,137)	-
Ending	<u>₩ 10,118,763</u>	<u>₩ 7,547,546</u>

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(2) Details of investments in subsidiaries, associates and joint ventures as of December 31, 2023 and 2022, are as follows
(Korean won in millions):

	Location	Percentage of ownership (%)		Carrying amount	
		December	December	December	December
		31, 2023	31, 2022	31, 2023	31, 2022
Subsidiaries:					
LG Energy Solution (Nanjing) Co., Ltd.	China	100	100	₩ 1,138,401	₩ 1,138,401
LG Energy Solution Michigan Inc.	USA	100	100	3,815,683	2,832,502
LG Energy Solution Battery (Nanjing) Co., Ltd.	China	100	100	323,438	286,310
LG Energy Solution Wroclaw sp. z o.o.	Poland	100	100	2,299,898	2,112,409
LG Energy Solution Australia Pty Ltd.	Australia	100	100	429	429
LG Energy Solution Technology (Nanjing) Co., Ltd.	China	100	100	788,171	788,171
LG Energy Solution Europe GmbH	Germany	100	100	34,729	34,729
LG Energy Solution (Taiwan) Ltd.	Taiwan	100	100	1,871	1,871
Areum noori Co., Ltd.	Korea	100	100	500	500
LG Energy Solution Fund I LLC	USA	100	100	47,842	33,192
LG Energy Solution Vertech Inc.	USA	100	100	16,168	16,168
LG Energy Solution Arizona, Inc. (*1)	USA	100	100	188,649	66,590
Baterias De Castilla S.L.	Spain	100	100	4	4
L-H Battery Company, Inc. (*2)	USA	51	-	548,958	-
LG Energy Solution India Private Limited (*3)	India	100	-	563	-
LG Energy Solution Arizona ESS, Inc. (*4)	USA	100	-	39,936	-
Nextstar Energy Inc. (*5)	Canada	51	-	579,075	-
LG Energy Solution Fund II LLC (*6)	USA	100	-	22,985	-
				9,847,300	7,311,276
Associates and joint ventures:					
VINFAST LITHIUM BATTERY PACK LLC. (*7)	Vietnam	-	35	-	5,323
Jiangxi VL Battery Co.,Ltd. (*8)	China	-	34	-	21,814
PT.HLI Green Power	Indonesia	50	50	209,133	209,133
Sama Aluminium Co., Ltd. (*9)	Korea	10.2	-	46,575	-
Nexpo Co., Ltd. (*10)	Korea	19	-	2,374	-
Bricks Capital Management Global Battery Private Equity Fund I (*11)	Korea	59.9	-	13,381	-
				271,463	236,270
				₩ 10,118,763	₩ 7,547,546

(*1) During the current period, ES America LLC changed its name to LG Energy Solution Arizona, Inc.

(*2) During the current period, the Company newly acquired 51% of L-H Battery Company, Inc. for ₩548,958 million.

(*3) During the current period, the Company newly acquired 100% of LG Energy Solution India Private Limited for ₩563 million.

(*4) During the current period, the Company newly acquired 100% of LG Energy Solution Arizona ESS, Inc. for ₩39,936 million.

(*5) During the current period, the Company newly acquired 51% of Nextstar Energy Inc. for ₩579,075 million.

(*6) During the current period, the Company newly acquired 100% of LG Energy Solution Fund II LLC for ₩22,985 million.

(*7) During the current period, the Company disposed of its entire ownership interest in VINFAST LITHIUM BATTERY PACK LLC.

(*8) During the current period, the Company disposed of its entire ownership interest in Jiangxi VL Battery Co., Ltd.

(*9) During the current period, the Company newly acquired 10.2% of Sama Aluminium for ₩46,575 million. Although the ownership is less than 20%, the arrangement between shareholders ensures that the Company has the ability to participate in the decision-making process; thus, exerting significant influence over the entity. As a result, the entity is classified as an associate.

(*10) During the current period, the Company newly acquired 19% of Nexpo Co., Ltd. for ₩2,374 million. Although the ownership is less than 20%, the arrangement between shareholders ensures that the Company has the ability to participate in the decision-making process; thus, exerting significant influence over the entity. As a result, the entity is classified as an associate.

(*11) During the current period, the Company newly acquired 59.9% of Bricks Capital Management Global Battery Private Equity Fund I for ₩13,381 million. The ownership interest in the equity fund by the Company exceeds 50%; however, due to the requirement of unanimous consent from all stakeholders in major decision-making processes, the Company cannot be deemed to control the equity fund. Therefore, it has been classified as an investment in an associate.

11. **PROPERTY, PLANT AND EQUIPMENT:**

(1) Changes in property, plant and equipment for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

		2023					
		Land	Building	Structures	Machinery	Vehicle	Tool
Beginning							
Carrying amount	₩	224,890	₩ 966,284	₩ 80,988	₩ 1,799,948	₩ 6,527	₩ 648,872
Accumulated depreciation		-	(210,390)	(34,397)	(1,377,291)	(3,363)	(381,565)
Accumulated impairment		(668)	(3,219)	(1,834)	(1,209)	(4)	(257)
	₩	224,222	₩ 752,675	₩ 44,757	₩ 421,448	₩ 3,160	₩ 267,050
Acquisition/Transfer		21,992	477,189	7,150	201,375	1,057	146,658
Disposal/Transfer		-	(117)	(135)	(17,636)	(16)	(6,781)
Depreciation		-	(24,444)	(2,844)	(157,857)	(574)	(83,853)
Impairment		-	-	-	(1,642)	-	(975)
Ending							
Carrying amount	₩	246,882	₩ 1,443,433	₩ 87,973	₩ 1,794,567	₩ 7,369	₩ 741,264
Accumulated depreciation		-	(234,908)	(37,211)	(1,346,009)	(3,741)	(417,943)
Accumulated impairment		(668)	(3,222)	(1,834)	(2,870)	(1)	(1,222)
	₩	246,214	₩ 1,205,303	₩ 48,928	₩ 445,688	₩ 3,627	₩ 322,099

		2023 (Cont.)					
		Fixtures	Right-of-use assets	Construction in progress	Machinery in transit	Others	Total
Beginning							
Carrying amount	₩	224,696	₩ 83,067	₩ 593,293	₩ 9,465	₩ 3,316	₩ 4,641,346
Accumulated depreciation		(94,005)	(27,496)	-	-	(298)	(2,128,805)
Accumulated impairment		(414)	-	-	-	-	(7,605)
	₩	130,277	₩ 55,571	₩ 593,293	₩ 9,465	₩ 3,018	₩ 2,504,936
Acquisition/Transfer		62,375	26,132	1,433,009	47,113	24,930	2,448,980
Disposal/Transfer		(619)	(1,435)	(1,165,538)	(34,069)	(5,502)	(1,231,848)
Depreciation		(34,399)	(25,350)	-	-	(6,386)	(335,707)
Impairment		(4)	-	-	-	-	(2,621)
Ending							
Carrying amount	₩	279,118	₩ 105,905	₩ 860,764	₩ 22,509	₩ 22,744	₩ 5,612,528
Accumulated depreciation		(121,092)	(50,987)	-	-	(6,684)	(2,218,575)
Accumulated impairment		(396)	-	-	-	-	(10,213)
	₩	157,630	₩ 54,918	₩ 860,764	₩ 22,509	₩ 16,060	₩ 3,383,740

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	2022					
	Land	Building	Structures	Machinery	Vehicle	Tool
Beginning						
Carrying amount	₩ 223,676	₩ 890,537	₩ 70,467	₩ 1,568,241	₩ 6,211	₩ 551,606
Accumulated depreciation	-	(184,474)	(31,796)	(1,278,280)	(3,010)	(344,424)
Accumulated impairment	(668)	(3,152)	(1,834)	(1,228)	(4)	(266)
	<u>₩ 223,008</u>	<u>₩ 702,911</u>	<u>₩ 36,837</u>	<u>₩ 288,733</u>	<u>₩ 3,197</u>	<u>₩ 206,916</u>
Acquisition/Transfer	1,227	71,972	10,776	291,194	486	136,859
Disposal/Transfer	(13)	(2,871)	(213)	(11,384)	-	(7,599)
Depreciation	-	(19,337)	(2,643)	(147,095)	(523)	(69,126)
Ending						
Carrying amount	₩ 224,890	₩ 966,284	₩ 80,988	₩ 1,799,948	₩ 6,527	₩ 648,872
Accumulated depreciation	-	(210,390)	(34,397)	(1,377,291)	(3,363)	(381,565)
Accumulated impairment	(668)	(3,219)	(1,834)	(1,209)	(4)	(257)
	<u>₩ 224,222</u>	<u>₩ 752,675</u>	<u>₩ 44,757</u>	<u>₩ 421,448</u>	<u>₩ 3,160</u>	<u>₩ 267,050</u>

	2022 (Cont.)					
	Fixtures	Right-of-use assets	Construction in progress	Machinery in transit	Others	Total
Beginning						
Carrying amount	₩ 153,490	₩ 56,524	₩ 277,948	₩ 14,983	₩ -	₩ 3,813,683
Accumulated depreciation	(73,749)	(11,439)	-	-	-	(1,927,172)
Accumulated impairment	(417)	-	-	-	-	(7,569)
	<u>₩ 79,324</u>	<u>₩ 45,085</u>	<u>₩ 277,948</u>	<u>₩ 14,983</u>	<u>₩ -</u>	<u>₩ 1,878,942</u>
Acquisition/Transfer	75,734	33,591	996,888	33,016	6,507	1,658,250
Disposal/Transfer	(734)	(5,659)	(681,543)	(38,534)	(3,191)	(751,741)
Depreciation	(24,047)	(17,446)	-	-	(298)	(280,515)
Ending						
Carrying amount	₩ 224,696	₩ 83,067	₩ 593,293	₩ 9,465	₩ 3,316	₩ 4,641,346
Accumulated depreciation	(94,005)	(27,496)	-	-	(298)	(2,128,805)
Accumulated impairment	(414)	-	-	-	-	(7,605)
	<u>₩ 130,277</u>	<u>₩ 55,571</u>	<u>₩ 593,293</u>	<u>₩ 9,465</u>	<u>₩ 3,018</u>	<u>₩ 2,504,936</u>

(2) The current ending balances of property, plant and equipment include ₩860,764 million and ₩593,293 million of construction in progress as of December 31, 2023 and 2022, respectively, and some of them will subsequently be transferred to intangible assets.

(3) The Company capitalized ₩17,119 million of borrowing costs in relation to the acquisition of property, plant and equipment (for the year ended December 31, 2022, were ₩3,293 million). The capitalization rate of borrowings used to determine the amount of borrowing costs eligible for capitalization is 3.66% (for the year ended December 31, 2022, was 2.65%).

(4) Line items including depreciation in the separate statements of profit or loss for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	2023	2022
Cost of sales	₩ 210,816	₩ 176,058
Selling and administrative expenses	124,891	104,457
	<u>₩ 335,707</u>	<u>₩ 280,515</u>

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(5) Lease

1) Amounts recognized in the separate statements of financial position

Details of amounts recognized in the separate statements of financial position in relation to the lease for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	<u>December 31, 2023</u>	<u>December 31, 2022</u>
Right-of-use assets (*):		
Buildings	₩ 43,129	₩ 47,735
Lands	228	369
Vehicles	<u>11,561</u>	<u>7,467</u>
	<u>₩ 54,918</u>	<u>₩ 55,571</u>

(*) Included in 'Property, plant and equipment' in the separate statements of financial position.

Additions to the right-of-use assets for the year ended December 31, 2023, are ₩26,132 million (for the year ended December 31, 2022, were ₩33,591 million).

	<u>December 31, 2023</u>	<u>December 31, 2022</u>
Lease liabilities (*):		
Current	₩ 26,523	₩ 16,037
Non-current	<u>33,094</u>	<u>41,986</u>
	<u>₩ 59,617</u>	<u>₩ 58,023</u>

(*) Included in 'Borrowings' in the separate statements of financial position.

2) Amounts recognized in the separate statements of income

Details of amounts recognized in the separate statements of income in relation to the lease for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	<u>2023</u>	<u>2022</u>
Depreciation of right-of-use assets:		
Buildings	₩ 18,831	₩ 13,805
Lands	857	221
Vehicles	<u>5,662</u>	<u>3,420</u>
	<u>₩ 25,350</u>	<u>₩ 17,446</u>
Interest expense relating to lease liabilities (included in finance cost)	₩ 1,122	₩ 958
Expense relating to short-term leases (included in cost of goods sold and administrative expenses)	4,220	2,396
Expense relating to leases of low-value assets that are not short- term leases (included in cost of goods sold and administrative expenses)	7,069	5,029

Total cash outflow for leases for the year ended December 31, 2023, is ₩32,823 million (for the year ended December 31, 2022, was ₩21,710 million).

12. INTANGIBLE ASSETS:

(1) Changes in intangible assets for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

		2023				
		Software	Industrial Property Rights	Memberships	Others	Total
Beginning	₩	276,828	₩ 221,408	₩ 14,753	₩ 494	₩ 513,483
Acquisition/Transfer		220,552	78,404	5,268	275	304,499
Disposal/Transfer		(472)	(1,220)	(1,083)	(179)	(2,954)
Amortization		(81,218)	(21,554)	-	(30)	(102,802)
Impairment		(9)	-	-	-	(9)
Ending	₩	<u>415,681</u>	<u>₩ 277,038</u>	<u>₩ 18,938</u>	<u>₩ 560</u>	<u>₩ 712,217</u>

		2022				
		Software	Industrial Property Rights	Memberships	Others	Total
Beginning	₩	172,882	₩ 175,149	₩ 11,294	₩ 794	₩ 360,119
Acquisition/Transfer		158,595	65,752	9,456	127	233,930
Disposal/Transfer		(194)	(761)	(5,997)	(387)	(7,339)
Amortization		(54,455)	(18,732)	-	(40)	(73,227)
Ending	₩	<u>276,828</u>	<u>₩ 221,408</u>	<u>₩ 14,753</u>	<u>₩ 494</u>	<u>₩ 513,483</u>

(2) Line items including amortization of intangible assets in the separate statements of profit or loss for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	2023	2022
Cost of sales	₩ 17,682	₩ 18,167
Selling and administrative expenses	85,120	55,060
	<u>₩ 102,802</u>	<u>₩ 73,227</u>

(3) Research and development expenses

The total amount of research and development expenses recognized by the Company is ₩927,990 million (for the year ended December 31, 2022, was ₩789,643 million)

(4) Greenhouse gas emission right

1) The amount of allocated greenhouse gas emission rights for the domestic third plan period (2021-2025) is as follows (tons in thousands):

	2021	2022	2023	2024	2025
Allocated emission rights	281	332 (*)	300	297	297

(*) An additional 32,000 tons have been allocated due to the expansion of the workplace discharge facility in addition to the initial free amount 300,000 tons of allocated greenhouse gas emission rights.

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2) Changes in greenhouse gas emission right included in intangible assets for the years ended December 31, 2023 and 2022, are as follows (ton in thousands and Korean won in millions):

	2023							
	2022		2023		2024		2025	
	Ton	Amount	Ton	Amount	Ton	Amount	Ton	Amount
Beginning /Allocated	332	₩ -	300	₩ -	297	₩ -	297	₩ -
Purchase /Sale	23	179	-	-	-	-	-	-
Borrowing /Carried over	3	-	-	-	-	-	-	-
Government submission	(358)	(179)	-	-	-	-	-	-
Ending	-	₩ -	300	₩ -	297	₩ -	297	₩ -

	2022							
	2021		2022		2023		2024	
	Ton	Amount	Ton	Amount	Ton	Amount	Ton	Amount
Beginning /Allocated	281	₩ -	300	₩ -	300	₩ -	297	₩ -
Purchase /Sale	(2)	(20)	-	-	-	-	-	-
Borrowing /Carried over	22	388	3	-	-	-	-	-
Government submission	(301)	(368)	-	-	-	-	-	-
Ending	-	₩ -	303	₩ -	300	₩ -	297	₩ -

13. OTHER CURRENT AND NON-CURRENT ASSETS:

Details of other current and non-current assets as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023		December 31, 2022	
Current:				
Prepayments and prepaid expenses	₩	60,954	₩	47,372
Prepaid value-added tax		56,386		10,742
Others		1,436		51,005
	₩	118,776	₩	109,119
Non-current:				
Long-term prepayments and long-term prepaid expenses	₩	11,495	₩	13,565
Net defined benefit assets		156,509		222,519
	₩	168,004	₩	236,084

14. BORROWINGS:

(1) Borrowings as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023		December 31, 2022	
Current:				
Current portion of debentures	₩	643,895	₩	675,078
Current lease liabilities		<u>26,523</u>		<u>16,037</u>
		670,418		691,115
Non-current:				
Debentures	₩	3,116,289	₩	1,459,956
Non-current lease liabilities		<u>33,094</u>		<u>41,986</u>
		<u>3,149,383</u>		<u>1,501,942</u>
	₩	<u>3,819,801</u>	₩	<u>2,193,057</u>

(2) Details of borrowings as of December 31, 2023 and 2022, are as follows:

1) Debentures (USD in thousands, EUR in thousands and Korean won in millions):

		December 31, 2023					
	Financial institution	Interest rate (%)	Longest maturity date	Amount	Current portion	Non-current portion	
	NH						
1 st Debenture (non-guaranteed/public)	Investment & Securities Co., Ltd. and others	2.214	2026.03.13	₩ 200,000	₩ -	₩ 200,000	
2-1 st Debenture (non-guaranteed/public)	KB Securities Co., Ltd. and others	4.097	2025.06.29	125,000	-	125,000	
2-2 nd Debenture (non-guaranteed/public)	KB Securities Co., Ltd. and others	4.196	2026.06.29	370,000	-	370,000	
2-3 rd Debenture (non-guaranteed/public)	KB Securities Co., Ltd. and others	4.298	2028.06.29	505,000	-	505,000	
USD foreign currency debenture (non-guaranteed)	Citibank and others	3.250	2024.10.15	644,700 (USD 500,000)	644,700	-	
USD foreign currency debenture (non-guaranteed)	Citibank and others	3.625	2029.04.15	644,700 (USD 500,000)	-	644,700	
USD foreign currency debenture (non-guaranteed)	Citibank and others	5.625	2026.09.25	515,760 (USD 400,000)	-	515,760	
USD foreign currency debenture (non-guaranteed)	Citibank and others	5.750	2028.09.25	773,640 (USD 600,000)	-	773,640	
Less: discount on debentures	-	-	-	(18,616)	(805)	(17,811)	
				<u>₩ 3,760,184</u>	<u>₩ 643,895</u>	<u>₩ 3,116,289</u>	

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December 31, 2022								
	Financial institution	Interest rate (%)	Longest maturity date	Amount	Current portion	Non-current portion		
1 st Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	2.214	2026.03.13	₩ 200,000	₩ -	₩ 200,000		
USD foreign currency debenture (non-guaranteed)	Citibank and others	3.250	2024.10.15	633,650 (USD 500,000)	-	633,650		
USD foreign currency debenture (non-guaranteed)	Citibank and others	3.625	2029.04.15	633,650 (USD 500,000)	-	633,650		
EUR foreign currency debenture (non-guaranteed)	Citibank and others	0.500	2023.04.15	675,600 (EUR 500,000)	675,600	-		
Less: discount on debentures	-	-	-	(7,866)	(522)	(7,344)		
				<u>₩ 2,135,034</u>	<u>₩ 675,078</u>	<u>₩ 1,459,956</u>		

2) Lease liabilities (Korean won in millions)

December 31, 2023						
	Interest rate (%)	Longest maturity date	Amount	Current portion	Non-current portion	
Baeksan industry and others	2.16 ~ 4.20	2028.06.07	₩ 59,617	₩ 26,523	₩ 33,094	

December 31, 2022						
	Interest rate(%)	Longest maturity date	Amount	Current portion	Non-current portion	
Baeksan industry and others	2.01 ~ 2.34	2042.06.09	₩ 58,023	₩ 16,037	₩ 41,986	

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15. PROVISIONS:

Changes in provisions for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

2023					
	Warranty (*1)	Greenhouse gas emission (*2)	Other provisions (*3)	Total	
Beginning	₩ 920,184	₩ 1,250	₩ 4,118	₩ 925,552	
Provision transfer	251,654	(876)	98,772	349,550	
Used	(747,918)	(179)	-	(748,097)	
Ending	423,920	195	102,890	527,005	
Less: current portion	(277,810)	(195)	(96,705)	(374,710)	
	₩ 146,110	₩ -	₩ 6,185	₩ 152,295	

2022					
	Warranty (*1)	Greenhouse gas emission (*2)	Other provisions (*3)	Total	
Beginning	₩ 1,883,489	₩ 79	₩ 4,056	₩ 1,887,624	
Provision transfer	298,104	1,171	1,049	300,324	
Used	(1,261,409)	-	(987)	(1,262,396)	
Ending	920,184	1,250	4,118	925,552	
Less: current portion	(803,004)	(1,250)	-	(804,254)	
	₩ 117,180	₩ -	₩ 4,118	₩ 121,298	

(*1) Warranty provisions have been accrued for the estimated warranty costs to be incurred due to quality control, exchange and refunds with regard to products based on historical experience. In addition, provisions related to replacement costs due to ESS replacement cost and voluntary automotive battery recalls are included. The amount recognized as a provision shall be the best estimate of the expenditure required to settle the present obligation at the end of the reporting period.

(*2) In relation to greenhouse gas emissions, the Company estimates the expected future costs of emissions exceeding the Company's emission rights for the year and recognizes them as provisions. Estimated emissions are 325 thousand tons as of December 31, 2023 (were 313 thousand tons as of December 31, 2022).

(*3) In addition to provisions for warranties and greenhouse gases, the Company has rationally estimated the probable amount of resource outflow embodying economic benefits as a present obligation resulting from past events and recognized it as a provision.

16. NET DEFINED BENEFIT LIABILITIES (ASSETS):

(1) Details of net defined benefit liabilities (assets) recognized in the separate statements of financial position as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023	December 31, 2022
Present value of defined benefit obligations (*1)	₩ 671,375	₩ 547,721
Fair value of plan assets (*2)	(827,884)	(770,240)
	₩ (156,509)	₩ (222,519)

(*1) The present value of defined benefit obligations is the amount after deducting the contributions to the National Pension Plan of ₩35 million as of December 31, 2023 (as of December 31, 2022, was ₩42 million).

(*2) The ₩156,509 million of net defined benefit asset is included in the 'Other non-current assets' as of December 31, 2023 (as of December 31, 2022, was ₩222,519 million).

(2) The amounts recognized in the separate statements of profit or loss for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	2023	2022
Current service cost	₩ 77,762	₩ 77,322
Interest cost	(12,016)	(10)
	₩ 65,746	₩ 77,312

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(3) Retirement benefits recognized for defined contribution plan for the year ended December 31, 2023, amounted to ₩2,495 million (for the year ended December 31, 2022, amounted to ₩1,586 million).

(4) Line items including retirement benefits in the separate statements of profit or loss for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	2023	2022
Cost of sales	₩ 27,130	₩ 37,276
Selling and administrative expenses	41,111	41,622
	<u>₩ 68,241</u>	<u>₩ 78,898</u>

(5) Changes in the present value of defined benefit obligations for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	2023	2022
Beginning	₩ 547,721	₩ 552,888
Transfer in	12,516	8,141
Transfer out	(2,426)	(2,991)
Current service cost	77,762	77,322
Interest expense	28,988	16,409
Remeasurements:		
Actuarial loss from change in financial assumption	45,794	(102,359)
Actuarial gain from change in demographic assumption	1,824	(3,256)
Actuarial gain due to the difference between the estimated and the actual	(8,634)	31,915
Others	(2,002)	792
Payments from plans	(30,168)	(31,140)
Ending	<u>₩ 671,375</u>	<u>₩ 547,721</u>

(6) Changes in the fair value of plan assets for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	2023	2022
Beginning	₩ 770,240	₩ 553,217
Transfer out	(125)	-
Interest income	41,004	16,419
Remeasurements:		
Return on plan assets (excluding amounts included in interest income)	1,665	(4,390)
Contribution:		
Employer contribution to plan assets	43,000	235,000
Payments from plans	(26,650)	(28,988)
Administrative costs	(1,250)	(1,018)
Ending	<u>₩ 827,884</u>	<u>₩ 770,240</u>

(7) The actual return on plan assets for the year ended December 31, 2023, was ₩42,669 million (for the year ended December 31, 2022, was ₩12,029 million).

(8) The significant actuarial assumptions as of December 31, 2023 and 2022, are as follows:

	December 31, 2023	December 31, 2022
Discount rate	4.70%	5.40%
Expected salary growth rate	5.33%	5.96%

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(9) The sensitivity analysis for changes in key actuarial assumptions as of December 31, 2023, is as follows (Korean won in millions):

		<u>Increase by 1.0%</u>	<u>Decrease by 1.0%</u>
Discount rate:			
Increase (decrease) in defined benefit obligations	₩	(79,519)	₩ 95,565
Expected salary growth rate:			
Increase (decrease) in defined benefit obligations		99,485	(83,731)

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 actuarial assumptions is calculated using the projected unit credit method, the same method applied when calculating the defined benefit obligations recognized in the separate statements of financial position.

The methods and assumptions used for the sensitivity analysis are the same as those of the previous period.

(10) Plan assets as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	<u>December 31, 2023</u>		<u>December 31, 2022</u>	
	<u>Amount</u>	<u>Composition (%)</u>	<u>Amount</u>	<u>Composition (%)</u>
Insurance contracts with guaranteed yield	₩ 827,884	100	₩ 770,240	100

Plan assets consist of guaranteed debt instruments and others, which have no quoted market prices in an active market.

(11) The weighted-average remaining maturity of the defined benefit obligation at the end of the year ended December 31, 2023, is 13.89 years

The Company annually reviews the funding level of the plan and has the policy to support the plan in case of any funding shortfall. The expected contribution for the year ended on December 31, 2024, is ₩114,035 million.

17. OTHER CURRENT AND NON-CURRENT LIABILITIES:

Details of other current and non-current liabilities as of December 31, 2023 and 2022, are as follows (Korean won in millions):

		<u>December 31, 2023</u>	<u>December 31, 2022</u>
Current:			
Advances from customers	₩	56,660	₩ 64,939
Withholdings		35,907	32,188
Unearned revenues		46,509	49,972
Accrued expenses		187,854	332,652
	₩	<u>326,930</u>	₩ <u>479,751</u>
Non-current:			
Long-term employee benefits	₩	26,567	₩ 23,041
Long-term unearned revenues		-	150,225
Long-term advance received		33,545	-
	₩	<u>60,112</u>	₩ <u>173,266</u>

18. COMMITMENTS AND CONTINGENCIES:

- (1) The Company is jointly liable with LG Chem, Ltd. for liabilities recognized before the split-off date.
- (2) As of December 31, 2023, the Company has been guaranteed by Seoul Guarantee Insurance Company for the execution of contracts and others.
- (3) As of December 31, 2023, the Company has various specific lines of credit agreements with several financial institutions as follows (Korean won in millions and foreign currencies in millions):

	Currency	December 31, 2023
Limit of bank overdraft	KRW	8,700
Limit of the letter of credit	USD	12
Limit of discount of notes from export	USD	1,070
Limit of guaranteed payments in other foreign currency	USD	285
Derivatives	USD	789
	KRW	60,000
Business-to-business purchase arrangements	KRW	125,000
General loan agreements	KRW	500,000
Bond transfer transaction	KRW	150,000

- (4) As of December 31, 2023, the Company has entered into payment guarantee contracts of USD 161 million and EUR 3 million with financial institutions in relation to product warranty for certain installed products.
- (5) The Company provides performance guarantees of USD 8,553 million, EUR 1 million, CAD 815 million and others for subsidiaries.
- (6) The Company has been sued and related in five class actions by consumers in relation to the sales of mobile batteries and GM Bolt EV, and actions are still in process as of December 31, 2023. The Company has also been sued in other 61 other cases (amounted to ₩100 million) and has filed four lawsuit cases (amounted to USD 107 million and ₩646 million). The ultimate outcome of these pending cases cannot be determined at the reporting date.
- (7) 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.
- (8) As of December 31, 2023, the Company has entered into a joint venture agreement with Honda and has committed to invest USD 1,802 million and has contributed USD 415 million as of the end of December 31, 2023. During the year ended December 31, 2022, the Company has decided to provide a payment guarantee of USD 450 million, determined by its proportionate ownership of the borrowed amount up to a maximum limit of USD 883 million. In addition, if one party defaults, the other party has the right to purchase shares from the other party.
- (9) As of December 31, 2023, the Company has entered into a joint venture agreement with Stellantis and has committed to invest USD 1,464 million and has contributed USD 459 million as of the end of December 31, 2023. In addition, if one party defaults, the other party has the right to purchase shares from the other party.
- (10) As of December 31, 2023, the Company has entered into a joint venture agreement with HMG Global LLC and has committed to invest USD 1,108 million and has contributed USD 110 million as of the end of December 31, 2023. After the expiration of the contract period, each party can sell its shares to third parties. In addition, if one party defaults, the other party has the right to purchase shares from the other party.
- (11) As of December 31, 2023, the Company has decided to contribute USD 1,106 million to LG Energy Solution Arizona, Inc. and has contributed USD 148 million as of the end of December 31, 2023. Furthermore, the Company has decided to provide a payment guarantee up to a maximum limit of USD 1,106 million.

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(12) As of December 31, 2023, the Company has decided to contribute USD 1,173 million to LG Energy Solution Arizona ESS, Inc. and has contributed USD 30 million as of the end of December 31, 2023. Furthermore, the Company has decided to provide a payment guarantee up to a maximum limit of USD 1,173 million.

(13) Capital expenditure arrangements that have not been incurred as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023	December 31, 2022
Property, plant and equipment	₩ 573,345	₩ 553,210

(14) Investment commitments as of December 31, 2023, are as follows (Korean won and USD in millions):

	Currency	Contractual amount	Total investments	Remaining amount
BNZ (Beyond Net Zero) Fund	USD	75	25	50
Secondary Battery Growth Fund	KRW	6,700	5,360	1,340
KBE (Korea Battery ESG) Fund	KRW	75,000	41,158	33,842
BCM Global Battery Fund	KRW	30,000	13,381	16,619
Yonsei Technology Holdings IP Fund	KRW	3,000	1,020	1,980

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(15) Details of guarantees the Company provides for the borrowings as of December 31, 2023 and 2022, are as follows
(Korean won in millions):

Guarantor	Guarantee beneficiary	Financial institution	Loan amount (*1)		Credit limit (*2)	
			December 31, 2023	December 31, 2022	December 31, 2023	December 31, 2022
LG Energy Solution Ltd.	LG Energy Solution Wrocław sp. Z.o.o.	Citibank	₩ -	₩ 20,268	₩ -	₩ 101,340
		Citibank	-	67,560	-	67,560
		ING	-	67,560	-	67,560
		ING	-	27,024	-	27,024
		MUFG	71,330	67,560	71,330	67,560
		KEB Hana Bank	285,318	270,240	285,318	270,240
		Citibank	71,330	67,560	71,330	67,560
		Citibank	71,330	67,560	71,330	67,560
		EBRD	71,330	94,584	142,659	135,120
		SMBC	-	135,120	-	135,120
		SMBC	46,364	60,804	71,330	67,560
		DBS	142,659	135,120	142,659	135,120
		EIB	532,593	648,576	684,763	648,576
		EBRD	128,393	162,144	213,989	202,680
		KDB Bank/ Korea Exim Bank	378,046	358,068	378,046	358,068
		KDB Bank/ Korea Exim Bank/ NH Bank	784,625	743,160	784,625	743,160
		KDB Bank/ Korea Exim Bank	285,318	270,240	285,318	270,240
		KDB Bank/ Korea Exim Bank	142,659	135,120	142,659	135,120
		KDB Bank/ Korea Exim Bank	71,330	67,560	71,330	67,560
		KDB Bank/ Korea Exim Bank	71,330	67,560	71,330	67,560
		LG Energy Solution Michigan Inc.	64,470	-	1,418,340	-
		ANZ and others	285,602	88,711	458,382	450,525
			₩ 3,504,027	₩ 3,622,099	₩ 5,364,738	₩ 4,152,813

(*1) The amounts represent the borrowed amount as of December 31, 2023 and 2022.

(*2) The limits indicate the aggregate amount of payment guarantees.

In addition, the Company provides letter of comfort in relation to certain borrowings of subsidiaries.

19. SHARE CAPITAL:

Changes in share capital and share premium for the year ended December 31, 2023, are as follows (Korean won in millions and in shares):

	<u>Ordinary shares</u>			<u>Share premium</u>	
	<u>Number of shares</u>	<u>Share capital</u>		<u>Share premium</u>	
December 31, 2022	₩ 234,000,000	₩ 117,000	₩	17,589,722	
Changes	-	-	-	-	
December 31, 2023	<u>₩ 234,000,000</u>	<u>₩ 117,000</u>	<u>₩</u>	<u>17,589,722</u>	

20. ACCUMULATED DEFICIT:

(1) Details of accumulated deficit as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	<u>December 31, 2023</u>	<u>December 31, 2022</u>
Unappropriated retained earning (Undisposed accumulated deficit)	₩ (1,051,712)	₩ (958,790)

(2) The statement of the disposition of accumulated deficits for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	<u>December 31, 2023</u> <u>Expected appropriation</u> <u>date: March 25, 2024</u>	<u>December 31, 2022</u> <u>Appropriation date:</u> <u>March 24, 2023</u>
Unappropriated accumulated deficit		
Unappropriated accumulated deficit carried over from prior years	₩ (958,790)	₩ (480,338)
Loss for the year	(65,689)	(528,127)
Remeasurement items of net defined benefit liability	<u>(27,233)</u>	<u>49,675</u>
	<u>(1,051,712)</u>	<u>(958,790)</u>
Unappropriated accumulated deficit to be carried forward to the subsequent year	<u>₩ (1,051,712)</u>	<u>₩ (958,790)</u>

21. OPERATING LOSSES:

(1) The major items encompassed in the calculation of operating income/loss for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	2023	2022
Revenue	₩ 12,288,439	₩ 10,581,787
Cost of sales	9,881,450	8,962,110
Gross profit	2,406,989	1,619,677
Selling and administrative expenses:		
Wages and salaries	₩ 671,151	₩ 656,506
Retirement benefits	41,111	41,622
Employee benefits	163,107	118,413
Travel expenses	52,020	44,303
Water and utilities	67,211	46,830
Rental expenses	70,935	62,963
Commission expenses	622,528	492,122
Depreciation	130,919	110,344
Advertising expenses	22,657	16,522
Freight expenses	27,176	83,065
Training expenses	28,384	18,883
Amortization	85,120	55,060
Sample expenses	3,732	1,617
Development costs	205,869	145,555
Addition of warranty provisions	251,654	298,104
Others	282,329	104,278
	2,725,903	2,296,187
Operating losses	₩ (318,914)	₩ (676,510)

(2) Sales for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	2023	2022
Sales recognized at a point in time	₩ 10,908,359	₩ 9,566,602
Sales recognized over time	1,380,080	1,015,185
	<u>₩ 12,288,439</u>	<u>₩ 10,581,787</u>

22. CLASSIFICATION OF EXPENSES BY NATURE:

Cost of sales and selling and administrative expenses by nature for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	<u>2023</u>	<u>2022</u>
Changes in inventories of merchandise, finished goods, semifinished goods and work in process	₩ (4,410)	₩ (316,191)
Raw materials and consumables used	7,549,341	7,245,721
Purchase of merchandise	1,059,523	928,004
Employee benefit expenses	1,356,292	1,330,105
Advertising expenses	22,775	16,732
Freight expenses	30,459	88,290
Commission expenses	687,648	548,993
Depreciation and amortization	444,537	359,629
Rent expenses and usage fee	10,213	8,455
Addition of warranty provisions	251,654	298,104
Other expenses	1,199,321	750,455
	<u>₩ 12,607,353</u>	<u>₩ 11,258,297</u>

23. EMPLOYEE BENEFIT EXPENSES:

Details of employee benefit expenses for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	<u>2023</u>	<u>2022</u>
Salaries	₩ 1,127,059	₩ 1,131,036
Retirement benefits: defined benefit plan	65,746	77,312
Retirement benefits: defined contribution plan	2,495	1,586
Others	160,992	120,171
	<u>₩ 1,356,292</u>	<u>₩ 1,330,105</u>

24. FINANCE INCOME AND COSTS:

Details of finance income and costs for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	<u>2023</u>	<u>2022</u>
Finance income:		
Interest income (*1)	₩ 128,027	₩ 142,730
Dividend income	-	37,180
Exchange differences	451,680	135,593
Gain on derivatives	<u>35,589</u>	<u>34,556</u>
	<u>₩ 615,296</u>	<u>₩ 350,059</u>
Finance costs:		
Interest expense (*2)	₩ 77,025	₩ 55,057
Exchange differences	430,261	226,240
Loss on derivatives	<u>67,862</u>	<u>12,887</u>
	<u>₩ 575,148</u>	<u>₩ 294,184</u>

(*1) Details of interest income for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	<u>2023</u>	<u>2022</u>
Due from financial institutions	₩ 121,457	₩ 133,678
Other loans and receivables	<u>6,570</u>	<u>9,052</u>
	<u>₩ 128,027</u>	<u>₩ 142,730</u>

(*2) Details of interest expense for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	<u>2023</u>	<u>2022</u>
Interest on lease liabilities	₩ 1,122	₩ 958
Interest on debentures	93,008	57,361
Other interest expenses	14	31
Capitalized interest for qualifying assets	<u>(17,119)</u>	<u>(3,293)</u>
	<u>₩ 77,025</u>	<u>₩ 55,057</u>

25. OTHER NON-OPERATING INCOME:

Details of other non-operating income for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	<u>2023</u>	<u>2022</u>
Exchange differences	₩ 366,813	₩ 498,088
Gain on disposal of property, plant and equipment	643	530
Gain on disposal of intangible assets	191	-
Dividend income	329,775	-
Others	<u>32,114</u>	<u>39,095</u>
	<u>₩ 729,536</u>	<u>₩ 537,713</u>

26. OTHER NON-OPERATING EXPENSES:

Details of other non-operating expenses for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	2023	2022
Exchange differences	₩ 354,932	₩ 560,394
Loss on disposal of property, plant and equipment	30,322	19,072
Loss on disposal of intangible assets	472	244
Loss on impairment of investments in associates and disposal loss	27,137	-
Donations	7,825	935
Others	3,856	19,748
	<u>₩ 424,544</u>	<u>₩ 600,393</u>

27. INCOME TAX EXPENSE (BENEFIT) AND DEFERRED TAX:

(1) Details of income tax expense (benefit) for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	2023	2022
Current income tax on profit for the period	₩ 110,621	₩ 70,866
Adjustment for past income tax	-	14,282
Changes in deferred tax – tax rate change	-	41,938
Deferred tax – movement in temporary differences	309,553	288,258
Changes in deferred tax – tax credit carryforwards	(223,002)	(189,183)
Changes in deferred tax – tax loss carryforwards	(143,072)	(346,311)
	<u>54,100</u>	<u>(120,150)</u>
Deferred tax changed directly to equity	37,815	(35,038)
	<u>₩ 91,915</u>	<u>₩ (155,188)</u>

(2) The aggregate current and deferred taxes charged directly to equity (other comprehensive income) for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions)

	2023	2022
Remeasurements of net defined benefit liabilities	₩ 8,084	₩ (18,842)
Gain and losses on valuation of financial assets at FVOCI	29,731	(16,196)
	<u>₩ 37,815</u>	<u>₩ (35,038)</u>

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(3) Changes in deferred tax assets (liabilities) for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	2023			
	Increase (decrease)			
	Beginning	Profit(loss) for the period	Other comprehensive Income(loss)	Ending
Net defined benefit liabilities	₩ 130,252	₩ 1,370	₩ 8,084	₩ 139,706
Plan assets	(185,722)	27,817	-	(157,905)
Property, plant and equipment	11,001	(3,161)	-	7,840
Accrued income	(659)	407	-	(252)
Provision	250,429	(146,549)	-	103,880
Others	168,682	(136,026)	29,731	62,387
Succession of assets (property, plant and equipment)	67,476	(12,138)	-	55,338
Succession of assets (patents)	564,426	(79,006)	-	485,420
Succession of assets (membership)	615	(82)	-	533
	<u>1,006,500</u>	<u>(347,368)</u>	<u>37,815</u>	<u>696,947</u>
Tax credit carryforwards	189,183	223,002	-	412,185
Tax loss carryforwards	346,312	143,072	-	489,384
Deferred tax assets	₩ 1,541,995	₩ 18,706	₩ 37,815	₩ 1,598,516
	2022			
	Increase (decrease)			
	Beginning	Profit (loss) for the period	Other comprehensive Income (loss)	Ending
Net defined benefit liabilities	₩ 137,925	₩ 11,170	₩ (18,842)	₩ 130,252
Plan assets	(149,882)	(35,840)	-	(185,722)
Property, plant and equipment	9,315	1,686	-	11,001
Accrued income	(19)	(640)	-	(659)
Provision	526,329	(275,901)	-	250,429
Others	142,915	41,963	(16,196)	168,682
Succession of assets (property, plant and equipment)	79,837	(12,361)	-	67,476
Succession of assets (patents)	589,676	(25,250)	-	564,426
Succession of assets (membership)	600	15	-	615
	<u>1,336,696</u>	<u>(295,157)</u>	<u>(35,038)</u>	<u>1,006,500</u>
Tax credit carryforwards	-	189,183	-	189,183
Tax loss carryforwards	-	346,312	-	346,312
Deferred tax assets (liabilities)	₩ 1,336,696	₩ 240,337	₩ (35,038)	₩ 1,541,995

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(4) The reconciliations between income tax benefit and accounting loss for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	2023	2022
Net income (loss) before tax	₩ 26,226	₩ (683,315)
Tax at domestic tax rates	6,260	(187,912)
Tax effects:		
Income not subject to tax	(150,506)	(1,637)
Expenses not deductible for tax purposes	1,965	24,148
Effect of non-recognition of deferred tax on temporary differences	84,085	59,548
Effect of changes of deferred tax due to changes in tax rates	-	41,938
Foreign tax	110,621	-
Others	39,490	(91,273)
Income tax expenses (benefit)	₩ 91,915	₩ (155,188)

(5) The future feasibility of deferred tax assets depends on a variety of factors, including the Company's ability to generate taxable income during the period when the temporary difference is realized, and the overall economic environment and industry prospects. The Company reviews these factors periodically.

(6) The temporary difference related to investments in subsidiaries, associates and joint ventures that is not recognized as deferred tax assets (liabilities) for the years ended December 31, 2023 and 2022, is as follows (Korean won in millions):

	2023	2022
Investments in subsidiaries, associates and joint ventures	₩ 1,564,395	₩ 1,195,613

28. LOSSES PER SHARE:

Basic losses per share are calculated by dividing the losses attributable to ordinary shares by the total number of ordinary shares issued.

(1) Basic losses per ordinary share for the years ended December 31, 2023 and 2022, are computed as follows (Korean won in millions and in number of shares):

Basic losses per ordinary share (Korean won in millions and in number of shares)

	2023	2022
Losses attributable to ordinary shares	₩ (65,689)	₩ (528,127)
Weighted-average number of ordinary shares outstanding	234,000,000	232,043,836
Basic losses per ordinary share (in Korean won)	₩ (281)	₩ (2,276)

(2) The Company has not issued any potential ordinary shares. Therefore, basic losses per share are identical to diluted losses per share.

29. DIVIDEND:

The Company did not pay any dividends for the accounting period that ended on December 31, 2023.

30. RELATED-PARTY TRANSACTIONS:

- (1) As of December 31, 2023, the parent company is LG Chem, Ltd. (percentage of ownership: 81.84%) over which LG Corp. exercises a significant influence.
- (2) Details of other related parties that have sales and other transactions with the Company or have receivable and payable balances, other than subsidiaries, associates and joint ventures (see Note 10), as of December 31, 2023, are as follows:

Related party	Related party's subsidiary (domestic)	Related party's subsidiary (overseas)	Details
LG Chem, Ltd.	HAENGBOKNURI CO., LTD. and others	LEYOU NEW ENERGY MATERIALS (WUXI) Co., Ltd. and others	Subsidiary of LG Chem, Ltd.
D&O Co., Ltd.	D&O CM, Ltd. and others	D&O CM NANJING and others	
LG CNS Co., Ltd.	Biz Tech I Co., Ltd. and others	LG CNS America Inc. and others	Subsidiary of LG Corp.
LG Management Development Institute			
LG Display, Inc.	NANUMNURI CO., LTD	LG Display (China) Co., Ltd. and others	LG Enterprise group (*1)
LG Electronics, Inc.	LG Innotek Co., Ltd. and others	LG Electronics Philippines, Inc. and others	
LG Household & Health Care Ltd.	Coca-Cola Beverage Co. and others	LG Household & Health Care Trading (Shanghai) CO., LTD. and others	
LG Uplus Corp.	LG HelloVision Corp. and others	LG UPLUS FUND I LLC and others	
HS AD Inc.		GIIR America Inc. and others	
Mintech Co., Ltd. (*2)			

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

(*2) Although the Company holds less than 20% of the shares in the form of redeemable convertible preference shares, it has significant influence as it holds the right to appoint directors. Meanwhile, the Company classifies it as financial assets at FVPL, taking into account the nature of the shares held and K-IFRS 1109.

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(3) Transactions with related parties for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	2023				
	Purchase and others				
	Sales and others	Purchase of raw materials /merchandises	Acquisition of property, plant and equipment and intangible assets	Interest expense	Others
Parent:					
LG Chem, Ltd.	₩ 72,314	₩ 57,665	₩ 1,146	₩ 30	₩ 3,600
Subsidiaries:					
LG Energy Solution (Nanjing) Co., Ltd.	613,311	2,770,631	-	-	1,190
LG Energy Solution Michigan, Inc.	1,054,705	-	-	-	27,433
LG Energy Solution Battery (Nanjing) Co., Ltd.	5,987	796,656	-	-	961
LG Energy Solution Wroclaw sp. Z o.o.	1,651,436	60,912	-	-	4,750
LG Energy Solution Australia Pty Ltd.	117	-	-	-	21,268
LG Energy Solution Technology (Nanjing) Co., Ltd.	1,154	2,335,298	-	-	76
Ultium Cells LLC	46,396	-	-	-	-
LG Energy Solution Europe GmbH	91,060	-	-	-	84,782
LG Energy Solution (Taiwan), Ltd.	-	-	-	-	5,306
Areum Noori Co., Ltd.	14	-	-	-	-
LG Energy Solution Vertech Inc.	2,910	-	-	-	13,283
L-H Battery Company, Inc.	64,552	-	-	-	-
Associates and joint ventures:					
PT. HLI Greenpower	46,252	-	-	-	3,327
VINFAST LITHIUM BATTERY PACK LLC (*)	256	-	-	-	-
Sama Aluminium Co., Ltd.	-	2,375	-	-	-
Mintech Co., Ltd.	-	-	206	-	10
Other related parties:					
LG Corp.	-	-	-	-	61,325
LG Chem America, Inc.	-	-	-	-	3
HAENGBOKNURI CO., LTD.	5	-	-	-	560
LEYOU NEW ENERGY MATERIALS (WUXI) Co., Ltd.	-	130,595	-	-	-
LG-HY BCM Co., Ltd.	-	28	-	-	-
TECWIN Co., Ltd.	-	-	14,970	-	7,414
LG Management Development Institute	11	-	-	-	29,818
D&O Co., Ltd. and its subsidiaries	83	-	5,789	-	3,959
LG CNS Co., Ltd. and its subsidiaries	36,850	224	309,888	-	132,263
Others	-	-	-	-	2,822
Others:					
LG Electronics Inc., Ltd. and its subsidiaries	167,153	49,820	62,388	-	15,806
Xi C&A and its subsidiaries	-	2,693	67,267	-	690
S&I Corporation	-	8,970	43,451	-	64,580
Others	43	2	1,179	30	4,629
	₩ 3,854,609	₩ 6,215,869	₩ 506,284	₩ 60	₩ 489,855

(*) During the current period, the Company disposed of its entire ownership interest and was excluded from the related party.

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	2022				
	Purchase and others				
	Sales and others	Purchase of raw materials /merchandises	Acquisition of property, plant and equipment and intangible assets	Interest expense	Others
Parent:					
LG Chem, Ltd.	₩ 5,488	₩ 60,905	₩ 98	₩ 47	₩ 7,887
Subsidiaries:					
LG Energy Solution (Nanjing) Co., Ltd.	275,880	3,047,335	-	-	4,473
LG Energy Solution Michigan, Inc.	790,904	4,882	-	-	33,318
LG Energy Solution Battery (Nanjing) Co., Ltd.	63,303	804,379	-	-	150
LG Energy Solution Wrocław sp. z o.o.	1,327,076	13,523	-	-	24,543
LG Energy Solution Australia Pty Ltd.	19,000	-	-	-	11,156
LG Energy Solution Technology (Nanjing) Co., Ltd.	19,712	1,604,819	-	-	127
Ultium Cells LLC	1,425	-	-	-	-
LG Energy Solution Europe GmbH	334,200	510	-	-	62,197
LG Energy Solution (Taiwan), Ltd.	-	-	-	-	5,383
Areum noori Co., Ltd.	9	-	-	-	7,331
LG Energy Solution Vertech Inc.	2,977	-	-	-	17,343
Associates and joint ventures:					
PT. HLI Greenpower	45,987	-	-	-	-
VINFAST LITHIUM BATTERY PACK LLC	4,969	-	-	-	-
Other related parties:					
LG Corp.	-	-	1,273	-	51,212
LG Chem America, Inc.	-	-	-	-	5
LG Chem Poland Sp. z o.o.	-	7	-	-	8
HAENGBOKNURI CO., LTD.	13	51	-	-	1,087
LEYOU NEW ENERGY MATERIALS (WUXI) Co., Ltd.	-	411,357	-	-	45
TECWIN Co., Ltd.	-	-	106	-	89
LG Management Development Institute	-	-	-	-	19,197
D&O Co., Ltd. and its subsidiaries	81	-	3,561	-	2,769
LG CNS Co., Ltd. and its subsidiaries	20,263	95	255,864	-	83,875
Others	-	-	-	-	2,183
Others:					
LG Display Co., Ltd and its subsidiaries	7	-	-	-	-
LG Electronics Inc., Ltd. and its subsidiaries	211,502	94,190	46,505	-	14,774
LX Holdings., Ltd. and its subsidiaries (*1)	262	11,762	91	-	78,110
Xi C&A (former S&I Construction) and its subsidiaries (*2)	-	16	57,804	-	391
S&I Corporation (*2)	-	5,980	43,815	-	34,959
Others	34	-	2,657	-	3,863
	<u>₩ 3,123,092</u>	<u>₩ 6,059,811</u>	<u>₩ 411,774</u>	<u>₩ 47</u>	<u>₩ 466,475</u>

(*1) It includes companies with LX Holdings., Ltd. as a holding company. In addition, they have been excluded from the large enterprise group after their separation from LG Group during the year ended December 31, 2022. The amount includes transactions before the separation.

(*2) For the year ended December 31, 2022, the entity was classified as an associate from a subsidiary of D&O Co., Ltd. Due to the sale of its shares, the amount includes the transactions before classification.

LG Energy Solution, Ltd.
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(4) Balances of receivables and payables from related parties as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023						
	Receivables			Payables			
	Trade receivables	Other receivables	Total	Trade payables	Lease liabilities	Other payables	Total
Parent:							
LG Chem, Ltd.	₩ 19,063	₩ 15,319	₩ 34,382	₩ 21,184	₩ 1,100	₩ 3,581	₩ 25,865
Subsidiaries:							
LG Energy Solution (Nanjing) Co., Ltd.	1,210	200,519	201,729	353,933	-	239	354,172
LG Energy Solution Michigan, Inc.	45,594	265,361	310,955	-	-	13,455	13,455
LG Energy Solution Battery (Nanjing) Co., Ltd.	-	479	479	69,581	-	-	69,581
LG Energy Solution Wroclaw sp. Z o.o.	39,616	307,828	347,444	18,477	-	5,976	24,453
LG Energy Solution Australia Pty Ltd.	4,258	46	4,304	-	-	4,926	4,926
LG Energy Solution Technology (Nanjing) Co., Ltd.	-	-	-	364,291	-	15,644	379,935
Ultium Cells LLC	-	35,843	35,843	-	-	-	-
LG Energy Solution Europe GmbH	88,746	-	88,746	-	-	11,451	11,451
LG Energy Solution (Taiwan), Ltd.	-	-	-	-	-	634	634
Areum Noori Co., Ltd.	-	-	-	-	-	1,030	1,030
LG Energy Solution Vertech Inc.	-	1,718	1,718	-	-	666	666
L-H Battery Company, Inc.	-	1,645	1,645	-	-	-	-
LG Energy Solution India Private Ltd.	-	-	-	-	-	1,715	1,715
Associates and joint ventures:							
PT.HLI Green Power	-	4,006	4,006	-	-	45,778	45,778
Sama Aluminium Co., Ltd.	-	-	-	545	-	-	545
Other related parties:							
LG Corp.	-	-	-	-	-	15,025	15,025
LG Chem (Taiwan), Ltd.	-	-	-	-	-	1	1
LEYOU NEW ENERGY MATERIALS (WUXI) Co., Ltd.	-	-	-	14,504	-	-	14,504
TECWIN Co., Ltd.	-	-	-	-	-	2,186	2,186
LG Management Development Institute	-	-	-	-	-	680	680
D&O Co., Ltd. and its subsidiaries	-	23	23	-	-	2,771	2,771
LG CNS Co., Ltd. and its subsidiaries	7,859	108	7,967	-	-	187,718	187,718
Others	-	-	-	-	-	213	213
Others:							
LG Electronics Inc., Ltd. and its subsidiaries (*)	40,482	4,320	44,802	5,535	-	32,820	38,355
Xi C&A and its subsidiaries	-	-	-	-	-	27,320	27,320
S&I Corporation	-	-	-	-	-	35,304	35,304
Others	-	559	559	-	1,006	4,713	5,719
	<u>₩ 246,828</u>	<u>₩ 837,774</u>	<u>₩ 1,084,602</u>	<u>₩ 848,050</u>	<u>₩ 2,106</u>	<u>₩ 413,846</u>	<u>₩ 1,264,002</u>

(*) Provisions for GM Bolt recall is not included in the balance of receivables and payables above.

LG Energy Solution, Ltd.
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	December 31, 2022						
	Receivables			Payables			
	Trade receivables	Other receivables	Total	Trade payables	Lease liabilities	Other payables	Total
Parent:							
LG Chem, Ltd.	₩ -	₩ 23,163	₩ 23,163	₩ 40,278	₩ 1,650	₩ 2,904	₩ 44,832
Subsidiaries:							
LG Energy Solution (Nanjing) Co., Ltd.	5	209,664	209,669	519,311	-	863	520,174
LG Energy Solution Michigan, Inc.	96,822	118,651	215,473	-	-	25,626	25,626
LG Energy Solution Battery (Nanjing) Co., Ltd.	1,315	62,347	63,662	160,277	-	4	160,281
LG Energy Solution Wroclaw sp. z o.o.	401,096	587,175	988,271	7,587	-	6,678	14,265
LG Energy Solution Australia Pty Ltd.	9,611	12	9,623	-	-	3,448	3,448
LG Energy Solution Technology (Nanjing) Co., Ltd.	3,337	36	3,373	295,443	-	145	295,588
Ultium Cells LLC	-	1,339	1,339	-	-	-	-
LG Energy Solution Europe GmbH	169,812	-	169,812	-	-	13,033	13,033
LG Energy Solution (Taiwan), Ltd.	-	-	-	-	-	550	550
Areum noori Co., Ltd.	-	1	1	-	-	776	776
LG Energy Solution Vertech Inc.	1	6,419	6,420	-	-	9,663	9,663
Associates and joint ventures:							
PT.HLI Green Power	-	1,311	1,311	-	-	88,093	88,093
Other related parties:							
LG Corp.	-	46	46	-	-	18,727	18,727
LG Chem Poland Sp. z o.o.	-	-	-	-	-	1	1
HAENGBOKNURI CO., LTD.	-	1	1	-	-	120	120
LEYOU NEW ENERGY MATERIALS (WUXI) Co., Ltd.	-	-	-	34,738	-	26	34,764
TECWIN Co., Ltd.	-	-	-	-	-	54	54
LG Management Development Institute	-	-	-	-	-	544	544
D&O Co., Ltd. and its subsidiaries	-	-	-	-	-	1,729	1,729
LG CNS Co., Ltd. and its subsidiaries	5,782	205	5,987	-	-	177,696	177,696
Others	-	-	-	-	-	203	203
Others:							
LG Electronics Inc., Ltd. and its subsidiaries (*1)	51,731	26,301	78,032	25,908	-	37,120	63,028
Xi C&A (former S&I Construction) and its subsidiaries (*2)	-	-	-	-	-	27,385	27,385
S&I Corporation (*2)	-	-	-	-	-	48,679	48,679
Others	-	561	561	-	-	3,930	3,930
	₩ 739,512	₩ 1,037,232	₩ 1,776,744	₩ 1,083,542	₩ 1,650	₩ 467,997	₩ 1,553,189

(*1) Provisions for GM Bolt recall is not included in the balance of receivables and payables above.

(*2) For the year ended December 31, 2022, it was classified as an associate from a subsidiary of D&O Co., Ltd. due to the disposal of its shares and includes the transaction amount before classification as an associate.

LG Energy Solution, Ltd.
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(5) Fund transactions with related parties for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	2023						
	Dividends received	Dividends paid	Equity contribution in cash (capital reduction)	Loans transaction		Borrowings transaction (*)	
				Loans	Repayment	Borrowings	Repayment
Parent:							
LG Chem, Ltd.	₩	- ₩	- ₩	- ₩	- ₩	- ₩	- ₩ 520
Subsidiaries:							
LG Energy Solution (Nanjing) Co., Ltd.	329,775	-	-	-	-	-	-
LG Energy Solution Michigan, Inc.	-	-	983,181	-	-	-	-
LG Energy Solution Fund I LLC	-	-	14,649	-	-	-	-
L-H Battery Company, Inc.	-	-	548,958	-	-	-	-
LG Energy Solution Wroclaw sp. z o.o.	-	-	187,489	-	-	-	-
LG Energy Solution Battery (Nanjing) Co., Ltd.	-	-	37,129	-	-	-	-
LG Energy Solution India Private Ltd.	-	-	563	-	-	-	-
LG Energy Solution Arizona ESS, Inc.	-	-	39,936	-	-	-	-
LG Energy Solution Arizona, Inc. (formerly ES America LLC)	-	-	122,061	-	-	-	-
Nextstar Energy Inc.	-	-	579,075	-	-	-	-
LG Energy Solution Fund II LLC	-	-	22,985	-	-	-	-
Associates and joint ventures:							
Sama Aluminium Co., Ltd.	-	-	46,575	-	-	-	-
Nexpo Co., Ltd.	-	-	2,374	-	-	-	-
Mintech Co., Ltd.	-	-	7,020	-	-	-	-
Bricks Capital Management Global Battery Private Equity Fund I	-	-	13,381	-	-	-	-
Others:							
LG Household & Health Care Ltd.	-	-	-	-	-	-	641
	₩ 329,775	₩ -	₩ 2,605,376	₩ -	₩ -	₩ -	₩ 1,161

(*) The amounts represent lease liabilities that were recognized or repaid for the year ended December 31, 2023.

	2022						
	Dividends received	Dividends paid	Equity contribution in cash (capital reduction)	Loans transaction		Borrowings transaction (*)	
				Loans	Repayment	Borrowings	Repayment
Parent:							
LG Chem, Ltd.	₩	- ₩	- ₩	- ₩	- ₩	- ₩	- ₩ 827
Subsidiaries:							
LG Energy Solution Michigan, Inc.	-	-	1,659,866	-	-	-	-
LG Energy Solution Wroclaw sp. z o.o.	-	-	302,401	-	-	-	-
LG Energy Solution Fund I LLC	-	-	10,336	-	-	-	-
LG Energy Solution Battery (Nanjing) Co., Ltd.	37,180	-	-	-	-	-	-
LG Energy Solution Vertech Inc.	-	-	16,168	-	-	-	-
LG Energy Solution Arizona, Inc. (formerly ES America LLC)	-	-	66,590	-	-	-	-
Baterias De Castilla, S.L.	-	-	4	-	-	-	-
	₩ 37,180	₩ -	₩ 2,055,365	₩ -	₩ -	₩ -	₩ 827

(*) The amounts represent lease liabilities that were recognized or repaid during the year ended December 31, 2022.

(6) Compensation for key management of the Company for the years ended December 31, 2023 and 2022, is as follows (Korean won in millions):

	<u>2023</u>	<u>2022</u>
Short-term employee benefits	₩ 66,528	₩ 44,408
Retirement benefits	7,548	4,308
	₩ 74,076	₩ 48,716

Key management includes directors (including non-executive) having duties and responsibilities over planning, operations and controlling of the Company's business activities.

(7) There are no provisions recognized against receivables from related parties and other as of December 31, 2023. Therefore, there is no bad debt expense recognized for the year ended December 31, 2023.

(8) The details of the payment guarantees provided by the Company for related parties and other as of December 31, 2023, are disclosed in Note 18.

31. SEPARATE STATEMENTS OF CASH FLOWS:

(1) Details of cash generated from operations for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	<u>2023</u>	<u>2022</u>
Profit(loss) before income tax	₩ 26,226	₩ (683,315)
Adjustments for:		
- Depreciation	341,735	286,402
- Amortization	102,802	73,227
- Retirement benefits	65,746	77,312
- Financial income	(568,832)	(299,800)
- Financial costs	216,852	308,534
- Loss on valuations of inventories	(5,941)	46,273
- Gain on disposal of property, plant and equipment	(643)	(530)
- Gain on disposal of intangible assets	(191)	-
- Loss on disposal of property, plant and equipment	30,322	19,072
- Loss on disposal of intangible assets	472	244
- Impairment of property, plant and equipment	2,621	1,364
- Impairment of intangible assets	9	85
- Loss on disposal and impairment of investments in associates	27,137	-
- Gains or losses on valuation of financial assets	-	5,818
- Contribution to provisions	349,883	299,275
- Other income	51,911	491
- Changes in inventories	339,111	(557,311)
- Changes in trade receivables	(113,607)	(1,057,864)
- Changes in other receivables	9,812	(84,176)
- Changes in other current assets	(9,379)	(44,623)
- Changes in trade payables	(494,310)	328,060
- Changes in other payables	8,965	112,770
- Changes in other current liabilities	(283,500)	140,348
- Changes in net defined benefit liabilities	(35,053)	(230,984)
- Changes in provisions	(748,097)	(1,262,396)
- Other cash flows from operations	1,846	(13,342)
Cash generated from operations	₩ (684,103)	₩ (2,535,066)

LG Energy Solution, Ltd.
Notes to the separate financial statements
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(2) Changes in liabilities arising from financial activities for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

		2023						
		Beginning	Cash flows from financing activities	Reclassification of current portion	Amortization	Lease liabilities	Others	Ending
Short-term borrowings	₩	16,037	₩ (20,413)	₩ 30,899	₩ -	₩ -	₩ -	₩ 26,523
Long-term borrowings		41,986	-	(30,899)	-	22,007	-	33,094
Debentures		2,135,034	1,597,493	-	3,470	-	24,187	3,760,184
	₩	<u>2,193,057</u>	₩ <u>1,577,080</u>	₩ <u>-</u>	₩ <u>3,470</u>	₩ <u>22,007</u>	₩ <u>24,187</u>	₩ <u>3,819,801</u>

		2022						
		Beginning	Cash flows from financing activities	Reclassification of current portion	Amortization	Lease liabilities	Others	Ending
Short-term borrowings	₩	9,149	₩ (13,122)	₩ 20,215	₩ -	₩ -	₩ (205)	₩ 16,037
Long-term borrowings		35,259	-	(20,215)	-	26,942	-	41,986
Debentures		2,045,808	-	-	3,442	-	85,784	2,135,034
	₩	<u>2,090,216</u>	₩ <u>(13,122)</u>	₩ <u>-</u>	₩ <u>3,442</u>	₩ <u>26,942</u>	₩ <u>85,579</u>	₩ <u>2,193,057</u>

(3) Significant non-cash transactions for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	2023	2022
Reclassification of construction in progress	₩ 1,103,403	₩ 679,348
Changes in other payables related to acquisition of property, plant and equipment and intangible assets	(420)	168,320
Reclassification of machinery in transit	34,069	38,534
Reclassification of debentures into current portion	643,895	675,078
Reclassification of dividend receivables into investments in subsidiaries	37,128	-

32. LIABILITIES RELATED TO CONTRACTS WITH CUSTOMERS:

(1) Liabilities related to contracts with customers as of December 31, 2023 and 2022, are as follows (Korean won in millions):

		December 31, 2023	December 31, 2022
Contract liabilities:			
Advances from customers received as part of the Company's main business activities	₩	74,886	₩ 170,218
Expected customer incentives		1,660	2,497
Unearned revenue		46,425	92,080
	₩	122,971	₩ 264,795

(2) Revenue recognized in relation to contract liabilities

Revenue recognized from the carried-forward contract liabilities for the years ended December 31, 2023 and 2022, is as follows (Korean won in millions):

		2023	2022
Revenue recognized in the current period from the beginning contract liabilities:			
Revenue in relation to advances from customers received as part of the Company's main business activities	₩	115,467	₩ 46,882
Unearned revenue		46,595	46,078
	₩	162,062	₩ 92,960

33. INVESTMENT PROPERTIES:

(1) Details of investment properties as of December 31, 2023 and 2022, are as follows (Korean won in millions):

	December 31, 2023				December 31, 2022			
	Acquisition cost	Accumulated depreciation	Accumulated impairment	Book value	Acquisition cost	Accumulated depreciation	Accumulated impairment	Book value
Buildings	₩ 296,079	₩ (81,948)	₩ (1,721)	₩ 212,410	₩ 290,799	₩ (76,030)	₩ (1,725)	₩ 213,044
Land	283	(8)	(35)	240	283	(3)	(35)	245
	₩ 296,362	₩ (81,956)	₩ (1,756)	₩ 212,650	₩ 291,082	₩ (76,033)	₩ (1,760)	₩ 213,289

(2) Changes in investment properties for the years ended December 31, 2023 and 2022, are as follows (Korean won in millions):

	2023				2022			
	Land		Buildings		Land		Buildings	
Beginning	₩	245	₩	213,044	₩	161	₩	224,311
Acquisition/Transfer		-		6,501		122		7,267
Disposal/Transfer		-		(1,112)		-		(11,321)
Depreciation		(5)		(6,023)		(3)		(5,884)
Impairment		-		-		(35)		(1,329)
Ending	₩	240	₩	212,410	₩	245	₩	213,044

(3) 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 'Level 3' of the fair value hierarchy. The fair value of investment properties as of December 31, 2023, is ₩245,385 million (for the year ended December 31, 2022, was ₩245,668 million).

Rental income from investment properties under operating lease for the year ended December 31, 2023, is ₩8,696 million, and operating expenses incurred for investment properties that generated rental income (including maintenance and repair expenses) for the year ended December 31, 2023, are ₩6,028 million.

(4) 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 of December 31, 2023 and 2022, are as follows (Korean won in millions):

	<u>December 31, 2023</u>	<u>December 31, 2022</u>
Less than one year	₩ 160	₩ 11,862
Between one year-two years	151	160
Between two years-five years	<u>299</u>	<u>478</u>
	<u>₩ 610</u>	<u>₩ 12,500</u>

34. EVENT AFTER THE REPORTING PERIOD:

(1) The Company issued bonds worth ₩1,600,000 million in February, 2024.

3-1st Debenture: ₩180,000 million(maturity date : February, 2026)

3-2^{ed} Debenture: ₩660,000 million(maturity date : February, 2027)

3-3rd Debenture: ₩570,000 million(maturity date : February, 2029)

3-4th Debenture: ₩190,000 million(maturity date : February, 2031)

(2) The Company has decided to provide a payment guarantee for the loan of USD 4,483 million borrowed by its subsidiary, LG Energy Solution Arizona, Inc., as of February 2024.

35. DATE OF APPROVAL FOR ISSUANCE OF SEPARATE FINANCIAL STATEMENTS:

The Company's separate financial statements were approved by the board of directors on January 25, 2024, and may be revised at the general meeting of shareholders.

Independent Auditor's Report on Internal Control over Financial Reporting

English Translation of Independent Auditor's Report on Internal Control over Financial Reporting Originally Issued in Korean on March 7, 2024

To the Shareholders and the Board of Directors of
LG Energy Solution, Ltd.:

Audit Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of LG Energy Solution, Ltd. (the "Company") as of December 31, 2023, based on 'Conceptual Framework for Design and Operation of Internal Control over Financial Reporting.'

In our opinion, the Company's internal control over financial reporting is designed and operated effectively as of December 31, 2023, in all material respects, in accordance with the 'Conceptual Framework for Design and Operation of Internal Control over Financial Reporting.'

We have also audited, in accordance with the Korean Standards on Auditing ("KSAs"), the separate financial statements of the Company, which comprise the separate statement of financial position as of December 31, 2023, and the separate statement of profit or loss, separate statement of comprehensive income, separate statement of changes in equity and separate statement of cash flows for the years then ended, and notes to the separate financial statements, including material accounting policy information, and our report dated March 7, 2024, expressed an unqualified opinion.

Basis for Audit Opinion

We conducted our audit in accordance with the KSAs. Our responsibilities under those 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 that are relevant to our audit of the internal control over financial reporting in the Republic of Korea, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

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

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

Those Charged with Governance is responsible for the oversight of internal control over financial reporting of the Company.

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

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

The 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 of that a material weakness exists. The 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 risks.



Definition and Limitations of Internal Control over Financial Reporting

The Company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with Korean International Financial Reporting Standards ("K-IFRSs"). The Company'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 Company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with K-IFRS, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company's assets that could have a material effect on the financial statements.

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

The engagement partner on the audit resulting in this independent auditor's report is Kiu Seok Seo.

A handwritten signature in black ink that reads "Deloitte IDNjin LLC".

March 7, 2024

This report is effective as of March 7, 2024, the auditor's report date. Certain subsequent events or circumstances may have occurred between the auditor's report date and the time the auditor's report is read. Such events or circumstances could significantly affect the Company's internal control over financial reporting and may result in modifications to the auditor's report.
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Report on the Operation of Internal Control over Financial Reporting

English translation of a Report Originally Issued in Korean on January 25, 2024

**To the Shareholders and the Board of Directors of
LG Energy Solution, Ltd.:**

We, as the Chief Executive Officer (“CEO”) and Internal Control over Financial Reporting (“ICFR”) Officer of LG Energy Solution, Ltd. (the “Company”), assessed the status of the design and operation of the Company’s ICFR for the year ending December 31, 2023.

The Company’s management including the CEO and ICFR Officer is responsible for designing and operating ICFR. We, as the CEO and ICFR Officer (collectively, “We,” “Our” or “Us”), evaluated whether the ICFR has been appropriately designed and is effectively operating to prevent and detect error or fraud which may cause material misstatement of the financial statements to ensure preparation and disclosure of reliable financial information.

We used the ‘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”)’ as the criteria for design and operation of the Company’s ICFR. We also conducted an evaluation of ICFR based on the ‘Management Guideline for Evaluating and Reporting Effectiveness of Internal Control over Financial Reporting’ established by the ICFR Committee.

Based on our assessment result, we concluded that the Company’s ICFR has been appropriately designed and is operating effectively in all material respects as of December 31, 2023, in accordance with the ‘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 statements, which might cause material misunderstandings of the readers, and we have reviewed and verified this report with sufficient due care.

January 25, 2024

Chang Sil Lee
Internal Control over Financial Reporting Officer

Young Soo Kwon
Chief Executive Officer