

DOOSAN FUEL CELL CO., LTD.

Financial statements
for the years ended December 31, 2022 and 2021
with the independent auditor's report

DOOSAN FUEL CELL CO., LTD.

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Independent Auditor's Report

(English Translation of a Report Originally Issued in Korean)

The Shareholders and Board of Directors
DOOSAN FUEL CELL CO., LTD.

Opinion

We have audited the financial statements of Doosan Fuel Cell Co., Ltd. (the "Company"), which comprise the statements of financial position as of December 31, 2022, and 2021, and the statements of comprehensive income, statements of changes in equity and statements of cash flows for the years then ended, and the notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022, and 2021, and its financial performance and its cash flows for the years then ended in accordance with International Financial Reporting Standards as adopted by the Republic of Korea ("KIFRS").

We have audited the Company's internal control over financial reporting as of December 31, 2022 based on criteria established in Internal Control – Design and Operation Integrated Framework in accordance with Korean Standards on Auditing ("KSA") issued by the Committee of Internal Control Operations, and our report dated March 17, 2023 expressed an unqualified opinion thereon.

Basis for Opinion

We conducted our audit in accordance with KSA. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report. We are independent of the Company in accordance with the ethical requirements that are relevant to our audit of the 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 opinion.

Key Audit Matters

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

(1) Goodwill Impairment testing

Rationale for the selection of key audit matter

We focused on the impairment testing of goodwill as the Company recognizes a significant amount of goodwill of ₩24,232 million as of December 31, 2022, and the estimation of future cash flows used in the value-in-use assessment of cash-generating units (CGU) embodies the forecast of future business and management's judgment on the discount rate. The information relating to goodwill impairment testing is disclosed in Note 14 of the notes to the financial statements.

Audit procedures performed to address the key audit matter

In order to address the key audit matter, we have performed audit procedures including the followings:

- Understanding and assessment of internal control on impairment test of CGU
- Assessed the competence and independence of the external valuer appointed by management for assessment on value in use of CGU
- Assessed reasonableness of key assumptions used in calculation of value in use, including estimated sales growth rate and perpetual growth rate by comparing the latest business plans approved by the Board of Directors to the past performance and industry trends reports
- Involved our internal valuation specialists to assist us in evaluating the appropriateness of the discount rate applied by the Company and compared it to the discount rate recalculated by us on the basis of the observable information
- Identified the effect of changes in key assumptions on management's evaluation result through sensitivity analysis on the discount rate and perpetual growth rate used in evaluation

Responsibilities of management and those charged with governance for the financial statements

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

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

Our objectives are to obtain reasonable assurance about whether the 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 KSA will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

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

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the 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 financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

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

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

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the 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 Jee Hoon Kim.

Ernst & Young Han Young

March 17, 2023

This audit report is effective as of March 17, 2023, the independent auditor's report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the independent auditor's report date to the time this report is used. Such events and circumstances could significantly affect the accompanying financial statements and may result in modifications to this report.

DOOSAN FUEL CELL CO., LTD.

Financial Statements for the years ended December 31, 2022 and 2021

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

Huseok Che

Chief Executive Officer

DOOSAN FUEL CELL CO., LTD.

Statements of Financial Position

As of December 31, 2022 and 2021

Doosan Fuel Cell Co., Ltd.

(Unit: Korean Won)

Accounting Title	Notes	2022	2021
Assets			
I. Current Assets		675,719,160,885	498,231,730,370
(1) Cash and cash equivalents	4,5,12	31,856,872,344	6,013,285,833
(2) Short-term Investment Securities	4,6,12	18,881,650,916	181,016,439,569
(3) Trade Receivables	4,7,12, 24,33	147,774,248,542	29,185,912,353
(4) Other Receivables	4,7,12, 33	23,551,749,148	38,171,905,737
(5) Inventories	8	430,727,924,137	209,009,993,078
(6) Other Current Assets	10	22,926,715,798	34,834,193,800
II. Non-current Assets		351,210,555,125	200,623,210,181
(1) Long-term investment securities	4,6,12	5,442,498,491	4,519,926,900
(2) Investment in Associates	11	2,476,421,758	2,883,127,099
(3) Property, plant and equipment	13	176,284,111,035	90,926,060,415
(4) Intangible Assets	14	36,009,896,013	37,281,515,085
(5) Deferred Tax Assets	29	12,431,224,331	10,607,628,304
(6) Long-term other receivables	4,7,12	67,216,932,474	34,720,010,921
(7) Other Non-current Assets	10	51,349,471,023	19,684,941,457
Total Assets		1,026,929,716,010	698,854,940,551
Liabilities			
I. Current Liabilities		312,667,179,970	77,613,228,251
(1) Trade payables	4,12, 33	85,660,315,547	16,933,034,281
(2) Other Payables	4,12, 15,33	45,948,287,289	12,238,968,436
(3) Income Tax Payables		3,531,047,458	6,921,985,368
(4) Other Provisions	19,24	17,092,418,960	16,065,581,995
(5) Short-term borrowings	4,12, 16	64,000,000,000	-
(6) Current portion of bonds	4,12, 16	77,390,312,476	-
(7) Current portion of lease liabilities	4,12, 17	2,728,360,686	2,871,983,927

Accounting Title	Notes	2022		2021	
(8) Derivatives liabilities	9,12	499,400,062		-	
(9) Other Current Liabilities	15,24	15,817,037,492		22,581,674,244	
II. Non-current Liabilities			191,198,110,222		103,053,454,812
(1) Bonds	4,12, 16	97,215,537,168		74,752,054,534	
(2) Long-term borrowings	4,12, 16	30,000,000,000		-	
(3) Lease Liabilities	4,12, 17	6,461,580,199		7,063,693,292	
(4) Net defined benefit liabilities	18	341,052,280		174,091,908	
(5) Long-term other liabilities	4,12, 15	748,414,810		552,506,017	
(6) Provisions for product warranties	19	54,825,147,307		19,250,144,885	
(7) Other Provisions	19	616,525,255		-	
(8) Other Non-current Liabilities	15	989,853,203		1,260,964,176	
Total Liabilities			503,865,290,192		180,666,683,063
Capital					
I. Capital Stock	20		8,184,422,600		8,184,422,600
II. Capital Surplus	20		477,537,179,520		477,564,223,429
III. Other components of equity	21		(187,769,587)		(28,074,580)
IV. Accumulated other comprehensive income	22		259,929,162		640,537,938
V. Retained Earnings	23		37,270,664,123		31,827,148,101
Total Equity			523,064,425,818		518,188,257,488
Total Liabilities and Equity			1,026,929,716,010		698,854,940,551

"The accompanying notes are an integral part of the financial statements"

Statements of Comprehensive Income

For the years ended December 31, 2022 and 2021

Doosan Fuel Cell Co., Ltd.

(Unit: Korean Won)

Accounting Title	Notes	2022		2021	
I. Sales	24,33		312,148,720,814		381,412,347,810
II. Cost of Sales	25,33		267,469,762,225		333,210,773,176
III. Gross Profit			44,678,958,589		48,201,574,634
IV. Selling and Administrative Expenses	25,26		37,457,022,414		30,211,393,003
V. Operating Income			7,221,936,175		17,990,181,631
VI. Financial Income/Costs			2,765,415,043		(64,080,889)
A. Financial Income	28	15,189,878,017		17,031,686,077	
B. Financial Costs	28	12,424,462,974		17,095,766,966	
VII. Other Income/Expenses			(5,304,119,100)		905,043,073
A. Other Income	27,33	5,567,243,858		4,789,116,036	
B. Other Expenses	27,33	10,871,362,958		3,884,072,963	
VIII. Share of profit (loss) of associates	11		(406,705,341)		(201,612,257)
IX. Profit before income tax expenses			4,276,526,777		18,629,531,558
X. Income Tax Expenses	29		412,936,651		9,934,369,377
XI. Profit for the year			3,863,590,126		8,695,162,181
XII. Other Comprehensive Income(loss)			1,199,317,120		(1,187,499,358)
Items that will not be reclassified subsequently to profit or loss					
A. Remeasurements of Defined Benefit Plans			1,579,925,896	(1,361,628,612)	
B. Revaluation Surplus			3,429,872	174,129,254	
Items that will be reclassified subsequently to profit or loss					
(1) Loss on valuation of cash flow hedging derivatives	9,12	(384,038,648)		-	
XIII. Total Comprehensive Income			5,062,907,246		7,507,662,823
XIV. Earnings Per Share:	30				
Basic earnings per ordinary share			47		106
Basic earnings per old type preferred share			47		106

"The accompanying notes are an integral part of the financial statements"

Statements of Changes in Equity

For the years ended December 31, 2022 and 2021

Doosan Fuel Cell Co., Ltd.

(Unit: Korean Won)

Accounting Title	Capital Stock	Capital Surplus	Other Components of equity	Accumulated Other Comprehensive Income	Retained Earnings	Total
January 1, 2021	8,184,422,600	479,427,794,629	(28,074,580)	466,408,684	24,493,614,532	512,544,165,865
Total Comprehensive Income:						
Profit for the year	-	-	-	-	8,695,162,181	8,695,162,181
Remeasurements of Defined Benefit Plans	-	-	-	-	(1,361,628,612)	(1,361,628,612)
Revaluation Surplus	-	-	-	174,129,254	-	174,129,254
Transactions with owners directly reflected in equity and others:						
Changes in share premium	-	(1,863,571,200)	-	-	-	(1,863,571,200)
December 31, 2021	8,184,422,600	477,564,223,429	(28,074,580)	640,537,938	31,827,148,101	518,188,257,488
January 1, 2022	8,184,422,600	477,564,223,429	(28,074,580)	640,537,938	31,827,148,101	518,188,257,488
Total Comprehensive Income:						
Profit for the year	-	-	-	-	3,863,590,126	3,863,590,126
Remeasurements of Defined Benefit Plans	-	-	-	-	1,579,925,896	1,579,925,896
Revaluation Surplus	-	-	-	3,429,872	-	3,429,872
Loss on valuation of cash flow hedging derivatives	-	-	-	(384,038,648)	-	(384,038,648)
Transactions with owners directly reflected in equity, etc.:						
Acquisition of treasury stock	-	-	(254,075,140)	-	-	(254,075,140)
Grant of stock options	-	-	94,380,133	-	-	94,380,133
Changes in share premium	-	(27,043,909)	-	-	-	(27,043,909)
December 31, 2022	8,184,422,600	477,537,179,520	(187,769,587)	259,929,162	37,270,664,123	523,064,425,818

“The accompanying notes are an integral part of the financial statements”

Statements of Cash Flows

For the years ended December 31, 2022 and 2021

Doosan Fuel Cell Co., Ltd.

(Unit: Korean Won)

Accounting Title	Notes	2022		2021	
I. Cash flows provided by (used in) operating activities			(257,660,943,052)		(140,056,687,402)
1. Cash generated from operating activities	34	(248,092,996,024)		(125,697,186,497)	
(1) Profit for the year		3,863,590,126		8,695,162,181	
(2) Adjustments		78,686,167,888		53,544,474,447	
(3) Change in operating assets and liabilities		(330,642,754,038)		(187,936,823,125)	
2. Interest received		467,924,886		192,926,090	
3. Interest Paid		(5,648,540,911)		(5,763,694,040)	
4. Dividends received		1,678,265,100		-	
5. Income Tax Paid		(6,065,596,103)		(8,788,732,955)	
II. Net Cash Flows from Investing Activities			92,678,387,434		42,087,084,492
1. Cash Inflows from Investing Activities		173,083,938,921		82,559,446,999	
(1) Government grants received		9,820,131,807		495,415,745	
(2) Proceeds from disposal of short-term investment securities		161,875,394,988		81,982,703,251	
(3) Decrease in loans		160,798,882		80,265,252	
(4) Proceeds from disposal of property, plant and equipment		44,731,550		1,062,751	
(5) Proceeds from disposal of Intangible Assets		1,036,707,104		-	
(6) Cash inflows from other investing activities		146,174,590		-	
2. Cash Outflows from Investing Activities		(80,405,551,487)		(40,472,362,507)	
(1) Acquisition of long-term Financial Instruments		1,500,000,000		-	
(2) Acquisition of property, plant and equipment		73,811,029,033		34,930,233,428	
(3) Acquisition of Intangible Assets		3,374,492,824		5,331,008,266	
(4) Increase in Long-term Loans		1,608,931,000		211,120,813	
(5) Cash outflows from other investing activities		111,098,630		-	
III. Net Cash Flows from Financing Activities			190,837,381,866		(28,341,869,428)
1. Cash Inflows from Financing Activities		193,649,480,000		84,709,470,000	
(1) Proceeds from short-term borrowings		64,000,000,000		10,000,000,000	
(2) Proceeds from long-term borrowings		30,000,000,000		-	
(3) Issuance of current portion of corporate bond		2,492,380,000		-	
(4) Issuance of Corporate Bond		97,157,100,000		74,709,470,000	
2. Cash Outflows from Financing Activities		(2,812,098,134)		(113,051,339,428)	
(1) Repayment of Short-term		-		10,000,000,000	

Accounting Title	Notes	2022		2021	
Borrowings					
(2) Repayment of Lease Liabilities		2,558,022,994		1,592,802,225	
(3) Redemption of Corporate Bond		-		99,000,000,000	
(4) Acquisition of treasury stock		254,075,140		-	
(5) Payment from Other transaction with shareholder		-		2,458,537,203	
IV. Effect of exchange rate changes on cash and cash equivalents			(11,239,737)		(40,826,214)
V. Net increase (decrease) in cash and cash equivalents			25,843,586,511		(126,352,298,552)
VI. Cash and cash equivalents as of the beginning of the year			6,013,285,833		132,365,584,385
VII. Cash and cash equivalents as of the end of the year			31,856,872,344		6,013,285,833

"The accompanying notes are an integral part of the financial statements"

Notes to the Financial Statements

for the years ended December 31, 2022 and 2021

Doosan Fuel Cell Co., Ltd.

1. Overview of the Company

Doosan Fuel Cell Co., Ltd. (hereinafter referred to as the "Company") was spun off from Doosan Corporation and newly incorporated on October 01, 2019, to engage in the fuel cell and new renewable energy business and development, manufacture, and sale of facilities, including related installations and maintenance services. The Company's head office is located in Iksan City, Jeollabuk-do, the Republic of Korea.

The Company has been listed on the Korea Stock Exchange since October 18, 2019, and the Company's shareholders and their shareholdings as of December 31, 2022, and 2021 subsequent to a capital increase and changes in ownership percentages between related parties, are as follows:

Name of Shareholders	December 31, 2022		December 31, 2021	
	No. of Ordinary Shares Held	Percentage of Ownership	No. of Ordinary Shares Held	Percentage of Ownership
Doosan Enerbility Co., Ltd.	22,780,229	34.78%	22,780,229	34.78%
Largest shareholder's specially related person	2,000,166	3.05%	2,405,284	3.67%
Employee stock ownership association	327,617	0.50%	488,580	0.75%
Treasury stock	11,047	0.02%	3,915	0.01%
Others	40,374,667	61.65%	39,815,718	60.79%
Total	65,493,726	100.00%	65,493,726	100.00%

With regard to preferred shares, Doosan Enerbility Co., Ltd., and the related parties of the largest shareholder hold 12.47% and 19.52% of the total, respectively, and the remaining 68.01% of the preferred shares are held by other shareholders.

2. Basis of Preparation of the Financial Statements and Significant Accounting Policies

2.1 Basis of Preparation of the Financial Statements

The Company prepares statutory financial statements in Korean in accordance with Korean International Financial Reporting Standards ("KIFRS") enacted by the Act on External Audit of Stock Companies. The accompanying financial statements have been translated into English from Korean financial statements. In the event of any differences in interpreting the financial statements or the independent auditor's report thereon, Korean version, which is used for regulatory reporting purposes, shall prevail.

Significant accounting policies applied in preparation of the financial statements are described below, and the financial statements have been prepared on the historical cost basis, except for certain non-current assets and financial assets that are measured at revaluation value or fair value as of the end of every reporting period. The historical cost is generally measured at fair value of consideration paid to acquire an asset.

2.2 New and amended standards adopted and applied by the Company

(1) New and amended standards adopted and applied by the Company since January 1, 2022.

The Company initially applied the standard and amendments effective for fiscal years beginning on or after January 1, 2022. The Company has not early applied any standards, interpretations, or amendments that have been published but have not been implemented.

- Onerous Contracts – Costs of Fulfilling a Contract – Amendments to KIFRS 1037

An onerous contract is a contract under which the unavoidable costs of meeting the obligations under the contract costs (i.e., the costs that the Company cannot avoid because it has the contract) exceed the economic benefits expected to be received under it.

The amendments specify that when assessing whether a contract is onerous or loss-making, an entity needs to include costs that relate directly to a contract to provide goods or services including both incremental costs (e.g., the costs of direct labour and materials) and an allocation of costs directly related to contract activities (e.g., depreciation of equipment used to fulfil the contract and costs of contract management and supervision). General and administrative costs do not relate directly to a contract and are excluded unless they are explicitly chargeable to the counterparty under the contract.

Before applying this amendment, the Company included other costs that are directly related to fulfilling the contract when determining contract fulfillment costs.

Therefore, these amendments had no material impact on the financial statements.

2.2 New and amended standards adopted and applied by the Company (Cont'd)

- Reference to the Conceptual Framework – Amendments to KIFRS 1103

The amendments replace a reference to a previous version of the International Accounting Standards Board (IASB)'s Conceptual Framework with a reference to the current version issued in March 2018 without significantly changing its requirements.

The amendments add an exception to the recognition principle of KIFRS 1103 Business Combinations to avoid the issue of potential 'day 2' gains or losses arising for liabilities and contingent liabilities that would be within the scope of KIFRS 1037 Provisions, Contingent Liabilities and Contingent Assets or KIFRS Interpretation 2121 Levies, if incurred separately. The exception requires entities to apply the criteria in KIFRS 1037 or KIFRS Interpretation 2121, respectively, instead of the Conceptual Framework, to determine whether a present obligation exists at the acquisition date.

In addition, the amendments also add a new paragraph to KIFRS 1103 to clarify that contingent assets do not qualify for recognition at the acquisition date.

In accordance with the transitional provisions, the Company applies the amendments prospectively, i.e., to business combinations occurring after the beginning of the annual reporting period in which it first applies the amendments (the date of initial application).

These amendments had no impact on the financial statements of the Company as there were no contingent assets, liabilities, or contingent liabilities within the scope of these amendments that arose during the period.

- Property, Plant and Equipment: Proceeds before Intended Use – Amendments to KIFRS 1016

The amendment prohibits entities from deducting from the cost of an item of property, plant and equipment, any proceeds of the sale of items produced while bringing that asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Instead, an entity recognizes the proceeds from selling such items, and the costs of producing those items, in profit or loss.

In accordance with the transitional provisions, the Company applies the amendments retrospectively only to items of PP&E made available for use on or after the beginning of the earliest period presented when the entity first applies the amendment (the date of initial application).

These amendments had no impact on the financial statements of the Company as there were no sales of such items produced by property, plant and equipment made available for use on or after the beginning of the earliest period presented.

- KIFRS 1101 First-time Adoption of International Financial Reporting Standards – Subsidiary as a first-time adopter

The amendment permits a subsidiary that elects to apply paragraph D16(1) of KIFRS 1101 to measure cumulative translation differences using the amounts reported in the parent's consolidated financial statements, based on the parent's date of transition to KIFRS, if no adjustments were made for consolidation procedures and for the effects of the business combination in which the parent acquired the subsidiary. This amendment is also applied to an associate or joint venture that elects to apply paragraph D16(1) of KIFRS 1101. These amendments had no impact on the financial statements of the Company as it is not a first-time adopter.

2.2 New and amended standards adopted and applied by the Company (Cont'd)

- KIFRS 1109 Financial Instruments – Fees in the '10 percent' test for derecognition of financial liabilities

The amendment clarifies the fees that an entity includes when assessing whether the terms of a new or modified financial liability are substantially different from the terms of the original financial liability. These fees include only those paid or received between the borrower and the lender, including fees paid or received by either the borrower or lender on the other's behalf. There is no similar amendment proposed for KIFRS 1039 Financial Instruments: Recognition and Measurement. In accordance with the transitional provisions, the Company applies the amendment to financial liabilities that are modified or exchanged on or after the beginning of the annual reporting period in which the entity first applies the amendment (the date of initial application).

These amendments had no impact on the financial statements of the Company as there were no modifications of the Company's financial instruments during the period.

- KIFRS 1041 Agriculture – Taxation in fair value measurements

The amendment removes the requirement in paragraph 22 of KIFRS 1041 that entities exclude cash flows for taxation when measuring the fair value of assets within the scope of KIFRS 1041. These amendments had no impact on the financial statements of the Company as it did not have assets in scope of KIFRS 1041 as of the reporting date.

(2) New standards issued but not yet effective

The new and amended standards and interpretations that are issued, but not yet effective, up to the date of issuance of the Company's financial statements are disclosed below.

- KIFRS 1117 Insurance Contracts

In 2021, the IASB issued KIFRS 1117 Insurance Contracts, a comprehensive new accounting standard for insurance contracts covering recognition and measurement, presentation, and disclosure. Once effective, KIFRS 1117 will replace KIFRS 1104 Insurance Contracts (KIFRS 1104) that was issued in 2007. KIFRS 1117 applies to all types of insurance contracts (i.e., life, non-life, direct insurance, and re-insurance), regardless of the type of entities that issue them, as well as to certain guarantees and financial instruments with discretionary participation features. A few scope exceptions will apply. The overall objective of KIFRS 1117 is to provide an accounting model for insurance contracts that is more useful and consistent for insurers. In contrast to the requirements in KIFRS 1104, which are largely based on grandfathering previous local accounting policies, KIFRS 1117 provides a comprehensive model for insurance contracts, covering all relevant accounting aspects. The core of KIFRS 1117 is the general model, supplemented by:

- A specific adaptation for contracts with direct participation features (the variable fee approach)
- A simplified approach (the premium allocation approach) mainly for short-duration contracts

KIFRS 1117 is effective for reporting periods beginning on or after January 1, 2023, with comparative figures required. Early application is permitted, provided the entity also applies KIFRS 1109 and KIFRS 1115 on or before the date it first applies KIFRS 1117. This standard is not applicable to the Company.

2.2 New and amended standards adopted and applied by the Company (Cont'd)

- Amendments to KIFRS 1001: Classification of Liabilities as Current or Non-current

The amendments to paragraphs 69 to 76 of KIFRS 1001 specify the requirements for classifying liabilities as current or non-current. The amendments clarify:

- What is meant by a right to defer settlement
- That a right to defer must exist at the end of the reporting period
- That classification is unaffected by the likelihood that an entity will exercise its deferral right
- That only if an embedded derivative in a convertible liability is itself an equity instrument would the terms of a liability not impact its classification

The amendments are effective for annual reporting periods beginning on or after January 1, 2023, and must be applied retrospectively. The Company is currently assessing the impact the amendments will have on current practice and whether existing loan agreements may require renegotiation.

- Definition of Accounting Estimates - Amendments to KIFRS 1008

The amendments clarify the distinction between changes in accounting estimates and changes in accounting policies and the correction of errors. Also, they clarify how entities use measurement techniques and inputs to develop accounting estimates. The amendments are effective for annual reporting periods beginning on or after January 1, 2023 and apply to changes in accounting policies and changes in accounting estimates that occur on or after the start of that period. Earlier application is permitted as long as this fact is disclosed. The amendments are not expected to have a material impact on the Company.

- Disclosure of Accounting Policies - Amendments to KIFRS 1001

The amendments provide guidance and examples to help entities apply materiality judgements to accounting policy disclosures. The amendments aim to help entities provide accounting policy disclosures that are more useful by replacing the requirement for entities to disclose their 'significant' accounting policies with a requirement to disclose their 'material' accounting policies and adding guidance on how entities apply the concept of materiality in making decisions about accounting policy disclosures. The amendments to KIFRS 1001 are applicable for annual periods beginning on or after January 1, 2023, with earlier application permitted. The Company is currently revisiting its accounting policy information disclosures to ensure consistency with the amended requirements.

2.2 New and amended standards adopted and applied by the Company (Cont'd)

- Deferred Tax related to Assets and Liabilities arising from a Single Transaction - Amendments to KIFRS 1012

The amendments narrow the scope of the initial recognition exception under KIFRS 1012, so that it no longer applies to transactions that give rise to equal taxable and deductible temporary differences.

The amendments should be applied to transactions that occur on or after the beginning of the earliest comparative period presented. In addition, at the beginning of the earliest comparative period presented, a deferred tax asset (provided that sufficient taxable profit is available) and a deferred tax liability should also be recognized for all deductible and taxable temporary differences associated with leases and decommissioning obligations. The Company is currently assessing the impact of the amendments.

2.3 Significant Accounting Policies

(1) Investment in Associates and Joint Ventures

An associate is an entity over which the Company has significant influence, Significant influence is the power to participate in the financial and operating policy decisions of the investee but is not control or joint control over those policies.

The company accounts for investments in related companies and joint ventures by applying the equity method. Investment interests in affiliates and joint ventures (hereinafter referred to as affiliates) are initially recognized as acquisition costs, and subsequently accounted for as using the equity method. The amount of investment, such as related companies, includes goodwill identified at the time of acquisition and is indicated as the amount after deducting the accumulated amount of impairment losses.

The Company's share of profit or loss of the Associates, etc. is recognized in profit or loss and its share of any changes in equity of the Associates, etc. are directly recognized in equity. Cumulative changes after the acquisition is carrying amount adjusted from the carrying amount of the Company's investments in the Associates, etc. If the Company's share of losses of an associate equal to or exceed its investments in the associate including other unsecured bonds, the Company does not recognize additional losses unless the Company is obliged to pay on behalf of the associate.

Unrealized gains on transactions between the Company and the Associates, etc. are derecognized to the extent of the Company's interest in the associates. Unrealized loss is also derecognized if there is not an objective evidence of impairment on the asset for the transaction.

The accounting policies of associates or joint ventures are changed and applied wherever deemed necessary for consistency with the Company's accounting policies.

2.3 Significant Accounting Policies (Cont'd)

The Company translates the financial statements denominated in foreign currency of the Associates, etc., which are domiciled in foreign countries, using the overseas business' foreign currency translation and applies the equity method of accounting. The Company's share of the difference between the amount of assets translated in Korean won less liabilities and equity is accounted for as an equity adjustment in equity method and recognized in accumulated other comprehensive income.

(2) Foreign Currency Translation

The Company measures items included in its financial statements using the currency of the primary economic Environment (hereinafter "functional currency") in which it operates. These financial statements are presented in Korean won, which is the

Company's functional currency. Foreign currency transactions are translated into functional currency at the exchange rate as of the date of transaction, or for remeasured items, the exchange rate at the evaluation date. Gains or losses on foreign currency transaction that are generated from the settlement of foreign currency transactions or translation of monetary assets or liabilities denominated in foreign currencies at closing date are recognized in profit or loss; provided that the amount on a cash flow hedging instrument that meets the criteria for hedge accounting is deferred and recognized in equity.

(3) Cash and cash equivalents

The Company classifies investment assets with maturities of three months or less from the acquisition date as cash and cash equivalents. Equity instruments are excluded from cash and cash equivalents, but substantial cash equivalents such as preferred stocks for which the period from acquisition to redemption is short with a fixed redemption dates are included in cash and cash equivalents.

(4) Financial instruments

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

1) Financial assets

[Recognition and initial measurement]

Financial assets are classified, at initial recognition, as subsequently measured at amortized cost, fair value through other comprehensive income (OCI), and fair value through profit or loss.

2.3 Significant Accounting Policies (Cont'd)

The classification of financial assets at initial recognition depends on the financial asset's contractual cash flow characteristics and the Company's business model for managing them.

In order for a financial asset to be classified and measured at amortized cost or fair value through OCI, it needs to give rise to cash flows that are 'solely payments of principal and interest (SPPI)' on the principal amount outstanding. This assessment is referred to as the SPPI test and is performed at an instrument level.

The Company's business model for managing financial assets refers to how it manages its financial assets in order to generate cash flows. The business model determines whether cash flows will result from collecting contractual cash flows, selling the financial assets, or both.

Purchases or sales of financial assets that require delivery of assets within a time frame established by regulation or convention in the marketplace (regular way trades) are recognized on the trade date, i.e., the date that the Company commits to purchase or sell the asset.

[Subsequent measurement]

For purposes of subsequent measurement, financial assets are classified in four categories:

- Financial assets at amortized cost (debt instruments)
- Financial assets at fair value through OCI with recycling of cumulative gains and losses (debt instruments)
- Financial assets designated at fair value through OCI with no recycling of cumulative gains and losses upon (equity instruments)
- Financial assets at fair value through profit or loss

① Financial assets at amortized cost (debt instruments)

The Company measures financial assets at amortized cost if both of the following conditions are met:

- The financial asset is held within a business model with the objective to hold financial assets in order to collect contractual cash flows, and
- 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

Financial assets at amortized cost are subsequently measured using the effective interest (EIR) method and are subject to impairment. Gains and losses are recognized in profit or loss when the asset is derecognized, modified, or impaired.

2.3 Significant Accounting Policies (Cont'd)

② Financial assets at fair value through OCI (debt instruments)

The Company measures debt instruments at fair value through OCI if both of the following conditions are met:

- The financial asset is held within a business model with the objective of both holding to collect contractual cash flows and selling, and
- 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

For debt instruments at fair value through OCI, interest income, foreign exchange revaluation and impairment losses or reversals are recognized in the statement of profit or loss and computed in the same manner as for financial assets measured at amortized cost. The remaining fair value changes are recognized in OCI. Upon derecognition, the cumulative fair value change recognized in OCI is recycled to profit or loss.

③ Financial assets designated at fair value through OCI (equity instruments)

Upon initial recognition, the Company can elect to classify irrevocably its equity investments as equity instruments designated at fair value through OCI when they meet the definition of equity under KIFRS 1032 Financial Instruments: Presentation and are not held for trading. The classification is determined on an instrument-by-instrument basis.

Gains and losses on these financial assets are never recycled to profit or loss. Dividends are recognized as other income in the statement of profit or loss when the right of payment has been established, except when the Company benefits from such proceeds as a recovery of part of the cost of the financial asset, in which case, such gains are recorded in OCI. Equity instruments designated at fair value through OCI are not subject to impairment assessment.

The Company elected to classify irrevocably its non-listed equity investments under this category.

2.3 Significant Accounting Policies (Cont'd)

④ Financial assets at fair value through profit or loss

Financial assets at fair value through profit or loss include financial assets held for trading and financial assets designated upon initial recognition at fair value through profit or loss. Financial assets are classified as held for trading if they are acquired for the purpose of selling or repurchasing in the near term. Derivatives, including separated embedded derivatives, are also classified as held for trading unless they are designated as effective hedging instruments. Financial assets with cash flows that are not solely payments of principal and interest are classified and measured at fair value through profit or loss, irrespective of the business model. Notwithstanding the criteria for debt instruments to be classified at amortized cost or at fair value through OCI, as described above, debt instruments may be designated at fair value through profit or loss on initial recognition if doing so eliminates, or significantly reduces, an accounting mismatch.

Financial assets at fair value through profit or loss are carried in the statement of financial position at fair value with net changes in fair value recognized in the statement of profit or loss.

This category includes derivatives and publicly listed equity instruments that have not made an irrevocable choice to account for changes in fair value in other comprehensive income. Dividends on listed equity instruments are recognized in profit or loss when rights are established.

A derivative embedded in a hybrid contract, with a financial liability or non-financial host, is separated from the host and accounted for as a separate derivative if: the economic characteristics and risks are not closely related to the host; a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative; and the hybrid contract is not measured at fair value through profit or loss. Embedded derivatives are measured at fair value with changes in fair value recognized in profit or loss. Reassessment only occurs if there is either a change in the terms of the contract that significantly modifies the cash flows that would otherwise be required or a reclassification of a financial asset out of the fair value through profit or loss category.

A derivative embedded within a hybrid contract containing a financial asset host is not accounted for separately. The financial asset host together with the embedded derivative is required to be classified in its entirety as a financial asset at fair value through profit or loss.

2.3 Significant Accounting Policies (Cont'd)

[Derecognition]

A financial asset (or, where applicable, a part of a financial asset or part of a group of similar financial assets) is primarily derecognized (i.e., removed from the Company's statement of financial position) when:

- The rights to receive cash flows from the asset have expired, or
- The Company has transferred its rights to receive cash flows from the asset or has assumed an obligation to pay the received cash flows in full without material delay to a third party under a 'pass-through' arrangement; and either (a) the Company has transferred substantially all the risks and rewards of the asset, or (b) the Company has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the asset

When the Company has transferred its rights to receive cash flows from an asset or has entered into a pass-through arrangement, it evaluates if, and to what extent, it has retained the risks and rewards of ownership. When it has neither transferred nor retained substantially all of the risks and rewards of the asset, nor transferred control of the asset, the Company continues to recognize the transferred asset to the extent of its continuing involvement. In that case, the Company also recognizes an associated liability. The transferred asset and the associated liability are measured on a basis that reflects the rights and obligations that the Company has retained.

Continuing involvement that takes the form of a guarantee over the transferred asset is measured at the lower of the original carrying amount of the asset and the maximum amount of consideration that the Company could be required to repay.

[Impairment of financial assets]

The Company recognizes an allowance for expected credit losses (ECLs) for all debt instruments not held at fair value through profit or loss. ECLs are based on the difference between the contractual cash flows due in accordance with the contract and all the cash flows that the Company expects to receive, discounted at an approximation of the original effective interest rate. The expected cash flows will include cash flows from the sale of collateral held or other credit enhancements that are integral to the contractual terms.

ECLs are recognized in two stages. For credit exposures for which there has not been a significant increase in credit risk since initial recognition, ECLs are provided for credit losses that result from default events that are possible within the next 12-months (a 12-month ECL). For those credit exposures for which there has been a significant increase in credit risk since initial recognition, a loss allowance is required for credit losses expected over the remaining life of the exposure, irrespective of the timing of the default (a lifetime ECL).

For trade receivables and contract assets, the Company applies a simplified approach in calculating ECLs. Therefore, the Company does not track changes in credit risk, but instead recognizes a loss allowance based on lifetime ECLs at each reporting date. The Company has established a provision matrix that is based on its historical credit loss experience, adjusted for forward-looking factors specific to the debtors and the economic environment.

2.3 Significant Accounting Policies (Cont'd)

2) Financial liabilities

[Recognition and initial measurement]

Financial liabilities are classified, at initial recognition, as financial liabilities at fair value through profit or loss, loans and borrowings, payables, or as derivatives designated as hedging instruments in an effective hedge, as appropriate.

All financial liabilities are recognized initially at fair value and, in the case of loans and borrowings and payables, net of directly attributable transaction costs.

[Subsequent measurement]

The measurement of financial liabilities depends on their classification, as described below:

① Financial liabilities at fair value through profit or loss

Financial liabilities at fair value through profit or loss include financial liabilities held for trading and financial liabilities designated upon initial recognition as of fair value through profit or loss.

Financial liabilities are classified as held for trading if they are incurred for the purpose of repurchasing in the near term. This category also includes derivative financial instruments entered into by the Company that are not designated as hedging instruments in hedge relationships as defined by KIFRS 1109. Separated embedded derivatives are also classified as held for trading unless they are designated as effective hedging instruments. Gains or losses on liabilities held for trading are recognized in the statement of profit or loss.

Financial liabilities designated upon initial recognition at fair value through profit or loss are designated at the initial date of recognition, and only if the criteria in KIFRS 1109 are satisfied.

② Loans and borrowings, payables

This is the category most relevant to the Company. After initial recognition, interest-bearing loans and borrowings are subsequently measured at amortized cost using the EIR method. Gains and losses are recognized in profit or loss when the liabilities are derecognized as well as through the EIR amortization process.

Amortized cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the EIR. The EIR amortization is included as finance costs in the statement of profit or loss.

This category generally applies to interest-bearing loans and borrowings.

2.3 Significant Accounting Policies (Cont'd)

[Derecognition]

A financial liability is derecognized when the obligation under the liability is discharged or cancelled or expires. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as the derecognition of the original liability and the recognition of a new liability. The difference in the respective carrying amounts is recognized in the statement of profit or loss.

3) Offsetting of financial instruments

Financial assets and financial liabilities are offset, and the net amount is reported in the consolidated statement of financial position if there is a currently enforceable legal right to offset the recognized amounts and there is an intention to settle on a net basis, to realize the assets and settle the liabilities simultaneously.

4) Financial guarantee liabilities

A financial guarantee contract is a contract in which the issuer must pay a specific amount to compensate for losses incurred by the holder due to the failure of a specific debtor to pay on the payment date according to the initial contract terms or changed contract terms of the debt instrument.

A financial guarantee liability is initially measured at fair value and is not designated as a financial liability measured at fair value through profit or loss, or unless the transfer of a financial asset does not meet the terms of derecognition or an ongoing involvement approach is applied, follow-up measurements should be made with the larger of the following:

(A) Loss allowance calculated in accordance with Section 5.5 of KIFRS 1109

(B) The amount deducted from the initial recognition amount from the cumulative amount of profit recognized in accordance with KIFRS 1115

(5) Equity instruments

An equity instrument is any contract that represents the remaining equity after deducting all liabilities from an entity's assets. Equity instruments issued by the company are recognized as net amount minus direct issuance cost from the issuance amount.

In the case of reacquisition of equity instruments, those equity instruments are deducted directly from equity. Profit or loss from the purchase, sale, issuance, or incineration of an equity instrument is not recognized in profit or loss.

2.3 Significant Accounting Policies (Cont'd)

(6) Derivative financial instruments and hedge accounting

The Company uses derivative financial instruments, such as forward currency contracts, interest rate swaps and forward commodity contracts, to hedge its foreign currency risks, interest rate risks and commodity price risks, respectively. Such derivative financial instruments are initially recognized at fair value on the date on which a derivative contract is entered into and are subsequently remeasured at fair value. Derivatives are carried as financial assets when the fair value is positive and as financial liabilities when the fair value is negative.

For the purpose of hedge accounting, hedges are classified as:

- Fair value hedges when hedging the exposure to changes in the fair value of a recognized asset or liability or an unrecognized firm commitment
- Cash flow hedges when hedging the exposure to variability in cash flows that is either attributable to a particular risk associated with a recognized asset or liability or a highly probable forecast transaction or the foreign currency risk in an unrecognized firm commitment
- Hedges of a net investment in a foreign operation

At the inception of a hedge relationship, the Company formally designates and documents the hedge relationship to which the Company wishes to apply hedge accounting and the risk management objective and strategy for undertaking the hedge.

The documentation includes identification of the hedging instrument, the hedged item, the nature of the risk being hedged and how the Company will assess whether the hedging relationship meets the hedge effectiveness requirements (including the analysis of sources of hedge ineffectiveness and how the hedge ratio is determined). A hedging relationship qualifies for hedge accounting if it meets all of the following 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.

Hedges that meet the strict criteria for hedge accounting are accounted for, as described below:

2.3 Significant Accounting Policies (Cont'd)

- Fair value hedges

The change in the fair value of a hedging derivative is recognized in the statement of profit or loss. The change in the fair value of the hedged item attributable to the risk hedged is recorded as part of the carrying value of the hedged item and is also recognized in the statement of profit or loss.

For fair value hedges relating to items carried at amortized cost, any adjustment to carrying value is amortized through profit or loss over the remaining term of the hedge using the EIR method. EIR amortization may begin as soon as an adjustment exists and no later than when the hedged item ceases to be adjusted for changes in its fair value attributable to the risk being hedged.

If the hedged item is derecognized, the unamortized fair value is recognized immediately in profit or loss.

When an unrecognized firm commitment is designated as a hedged item, the subsequent cumulative change in the fair value of the firm commitment attributable to the hedged risk is recognized as an asset or liability with a corresponding gain or loss recognized in profit and loss.

- Cash flow hedges

The effective portion of the gain or loss on the hedging instrument is recognized in OCI in the cash flow hedge reserve, while any ineffective portion is recognized immediately in the statement of profit or loss. The cash flow hedge reserve is adjusted to the lower of the cumulative gain or loss on the hedging instrument and the cumulative change in fair value of the hedged item.

The Company uses forward currency contracts as hedges of its exposure to foreign currency risk in forecast transactions and firm commitments, as well as forward commodity contracts for its exposure to volatility in the commodity prices. The ineffective portion relating to foreign currency contracts is recognized as other expense and the ineffective portion relating to commodity contracts is recognized in other operating income or expenses.

The amounts accumulated in OCI are accounted for, depending on the nature of the underlying hedged transaction. If the hedged transaction subsequently results in the recognition of a non-financial item, the amount accumulated in equity is removed from the separate component of equity and included in the initial cost or other carrying amount of the hedged asset or liability. This is not a reclassification adjustment and will not be recognized in OCI for the period. This also applies where the hedged forecast transaction of a non-financial asset or non-financial liability subsequently becomes a firm commitment for which fair value hedge accounting is applied.

For any other cash flow hedges, the amount accumulated in OCI is reclassified to profit or loss as a reclassification adjustment in the same period or periods during which the hedged cash flows affect profit or loss.

2.3 Significant Accounting Policies (Cont'd)

If cash flow hedge accounting is discontinued, the amount that has been accumulated in OCI must remain in accumulated OCI if the hedged future cash flows are still expected to occur. Otherwise, the amount will be immediately reclassified to profit or loss as a reclassification adjustment. After discontinuation, once the hedged cash flow occurs, any amount remaining in accumulated OCI must be accounted for depending on the nature of the underlying transaction as described above.

- Hedges of a net investment in a foreign operation

Hedges of a net investment in a foreign operation, including a hedge of a monetary item that is accounted for as part of the net investment, are accounted for in a way similar to cash flow hedges. Gains or losses on the hedging instrument relating to the effective portion of the hedge are recognized as OCI while any gains or losses relating to the ineffective portion are recognized in the statement of profit or loss. On disposal of the foreign operation, the cumulative value of any such gains or losses recorded in equity is transferred to the statement of profit or loss.

(7) Trade receivables

Trade receivables represent the Company's right to an amount of consideration in return for inventories sold and services offered within the normal operating cycle. Trade receivables are classified as current assets if they are reasonably expected to be collected within the normal operating cycle. If not, they are classified as non-current assets. Except for the cases where trade receivables do not contain significant financing components on initial recognition pursuant to KIFRS 1115, the Company recognizes trade receivables at fair value and presents the book value at net of allowance for doubtful accounts, which is calculated based on individual analysis and past experience on credit losses.

(8) Inventories

Inventories are measured at the lower of cost or net realizable value. The cost of inventories includes fixed and variable manufacturing overhead costs and is allocated to inventories based on type of inventories using the most appropriate method. The costs of inventories calculated based on the specific identification method for materials-in-transit and finished goods and moving-average method for all the other inventories recognized in the financial statements. A perpetual inventory system is used to record quantity and amounts of inventories, in which inventories are adjusted to physical inventory counts that are performed at the end of the year.

2.3 Significant Accounting Policies (Cont'd)

The Company regularly reviews the possibility of disuse, a decline in market value or obsolescence of inventories, which may cause a material change in the net realizable value of inventories (net realizable value for finished goods, merchandise and semi-finished goods and current replacement cost for raw materials) and recognizes inventory valuation allowance. The Company recognizes loss on valuation of inventories and loss on inventory obsolescence arising from ordinary course of business in cost of sales and recognizes loss on valuation arising from unusual course of business in other non-operating expenses. When the circumstances that previously caused the inventories to be written down cease to exist or there is an increase in net realizable value, the amount of the write-down is reversed to the extent of the original write-down amount so that the new carrying amount is the lower of cost and the revised net realizable value.

(9) Property, plant, and equipment

Property, plant, and equipment are initially stated at cost and subsequently carried at cost less accumulated depreciation and accumulated impairment loss, except for a land applying a revaluation model. When the useful lives of some elements comprising property, plant and equipment are different from the asset as a whole, those elements are depreciated separately based on their specific useful lives. The cost of an asset includes expenditures that is directly attributable to the acquisition of the items, the estimated cost of dismantling and removing the asset and restoring the site.

The cost arising from replacing a part of property, plant and equipment is included in the carrying amount of the asset if the asset's future economic benefit is likely to flow to the Company and whose cost can be measured reliably, and otherwise, the asset is recognized as a separate asset where appropriate. In such case, previously recognized carrying amount of the replaced asset is derecognized from the financial statements. All other repair and maintenance costs are recognized in profit or loss as incurred.

Depreciation of property, plant and equipment is provided using the straight-line method over the estimated useful lives of the assets as follows:

Type of Asset	Useful Lives of Assets (Years)
Buildings	20~40
Structures	10
Machinery	10
Vehicles	5
Tools and instruments	5
Furniture and fixtures	3~5

When significant parts of property, plant and equipment are required to be replaced at intervals, the Company depreciates them separately based on their specific useful lives.

2.3 Significant Accounting Policies (Cont'd)

The residual values, useful lives, and methods of depreciation of property, plant and equipment are reviewed at each financial year end and adjusted prospectively, if appropriate.

When the carrying amount of an asset is greater than the recoverable amount, it is written down to its recoverable amount and the difference are accounted for as an impairment loss. If the recoverable amount of a subsequently impaired asset is greater than the carrying amount, the impaired carrying amount is depreciated and then the excess is accounted for as a reversal of impairment loss to the residual value. Profits or losses generated from de-recognition of property, plant and equipment are determined at the difference between the net amount sold and the carrying amount and recognized in other non-operating profit or loss when de-recognized.

When the carrying amount of an asset increases as a result of revaluation, the increase is recognized as a revaluation surplus in other comprehensive income. However, if there was a decrease in revaluation amount recognized in profit or loss in the past for the same asset, the amount is recognized as much as the revaluation increase to the extent of the amount. Revaluation loss is recognized in profit or loss. However, if there is the rest of the revaluation surplus, the revaluation decrease is recognized in other comprehensive income to reach the amount.

2.3 Significant Accounting Policies (Cont'd)

(10) Intangible assets

Intangible assets acquired separately are measured on initial recognition at cost. Following initial recognition, intangible assets are carried at cost less any accumulated amortization and accumulated impairment losses. Subsequent expenditures are capitalized only when they increase the future economic benefits embodied in the specific asset to which it relates.

Other intangible assets, except for goodwill and intangible assets with indefinite useful lives, are amortized on a straight-line basis over the economic useful lives as follows:

Type of Asset	Useful Lives of Assets (Years)
Development costs	5
Other intangible assets	4~5

Development costs that are directly attributable to internally generated by the Company are capitalized when the criteria; such as, technical feasibility, ability to generate probable future economic benefits, ability to measure reliably the expenditure during development and others, are met. The capitalized development expenditures include material costs, direct labor costs and manufacturing overheads that are reasonably allocated. The capitalized expenditures on development activities are amortized by deducting the accumulated amortization and accumulated impairment loss. Development expenditures are amortized on a straight-line basis over their useful lives, and the amortization of intangible asset is recognized in manufacturing costs or selling and administrative expenses. Other development expenditures that do not meet these requirements are recognized in profit or loss as incurred.

Amortization period and methods for intangible assets with finite useful lives are reviewed as of the end of each reporting period. The assessment of indefinite life is reviewed annually to determine whether the indefinite life continues to be supportable. If not, the change in useful life from indefinite to finite is made on a prospective basis.

However, certain intangible assets are determined as having indefinite useful lives and not amortized as there is no foreseeable limit to the period over which the assets are expected to be available for use. The impairment loss of these kinds of assets are recognized through annual impairment testing.

2.3 Significant Accounting Policies (Cont'd)

(11) Impairment of non-financial assets

Assets with indefinite useful lives such as goodwill are not amortized and reviewed every year to determine whether there is any indication of impairment. Amortized assets are tested for impairment whenever a change in environments or an event indicating that the carrying amount may not be recoverable. An impairment loss is recognized to the extent that the carrying amount of an asset exceeds its recoverable amount. The recoverable amount of an asset is the higher of net fair value and value in use. For the purposes of measuring impairment, assets are classified into the smallest identifiable group of assets that generates cash inflows (cash-generating unit or "CGU"). If an impairment loss is recognized, non-financial assets other than goodwill are reviewed as of the end of each reporting period to determine the probable reversal of impairment loss.

(12) Government grants

Government grants are recognized where there is reasonable assurance that the grant will be received and all attached conditions will be complied with.

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

The government grants that relate to an asset are derecognized when the carrying amount of the asset is determined and is presented in the statement of financial position. When the grant relates to an asset, it is recognized as income in equal amounts over the expected useful life of the related asset.

Revenue-type government grants are recognized as income on a systematic basis over the periods that the related costs, for which they are intended to compensate. A grant receivable as compensation for costs already incurred or for immediate financial support is recognized as income in the period in which it has a right to receive.

(13) Retirement Benefit

The Company operates a defined retirement benefit plan. The calculation of defined benefit obligations is performed annually by a qualified independent actuary using the projected unit credit method. The remeasurements of net defined benefit liabilities comprising of actuarial gains and losses, return on plan assets (Excluding amounts included in net interest on the net defined benefit liability) and the effect of the asset ceiling are recognized immediately in the statement of financial position with a corresponding debit or credit to retained earnings through OCI in the period in which they occur. Remeasurements are not reclassified to profit or loss in subsequent periods. Past service costs are recognized in profit or loss on the date of the plan amendment or curtailment. Net interest is calculated by applying the discount rate to the net defined benefit liability as of the beginning.

2.3 Significant Accounting Policies (Cont'd)

The cost of the defined benefit plan consists of service costs (current service costs, past-service costs, and gains or losses from settlements), net interest expense (income) and remeasurements.

The Company recognizes the service costs and net interest expenses (income) in profit or loss and the remeasurements in OCI. The gains and losses from the curtailment of the plan are treated as past service costs.

In the financial statements, defined benefit obligations are presented as the actual deficit and excess amount of the defined benefit plans. The excess amount is recognized as an asset to the extent of the sum of the present value of economic benefits available in a way that reduces the future contributions to the plan or the amount reimbursed from the plan.

(14) Provisions

Provisions are recognized when the Company has a present legal or constructive obligation as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation. Where the effect of the time value of money is material, provisions are determined at the present value of the expected future expenditures for performing its obligations.

Provisions are reviewed as of the end of each reporting period and adjusted to reflect the current best estimates. The increase in provisions over time is recognized as interest costs. If it is no longer probable that an outflow of resources embodying economic benefits will be required to settle the obligation, the provision is reversed. When it is virtually certain the some or all of the expenditures required to settle a provision are expected to be reimbursed by a third party, a receivable is treated as a separate asset. In this case, the profit attributable to the expected reimbursement is offset with related expenses that will be presented in the statement of comprehensive income according to the recognition of provisions.

(15) Share-based compensation

The Company's share-based compensation granted to officers and employees is measured at fair value of the equity instrument on the date of grant.

The fair value of share-based payment transactions determined on the grant date is estimated on a straight-line basis over the applicable vesting period. As of the end of each reporting period, the Company adjusts the estimates of the quantity of equity instrument that is expected to be vested. The effect of adjusted value on the initial estimate is recognized in profit or loss and reflected in other components of equity over the remaining vesting period hence that the cumulative expenses can reflect such adjustment.

2.3 Significant Accounting Policies (Cont'd)

(16) Revenue from contracts with customers

In accordance with KIFRS 1115 Revenue from Contracts with Customers, the Company recognizes the expected consideration to which it is entitled to the sale of fuel cells to its customer as revenue. For services provided under the maintenance service agreement with customer, revenue is recognized over the contractual period of the maintenance services using the percentage of completion method.

1) Identification of performance obligations

The Company identifies performance obligations that are classified as technical support, such as the production, design, installation, repair, and maintenance of fuel cells in the integrated contracts for production and sale of fuel cell facility with customers.

2) Variable consideration

The Company estimates the variable consideration using the expected value method that is expected to better predict the variable consideration to which it will be entitled. The Company includes variable consideration in the transaction price only to the extent that it is probable that a significant reversal in the amount of cumulative revenue already recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved.

3) Revenue recognition when satisfying the performance obligations identified

(a) Performance obligations satisfied at a point in time

The Company recognizes revenue from the sale of goods when the fuel cells that it promised with a customer are delivered to the customer.

(b) Performance obligations satisfied over time

In case of the Company's repair and maintenance performance obligations, as customers simultaneously receive and consume the economic benefits provided by the Company's performance, the Company recognizes service revenue equally over the contractual period of the maintenance service agreement.

2.3 Significant Accounting Policies (Cont'd)

(17) Leases

The Company assesses at contract inception whether a contract is, or contains, a lease. That is, if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

The Company as a lessee

The Company applies a single recognition and measurement approach to all leases except for short-term leases and leases of low-value assets. The Company recognizes lease liabilities representing its obligation to make lease payments and right-of-use assets representing its rights to use the underlying assets.

1) Right-of-use assets

The Company recognizes right-of-use assets at the commencement date of the lease (i.e., the date the underlying asset is available for use). Right-of-use assets are measured at cost, less any accumulated depreciation and impairment losses and adjusted for any remeasurement of lease liabilities. The cost of right-of-use assets include the amount of lease liabilities recognized, initial direct costs incurred, and lease payments made at or before the commencement date less any lease incentives received. Right-of-use assets are depreciated on a straight-line basis over the shorter of the lease term and the estimated useful lives of the assets, unless it is reasonably expected that the leased asset is transferred to the Company at the end of the lease term. The Company reviews impairment loss on right-of-use assets.

The Company's right-of-use assets are classified as property, plant, and equipment (See Note 13).

2) Lease liabilities

At the commencement date of the lease, the Company recognizes lease liabilities measured at the present value of lease payments to be made over the lease term. The lease payments include fixed payments (including in-substance fixed payments) less any lease incentives receivable, variable lease payments that depend on an index or a rate, and amounts expected to be paid under residual value guarantees. The lease payments also include the exercise price of a purchase option reasonably certain to be exercised by the Company and payments of penalties for terminating the lease, if the lease term reflects the Company exercising the option to terminate. Variable lease payments that do not depend on an index or a rate are recognized as expenses in the period in which the event or condition that triggers the payment occurs.

In calculating the present value of lease payments, the Company uses its incremental borrowing rate at the lease commencement date because the interest rate implicit in the lease is not readily determinable. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is remeasured if there is a modification, a change in the lease term, a change in the lease payments or a change in the assessment of an option to purchase the underlying asset.

2.3 Significant Accounting Policies (Cont'd)

3) Short-term leases and low-value asset leases

The Company applies the short-term lease recognition exemption to its short-term leases (i.e., those leases that have a lease term of 12 months or less from the commencement date and do not contain a purchase option). It also applies the lease of low-value assets recognition exemption to leases of office equipment that are considered to be low value. Lease payments on short-term leases and leases of low-value assets are recognized as expense on a straight-line basis over the lease term.

The Company as a lessor

Leases in which the Company does not transfer substantially all the risks and rewards incidental to ownership of an asset is classified as operating leases. Rental income arising is accounted for on a straight-line basis over the lease terms and is included in revenue in the statement of comprehensive income due to its operating nature. Initial direct costs incurred in negotiating and arranging an operating lease are added to the carrying amount of the leased asset and recognized over the lease term on the same basis as rental income. Contingent rents are recognized as revenue in the period in which they are earned.

(18) Income Tax expense and Deferred Tax

Income tax expense comprises current and deferred tax. Income taxes are recognized in profit or loss except to the extent that it relates to a business combination, or items recognized directly in equity or in other comprehensive income. In case the income tax relates to a specific item of other comprehensive income or equity, it is directly added to or deducted from other comprehensive income or equity for recognition.

Income tax expense is the expected income tax payable for each fiscal year and tax imposed on the income tax pursuant to the Corporate Tax Act and other laws and includes tax payable or refundable on the taxable profit or loss that are related to previous years but recognized for the current year. The Company calculates on the basis of the tax laws enacted or substantively enacted at the end of the reporting period.

Deferred tax is recognized, using the asset-liability method, in respect of temporary differences between the carrying amounts of assets and liabilities and the amounts used for taxation purposes. However, the deferred tax that incurs at initial recognition of assets and liabilities in a transaction is not recognized if the deferred tax assets and liabilities have made effect neither accounting profit nor taxable income.

Deferred tax is recognized on the basis of the tax rates and tax laws enacted or substantively enacted as of the end of the reporting period, which are expected to be applied when the related deferred tax assets are realized and the deferred tax liabilities are paid.

2.3 Significant Accounting Policies (Cont'd)

The carrying amount of a deferred tax asset is reviewed as of the end of each reporting period and reduces the carrying amount to the extent that it is no longer probable that sufficient taxable profit will be available to allow the benefits of part or all of that deferred tax asset to be utilized.

(19) Earnings per share

The Company presents basic and diluted earnings per share (EPS) data for its ordinary shares. Basic EPS is calculated by dividing the profit or loss attributable to ordinary shareholders of the Company by the weighted average number of ordinary shares outstanding during the period, adjusted for own shares held. Diluted EPS is determined by adjusting the profit or loss attributable to ordinary shareholders and the weighted average number of outstanding ordinary shares, adjusted for own shares held, for the effects of all dilutive potential ordinary shares including convertible bonds and share option granted to employees.

(20) Approval date on issuance of the financial statements

The financial statements of the Company for the year ended December 31, 2022, were approved by the Board of Directors on February 8, 2023, and will be submitted at the annual shareholders' meeting to be held on March 29, 2023.

3. Critical Accounting Estimates and Judgments

In application of accounting policies described in Note 2, management of the Company is required to make judgments, estimates and assumptions on the carrying amounts of assets and liabilities that are not readily available from other information. Actual results may differ from these estimates.

Other disclosure matters for risks and uncertainties to which the Company is exposed include financial risk management and sensitivity analysis (See Note 4).

3.1 Accounting Judgments

In the process of applying the Company's accounting policies, management has made the following judgments, which have the most significant effect on the amounts recognized in the financial statements:

Critical judgment when determining the contract term in a contract with extension option

The Company determines the lease term as the non-cancellable term of the lease, together with any periods covered by an option to extend the lease if it is reasonably certain to be exercised, or any periods covered by an option to terminate the lease, if it is reasonably certain not to be exercised. The Company has several lease contracts that include extension and termination options. The Company applies judgement in evaluating whether it is reasonably certain whether or not to exercise the option to renew or terminate the lease. That is, it considers all relevant factors that create an economic incentive for it to exercise either the renewal or termination. After the commencement date, the Company reassesses the lease term if there is a significant event or change in circumstances that is within its control and affects its ability to exercise or not to exercise the option to renew or to terminate.

Critical judgment on deferred tax assets and liabilities

Recognition and measurement of deferred tax assets and liabilities require management's judgment. In particular, the necessity of recognition and extent of recognition of deferred tax assets are affected by assumptions of the future circumstances and management's judgment.

3.2 Accounting estimates and assumptions

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized only in the period in which the estimate is revised if they affect only the current period. If revisions affect both the current period and the future periods, they are recognized both in the period in which the estimate is revised and in any future periods.

(1) Revenue recognition

Revenue from rendering of services is recognized equally over the contractual period of the service contract as the Company has the obligation to provide related services to customers.

(2) Impairment of non-financial assets

The Company assesses whether there is any indication of impairment on all non-financial assets as of the end of each reporting periods. For intangible assets that are effective for an indefinite useful life, the testing on impairment is conducted every year or if any indication of impairment exists. Impairment on other non-financial assets is assessed when there is any indication that the carrying amount will not be recoverable. To calculate the use value, management should determine an appropriate discount rate required to estimate the expected future cash flows generated from the assets or cash generating unit and to calculate the present value of such expected future cash flows.

(3) Defined benefit-type retirement benefit plan

The cost of the defined benefit retirement plan and the present value of the retirement pension liabilities are determined based on the actuarial valuation. Application of the actuarial valuation approach requires a variety of assumptions. These assumptions include determination of discount rates, rates of expected future salary increase, mortality rates, and future pension increase rates. The defined benefit liabilities change sensitively depending on those assumptions due to the valuation method's complexity, underlying assumptions, and long-term nature. The Company reviews all the assumptions as of the end of each annual reporting period.

(4) Provisions

The Company recognizes the expected cost of warranty repair and sales return in provisions based on the best estimate of the expenditure as of the end of each reporting period. Provisions are determined by the estimate based on past experience.

3.2 Accounting estimates and adjustments (Cont'd)

(5) Leases – calculation of incremental borrowing rate

Since the implicit interest rate cannot be readily determined, the Company uses the incremental borrowing rate. The incremental borrowing rate is the rate of interest that a lessee would have to pay to borrow over a similar term, and with a similar security, the funds necessary to obtain an asset of a similar value to the right-of-use asset in a similar economic environment. Therefore, the incremental borrowing rate is the amount payable by the Company that is required to measure where there is no observable rate (in case of a subsidiary that is not conducting financial transactions) or the incremental borrowing rate should be adjusted to reflect lease conditions (e.g., a lease is not in the subsidiary's functional currency).

The Company should, where applicable, measure the incremental borrowing rate using observable input variables (such as market interest rate), and prepare estimates by specific entities (such as individual credit rating of subsidiaries).

(6) Fair value

Fair value is the price that will be paid by selling assets or transferring liabilities in normal transactions between market participants at the measurement date, regardless of whether the price is directly observable or estimated using valuation techniques. In estimating the fair value of an asset or liability, we consider the nature of the asset or liability that market participants consider when determining the price of the asset or liability at the measurement date. For measurement or disclosure purposes, fair value is determined by the principles described above, except for measurements that are partially similar to fair value but not fair value, such as the value used in share-based payment transactions included in the scope of application of K-IFRS 1102 'Share-based payment', lease transactions included in the scope of application of K-IFRS 1017 'Lease', net realization of K-IFRS 1002 'Inventory', and K-IFRS 1036 'Impairment of Assets'.

Fair value measurements also classified into levels 1, 2 or 3, as described in Note 12, based on the observable degree of inputs used in fair value measurements for financial reporting purposes and the significance of inputs to the entire fair value measurement.

4. Financial Risk Management

The Company's financial risk management aims to improve its financial structure and enhance efficiency of financial operation to create stable and steady management performance despite various exposure to financial risks, such as market risk, credit risk, liquidity risk and capital risk.

Financial risk management activities are primarily carried out by the Company's finance division. The Company's finance division identifies, evaluates, and hedges financial risks in close cooperation with the Company's other operating units. It also devotes to minimize potential adverse effects from financial risks by reorganizing the financial risk management policy and financial risk monitoring on a regular basis.

(1) Market risk

1) Foreign currency risk

The company operates internationally and is exposed to the risk of exchange rate fluctuations from various currencies. The goal of the Company's foreign exchange risk management is to minimize uncertainty and profit and loss due to exchange rate fluctuations. The Company's foreign exchange risk management is carried out by the foreign exchange risk management regulations, and foreign exchange management for speculative purposes is strictly prohibited.

The Company reduces foreign exchange risk by offsetting the exchange rate fluctuation exposure amount through export and import currency response and manage the exchange rate fluctuation risk using derivatives such as forward exchange according to the exchange risk management regulations.

The carrying amounts of monetary assets and liabilities denominated in foreign currencies instead of functional currencies as of December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022				2021
	USD	GBP	EUR	Total	USD
Foreign financial assets	95,370,380,807	-	-	95,370,380,807	71,390,798,424
Foreign financial liabilities	33,131,129,326	13,994,540,318	773,879,262	47,899,548,906	7,497,732,388
Subtotal	62,239,251,481	(13,994,540,318)	(773,879,262)	47,470,831,901	63,893,066,036

4. Financial Risk Management (Cont'd)

On condition that all other variables remain constant and the functional currency for each foreign currency changes by 10%, the effect of the change in exchange rate on profit before income tax expenses for the year ended December 31, 2022, and 2021, is as follows:

(Unit: KRW)

Classification	2022		2021	
	If increased by 10%	If decreased by 10%	If increased by 10%	If decreased by 10%
Income or loss before income taxes	4,747,083,190	(4,747,083,190)	6,389,306,603	(6,389,306,603)

The sensitivity analysis above is aimed at the monetary assets and liabilities denominated in foreign currencies other than the functional currency as of December 31, 2022.

2) Interest rate risk

The Company has no floating-rate financial liabilities exposed to interest rate risk as of December 31, 2022, and 2021 and financial assets are as follows:

(Unit: KRW)

Classification	2022	2021
Financial assets	23,748,748,465	2,319,359,246
Financial liabilities	99,000,000,000	-
Subtotal	(75,251,251,535)	2,319,359,246

The following describes the effect of the change in interest rate in profit for the year and profit before income tax expenses where all the variables remain constant, and the interest rate of floating-rate financial assets fluctuates by 100bp for the years ended December 31, 2022, and 2021.

(Unit: KRW)

Classification	2022		2021	
	If increased by 100bp	If decreased by 100bp	If increased by 100bp	If decreased by 100bp
Net income or loss before income taxes	(752,512,515)	752,512,515	23,193,592	(23,193,592)

4. Financial Risk Management (Cont'd)

3) Price risk

The Company's listed equity investments are exposed to the risk of price changes in the fair value of financial instruments or future cash flows due to changes in market prices. Management of the Company periodically measures the price change risk of listed equity instruments. In addition, important investments in the Company's portfolios are individually managed, and acquisition and disposal are required to be approved by the Board of Directors.

(2) Credit risk

The Company is exposed to credit risk that may cause financial losses to the counterparty due to default on the obligations by either party to financial instruments. Credit risk mainly arises from financial assets which are not equity securities, such as financial assets measured at fair value of other comprehensive income, financial assets measured at fair value through profit or loss, deposits in financial institution, financial derivatives, and guarantee limit, as well as from trade receivables and other receivables from customers. To manage credit risk, the Company do business with customers that boast a credit rating over a certain level and prepares and operates policies and procedures to reinforce credit of financial assets.

The Company evaluates the creditworthiness of each new customer considering the financial information published and the information provided by a credit rating agency when signing a contract, and based on this, the Company establishes credit limit for each customer and is provided with collateral or payment guarantee.

Additionally, the Company periodically reevaluates customers' credit rating to review the credit transaction limit and readjust the collateral level. The Company identifies the present condition of delayed collection and collection measures periodically to financial assets, which has delayed collection and takes measures by cause of delay.

Financial assets exposed to credit risk as of December 31, 2022, and 2021 are as follows and the carrying amount indicates the maximum exposure to credit risk.

(Unit: KRW)

Classification	2022	2021
Cash and cash equivalents	31,856,872,344	6,013,285,833
Short and Long-Term Investment Securities:		
Financial assets measured at fair value through profit or loss (*1)	5,844,149,407	185,536,366,469
Trade receivables and other receivables	238,542,930,164	102,077,829,011
Total	276,243,951,915	293,627,481,313

(*1) Equity securities at FVTPL are excluded.

Apart from the above-mentioned financial assets, the guarantee limit (See Note 31) payable upon surety's claim under a financial warranty contract is the maximum amount exposed to credit risk.

4. Financial Risk Management (Cont'd)

Details of trade receivables and other receivables exposed to credit risk, presented using forecast model as of December 31, 2022, and 2021 are as follows:

1) 2022

(Unit: KRW)

Classification	Trade receivables assessed for impairment on an individual and collective basis					Total
	Within due	Less than 3 months	3-6 months	6-12 months	More than 12 months	
Trade receivables	116,633,906,876	226,841,666	30,600,000,000	313,500,000	1,895,850,257	149,670,098,799
Non-trade receivables	9,685,900,547	13,670,145,587	14,564,466,789	20,179,348,391	34,901,392,522	93,001,253,836
Accrued income	82,770,428	-	-	-	-	82,770,428
Loans	1,958,126,553	-	-	-	-	1,958,126,553
Deposits	2,072,318,630	-	-	-	-	2,072,318,630
Total	130,433,023,034	13,896,987,253	45,164,466,789	20,492,848,391	36,797,242,779	246,784,568,246

2) 2021

(Unit: KRW)

Classification	Trade receivables assessed for impairment on an individual and collective basis					Total
	Within due	Less than 3 months	3-6 months	6-12 months	More than 12 months	
Trade receivables	28,982,683,781	124,548,550	-	302,850,257	1,671,680,022	31,081,762,610
Non-trade receivables	12,003,686,337	4,525,622,473	6,865,961,562	22,190,809,660	27,194,296,292	72,780,376,324
Accrued income	930,505	-	-	-	-	930,505
Loans	509,994,435	-	-	-	-	509,994,435
Deposits	2,294,244,590	-	-	-	-	2,294,244,590
Total	43,791,539,648	4,650,171,023	6,865,961,562	22,493,659,917	28,865,976,314	106,667,308,464

(3) Liquidity risk

The Company has exposure to liquidity risk that it will encounter difficulty in meeting its financial liabilities' obligations related to financial liabilities incurred by transferring financial assets for settlement, such as cash.

Based on the establishment of a regular funding plan, the Company prepares for the funding balance of its business activities, investment activities and financing activities for the maturity of financial assets and liabilities, The Company manages the liquidity risks that may occur in the future in advance by securing and maintaining required liquidity.

4. Financial Risk Management (Cont'd)

A summary of the Company's annual redemption plan of the nominal value of financial liabilities as of December 31, 2022, and 2021 is as follows:

1) 2022

(Unit: KRW)

Classification	Carrying amount	Total cash flows	Less than 1 year	1 to 5 years	More than 5 years
Current liabilities:					
- Trade payables	85,660,315,547	85,660,315,547	85,660,315,547	-	-
- Other payables	45,948,287,289	45,948,287,289	45,948,287,289	-	-
- Short-term borrowings	64,000,000,000	64,616,250,410	64,616,250,410	-	-
- Current portion of debentures	77,390,312,476	79,711,180,556	79,711,180,556	-	-
- Current lease liabilities	2,728,360,686	2,847,434,478	2,847,434,478	-	-
Subtotal	275,727,275,998	278,783,468,280	278,783,468,280	-	-
Non-current liabilities:					
- Bonds	97,215,537,168	108,999,034,722	5,697,784,722	103,301,250,000	-
- Long-term borrowings	30,000,000,000	33,023,194,518	1,672,405,477	31,350,789,041	-
- Lease liabilities	6,461,580,199	10,319,990,582	-	6,442,624,248	3,877,366,334
- Long-term amount payable	748,414,810	748,414,810	-	748,414,810	-
Subtotal	134,425,532,177	153,090,634,632	7,370,190,199	141,843,078,099	3,877,366,334
Total	410,152,808,175	431,874,102,912	286,153,658,479	141,843,078,099	3,877,366,334

2) 2021

(Unit: KRW)

Classification	Carrying amount	Total cash flows	Less than 1 year	1 to 5 years	More than 5 years
Current liabilities:					
- Trade payables	16,933,034,281	16,933,034,281	16,933,034,281	-	-
- Other payables	12,238,998,536	12,238,998,536	12,238,998,536	-	-
- Current lease liabilities	2,871,983,927	2,970,602,784	2,970,602,784	-	-
Subtotal	32,044,016,744	32,142,635,601	32,142,635,601	-	-
Non-current liabilities:					
- Bonds	74,752,054,534	79,881,562,500	2,738,437,500	77,143,125,000	-
- Lease liabilities	7,063,693,292	8,471,440,382	-	8,340,704,428	130,735,954
- Long-term amount payable	552,506,017	552,506,017	-	552,506,017	-
Subtotal	82,368,253,843	88,905,508,899	2,738,437,500	86,036,335,445	130,735,954
Total	114,412,270,587	121,048,144,500	34,881,073,101	86,036,335,445	130,735,954

4. Financial Risk Management (Cont'd)

The above-mentioned maturity amount of financial liabilities is based on undiscounted principal according to a contract, which is different from the carrying amount of financial liabilities in the statement of financial position. Apart from the above-mentioned non-derivative liabilities, as of December 31, 2022, the maximum amount of guarantee that the Company may bear upon surety's claim as a result of a financial guarantee agreement provided by it is explained in Note 31.

(4) Capital risk

The Company performs capital risk management to maintain its ability to continuously provide profits to shareholders and parties in interest and to maintain optimum capital structure to reduce capital expenses.

The Company manages its capital based on debt-to-equity ratios to achieve the optimum capital structure like other companies in the same industry. This ratio is calculated as total liabilities divided by total equity.

The debt-to-equity ratios as of December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022	2021
Total liabilities	503,865,290,192	180,666,683,063
Total equity	523,064,425,818	518,188,257,488
Bank deposits	31,856,872,344	6,013,285,833
Bonds (*1)	268,605,849,644	74,752,054,534
Debt-to-equity ratio	96.33%	34.87%
Net borrowing rate (*2)	45.26%	13.27%

(*1) Amount in that discount on bonds is deducted.

(*2) (Bonds – Deposits) / Total equity

5. Cash and Cash Equivalents

(1) Details of cash and cash equivalents as of December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022	2021
Cash and cash equivalents		
- MMDA	23,748,748,465	2,319,359,246
- Bank deposits and others	8,108,123,879	3,693,926,587
Total	31,856,872,344	6,013,285,833

(2) Financial instruments with restricted use as of December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022	2021	Content of Restricted Use
Cash and cash equivalents	12,894,657	24,361	Social contribution funds
Other quick assets	392,461,120	2,443,436,866	Corporate contributions related to national assignments
Total	405,355,777	2,443,461,227	

6. Short and long-term investment securities

Short and Long-term investment securities as of December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022		2021	
	Acquisition cost	Carrying amount	Acquisition cost	Carrying amount
Current:				
<Financial assets measured at fair value through profit or loss>				
MMW (Money Market WRAP)	-	-	157,517,226,790	156,281,189,569
Other Investment Securities	400,000,000	401,650,916	25,000,000,000	24,735,250,000
Equity Investments	20,480,000,000	18,480,000,000	-	-
Subtotal	20,880,000,000	18,881,650,916	182,517,226,790	181,016,439,569
Non-current:				
<Financial assets measured at fair value through profit or loss>				
Other Equity Investments	4,500,000,000	4,538,114,200	4,500,000,000	4,519,926,900
Convertible Bonds	1,500,000,000	904,384,291	-	-
Subtotal	6,000,000,000	5,442,498,491	4,500,000,000	4,519,926,900
Total	26,880,000,000	24,324,149,407	187,017,226,790	185,536,366,469

7. Trade Receivables and Other Receivables

(1) Trade receivables and other receivables as of December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022				2021			
	Credit Amount	Present Value Discount	Loss allowance	Book Value	Credit Amount	Present Value Discount	Loss allowance	Book Value
Current:								
Trade receivables	149,670,098,799	-	(1,895,850,257)	147,774,248,542	31,081,762,610	-	(1,895,850,257)	29,185,912,353
Non-trade receivables	23,299,753,836	-	-	23,299,753,836	38,074,577,170	-	-	38,074,577,170
Short-term loans	169,224,884	-	-	169,224,884	96,398,062	-	-	96,398,062
Accrued income	82,770,428	-	-	82,770,428	930,505	-	-	930,505
Subtotal	173,221,847,947	-	(1,895,850,257)	171,325,997,690	69,253,668,347	-	(1,895,850,257)	67,357,818,090
Non-current:								
Long-term non-trade receivables	69,701,500,000	(90,700,737)	(6,255,087,088)	63,355,712,175	34,705,799,154	(1,551,603,144)	(1,142,026,052)	32,012,169,958
Long-term loans	1,788,901,669	-	-	1,788,901,669	413,596,373	-	-	413,596,373
Deposits	2,072,318,630	-	-	2,072,318,630	2,294,244,590	-	-	2,294,244,590
Subtotal	73,562,720,299	(90,700,737)	(6,255,087,088)	67,216,932,474	37,413,640,117	(1,551,603,144)	(1,142,026,052)	34,720,010,921
Total	246,784,568,246	(90,700,737)	(8,150,937,345)	238,542,930,164	106,667,308,464	(1,551,603,144)	(3,037,876,309)	102,077,829,011

(2) Details of changes in allowance for bad debts for the years ended December 31, 2022, and 2021 are as follows:

1) 2022

(Unit: KRW)

Classification	Beginning balance	Bad debt expenses	Ending balance
Loss allowance for trade receivables	1,895,850,257	-	1,895,850,257
Loss allowance for long-term non-trade receivables	1,142,026,052	5,113,061,036	6,255,087,088
Total	3,037,876,309	5,113,061,036	8,150,937,345

7. Trade Receivables and Other Receivables (Cont'd)

2) 2021

(Unit: KRW)

Classification	Beginning balance	Bad debt expenses	Other changes	Ending balance
Loss allowance for trade receivables	382,600,000	1,513,250,257	-	1,895,850,257
Loss allowance for long-term non-trade receivables	1,758,027,364	1,142,026,052	(1,758,027,364)	1,142,026,052
Total	2,140,627,364	2,655,276,309	(1,758,027,364)	3,037,876,309

8. Inventories

Details of inventories as of December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022			2021		
	Acquisition Cost	Allowance for Valuation Losses	Book Value	Acquisition Cost	Allowance for Valuation Losses	Book Value
Merchandise	188,690,033,107	(384,697,809)	188,305,335,298	71,417,164,350	(203,327,913)	71,213,836,437
Finished goods	112,251,647,200	-	112,251,647,200	15,534,662,452	-	15,534,662,452
Semi-finished goods	13,839,320,318	-	13,839,320,318	21,525,451,013	-	21,525,451,013
Raw materials	75,093,019,885	(2,660,353,477)	72,432,666,408	49,281,493,865	(1,745,226,102)	47,536,267,763
Others	1,963,597,846	(53,567,778)	1,910,030,068	3,454,068,933	(49,660,035)	3,404,408,898
Materials-in-transit	41,988,924,845	-	41,988,924,845	49,795,366,515	-	49,795,366,515
Total	433,826,543,201	(3,098,619,064)	430,727,924,137	211,008,207,128	(1,998,214,050)	209,009,993,078

Losses(reversals) on valuation of inventories for years ended December 31, 2022, and 2021 is KRW 1,100 million and KRW (146) million, respectively.

9. Derivative Assets

(1) The details of the Company's derivatives and hedge accounting are as follows:

Classification	Type	Significance of input factor
Cash flow hedges	Currency forward	Foreign currency forward contracts were entered into to hedge the risk of fluctuations in cash flow for expected foreign currency expenditures related to the purchase of imported raw materials.

(2) The evaluation details of derivatives for the year ended December 31, 2022, are as follows:

(Unit: KRW, USD)

Classification	Purchase		Selling		Derivative Assets(Liabilities)	Gains and losses on valuation of derivatives	Accumulated other comprehensive income(loss) (*1)
	Currency	Amount	Currency	Amount			
Currency forward	USD	15,000,000	KRW	19,463,250,000	(499,400,062)	-	(499,400,062)

(*1) The amount before the income tax effect is considered.

There are no outstanding derivatives contracts for the year ended December 31, 2021.

10. Other Assets

Details of other assets as of December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022		2021	
	Current	Non-current	Current	Non-current
Advance payments	4,936,396,073	-	28,192,311,123	-
Prepaid expenses	14,784,552,729	51,349,471,023	2,603,635,940	19,684,941,457
Value-added tax payments	2,813,305,876	-	1,594,809,871	-
Other quick assets	392,461,120	-	2,443,436,866	-
Total	22,926,715,798	51,349,471,023	34,834,193,800	19,684,941,457

11. Investments in associates

(1) Details of the Company's investments in associates as of December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Name of related party	Location	Equity ratio	Acquisition cost		Carrying amount	
			2022	2021	2022	2021
Daesan Green Energy Co., Ltd. (*)	Republic of Korea	10.00%	5,100,000,000	5,100,000,000	2,476,421,758	2,883,127,099

(*) Although the Company has less than 20% shares, it is classified as investments in associates because the Company is judged to have a significant influence on the associate by exercising significant influence at the Board of Directors. Moreover, the Company offered its investment shares in associates above as collateral for the loans of Daesan Green Energy Co., Ltd. to Industrial Bank of Korea (See Note 32).

(2) Details of changes in investments in associates for the years ended December 31, 2022, and 2021 are as follows:

1) 2022

(Unit: KRW)

Name of an associate	Beginning balance	Share of loss	Ending balance
Daesan Green Energy Co., Ltd.	2,883,127,099	(406,705,341)	2,476,421,758

2) 2021

(Unit: KRW)

Name of an associate	Beginning balance	Share of loss	Ending balance
Daesan Green Energy Co., Ltd.	3,084,739,356	(201,612,257)	2,883,127,099

11. Investments in associates (Cont'd)

(3) Financial information of the associate is summarized for the years ended December 31, 2022, and 2021 as follows:

1) 2022

(Unit: KRW)

Name of an associate	Assets	Liabilities	Revenue	Loss for the year
Daesan Green Energy Co., Ltd.	245,825,831,204	190,918,490,685	101,689,152,216	(6,640,884,411)

2) 2021

(Unit: KRW)

Name of an associate	Assets	Liabilities	Revenue	Loss for the year
Daesan Green Energy Co., Ltd.	264,617,477,002	203,920,618,917	88,146,996,160	(3,309,691,136)

(4) Adjustments from the amount of investee's net assets to carrying amount of the investments in associates as of December 31, 2022, and 2021 are as follows:

1) 2022

(Unit: KRW)

Name of an associate	Net asset	Equity ratio (%)	Share of net asset	Internal transaction, etc.	Carrying amount
Daesan Green Energy Co., Ltd.	54,907,340,519	10.0	5,490,734,052	(3,014,312,294)	2,476,421,758

2) 2021

(Unit: KRW)

Name of an associate	Net asset	Equity ratio (%)	Share of net asset	Internal transaction, etc.	Carrying amount
Daesan Green Energy Co., Ltd.	60,696,858,085	10.0	6,069,685,808	(3,186,558,710)	2,883,127,098

12. Financial instruments by category and others

(1) Details of the Company's financial instruments by category as of December 31, 2022, and 2021 are as follows:

1) 2022

(Unit: KRW)

Financial assets	Financial assets at amortized cost	Financial assets at fair value through profit or loss	Carrying amount	Fair value
Cash and cash equivalents	31,856,872,344	-	31,856,872,344	31,856,872,344
Short-term financial instruments	-	18,881,650,916	18,881,650,916	18,881,650,916
Trade receivables and other receivables (*1)	206,202,737,778	-	206,202,737,778	206,202,737,778
Long-term financial assets	-	5,442,498,491	5,442,498,491	5,442,498,491
Total	238,059,610,122	24,324,149,407	262,383,759,529	262,383,759,529

(*1) As of December 31, 2022, contract assets not classified as financial instruments are excluded, so the amount of trade receivables and other receivables does not match the financial statement.

(Unit: KRW)

Financial liabilities	Financial liabilities at amortized cost	Derivative liabilities for hedging	Carrying amount	Fair value
Trade payables and other payables	132,357,017,646	-	132,357,017,646	132,357,017,646
Bonds	174,605,849,644	-	174,605,849,644	174,605,849,644
Borrowings	94,000,000,000	-	94,000,000,000	94,000,000,000
Current lease liabilities	2,728,360,686	-	2,728,360,686	2,728,360,686
Lease liabilities	6,461,580,199	-	6,461,580,199	6,461,580,199
Derivative liabilities	-	499,400,062	499,400,062	499,400,062
Total	410,152,808,175	499,400,062	410,652,208,237	410,652,208,237

12. Financial instruments by category and others (Cont'd)

2) 2021

(Unit: KRW)

Financial assets	Financial assets at amortized cost	Financial assets at fair value through profit or loss	Carrying amount	Fair value
Cash and cash equivalents	6,013,285,833	-	6,013,285,833	6,013,285,833
Short-term financial instruments	-	181,016,439,569	181,016,439,569	181,016,439,569
Trade receivables and other receivables (*1)	87,589,933,580	-	87,589,933,580	87,589,933,580
Long-term financial assets	-	4,519,926,900	4,519,926,900	4,519,926,900
Total	93,603,219,413	185,536,366,469	279,139,585,882	279,139,585,882

(*1) As of December 31, 2021, contract assets not classified as financial instruments are excluded, so the amount of trade receivables and other receivables does not match the financial statement.

(Unit: KRW)

Financial liabilities	Financial liabilities at amortized cost	Carrying amount	Fair value
Trade payables and other payables	29,724,508,734	29,724,508,734	29,724,508,734
Current lease liabilities	2,871,983,927	2,871,983,927	2,871,983,927
Bonds	74,752,054,534	74,752,054,534	74,752,054,534
Lease liabilities	7,063,693,292	7,063,693,292	7,063,693,292
Total	114,412,240,487	114,412,240,487	114,412,240,487

12. Financial instruments by category and others (Cont'd)

(2) Hierarchy for the fair value of financial instruments

Fair value measurements of financial instruments by fair value hierarchy levels as of December 31, 2022, and 2021 are as follows:

1) 2022

(Unit: KRW)

Classification	Level 1	Level 2	Level 3	Total
Financial assets measured at fair value through profit or loss				
Financial assets at fair value through profit or loss	18,480,000,000	401,650,916	5,442,498,491	24,324,149,407
Financial liabilities measured at fair value through profit or loss				
Derivative liabilities for hedging	-	499,400,062	-	499,400,062

2) 2021

(Unit: KRW)

Classification	Level 1	Level 2	Level 3	Total
Financial assets measured at fair value through profit or loss				
Financial assets at fair value through profit or loss	-	181,016,439,569	4,519,926,900	185,536,366,469

The Company uses the following hierarchy for determining and disclosing the fair value of financial instruments as of December 31, 2022, and 2021:

Classification	Significance of input factor
Level 1	Unadjusted quoted prices in active markets for identical assets or liabilities
Level 2	Inputs other than quoted prices that are observable for the asset or liability, either directly or indirectly
Level 3	Unobservable inputs on assets or liabilities

The fair value of financial instruments traded in active markets is based on quoted market prices as of the end of the reporting periods. These instruments are included in Level 1. Instruments included in Level 1 comprise primarily listed equity investments classified as financial assets at fair value through profit or loss.

The fair value of financial instruments that are not traded in an active market is determined by using valuation techniques. These valuation techniques maximize the use of observable market data where it is available and rely as little as possible on entity-specific estimates. If all significant inputs required for fair value of an instrument are observable, the instrument is included in Level 2.

12. Financial instruments by category and others (Cont'd)

If one or more of the significant inputs is not based on observable market data, the instrument is included in Level 3.

(3) Profit or loss of financial instruments by category

Profit or loss of financial instruments recognized for the years ended December 31, 2022, and 2021 by category is as follows:

1) 2022

(Unit: KRW)

Items	2022					
	Interest income (expenses)	Dividends income	Gain (loss) on Valuation	Gain (loss) on Disposal	Impairment	Foreign exchange effect
Financial assets:						
Financial assets at amortized cost	1,818,387,877	-	-	-	(5,113,061,036)	3,304,924,702
Financial assets at fair value through profit or loss	-	1,696,452,400	(2,593,964,793)	1,734,688,080	-	-
Financial liabilities:						
Financial liabilities at amortized cost	(4,930,728,730)	-	-	-	-	976,373,283

12. Financial instruments by category and others (Cont'd)

2) 2021

(Unit: KRW)

Items	2021					
	Interest income (expenses)	Dividends income	Gain (loss) on Valuation	Gain (loss) on Disposal	Impairment	Foreign exchange effect
Financial assets:						
Financial assets at amortized cost	168,903,040	-	-	-	(2,655,276,309)	7,466,758,767
Financial assets at fair value through profit or loss	-	14,403,500	(1,500,787,221)	4,096,763,755	-	-
Financial liabilities:						
Financial liabilities at amortized cost	(5,041,786,347)	-	-	-	-	(2,427,666,848)

In addition to the above, comprehensive income (loss) arising from derivatives for the years ended December 31, 2022, and 2021 are as follows:

1) 2022

(Unit: KRW)

Classification	Profit or loss		Other comprehensive income (loss) (*1)
	Valuation	Disposal	
Derivatives for cash flow hedges	-	-	(499,400,062)

(*1) The amount before the income tax effect is considered.

2) 2021

As of December 31, 2021, there was no comprehensive income (loss) arising from derivatives.

13. Property, plant, and equipment

The carrying amounts of property, plant, and equipment as of December 31, 2022, and 2021 are as follows:

1) 2022

(Unit: KRW)

Description	Acquisition cost	Cumulated depreciation	Cumulated loss on impairment	Government grants	Revaluation Surplus	Carrying amount
Land	2,882,175,143	-	-	-	845,036,857	3,727,212,000
Buildings	20,690,446,017	(2,015,471,649)	-	(353,201,414)	-	18,321,772,954
Structures	10,357,089,149	(3,575,504,625)	-	(31,167,152)	-	6,750,417,372
Machinery	68,231,376,933	(18,601,718,841)	-	(215,285,434)	-	49,414,372,658
Delivery equip & vehicles	531,336,233	(364,319,502)	-	-	-	167,016,731
Tools & instrument	4,625,216,917	(1,949,330,453)	-	(18,581,329)	-	2,657,305,135
Furniture & fixture	3,592,474,190	(2,196,188,489)	-	(1,096,735)	-	1,395,188,966
Construction in progress	94,434,376,574	-	(1,014,800,000)	(8,750,000,000)	-	84,669,576,574
Right-of-use assets_Land	1,607,709,147	(32,750,366)	-	-	-	1,574,958,781
Right-of-use assets_buildings	11,453,866,349	(3,927,358,822)	-	-	-	7,526,507,527
Right-of-use assets_delivery equip & vehicles	615,985,787	(536,203,450)	-	-	-	79,782,337
Total	219,022,052,439	(33,198,846,197)	(1,014,800,000)	(9,369,332,064)	845,036,857	176,284,111,035

2) 2021

(Unit: KRW)

Description	Acquisition cost	Cumulated depreciation	Cumulated loss on impairment	Government grants	Revaluation Surplus	Carrying amount
Land	2,882,175,143	-	-	-	845,036,857	3,727,212,000
Buildings	11,610,737,097	(1,484,853,619)	-	-	-	10,125,883,478
Structures	7,766,494,294	(2,620,885,351)	-	-	-	5,145,608,943
Machinery	37,192,458,668	(14,072,686,443)	-	(6,463,492)	-	23,113,308,733
Delivery equip & vehicles	360,136,233	(340,229,367)	-	-	-	19,906,866
Tools & instrument	2,870,881,791	(1,415,351,717)	-	(56,508,031)	-	1,399,022,043
Furniture & fixture	3,174,869,223	(1,864,186,286)	-	(7,919,274)	-	1,302,763,663
Construction in progress	37,196,477,693	-	(1,014,800,000)	-	-	36,181,677,693
Right-of-use assets_buildings	11,456,405,252	(1,754,125,861)	-	-	-	9,702,279,391
Right-of-use assets_delivery equip & vehicles	615,985,787	(407,588,182)	-	-	-	208,397,605
Total	115,126,621,181	(23,959,906,826)	(1,014,800,000)	(70,890,797)	845,036,857	90,926,060,415

13. Property, plant, and equipment (Cont'd)

(2) Changes in the carrying amounts of property, plant and equipment for the years ended December 31, 2022, and 2021 are as follows:

1) 2022

(Unit: KRW)

Description	Beginning of Year	Acquisition	Disposal (*1)	Depreciation	Others	End of Year
Land	3,727,212,000	-	-	-	-	3,727,212,000
Buildings	10,125,883,478	2,182,472,885	-	(530,618,030)	6,897,236,035	18,674,974,368
Structures	5,145,608,943	2,394,144,855	(3,523,078)	(957,296,196)	202,650,000	6,781,584,524
Machinery	23,119,772,225	22,003,481,076	(22,848,839)	(4,531,916,227)	9,061,169,857	49,629,658,092
Vehicles	19,906,866	-	-	(24,090,135)	171,200,000	167,016,731
Tools & instrument	1,455,530,074	1,832,727,666	(118,476,653)	(507,950,439)	14,055,816	2,675,886,464
Furniture & fixture	1,310,682,937	619,881,179	(61,086,139)	(451,587,560)	(21,604,716)	1,396,285,701
Construction in progress	36,181,677,693	70,428,641,595	(58,600,000)	-	(13,132,142,714)	93,419,576,574
Subtotal	81,086,274,216	99,461,349,256	(264,534,709)	(7,003,458,587)	3,192,564,278	176,472,194,454
(Deduction) Govern. grants	(70,890,797)	(9,353,781,933)	43,771,066	3,304,335	8,265,265	(9,369,332,064)
Total deductions	81,015,383,419	90,107,567,323	(220,763,643)	(7,000,154,252)	3,200,829,543	167,102,862,390
Right-of-use assets for land	-	1,607,709,147	-	(32,750,366)	-	1,574,958,781
Right-of-use assets for buildings (*1)	9,702,279,391	1,316,942,580	(1,029,718,118)	(2,462,996,326)	-	7,526,507,527
Right-of-use assets for vehicles	208,397,605	-	-	(128,615,268)	-	79,782,337
Subtotal	9,910,676,996	2,924,651,727	(1,029,718,118)	(2,624,361,960)	-	9,181,248,645
Total	90,926,060,415	93,032,219,050	(1,250,481,761)	(9,624,516,212)	3,200,829,543	176,284,111,035

(*1) This includes the amount due to the termination of the lease agreement.

13. Property, plant, and equipment (Cont'd)

2) 2021

(Unit: KRW)

Description	Beginning of Year	Acquisition	Revaluation	Disposal (*1)	Depreciation	Others	End of Year
Land	3,048,480,000	449,010,030	229,721,970	-	-	-	3,727,212,000
Buildings	8,785,440,559	1,637,768,600	-	-	(297,325,681)	-	10,125,883,478
Structures	3,250,230,180	2,540,897,320	-	(1,727,883)	(643,790,674)	-	5,145,608,943
Machinery	20,303,582,368	3,504,698,885	-	-	(3,347,223,233)	2,658,714,205	23,119,772,225
Vehicles	63,170,582	20,584,000	-	-	(63,847,716)	-	19,906,866
Tools & instrument	1,157,275,091	723,710,130	-	-	(420,961,249)	(4,493,898)	1,455,530,074
Furniture & fixture	582,597,804	974,624,345	-	(1,062,751)	(489,812,445)	244,335,984	1,310,682,937
Construction in progress	11,841,427,872	27,163,661,428	-	-	-	(2,823,411,607)	36,181,677,693
Subtotal	49,032,204,456	37,014,954,738	229,721,970	(2,790,634)	(5,262,960,998)	75,144,684	81,086,274,216
(Deduction) Govern. grants	(25,973,278)	(56,683,389)	-	-	11,765,870	-	(70,890,797)
Total deductions	49,006,231,178	36,958,271,349	229,721,970	(2,790,634)	(5,251,195,128)	75,144,684	81,015,383,419
Right-of-use assets for buildings	2,231,813,574	15,797,158,633	-	(6,669,690,897)	(1,657,001,919)	-	9,702,279,391
Right-of-use assets for vehicles	45,344,118	279,786,525	-	-	(116,733,038)	-	208,397,605
Subtotal	2,277,157,692	16,076,945,158	-	(6,669,690,897)	(1,773,734,957)	-	9,910,676,996
Total	51,283,388,870	53,035,216,507	229,721,970	(6,672,481,531)	(7,024,930,085)	75,144,684	90,926,060,415

(*1) This includes the amount due to the termination of the lease agreement.

(3) Application of revaluation model of property, plant, and equipment

For land, the Company recognizes subsequently measured amount as revaluated amount and the revalued amount is the fair value as of the revaluation date. The fair value of land as of the end of the year has been determined based on the assessment conducted by Jeil Appraisal Co., Ltd. on November 30, 2021, which is independent from the Company.

Jeil Appraisal Co., Ltd. is member of the Korean Association of Property Appraiser and possess appropriate qualifications and experiences relating to real estate assessment.

In addition, if the land were stated at cost, the land would amount to KRW 2,882 million and KRW 2,882 million as of December 31, 2022, and 2021, respectively.

13. Property, plant, and equipment (Cont'd)

(4) Valuation technique and inputs used for measurement of the fair value of land are as follows:

Valuation technique	Significant unobservable inputs	Association between unobservable inputs and fair value
Official Assessed Reference Land Price ("OARLP"): Determined based on the officially assessed land price of the subject land and nearby land. The fair value is measured in view of the base date of officially assessed land price, adjustments at a point of time, individual factors and other factors	Adjustments at a point of time (fluctuation rate in land price)	Fair value increases (decreases) if rate of land price increases (decreases).
	Individual factors (parcel conditions, etc.)	Fair value increases (decreases) if correction of parcel conditions and others increases (decreases).
	Other factors (land price level, etc.)	Fair value increases (decreases) if correction of land price level increases (decreases).

(5) Details of borrowing costs capitalized as tangible assets for the years ended December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022	2021
Capitalized borrowing costs	2,017,518,178	111,307,696
Capitalized interest rate	4.01% ~ 6.29%	4.0%

14. Intangible Assets

(1) The carrying amount as of December 31, 2022, and 2021 is as follows:

1) 2022

(Unit: KRW)

Description	Acquisition Cost	Cumulative Depreciation	Government Grants	Carrying Amount
Goodwill	24,231,548,166	-	-	24,231,548,166
Development expenses	13,982,497,595	(5,406,916,363)	(671,648,490)	7,903,932,742
Other intangible assets	6,065,796,102	(2,631,901,101)	(24,647,654)	3,409,247,347
Membership	465,167,758	-	-	465,167,758
Total	44,745,009,621	(8,038,817,464)	(696,296,144)	36,009,896,013

2) 2021

(Unit: KRW)

Description	Acquisition Cost	Cumulative Depreciation	Government Grants	Carrying Amount
Goodwill	24,231,548,166	-	-	24,231,548,166
Development expenses	9,693,787,849	(3,253,723,317)	-	6,440,064,532
Other intangible assets	8,286,350,284	(2,060,765,756)	(80,849,899)	6,144,734,629
Membership	465,167,758	-	-	465,167,758
Total	42,676,854,057	(5,314,489,073)	(80,849,899)	37,281,515,085

Among other intangible assets, the carrying amount of a membership with an indefinite useful life is KRW 465 million and KRW 465 million as of December 31, 2022, and 2021, respectively.

14. Intangible Assets (Cont'd)

(2) Changes in carrying amounts for the years ended December 31, 2022, and 2021 are as follows:

1) 2022

(Unit: KRW)

Description	Beginning of Year	Acquisition	Disposal	Depreciation	Others	End of Year
Goodwill	24,231,548,166	-	-	-	-	24,231,548,166
Development costs	6,440,064,532	787,850,451	-	(2,153,193,046)	3,500,859,295	8,575,581,232
Other intangible assets	6,225,584,528	2,110,774,074	(3,668,975,606)	(597,083,941)	(636,404,054)	3,433,895,001
Membership	465,167,758	-	-	-	-	465,167,758
Total	37,362,364,984	2,898,624,525	(3,668,975,606)	(2,750,276,987)	2,864,455,241	36,706,192,157
(Deduction) Government grants	(80,849,899)	(709,588,966)	42,396,925	40,242,209	11,503,587	(696,296,144)
Total deductions	37,281,515,085	2,189,035,559	(3,626,578,681)	(2,710,034,778)	2,875,958,828	36,009,896,013

2) 2021

(Unit: KRW)

Description	Beginning of Year	Acquisition	Depreciation	Others	End of Year
Goodwill	24,231,548,166	-	-	-	24,231,548,166
Development costs	2,093,751,245	5,465,279,000	(1,118,965,713)	-	6,440,064,532
Other intangible assets	1,247,861,722	5,359,291,202	(526,232,670)	144,664,274	6,225,584,528
Membership	458,330,408	6,837,350	-	-	465,167,758
Total	28,031,491,541	10,831,407,552	(1,645,198,383)	144,664,274	37,362,364,984
(Deduction) Government grants	(53,674,950)	(43,990,043)	16,815,094	-	(80,849,899)
Total deductions	27,977,816,591	10,787,417,509	(1,628,383,289)	144,664,274	37,281,515,085

(3) R&D expenditures for the years ended December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022	2021
Manufacturing costs	387,656,224	305,643,924
Selling and administrative expenses	5,977,679,909	5,118,679,453
Total	6,365,336,133	5,424,323,377

14. Intangible Assets (Cont'd)

(4) Recognition of Development costs

The new R&D project is approved through the company's internal development project review committee in consideration of business feasibility, and interim investment adequacy review determines whether research/development continues or stops and applies it to the business through demonstrated commercial operation after completion of technology development. The company generally capitalizes development costs and recognizes them as intangible assets after the project's investment approval (technical feasibility, our intentions, and future economic benefits) has been met.

(5) Details of Development costs

Details of development costs as of December 31, 2022, and 2021 are as follows:

1) 2022

(Unit: KRW)

Classification	Projects	Carrying Amount	Remaining useful lives (Years) (*1)
Amortization of development costs	Development of Tri-gen Fuel Cell System	3,402,625,770	4.75
	Development of PAFC Fuel Cell Cost Improvement Model	4,098,959,255	3.75

2) 2021

(Unit: KRW)

Classification	Projects	Carrying Amount	Remaining useful lives (Years) (*1)
Ongoing development costs	Development of Tri-gen Fuel Cell System	718,050,299	-
	Development of SOFC Fuel Cell System	2,257,888,909	-
Amortization of development costs	Development of PAFC Fuel Cell Cost Improvement Model	5,192,015,051	4.75

(*1) In case of starting amortization, stated remaining useful lives, in case of not starting amortization, stated '-'.

(6) None of the intangible assets have recognized impairment losses for the years ended December 31, 2022, and 2021.

14. Intangible Assets (Cont'd)

(7) Impairment test on goodwill

1 Before impairment test, the carrying amount of goodwill was allocated to CGUs as of December 31, 2022, and 2021 as follows:

(Unit: KRW)

CGUs	2022	2021	Principal Business
Fuel cells	24,231,548,166	24,231,548,166	Manufacture and sale of fuel cells

2) The recoverable amount of cash generated units is determined at the higher of the net fair value (applying market capitalization and other) and use value, and the discount rate and permanent growth rate used in calculating value in use as of December 31, 2022, are as follows:

(Unit: KRW)

Classification	Valuation Technique	Level 3 Inputs	Inputs
Goodwill	Cash flow discount approach	Permanent growth rate	1.00%
		Weighted average equity expenses	14.72%

3) Estimates for value in use calculation are as follows:

The Company has used cash flow projections based on financial budgets approved by the management covering five-year periods for a value in use calculation. The financial budgets are determined based on historical result and expectation of market growth. The permanent growth rate does not exceed long-term average growth rate of market, and the discount rates used reflect relevant risks specific to the relevant cash generated unit.

On the other hand, the recoverable amount of goodwill may change depending on changes in key assumptions. The Company's management continues to monitor related sales and industry trends.

Since the recoverable amount that is the net fair value in consideration of the value in use relating to the cash generated unit as of the current year and the market capitalization as of the end of the fiscal year exceeds the carrying amount of net assets including goodwill, there is no amount that recognizes impairment losses on goodwill for the year ended December 31, 2022.

15. Other Payables and Other Liabilities

(1) Details of other payables as of December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022		2021	
	Current	Non-current	Current	Non-current
Non-trade payables	38,580,333,403	748,414,810	11,937,373,045	552,506,017
Accrued expenses	7,367,953,886	-	301,595,391	-
Total	45,948,287,289	748,414,810	12,238,968,436	552,506,017

(2) Details of other liabilities as of December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Division	2022		2021	
	Current	Non-current	Current	Non-current
Advances received (*)	10,443,474,742	-	13,884,386,272	-
Deposits received	276,505,014	-	1,485,828,044	-
Accrued expenses	4,913,243,718	989,853,203	6,784,406,818	1,260,964,176
Unearned revenues	183,814,018	-	427,053,110	-
Total	15,817,037,492	989,853,203	22,581,674,244	1,260,964,176

(*) Contract liabilities recognized according to provision of Merchandise and services as of December 31, 2022, and 2021 are KRW 10,443 million and KRW 13,884 million respectively.

16. Bonds and Borrowings

(1) Details of bonds issued by the Company as of December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Division	Maturity	Interest Rate	2022	2021
2 nd non-guaranteed public bonds	Sep. 15, 2023	3.81%	75,000,000,000	75,000,000,000
3 rd non-guaranteed public bonds	Aug. 9, 2024	6.20%	70,000,000,000	-
4 th non-guaranteed public bonds	Apr. 28, 2024	8.00%	15,000,000,000	-
5 th non-guaranteed public bonds	Nov. 16, 2025	9.20%	10,000,000,000	-
6-1 st non-guaranteed public bonds	May. 17, 2024	CD(3M) + 4.53%	2,500,000,000	-
6-2 nd non-guaranteed public bonds	May. 17, 2024	CD(3M) + 4.53%	2,500,000,000	-
Subtotal			175,000,000,000	75,000,000,000
(Deduction) Discount on bonds			(394,150,356)	(247,945,466)
Total deductions			174,605,849,644	74,752,054,534
(Deduction) Reclassification of current portion			(77,390,312,476)	-
- Principal of bonds			77,500,000,000	-
- Discount on bonds			(109,687,524)	-
Total deductions			97,215,537,168	74,752,054,534

(2) Details of short-term borrowings as of December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Type of borrowings	Financial institution	Maturity	Interest rate	2022	2021
General borrowing	MHBK	2023-01-20	CD(3M) + 2.5%	10,000,000,000	-
	KEB Hana Bank	2023-10-16	CD(3M) + 2.602%	10,000,000,000	-
	KEB Hana Bank	2023-10-11	CD(3M) + 2.802%	20,000,000,000	-
	JEONBUK BANK	2023-11-17	Financial bonds AA+(3M)+3.25%	4,000,000,000	-
	Korea Development Bank	2023-07-07	Industrial Financial bonds(1 year)+1.25%	20,000,000,000	-
Total				64,000,000,000	-

16. Bonds and Borrowings (Cont'd)

(3) Details of long-term borrowings as of December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Type of borrowings	Financial institution	Due date	Interest rate	2022	2021
General borrowing	Korea Development Bank	2027-12-02	Industrial Financial bonds(1 year)+1.47%	30,000,000,000	-

17. Lease Liabilities

(1) Changes in the carrying amounts of lease liabilities for the years ended December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022	2021
Beginning balance	9,935,677,219	2,321,751,378
New lease contracts	2,879,823,012	16,076,945,158
Interest expenses	719,710,382	421,467,694
Redemption	(3,277,733,376)	(2,014,269,919)
Others	(1,067,536,352)	(6,870,217,092)
Ending balance	9,189,940,885	9,935,677,219

(2) The total amount of minimum lease payments for each period to be paid in the future related to lease liabilities as of December 31, 2022, present value and liquidity classification are as follows:

(Unit: KRW)

Division	Lease Payment Amount
Lease liabilities not discounted	
- Within a year	2,847,434,478
- Over a year	10,319,990,582
Subtotal	13,167,425,060
Amount discounted at present value	(3,977,484,175)
Total after deductions	9,189,940,885
Lease Liabilities in the Statement of Financial Position:	
- Current lease liabilities	2,728,360,686
- Non-current lease liabilities	6,461,580,199

17. Lease Liabilities (Cont'd)

(3) The following are the amounts recognized in profit or loss related right-of-use and lease liabilities for the year ended December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Division	2022	2021
Depreciation expense of right-of-use assets	2,624,361,960	1,773,734,957
Interest expense on lease liabilities	719,710,382	421,467,694
Expense relating to short-term leases	641,490,335	574,696,982
Expense relating to leases of low-value assets	79,273,114	104,366,712

(4) During the years ended December 31, 2022, and 2021, the cash outflow from financing activities due to the repayment of lease liabilities is KRW 3,278 million, KRW 2,014 million respectively. Also, the cash outflow from operating activities due to the payment of user fees related to short-term lease and lease of low-value assets contracts is KRW 721 million, KRW 679 million respectively.

18. Retirement Benefit Plan

The Company operates a defined benefit retirement plan for employees. Meanwhile, the actuarial valuation of the defined benefit obligations and plan assets is performed by a qualified independent actuary using the projected unit credit method.

(1) Details of net defined benefit liabilities as of December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022	2021
Present value of defined benefit obligations	15,539,861,606	15,577,818,722
Fair value of plan assets	(15,195,891,426)	(15,400,808,914)
Contribution to national pension plan	(2,917,900)	(2,917,900)
Net defined benefit liabilities	341,052,280	174,091,908

18. Retirement Benefit Plan (Cont'd)

(2) The amount recognized relating to the defined benefit plan as retirement benefits for the years ended December 31, 2022, and 2021 is as follows:

(Unit: KRW)

Classification	2022	2021
Current service costs (*1)	2,947,151,438	2,133,538,557
Past service costs (*2)	1,363,758,728	-
Interest cost (*3)	477,647,344	273,924,383
Effect from curtailment and settlement	(434,890,705)	(235,344,284)
Total	4,353,666,805	2,172,118,656

(*1) KRW 194 million is included in the current service costs due to the revision of the executive retirement allowance regulations.

(*2) These are the past service costs due to the revision of executive retirement allowance regulations.

(*3) Interest costs of KRW 38 million are included due to the revision of the executive retirement allowance regulations.

(3) Changes in the present value of the defined benefit obligations for the years ended December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022	2021
Beginning balance	15,577,818,722	11,719,068,729
Transfer to related parties	(1,223,654,648)	586,536,152
Current service cost	2,947,151,438	2,133,538,557
Past service cost	1,363,758,728	-
Interest cost	477,647,344	273,924,383
Retirement benefit payments	(1,348,342,231)	(797,798,140)
Remeasurements related to defined benefit obligation:		
- Demographic assumption changes	101,166	118,264
- Financial assumption changes	(3,446,980,152)	90,840,432
- Other changes	1,192,361,239	1,571,590,345
Ending balance	15,539,861,606	15,577,818,722

18. Retirement Benefit Plan (Cont'd)

(4) Changes in plan assets for the years ended December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022	2021
Beginning balance	15,400,808,914	10,111,564,603
Expected profits from plan assets	434,890,705	235,344,284
Transfer to related parties	(804,716,264)	445,131,117
Remeasurements related to plan assets	(144,718,959)	(133,794,773)
Contributions	1,000,000,000	5,300,000,000
Retirement benefit payments	(659,521,078)	(534,740,761)
Management cost deducted from plan assets	(30,851,892)	(22,695,556)
Ending balance	15,195,891,426	15,400,808,914

(5) The expected maturity of the defined benefit obligation as of December 31, 2022, is as follows:

(Unit: KRW)

Classification	Within 1 year	1 to 5 years	5 to 10 years	After 10 years	Total
Retirement benefits paid	948,517,203	6,097,711,459	3,856,711,678	4,636,921,266	15,539,861,606

(6) Plan assets are mostly invested in a time deposit as of December 31, 2022, and 2021.

(7) Key assumptions for actuarial valuation as of December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022	2021
Discount rate	5.30%	2.90%
Expected salary growth rate	Workers 5.4%(2023) 3.0%(After 2023)	Workers 3.6%
	Executives 1.5%	Executives 0.8%

To calculate the present value of the defined benefit obligation, the Company uses the rate of return of blue corporate bonds as the discount rate as of December 31, 2022, and 2021 because the present currency and maturity is consistent with the currency and estimated maturity of the defined benefit obligations.

18. Retirement Benefit Plan (Cont'd)

(8) Sensitivity analysis

The sensitivity analysis of defined benefit obligations as of December 31, 2022, and 2021 is as follows:

(Unit: KRW)

Classification	2022				2021			
	Discount rate		Salary growth rate		Discount rate		Salary growth rate	
	1% increase	1% decrease	1% increase	1% decrease	1% increase	1% decrease	1% increase	1% decrease
Amount	(963,696,954)	1,098,620,070	1,056,871,605	(946,517,228)	(1,266,611,433)	1,468,811,967	1,376,917,545	(1,217,608,450)
Ratio	(-)6.20%	7.07%	6.80%	(-)6.09%	(-)8.13%	9.43%	8.84%	(-)7.82%

(9) As of the end of 2022, the weighted average maturity of the defined benefit obligation is about 6.96 years (As of the end of 2021: 8.9 years), and the Company expects to make an estimated contribution of KRW 3,241 million to the defined benefit plans in 2023.

19. Provisions

(1) Nature of provisions

1) Other provisions

The Company provides customers with annual warranties such as annual quantity of power generation under long-term fuel cell maintenance contracts entered into with customers. Meanwhile, where the annual quantity of power generated through operation of facilities by customers fails to reach the quantity guaranteed by the Company for a reason attributable to the Company, the Company adjusts the contract price to reflect the under-capacity damage.

Therefore, the total contract price adjusted by the Company as of December 31, 2022, and 2021 is approximately KRW 22,598 million and KRW 24,247 million, respectively.

2) Provision for product warranties

The Company recognized probable outflow of fuel cell services of KRW 36,097 million and KRW 10,299 million as of December 31, 2022, and 2021, respectively.

19. Provisions (Cont'd)

(2) Changes in provisions for the years ended December 31, 2022, and 2021 are as follows:

1) 2022

(Unit: KRW)

Classification	Beginning Balance	Increase	Decrease	Ending Balance
Other provisions	16,065,581,995	22,598,469,049	(21,571,632,084)	17,092,418,960
Provision for product warranties	19,250,144,885	36,097,100,440	(522,098,018)	54,825,147,307
Other provisions excluding the above provisions:				
- Long-term contract loss provisions	-	571,074,340	-	571,074,340
- Recovery provisions	-	45,450,915	-	45,450,915
Total	35,315,726,880	59,312,094,744	(22,093,730,102)	72,534,091,522

2) 2021

(Unit: KRW)

Classification	Beginning Balance	Increase	Decrease	Ending Balance
Other provisions	16,597,890,167	23,106,140,316	(23,638,448,488)	16,065,581,995
Provision for product warranties	9,321,702,151	10,299,255,024	(370,812,290)	19,250,144,885
Total	25,919,592,318	33,405,395,340	(24,009,260,778)	35,315,726,880

20. Capital and Capital Surplus

(1) There is no change in capital and paid-in capital in excess of par value as of December 31, 2022, and 2021.

The total number of shares to be issued by the Company is 400,000,000 shares with a par value of KRW 100 for both issued ordinary shares and preference shares. (The total number of shares issued is 81,844,226 shares (65,493,726 shares for ordinary shares, 16,350,500 shares for preferred shares))

The number of treasury stocks with the limited voting rights under the Commercial Code is 11,047 ordinary shares and 1,517 preferred shares, respectively. preferred shares issued do not have voting rights.

The Company's preferred shares 1 (old-type preferred shares) are non-participating, non-cumulative shares without voting rights. 1% more cash dividends per annum based on par value than ordinary shares. Dividends for preferred shares do not apply if dividends are not paid or are paid in stock to ordinary shares.

The Company's preferred shares 2 (new-type preferred shares) are participating, non-cumulative shares without voting rights. Based on the par value, the Company provides dividend of 2% per annum. When the dividend rate of ordinary shares exceeds that of preferred shares, holders of preferred shares are entitled to request dividend for the excess by participating in preferred shares at a rate equal to that of ordinary shares.

In accordance with articles of incorporation, preferred shares without voting rights (excluding treasury stocks) have voting rights after the general meeting of stockholders with a resolution not to pay dividends, until the end of the general meeting of stockholders with a resolution to pay preference dividends. Therefore, there was no dividend resolution at first general meeting of stockholders, and as of December 31, 2022, preferred shares without voting rights have voting rights.

(2) Details of capital surplus as of December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022	2021
Share Premium	479,425,786,524	479,425,786,524
Other capital surplus	(1,888,607,004)	(1,861,563,095)
Total	477,537,179,520	477,564,223,429

21. Other Components of Equity

(1) Details of other components of equity as of December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022	2021
Treasury shares	(282,149,720)	(28,074,580)
Stock options	94,380,133	-
Total	(187,769,587)	(28,074,580)

(2) Share-based Payment

The Company offers RSU(Restricted Stock Units) to grant shares to incumbent executives as of December 31, 2022. In accordance with KIFRS 1102, the Company accounts for the fair value of stock options as share compensation costs and other components of equity over the vesting period, and the stock compensation costs recognized under equity as of December 31, 2022, are KRW 94 million.

(3) The Company holds treasury stocks for the purpose of stabilizing stock prices, and the details of changes in treasury stocks as of December 31, 2022, and 2021 are as follows:

(Amount Unit: KRW, Share Unit: Shares)

Classification	Number of Shares			Carrying Amount		
	Ordinary shares	Preferred shares	Total	Ordinary shares	Preferred shares	Total
2021.01.01	3,915	1,517	5,432	21,567,143	6,507,437	28,074,580
2021.12.31	3,915	1,517	5,432	21,567,143	6,507,437	28,074,580
Purchase of treasury stocks	7,132	-	7,132	254,075,140	-	254,075,140
2022.12.31	11,047	1,517	12,564	275,642,283	6,507,437	282,149,720

(*) The Company acquired 5,432 odd-lot shares generated by issuing new shares to existing shareholders as a result of the spin-off from Doosan Corporation at a market price. As of December 31, 2022, 7,132 shares were acquired in the market, and are accounted as other components of equity.

22. Accumulated Other Comprehensive Income

Details of the accumulated other comprehensive income as of December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022	2021
Revaluation surplus	643,967,810	640,537,938
Losses on valuation of hedge derivatives	(384,038,648)	-
Total	259,929,162	640,537,938

23. Retained Earnings

(1) Changes in the retained earnings for the years ended December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022	2021
Beginning retained earnings	31,827,148,101	24,493,614,532
Profit for the year	3,863,590,126	8,695,162,181
Remeasurement of defined benefit plans	1,579,925,896	(1,361,628,612)
Unappropriated retained earnings	37,270,664,123	31,827,148,101

(2) The Company's statements of appropriation of retained earnings for the years ended December 31, 2022, and

2021 is as follows:

Second (Current) Period	from January 01, 2022 to December 31, 2022	First (Prior) Period	from January 01, 2021 to December 31, 2021
Estimated Appropriation Date	March 29, 2023	Approved Date	March 29, 2022

(Unit: KRW)

Accounting Title	2022		2021	
I. Retained earnings before appropriation		37,270,664,123		31,827,148,101
Unappropriated retained earnings carried over from the prior year	31,827,148,101		24,493,614,532	
Remeasurements of defined benefit plans	1,579,925,896		(1,361,628,612)	
Profit for the year	3,863,590,126		8,695,162,181	
II. Appropriation of retained earnings		-		-
III. Unappropriated retained earnings carried forward to the subsequent year		37,270,664,123		31,827,148,101

24. Revenue from Contracts with Customers

(1) Revenue from contracts with customers

Revenue for the years ended December 31, 2022, and 2021 is comprised as follows:

(Unit: KRW)

Classification	2022	2021
Revenue from contracts with customers:		
Fuel cell revenue, etc.	206,242,018,591	287,208,408,870
Service revenue	105,906,702,223	94,203,938,940
Total	312,148,720,814	381,412,347,810
Timing of revenue recognition:		
Transfer at a point in time	206,242,018,591	287,208,408,870
Transfer over time	105,906,702,223	94,203,938,940
Total	312,148,720,814	381,412,347,810

(2) Assets and liabilities associated with contracts with customers

Contract assets and contract liabilities recognized by the Company as of December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022	2021
Contract assets – Unclaimed assets after delivery of fuel cells	16,744,000,000	-
Contract assets – Unclaimed assets relating to fuel cell operational services	15,596,192,386	14,487,895,431
Total contract assets (*1)	32,340,192,386	14,487,895,431
Contract liabilities – Advances received for performance of fuel cell delivery (*2)	4,290,680,480	7,526,424,640
Contract liabilities – Advances received for performance relating to fuel cell operational services (*2)	6,152,794,262	6,357,961,632
Contract liabilities – Fuel cell performance obligation liability (*3)	17,092,418,960	16,065,581,995
Total contract liabilities	27,535,893,702	29,949,968,267

(*1) Accounted for as trade receivables.

(*2) Accounted for as advance payments in other current liabilities.

(*3) The liabilities arising from the contract with the customer are accounted for other provisions.

24. Revenue from Contracts with Customers (Cont'd)

The contract assets are the amount that the Company has not claimed that it has the right to be paid for the goods or services transferred to the customers, which will be reclassified as receivables upon claim. The contract liabilities are amounts acquired in advance from customers for construction contracts, etc. that are fulfilled over a period, and these amounts are reclassified as revenues as goods or services are transferred to customers. Among the contract liabilities as of December 31, 2021, the amount recognized as revenues during the year ended December 31, 2022 is KRW 11,517 million.

(3) Transaction price changes allocated to performance obligations fulfilled over time

The changes in transaction prices allocated to performance obligations fulfilled over the contract period for the years ended December 31, 2022 and 2021 are as follows:

1) 2022

(Unit: KRW)

Client	Projects	Beginning balance	Increase/Decrease	Recorded in sales	Ending Balance
Daesan Green Energy Co., Ltd., etc	Operation service contract	1,392,305,110,702	230,690,103,739	105,906,702,223	1,517,088,512,218

2) 2021

(Unit: KRW)

Client	Projects	Beginning balance	Increase/Decrease	Recorded in sales	Ending Balance
Daesan Green Energy Co., Ltd., etc	Operation service contract	1,351,857,936,591	134,651,113,051	94,203,938,940	1,392,305,110,702

25. Classification of Expenses by Nature

Information on the classification of expenses incurred for the years ended December 31, 2022, and 2021 by nature is provided as follows;

(Unit: KRW)

Classification	2022	2021
Changes in inventories	(221,646,226,159)	(96,262,881,736)
Purchase of raw materials and merchandise	405,916,888,152	352,134,613,506
Employee benefit expenses	38,369,035,566	30,517,108,219
Employee welfare	3,699,588,801	7,029,519,406
Taxes and dues	1,240,757,777	721,238,566
Freight expenses and warehousing	2,663,525,857	2,318,438,599
Commission expenses	16,715,954,303	16,674,464,497
Supplies expense	8,055,975,923	6,905,837,701
Utility cost	2,814,107,075	1,393,342,358
Outside order expenses	25,643,000,770	18,511,010,178
Depreciation	7,000,154,252	5,251,195,128
Intangible asset depreciation	2,710,034,778	1,628,383,289
Depreciation of right-of-use assets	2,624,361,960	1,773,734,957
Others	9,119,625,584	14,826,161,511
Total (*)	304,926,784,639	363,422,166,179

(*) The aggregate of the cost of sales and selling and administrative expenses.

26. Selling and Administrative Expenses

Selling and administrative expenses for the years ended December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022	2021
Wages and salaries	11,509,683,782	10,492,519,534
Retirement benefits	2,601,424,001	688,430,427
Employee welfare	2,900,701,616	3,120,287,532
Depreciation	2,134,954,417	1,648,413,705
Training expenses	916,740,230	729,363,334
Travel expense	846,286,699	332,545,220
Freight expenses and warehousing	648,550,049	746,221,187
Commission expenses	7,660,482,373	6,368,589,816
Amortization	1,261,364,306	1,211,507,315
Bad debt expenses	-	1,513,250,257
Others	6,976,834,941	3,360,264,676
Total	37,457,022,414	30,211,393,003

27. Other Income and Expenses

Details of other income and expenses for the current and prior years are as follows:

(Unit: KRW)

Classification	2022	2021
Other income:		
Rental income	38,100,000	35,052,000
Gain on disposal of intangible assets	1,556,956,841	-
Gain on valuation of short-term investment securities	1,650,916	-
Gain on disposal of short-term investment securities	3,175,293,166	4,096,763,755
Gain related lease contracts	37,818,234	200,526,195
Miscellaneous income	757,424,701	456,774,086
Total	5,567,243,858	4,789,116,036
Other expenses:		
Loss on disposal of tangible assets	4,588,638	1,727,883
Loss on valuation of short-term investment securities	2,000,000,000	1,500,787,221
Loss on valuation of long-term investment securities	595,615,709	-
Loss on disposal of short-term investment securities	1,440,605,086	-
Donations	1,679,745,472	1,053,268,000
Other bad debt expenses	5,113,061,036	1,142,026,052
Miscellaneous loss	37,747,017	186,263,807
Total	10,871,362,958	3,884,072,963
Total deductions	(5,304,119,100)	905,043,073

28. Financial Income and Costs

Details of finance income and costs for the years ended December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022	2021
Financial income:		
Interest income	1,818,387,877	168,903,040
Dividend income	1,696,452,400	14,403,500
Gain on foreign currency transactions	5,488,589,095	11,600,790,181
Gain on foreign exchange translation	6,186,448,645	5,247,589,356
Total	15,189,878,017	17,031,686,077
Financial expenses:		
Interest expenses	4,930,728,730	5,041,786,347
Loss on foreign currency transactions	6,089,554,566	11,766,954,655
Loss on foreign exchange translation	1,304,185,189	42,332,963
Financial guarantee expenses	99,994,489	244,693,001
Total	12,424,462,974	17,095,766,966
Total after deduction	2,765,415,043	(64,080,889)

29. Income Tax Expenses

(1) Income tax expenses for the years ended December 31, 2022, and 2021 are determined as follows:

(Unit: KRW)

Classification	2022	2021
Income tax payable	2,674,658,193	10,671,115,173
Changes in deferred tax due to a temporary difference	(1,823,596,027)	(1,710,834,286)
Changes in deferred tax directly reflected to equity	(438,125,515)	974,088,490
Income tax expenses	412,936,651	9,934,369,377

29. Income Tax Expenses (Cont'd)

(2) Changes in deferred tax assets(liabilities) for the years ended December 31, 2022, and 2021 are as follows:

1) 2022

(Unit: KRW)

Classification	Beginning Balance	Changes		Ending Balance
		Profit or loss	Equity	
Accrued income	(225,182)	(32,900)	-	(258,082)
Undetermined cost	10,516,985,180	8,965,652,832	-	19,482,638,012
Depreciation	132,291,836	73,105,875	-	205,397,711
Government grants	140,068,101	2,435,322,620	-	2,575,390,721
Defined benefit obligations	3,579,518,717	572,262,797	(562,747,518)	3,589,033,996
Plan assets	(3,579,518,717)	36,393,172	32,874,626	(3,510,250,919)
Valuation allowance for inventories	483,567,800	232,213,204	-	715,781,004
Revaluation of property, plant, and equipment	(75,457,191)	-	3,429,872	(72,027,319)
Right-of-use assets	(2,394,732,931)	273,864,494	-	(2,120,868,437)
Lease liabilities	2,400,497,406	(277,621,062)	-	2,122,876,344
Long-term prepaid expenses	(1,750,651,715)	(11,520,845,230)	-	(13,271,496,945)
Long-term non-trade receivables	375,487,961	(354,536,091)	-	20,951,870
Loss allowance	415,594,298	895,298,329	-	1,310,892,627
Investments in associates	536,483,242	69,563,332	-	606,046,574
Derivative liabilities	-	-	115,361,414	115,361,414
Other	(172,280,501)	861,080,170	(27,043,909)	661,755,760
Total	10,607,628,304	2,261,721,542	(438,125,515)	12,431,224,331

29. Income Tax Expenses (Cont'd)

2) 2021

(Unit: KRW)

Classification	Beginning Balance	Changes		Ending Balance
		Profit or loss	Equity	
Accrued income	(6,038,760)	5,813,578	-	(225,182)
Undetermined cost	8,183,696,613	2,333,288,567	-	10,516,985,180
Depreciation	203,776,260	(71,484,424)	-	132,291,836
Government grants	27,094,084	112,974,017	-	140,068,101
Defined benefit obligations	2,723,983,082	453,198,768	402,336,867	3,579,518,717
Plan assets	(2,446,998,634)	(1,164,898,418)	32,378,335	(3,579,518,717)
Valuation allowance for inventories	518,909,563	(35,341,763)	-	483,567,800
Advanced depreciation provision	(205,877,098)	205,877,098	-	-
Revaluation of property, plant, and equipment	(158,137,047)	138,272,572	(55,592,716)	(75,457,191)
Impairment loss on membership	51,153,070	(51,153,070)	-	-
Impairment loss on property, plant and equipment	245,581,600	(245,581,600)	-	-
Right-of-use assets	(551,072,161)	(1,843,660,770)	-	(2,394,732,931)
Lease liabilities	561,863,833	1,838,633,573	-	2,400,497,406
Long-term prepaid expenses	(1,209,804,399)	(540,847,316)	-	(1,750,651,715)
Long-term non-trade receivables	82,854,239	292,633,722	-	375,487,961
Loss allowance	289,085,872	126,508,426	-	415,594,298
Investments in associates	487,693,076	48,790,166	-	536,483,242
Other	99,030,825	(866,277,329)	594,966,003	(172,280,501)
Total	8,896,794,018	736,745,797	974,088,489	10,607,628,304

(3) Details of deferred taxes directly added to or subtracted from equity as of December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022	2021
Remeasurements of defined benefit plans	(529,872,892)	434,715,203
Revaluation surplus	3,429,872	(55,592,717)
Share premium	(27,043,909)	594,966,003
Losses on valuation of hedge derivatives	115,361,414	-
Total	(438,125,515)	974,088,489

29. Income Tax Expenses (Cont'd)

(4) The following table shows the relationship between income tax expense and accounting profits for the year ended December 31, 2022, and 2021:

(Unit: KRW)

Classification	2022	2021
Profit for the year before income tax expenses	4,276,526,777	18,629,531,558
Tax burden at applied statutory tax rates	1,034,919,480	4,076,496,943
Adjustments:		
Permanent difference (Non-deductible, etc.) effect	771,271,668	894,123,795
Tax deduction	(1,013,756,258)	(726,811,745)
Effect of changes in temporary difference not recognized as deferred taxes	-	5,864,034,656
Effects of Changes in Corporate Tax Rates	81,609,187	-
Other effect	(461,107,426)	(173,474,272)
Subtotal	(621,982,829)	5,857,872,434
Income tax expenses	412,936,651	9,934,369,377
Average effective tax rate	9.66%	53.33%

30. Earnings per Share

(1) Basic earnings per share

1) Basic earnings per share for the years ended December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022	2021
Basic earnings per ordinary shares	47	106
Basic earnings per old-type preferred shares (*)	47	106

(*) The Company calculated earnings per share for old-type preferred shares due to the nature of the share, which does not have preferred right on dividends and liquidation. Therefore, the share is considered as ordinary shares based on KIFRS 1033 *Earnings per Share*.

30. Earnings per Share (Cont'd)

2) Profit for the year attributable to the ordinary equity holders of the Company for the years ended December 31, 2022 and 2021 is as follows:

(Unit: KRW)

Classification	2022	2021
Profit for the year	3,863,590,126	8,695,162,181
(-) Profit attributable to new-type preferred shares	(140,981,868)	(317,257,612)
(-) Profit attributable to old-type preferred shares	(630,917,025)	(1,419,779,944)
Profit for the year attributable to the ordinary equity holders of the Company	3,091,691,233	6,958,124,625

3) Weighted-average number of outstanding ordinary and preferred shares for the years ended December 31, 2022, and 2021 are as follows:

(Unit: Shares)

Classification	2022		2021	
	Ordinary Shares	Old-type Preferred Shares	Ordinary Shares	Old-type Preferred Shares
Beginning outstanding shares	65,489,811	13,362,957	65,489,811	13,362,957
Increased paid-in capital	(4,846)	-	-	-
Weighted-average number of outstanding ordinary shares	65,484,965	13,362,957	65,489,811	13,362,957

(2) Diluted earnings per share

Diluted earnings per share are equal to basic earnings per share as of December 31, 2022 and 2021.

Due to the anti-dilution effect, it was not considered in calculating diluted earnings per share as of December 31, 2022, but the details of potential common shares that could dilute basic earnings per share in the future are as follows:

Classification	Par value
Restricted Stock Unit(RSU)	7,132 shares

(3) Dividend conditions for preferred shares

(Amount Unit: KRW, Share Unit: Shares)

Classification	Par value	Shares	Dividend conditions
Old-type preferred shares	100	13,364,200	Cash dividends available to ordinary shares plus 1%
New-type preferred shares	100	2,986,300	The Company should distribute 2% of par value of preferred shares annually. In case the Company distributes more than 2% of par value for ordinary shares, preferred shares are participated in dividend for the exceeded dividend.

31. Contingent liabilities and significant commitments

(1) The credit limit granted by financial institutions as of December 31, 2022, is as follows:

(Unit in won: KRW, Unit in foreign currency: USD)

Financial Institution	Content	Currency	Limit
KEB Hana Bank	Working capital loan	KRW	30,000,000,000
	Secured loan of credit sales	KRW	1,500,000,000
	Other loans	USD	3,000,000
Nonghyup Bank	Import letter of credit	USD	25,000,000
Mizuho Bank	Working capital loan	KRW	10,000,000,000
Korea Development Bank	Working capital loan	KRW	20,000,000,000
	Facility loan	KRW	30,000,000,000
JEONBUK BANK	Working capital loan	KRW	4,000,000,000

(2) Payment guarantees provided by financial institutions to the Company as of December 31, 2022, are as follows:

(Unit in won: KRW, Unit in foreign currency: USD)

Guarantee Authority	Type of Contract	Currency	Limit of Guarantee	Amount in Use
Machinery Financial Cooperative	Performance guarantee, etc.	KRW	363,049,136,000	59,356,900,516
Seoul Guarantee Insurance Company	Performance guarantee, etc.	KRW	118,223,114,075	118,223,114,075
		USD	5,095,440	5,095,440
Total		KRW	481,272,250,075	177,580,014,591
		USD	5,095,440	5,095,440

(3) The Company is obliged to repay, jointly with Doosan Corporation, the debts that the parent Company owed prior to the spin-off and contingent liabilities for tax purposes may occur caused by the joint obligation for tax liabilities.

(4) Technology contracts

As of December 31, 2022, and 2021, the Company has entered into an agreement with Doosan Fuel Cell America, Inc. to transfer key technology, and the cost for transferring technology recognized as expenses by the Company for the years ended December 31, 2022, and 2021 are KRW 4,255 million and KRW 6,103 million, respectively.

During the year ended December 31, 2022, the Company signed a license agreement with Ceres Power Limited to transfer SOFC (Solid Oxide Fuel Cell) cell stack manufacturing technology, invest in facilities to be mass-produced in Korea, and sell mass-produced finished goods.

In this regard, the related fees paid by the Company during the years ended December 31, 2022, and 2021 are KRW 16,944 million and KRW 10,771 million, respectively, and are recognized as construction in progress.

31. Contingent liabilities and significant commitments (Cont'd)

(5) The details of payment guarantees provided by the Company to the employees as of December 31, 2022, are as follows.

(Unit: KRW)

Classification	Guaranteed	Amounts guaranteed	Description	Guaranteed by
Other	Employee Stock Ownership Association	10,876,105,897	Loan for the acquisition	The Korea Securities Finance Corporation

(6) Agreements to provide supplementary funds

Daesan Green Energy Co., Ltd., has signed loan agreements with financial institutions such as Korea Development Bank. In this regard, the investors of Daesan Green Energy (Doosan fuel cell Co., Ltd., and other shareholders) have signed investment agreements with the financial institutions, and if the net operating cash inflows of Daesan Green Energy Co., Ltd., fall short of the basis for risk sharing, the investors will be obligated to provide fund based on their investment ratio. In accordance with the settlement procedure agreement signed with Daesan Green Energy Co., Ltd., the investors are obliged to provide cash, exercise subordinated loans, or fail to receive payments upon arising of obligation to provide expenses to perform settlement.

Regarding the above agreements to provide supplementary funds, the Company loaned KRW 1,003,931,000 to Daesan Green Energy Co., Ltd. as of December 31, 2022.

32. Pledged assets

(1) The details of collateral provided for the company's financial liabilities as of December 31, 2022 are as follows:

(Unit: KRW)

Institution	Collateral	Related account	Financial liabilities	Amount of pledged assets
Korea Development Bank	Iksan plant's land ,entire building, structures, and parts of mechanical equipments	Property, plant, and equipment	50,000,000,000	60,000,000,000

(2) As of December 31, 2022, the collateral details of providing assets owned by the Company for related parties are as follows:

(Unit: KRW)

Institution	Collateral	Carrying amount	Collateral amount	Related party
Korea Development Bank	Investments in associates	2,476,421,758	5,100,000,000	Daesan Green Energy Co., Ltd.

33. Transactions with Related Parties

(1) Details of related parties of the Company as of December 31, 2022, and 2021 are as follows:

Type	2022	2021
Ultimate Parent	Doosan Corporation (*1)	Doosan Corporation (*1)
Parent	Doosan Enerbility Co., Ltd. (formerly, Doosan Heavy Industries & Construction Co., Ltd.) (*2)	Doosan Enerbility Co., Ltd. (formerly, Doosan Heavy Industries & Construction Co., Ltd.) (*2)
Subsidiaries of the ultimate parent and the parent	Doosan Bobcat and its subsidiaries, HyAxiom, Inc. (formerly, Doosan Fuel Cell America, Inc.), Oricom Inc., Doosan Cuvex Co., Ltd., Doosan Bears Inc., Doosan H2 Innovation, Doosan Business Research Institute, etc.	Doosan Bobcat and its subsidiaries, HyAxiom, Inc. (formerly, Doosan Fuel Cell America, Inc.), Oricom Inc., Doosan Cuvex Co., Ltd., Doosan Bears Inc., Doosan Mecatec Co., Ltd., Doosan H2 Innovation, Doosan Business Research Institute, etc.
Associate of the parent	Doosan Engineering & Construction Co., Ltd., Samcheok Blue Power Co., Ltd., HYCHANGWON Co., Ltd., etc.	Doosan Engineering & Construction Co., Ltd., Samcheok Blue Power Co., Ltd., HYCHANGWON Co., Ltd., etc.
Associate	Daesan Green Energy Co., Ltd.	Daesan Green Energy Co., Ltd.
Other related parties (*3)	Chung-ang University, Chung-ang University Hospital, Doosan Yonkang Foundation, etc.	Chung-ang University, Chung-ang University Hospital, Doosan Yonkang Foundation, etc.

(*1) During the year ended December 31, 2021, Doosan Corporation became the ultimate parent by obtaining control in the Company.

(*2) During the year ended December 31, 2021, Doosan Enerbility Co., Ltd. was granted with stocks in the Company from related parties of Doosan Corporation and thus became the parent.

(*3) Although these entities are not related parties of the Company in accordance with KIFRS 1024 Related Party Disclosures, they belong to the same large enterprise group in accordance with the Monopoly Regulation and Fair Trade Act.

33. Transactions with Related Parties (Cont'd)

(2) Significant transactions with the related parties for the years ended December 31, 2022, and 2021 are as follows:

1) 2022

(Unit: KRW)

Classification	Name of Related Parties	Content of Transactions	Revenue, etc.	Purchase, etc.
Ultimate Parent	Doosan Corporation	Purchase of raw materials, etc.	-	66,183,002,752
		Rental income	38,100,000	-
The largest shareholder	Doosan Enerbility Co., Ltd.	Other income	824,680	-
Subsidiaries of the ultimate parent	HyAxiom, Inc.	Sale of raw materials, etc.	45,405,272,463	-
		Purchase of goods, etc.	-	160,645,245,077
	Doosan H2 Innovation	Disposal of intangible assets, etc.	5,558,252,383	-
	Doosan Digital Innovation America, Inc.	Other expenses	-	1,095,587,549
	Oricom Inc.	Use of group services	-	922,433,742
	Doosan Business Research Institute	Training expenses	-	1,047,009,261
	Doosan Cuvex Co., Ltd.	Other expenses	-	394,103,044
	Doosan Bears Inc.	Other expenses	-	1,000,000,000
	Doosan Logistics Solutions Co.,Ltd.	Other expenses	-	521,500,000
Associate of the largest shareholder	Doosan Engineering & Construction Co., Ltd.	Revenue	29,087,100,000	-
Associate	Daesan Green Energy Co., Ltd.	Revenue	14,523,400,806	-
		Other expenses	-	43,200,000
Other related parties	Chung-ang University Hospital	Other expenses	-	92,080,000
	Chung-ang University	Other expenses	-	1,500,000,000
	Doosan Yonkang Foundation	Other expenses	-	25,652,981
Total			94,612,950,332	233,469,814,406

33. Transactions with Related Parties (Cont'd)

2) 2021

(Unit: KRW)

Classification	Name of Related Parties	Content of Transactions	Revenue, etc.	Purchase, etc.
Ultimate Parent	Doosan Corporation	Purchase of raw materials, etc.	-	51,868,407,187
		Purchase of Land, etc.	-	2,836,697,203
		Rental income	35,052,000	-
The largest shareholder	Doosan Enerbility Co., Ltd.	Other expenses	-	42,505
Subsidiaries of the ultimate parent	HyAxiom, Inc.	Sale of raw materials, etc.	28,180,112,078	-
		Purchase of goods, etc.	-	175,203,243,221
	Doosan Digital Innovation America, Inc.	Other expenses	-	613,262,763
	Oricom Inc.	Use of group services	-	358,905,556
	Doosan Business Research Institute	Training expenses	-	942,705,256
	Doosan Cuvex Co., Ltd.	Other expenses	-	347,244,098
Associate of the largest shareholder	Doosan Engineering & Construction Co., Ltd.	Revenue	40,756,617,794	-
		Other income	357,433,891	-
Associate	Daesan Green Energy Co., Ltd.	Revenue	14,500,000,000	-
		Other expenses	-	43,200,000
Other related parties	Chung-ang University Hospital	Other expenses	-	79,790,000
	Chung-ang University	Other expenses	-	1,000,000,000
	Doosan Yonkang Foundation	Other expenses	-	356,364
Total			83,829,215,763	233,293,854,153

33. Transactions with Related Parties (Cont'd)

(3) Receivables from and payables to the related parties as of December 31, 2022, and 2021 are as follows:

1) 2022

(Unit: KRW)

Classification	Name of Related Parties	Receivables		Payables	
		Trade Receivables	Other receivables	Trade Payables	Other Payables
Ultimate Parent	Doosan Corporation	-	3,492,500	3,873,838,604	1,280,590,809
Subsidiaries of the ultimate parent	HyAxiom, Inc. (*1)	468,054,431	86,813,633,434	22,773,971,130	962,080,000
	Oricom Inc.	-	-	-	173,775,279
	Doosan H2 Innovation	-	4,843,576,387	-	10,321,457
	Doosan Digital Innovation America	-	-	-	51,460,250
	Doosan Business Research Institute	-	-	-	41,989,436
	Doosan Cuvex Co., Ltd.	-	-	-	2,548,375
Associate	Daesan Green Energy Co., Ltd.	3,625,000,000	1,003,931,000	-	-
Other related parties	Chung-ang University	-	-	-	34,810,000
	Doosan Yonkang Foundation	-	-	-	3,415,030
Total		4,093,054,431	92,664,633,321	26,647,809,734	2,560,990,636

(*1) As of December 31 2022, the Company has set allowance of KRW 6,255 million for receivables of HyAxiom, Inc.

33. Transactions with Related Parties (Cont'd)

2) 2021

(Unit: KRW)

Classification	Name of Related Parties	Receivables		Payables	
		Trade Receivables	Other receivables	Trade Payables	Other Payables
Ultimate Parent	Doosan Corporation	-	27,574,815	6,393,007,964	1,840,714,476
Subsidiaries of the ultimate parent	Doosan Fuel Cell America, Inc. (*1)	78,680,022	80,379,105,784	4,833,507,306	4,988,132,855
	Oricom Inc.	-	50,875,000	-	44,169,373
	Doosan Mecatec Co., Ltd.	-	102,956,845	-	-
	Doosan Business Research Institute (formerly, DLI Corporation)	-	-	-	154,027,396
	Doosan Cuvex Co., Ltd.	-	-	-	1,262,600
Associate of the largest shareholder	Doosan Engineering & Construction Co., Ltd.	5,737,100,000	-	-	2,627,100,000
Associate	Daesan Green Energy Co., Ltd.	3,625,000,000	-	-	3,960,000
Other related parties	Chung-ang University	-	-	-	30,810,000
	Doosan Yonkang Foundation	-	-	-	196,000
Total		9,440,780,022	80,560,512,444	11,226,515,270	9,690,372,700

(*1) As of December 31 2021, the Company has set allowance of KRW 1,142 million for receivables of HyAxiom, Inc.

(4) As of December 31, 2022, the Company loaned KRW 1,003,931,000 to Daesan Green Energy Co., Ltd. based on the agreements to provide supplementary funds (See Note 31). There was no financial and equity transaction with related parties for the year ended December 31, 2021.

(5) The Company determined registered executives, non-registered executives, and heads of each business division with important authority and responsibility for planning, operation, and control of corporate activities as key management. Details of the compensation for key management personnel for the years ended December 31, 2022 and 2021 are as follows:

(Unit: KRW)

Type	2022	2021
Salaries	2,256,728,014	2,372,171,435
Retirement benefits (*1)	1,729,663,308	102,299,057
Share-based payment	122,717,233	-
Total	4,109,108,555	2,474,470,492

(*1) It includes KRW 1,596 million in retirement benefits due to revision of the executive retirement allowance regulations.

34. Statements of Cash Flows

(1) Cash generated from operating activities for the years ended December 31, 2022, and 2021 is as follows:

(Unit: KRW)

	2022	2021
Profit for the year	3,863,590,126	8,695,162,181
Adjustments:		
- Non-cash adjustments:	78,686,167,888	53,544,474,447
Income tax expenses	412,936,651	9,934,369,377
Stock compensation cost	122,717,233	-
Retirement benefits	4,153,593,540	1,959,404,007
Depreciation	7,000,154,252	5,251,195,128
Amortization	2,710,034,778	1,628,383,289
Depreciation of right-of-use assets	2,624,361,960	1,773,734,957
Loss on disposal of property, plant and equipment	4,588,638	1,727,883
Gain on disposal of intangible assets	(1,556,956,841)	-
Interest income	(1,818,387,877)	(168,903,040)
Interest expenses	4,930,728,730	5,041,786,347
Gain on valuation of short-term investment securities	(1,650,916)	-
Loss on valuation of short-term investment securities	2,000,000,000	1,500,787,221
Gain on disposal of short-term investment securities	(3,175,293,166)	(4,096,763,755)
Loss on disposal of short-term investment securities	1,440,605,086	-
Loss on valuation of long-term investment securities	595,615,709	-
Dividend income	(1,696,452,400)	(14,403,500)
Gain related to lease contracts	(37,818,234)	(200,526,195)
Loss(Gain) on valuation of inventories	1,100,405,014	(146,040,341)
Gain on foreign currency translations	(6,186,448,645)	(5,247,589,356)
Loss on foreign currency translations	1,304,185,189	42,332,963
Share of loss of associates	406,705,341	201,612,257
Increase in provisions	59,266,643,829	33,405,395,340
Bad debt expenses	-	1,513,250,257
Other bad debt expenses	5,113,061,036	1,142,026,052
Other	(27,161,019)	22,695,556
- Changes in operating assets and liabilities	(330,642,754,038)	(187,936,823,125)
Trade receivables	(118,616,638,581)	41,421,513,027
Other receivables	(13,067,351,717)	9,812,312,529
Inventories	(226,345,306,883)	(96,929,779,547)
Other current assets	11,385,576,607	(11,888,452,140)
Other non-current assets	(31,664,529,566)	(8,364,679,380)
Trade payables	70,641,995,945	(57,086,187,403)
Other payables	8,172,691,920	3,606,150,748
Other current liabilities	(6,648,254,051)	(39,239,226,851)
Other non-current liabilities	(299,448,073)	162,439,014
Retirement benefits paid	(688,821,153)	(263,057,379)
Transfer of defined benefit liabilities from affiliates	(418,938,384)	141,405,035
Contribution to plan assets	(1,000,000,000)	(5,300,000,000)
Provision for product warranties	(522,098,018)	(370,812,290)
Other Provision	(21,571,632,084)	(23,638,448,488)
Cash generated from operating activities	(248,092,996,024)	(125,697,186,497)

34. Statements of Cash Flows (Cont'd)

(2) The significant non-cash transactions for the years ended December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Classification	2022	2021
Reclassification of current portion of bonds	74,848,765,205	-
Reclassification of current portion of lease liabilities	2,837,521,825	4,216,072,885
Reclassification of construction in progress to property, plant and equipment and others	21,137,462,246	3,039,211,607
Increase (decrease) in non-trade payables related to acquisition of property, plant, and equipment	25,650,320,223	2,043,839,110
Increase (decrease) in non-trade payables related to acquisition of intangible assets	(475,868,299)	694,728,299
Increase (decrease) in non-trade receivables related to disposal of intangible assets	(4,146,828,418)	-

(3) Changes in liabilities arising from financing activities for the years ended December 31, 2022, and 2021 are as follows:

1) 2022

(Unit: KRW)

Classification	Beginning Balance	Cash flows from financing activities	Reclassification of current portion	Others	Ending Balance
Current bonds	-	2,492,380,000	74,848,765,205	49,167,271	77,390,312,476
Short-term borrowings	-	64,000,000,000	-	-	64,000,000,000
Long-term borrowings	-	30,000,000,000	-	-	30,000,000,000
Bonds	74,752,054,534	97,157,100,000	(74,848,765,205)	155,147,839	97,215,537,168
Current lease liabilities	2,871,983,927	(2,558,022,994)	2,837,521,825	(423,122,072)	2,728,360,686
Non-current leases liabilities	7,063,693,292	-	(2,837,521,825)	2,235,408,732	6,461,580,199

2) 2021

(Unit: KRW)

Classification	Beginning Balance	Cash flows from financing activities	Reclassification of current portion	Others	Ending Balance
Current bonds	98,896,648,477	(99,000,000,000)	-	103,351,523	-
Bonds	-	74,709,470,000	-	42,584,534	74,752,054,534
Current lease liabilities	1,391,738,216	(1,592,802,225)	4,216,072,885	(1,143,024,949)	2,871,983,927
Non-current leases liabilities	930,013,162	-	(4,216,072,885)	10,349,753,015	7,063,693,292

35. Operating segments

(1) The Company does not include separate financial information for each segment because the reporting segment is a single segment under KIFRS 1108 *Operating Segments*.

(2) The Company does not include geographical segment because a place of business is located in Korea.

(3) Information about major customers

Major customers that the Company's revenues from transactions amount to 10 percent or more of the Company's total revenues for the years ended December 31, 2022, and 2021 are as follows:

(Unit: KRW)

Key Customers	2022	2021
Korea Western Power Co., Ltd.	19,752,034,152	141,880,917,321
Kumho Construction Co., Ltd.	1,738,800,000	56,221,200,000
SK ecoplant Co., Ltd.	29,682,000,000	44,523,000,000
Doosan Engineering & Construction Co., Ltd.	29,087,100,000	40,756,617,794
Samchully Energy Solution. Co., Ltd.	110,962,586,840	5,784,511,638
Total	191,222,520,992	289,166,246,753

36. Uncertainty of the impact of Covid-19

In order to prevent the spread of Covid-19, a various prevention, and controls measures, including restrictions on traveling is being implemented worldwide, and as a result, the global economy has been extensively affected.

In addition, government are implementing various support measures to address Covid-19. The line items affected by Covid-19 are mainly the collectability of trade receivables (notes 4 and 7), impairment of property, plant and equipment and intangible assets including goodwill (notes 13 and 14), and so forth. The Company has prepared the financial statements by reasonably estimating the impact of Covid-19 on the Company.

However, there are significant uncertainties in estimating the timing for endpoint of Covid-19 and the impact of Covid-19 on the Company.