Doosan Fuel Cell Co., Ltd.

Financial statements
for the years ended December 31, 2021 and 2020
with the independent auditor's report

Doosan Fuel Cell Co., Ltd.

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Independent auditor's report

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, 2021 and 2020, and the statements of comprehensive income, statements of changes in equity and statements of cash flows for the years then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2021 and 2020, and its financial performance and its cash flows for the years then ended in accordance with Korean International Financial Reporting Standards ("KIFRS").

Basis for opinion

We conducted our audit in accordance with Korean Auditing Standards ("KGAAS"). 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 matter

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 the 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, 2021, and the estimation of future cash flows used in the value-in-use assessment of cash-generating unit 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 13 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:
  - Obtained an understanding of internal controls related to impairment testing of cash-generating unit
  - Assessed the competence and independence of the external valuer appointed by management for assessment on value in use of cash-generating unit
  - 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
  - Compared the cash flow projections against the Company's performance to assess the accuracy of the Company's estimation

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

Management is responsible for the preparation and presentation of the financial statement in accordance with KIFRS, and for such internal controls 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 suspend 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 KGAAS 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 KGAAS, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatements 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 complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the 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 18, 2022

This audit report is effective as of March 18, 2022, 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

The 3rd Term

from January 01, 2021

to December 31, 2021

The 2nd Term

from January 01, 2020

to December 31, 2020

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

Sookyung Yoo

Chief Executive Officer

DOOSAN FUEL CELL CO., LTD.

Statement of Financial Position

The 3rd Term (Current Year) Ended December 31, 2021

The 2nd Term (Prior Year) Ended December 31, 2020

Doosan Fuel Cell Co., Ltd. (Unit: Korean Won)

Accounting Title	Notes	December 31, 2021		December 31, 2020	
Assets					
I. Current Assets			498,231,730,370		651,986,170,736
(1) Cash and cash equivalents	4,5,11	6,013,285,833		132,365,584,385	
(2) Short-term Investment Securities	4,6,11	181,016,439,569		260,403,166,286	
(3) Trade Receivables	4,7,11,23,31	29,185,912,353		72,114,204,695	
(4) Other Receivables	4,7,11,31	38,171,905,737		47,369,653,024	
(5) Inventories	8	209,009,993,078		112,246,763,686	
(6) Other Current Assets	5,9	34,834,193,800		27,486,798,660	
II. Non-current Assets			200,623,210,181		138,201,735,246
(1) Long-term investment securities	4,6,11	4,519,926,900		4,505,523,400	
(2) Investment in Associates	10	2,883,127,099		3,084,739,356	
(3) Property, plant and equipment	12	90,926,060,415		51,283,388,870	
(4) Intangible Assets	13	37,281,515,085		27,977,816,591	
(5) Deferred Tax Assets	28	10,607,628,304		8,896,794,018	
(6) Long-term other receivables	4,7,11	34,720,010,921		31,133,210,934	
(7) Other Non-current Assets	9	19,684,941,457		11,320,262,077	
Total Assets			698,854,940,551		790,187,905,982
Liabilities					
I. Current Liabilities			77,613,228,251		264,574,651,081
(1) Trade payables	4,11,31	16,933,034,281		74,017,714,935	
(2) Other Payables	4,11,14,31	12,238,968,436		7,204,897,355	
(3) Income Tax Payables	28	6,921,985,368		5,039,603,149	
(4) Other Provisions	18	16,065,581,995		16,597,890,167	
(5) Current portion of bonds	4,11,15	-		98,896,648,477	
(6) Current portion of lease liabilities	4,11,16	2,871,983,927		1,391,738,216	
(7) Other Current Liabilities	14,23	22,581,674,244		61,426,158,782	
II. Non-current Liabilities			103,053,454,812		13,069,089,036
(1) Bonds	4,11,15	74,752,054,534		-	
(2) Lease Liabilities	4,11,16	7,063,693,292		930,013,162	
(3) Net defined benefit liabilities	17	174,091,908		1,604,586,226	
(4) Provisions for product warranties	18	19,250,144,885		9,321,702,151	
(5) Long-term other liabilities	4,11,14	552,506,017		114,262,335	
(6) Other Non-current Liabilities	14	1,260,964,176		1,098,525,162	

Accounting Title	Notes	December 31, 2021		December 31, 2020	
Total Liabilities			180,666,683,063		277,643,740,117
Capital					
I. Capital Stock	19		8,184,422,600		8,184,422,600
II. Capital Surplus	19		477,564,223,429		479,427,794,629
III. Other components of equity	20		(28,074,580)		(28,074,580)
IV. Accumulated other comprehensive income	21		640,537,938		466,408,684
V. Retained Earnings	22		31,827,148,101		24,493,614,532
Total Equity			518,188,257,488		512,544,165,865
Total Liabilities and Equity			698,854,940,551		790,187,905,982

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

Statement of Comprehensive Income

The 3rd Term (Current year) from January 1, 2021, to December 31, 2021

The 2nd Term (Prior year) from January 1, 2020, to December 31, 2020

Doosan Fuel Cell Co., Ltd. (Unit: Korean Won)

Accounting Title	Notes	2021		2020	
I. Sales	23,31		381,412,347,810		461,838,982,032
II. Cost of Sales	25,31		333,210,773,176		411,215,732,695
III. Gross Profit			48,201,574,634		50,623,249,337
IV. Selling and Administrative Expenses	24,25		30,211,393,003		24,589,307,142
V. Operating Income			17,990,181,631		26,033,942,195
VI. Financial Income/Costs			(64,080,889)		(5,584,252,907)
A. Financial Income	27	17,031,686,077		16,498,701,774	
B. Financial Costs	27	17,095,766,966		22,082,954,681	
VII. Other Income/Expenses			905,043,073		(3,803,641,713)
A. Other Income	26,31	4,789,116,036		1,102,866,059	
B. Other Expenses	26,31	3,884,072,963		4,906,507,772	
VIII. Share of profit (loss) of associates	10		(201,612,257)		1,620,560,224
IX. Profit before income tax expenses			18,629,531,558		18,266,607,799
X. Income Tax Expenses	28		9,934,369,377		4,076,319,609
XI. Profit for the year			8,695,162,181		14,190,288,190
XII. Other Comprehensive Loss			(1,187,499,358)		(301,192,541)
Items that will not be reclassified subsequently to profit or loss					
A. Remeasurements of Defined Benefit Plans		(1,361,628,612)		(301,192,541)	
B. Revaluation Surplus		174,129,254		-	
XIII. Total Comprehensive Income			7,507,662,823		13,889,095,649
XIV. Earnings Per Share:	29				
Basic earnings per ordinary share			106		203
Basic earnings per old type preferred share			106		174

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

Statement of Changes in Equity

The 3rd Term (Current year) from January 1, 2021, to December 31, 2021

The 2nd Term (Prior year) from January 1, 2020, to December 31, 2020

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, 2020	7,184,422,600	148,541,268,989	(26,066,475)	466,408,684	10,604,518,883	166,770,552,681
Total Comprehensive Income:						
Profit for the year	-	-	-	-	14,190,288,190	14,190,288,190
Remeasurements of Defined Benefit Plans	-	-	-	-	(301,192,541)	(301,192,541)
Transactions with owners directly reflected in equity and others:						
Capital increase	1,000,000,000	330,884,517,535	-	-	-	331,884,517,535
Share options extinguished	-	2,008,105	(2,008,105)	-	-	-
December 31, 2020	8,184,422,600	479,427,794,629	(28,074,580)	466,408,684	24,493,614,532	512,544,165,865
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 capital, etc.:						
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

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

Statement of Cash Flows

The 3rd Term (Current year) from January 1, 2021, to December 31, 2021

The 2nd Term (Prior year) from January 1, 2020, to December 31, 2020

Doosan Fuel Cell Co., Ltd. (Unit: Korean Won)

Accounting Title	Notes	2021		2020	
I. Cash flows provided by (used in) operating activities			(140,056,687,402)		(76,031,949,379)
1. Cash generated from operating activities	32	(125,697,186,497)		(64,246,146,599)	
(1) Profit for the year		8,695,162,181		14,190,288,190	
(2) Adjustments		53,544,474,447		54,209,980,369	
(3) Change in operating assets and liabilities		(187,936,823,125)		(132,646,415,158)	
2. Interest received		192,926,090		2,523,773,062	
3. Interest Paid		(5,763,694,040)		(4,825,729,882)	
4. Income Tax Paid		(8,788,732,955)		(9,483,845,960)	
II. Net Cash Flows from Investing Activities			42,087,084,492		(255,469,392,988)
1. Cash Inflows from Investing Activities		82,559,446,999		79,647,878,055	
(1) Government grants received		495,415,745		92,144,460	
(2) Proceeds from disposal of short-term financial instruments		-		60,000,000,000	
(3) Proceeds from disposal of short-term investment securities		81,982,703,251		19,449,193,837	
(4) Decrease in loans		80,265,252		106,135,750	
(5) Proceeds from disposal of property, plant and equipment		1,062,751		404,008	
2. Cash Outflows from Investing Activities		(40,472,362,507)		(335,117,271,043)	
(1) Acquisition of Short-term Financial Instruments		-		40,000,000,000	
(2) Acquisition of Short-term Investment Securities		-		279,449,193,837	
(3) Acquisition of Long-term Investment Securities		-		2,000,000,000	
(4) Acquisition of property, plant and equipment		34,930,233,428		12,808,318,186	
(5) Acquisition of Intangible Assets		5,331,008,266		799,759,020	
(6) Increase in Long-term Loans		211,120,813		60,000,000	
III. Net Cash Flows from Financing Activities			(28,341,869,428)		330,557,347,560
1. Cash Inflows from Financing Activities		84,709,470,000		331,884,517,535	
(1) Proceeds from short-term borrowings		10,000,000,000		-	
(2) Issuance of Corporate Bond		74,709,470,000		-	
(3) Capital Increase		-		331,884,517,535	
2. Cash Outflows from Financing Activities		(113,051,339,428)		(1,327,169,975)	
(1) Repayment of Short-term Borrowings		10,000,000,000		-	

Accounting Title	Notes	2021		2020	
(2) Repayment of Lease Liabilities		1,592,802,225		1,327,169,975	
(3) Redemption of Corporate Bond		99,000,000,000		-	
(4) Payment from Other transaction with shareholder		2,458,537,203		-	
IV. Effect of exchange rate changes on cash and cash equivalents			(40,826,214)		-
V. Net increase (decrease) in cash and cash equivalents			(126,352,298,552)		(943,994,807)
VI. Cash and cash equivalents as of the beginning of the year			132,365,584,385		133,309,579,192
VII. Cash and cash equivalents as of the end of the year			6,013,285,833		132,365,584,385

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

Notes to the Financial Statements

The 3rd Term (Current year) from January 1, 2021, to December 31, 2021
The 2nd Term (Prior year) from January 1, 2020, to December 31, 2020

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, 2021, and 2020 subsequent to a capital increase and changes in ownership percentages between related parties, are as follows:

Name of Shareholders	December 31, 2021		December 31, 2020	
	No. of Ordinary Shares Held	Percentage of Ownership	No. of Ordinary Shares Held	Percentage of Ownership
Doosan Heavy Industries & Construction Co., Ltd.	22,780,229	34.78%	12,763,557	19.49%
Doosan Corporation (*1)	-	-	10,016,672	15.29%
Largest shareholder's specially related person	2,405,284	3.67%	7,732,554	11.81%
Employee stock ownership association	488,580	0.75%	529,064	0.81%
Treasury stock	3,915	0.01%	3,915	0.01%
Others	39,815,718	60.79%	34,447,964	52.59%
Total	65,493,726	100.00%	65,493,726	100.00%

(*1) During the current year, Doosan Corporation invested all its ordinary shares and preferred shares in-kind in Doosan heavy industries & construction corporation.

With regard to preferred shares, Doosan Heavy Industries & Construction Co., Ltd. and the related parties of the largest shareholder hold 12.4% and 22.0% of the total, respectively, and the remaining 65.6% 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 Significant Accounting Policies

(1) New and amended standards adopted and applied by the Company since January 01, 2021.

- Interest Rate Benchmark Reform – Phase 2: Amendments to KIFRS 1109, KIFRS 1039, KIFRS 1107, KIFRS 1104 and KIFRS 1116

The amendments provide temporary reliefs for responding the case where the replacement of interbank offered rates (IBORs) with alternative, nearly risk-free interest rates (RFRs) make the impact on the financial reporting. The amendments include the following practical expedients:

- A practical expedient to require contractual changes, or changes to cash flows that are directly required by the reform, to be treated as changes to a floating interest rate, equivalent to a movement in a market rate of interest.
- Permit changes required by the IBOR Reform to be made to hedge designations and hedge documentation without discontinuing hedge relationship.
- Provide temporary relief to entities from having to meet the separately identifiable requirement when an RFR instrument is designated as a hedge of a risk component.

These amendments had no impact on the financial statements.

- Amendments to KIFRS 1116 Covid-19 Related Rent Concessions beyond 30 June 2021

On 28 May 2020, the IASB issued Covid-19-Related Rent Concessions - amendment to KIFRS 1116 Leases.
The amendments provide relief to lessees from applying KIFRS 1116 guidance on lease modification accounting for rent concessions arising as a direct consequence of the Covid-19 pandemic. As a practical expedient, a lessee may elect not to assess whether a Covid-19 related rent concession from a lessor is a lease modification. A lessee that makes this election accounts for any change in lease payments resulting from the Covid-19 related rent concession the same way it would account for the change under KIFRS 1116 if the change were not a lease modification.

The amendment was intended to apply until June 30, 2021, but as the impact of the COVID-19 pandemic is continuing, on March 31, 2021, the IASB extended the period of application of the practical expedient to June 30, 2022. The amendment applies to annual reporting periods beginning on or after April 1, 2021. As the Company has not received COVID-19-related rent concessions, these amendments had no impact on the financial statements.

(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 IFRS 17 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 Significant Accounting Policies (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.

- K-IFRS 1103 'Business Combinations' (Amended): Reference to the Conceptual Framework

The amendments are intended to replace a reference to the Framework for the Preparation and Presentation of Financial Statements, issued in 1989, with a reference to the Conceptual Framework for Financial Reporting issued in March 2018 without significantly changing its requirements.

The Board also added an exception to the recognition principle of KIFRS 1103 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 or KIFRS 2121 Levies, if incurred separately. At the same time, the Board decided to clarify existing guidance in KIFRS 1103 for contingent assets that would not be affected by replacing the reference to the Framework for the Preparation and Presentation of Financial Statements. The amendments are effective for annual reporting periods beginning on or after January 1, 2022 and apply prospectively.

- K-IFRS 1016 'Property, Plant and Equipment' (Amended): Property, Plant and Equipment: Proceeds before Intended Use

The amendment prohibits entities deducting from the cost of an item of property, plant and equipment, any proceeds from selling 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.

The amendment is effective for annual reporting periods beginning on or after January 1, 2022, and must be applied retrospectively to items of property, plant and equipment made available for use on or after the beginning of the earliest period presented when the entity first applies the amendment. The amendments are not expected to have a material impact on the company.

2.2 Significant Accounting Policies (Cont'd)

- K-IFRS 1037 'Provisions, Contingent Liabilities and Contingent Assets' (Amended): Onerous Contracts – Costs of Fulfilling a Contract

The amendments specify which costs an entity needs to include when assessing whether a contract is onerous or loss-making. The amendments apply a "directly related cost approach". The costs that relate directly to a contract to provide goods or services include both incremental costs and an allocation of costs directly related to contract activities. 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. The amendments are effective for annual reporting periods beginning on or after January 1, 2022. The Company will apply these amendments to contracts for which it has not yet fulfilled all its obligations at the beginning of the annual reporting period in which it first applies the amendments.

- KIFRS 1008 'Accounting policies, changes in accounting estimates and errors' (Amended) – Definition of Accounting Estimates

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.

- KIFRS 1001 'Presentation of Financial Statements' (Amended) – Disclosure of Accounting Policies

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. Since the amendments to the Practice Statement 2 provide non-mandatory guidance on the application of the definition of material to accounting policy information, an effective date for these amendments is not necessary.
The amendments are not expected to have a material impact on the Company.

2.2 Significant Accounting Policies (Cont'd)

- KIFRS 1012 'Income Taxes (Amended) – Narrowing the scope of the initial recognition exception of deferred income taxes

The amendments narrowed the scope of the initial recognition exemption so that it no longer applies to transactions that, on initial recognition, give rise to equal taxable and deductible temporary difference, thus, to resolve accounting diversity in the recognizing of deferred tax assets and liabilities. Paragraphs 15 and 24 (initial recognition exemption of deferred income taxes) of KIFRS 1012 were amended to include an additional condition (3) where a deferred tax asset and liability shall be recognized for a temporary difference that arises on initial recognition of an asset or liability in a single transaction if that transaction give rise to equal amounts of taxable and deductible temporary differences. The amendments are effective for annual reporting periods beginning on or after January 1, 2023. with earlier adoption permitted.

The amendments are not expected to have a material impact on the Company.

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- 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 by the parent, based on the parent's date of transition to KIFRS. This amendment is also applied to an associate or joint venture that elects to apply paragraph D16(1) of KIFRS 1101. The amendment is effective for annual reporting periods beginning on or after January 1, 2022, with earlier adoption permitted.

- KIFRS 1109 'Financial Instruments' – Fees in the '10 per cent' 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. An entity 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 amendment is effective for annual reporting periods beginning on or after January 1, 2022, with earlier adoption permitted. The Company will apply the amendments 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 amendments are not expected to have a material impact on the Company.

- K-IFRS 1041 'Agriculture' – Taxation in fair value measurements

The amendments remove 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. An entity applies the amendment prospectively to fair value measurements on or after the beginning of the first annual reporting period beginning on or after January 1, 2022, with earlier adoption permitted.

The amendments are not expected to have a material impact on the Company.

2.2 Significant Accounting Policies (Cont'd)

(3) 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 are 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.

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.

2.2 Significant Accounting Policies (Cont'd)

(4) Foreign Currency Translation

The Company measures items included in its financial statements using the currency of the primary economic environment 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.

(5) 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.

(6) Non-derivative financial assets

1) Recognition and initial measurement
Trade receivables and debt securities are initially recognized on the date of issuance. All other financial instruments and financial liabilities are recognized only when the Company becomes a party to the contract of a financial instrument.

With the exception of trade receivables that do not contain a significant financing component, the Company initially measures a financial asset or financial liability at its fair value. Except for financial assets measured at fair value through profit or loss or financial liabilities measured at fair value through profit or loss, the transaction cost directly attributable to acquisition of the financial asset or issue of the financial liability is deducted from the fair value. Trade receivables that do not contain a significant financing component are measured at the transaction price determined at the first time.

2.2 Significant Accounting Policies (Cont'd)

2) Classification and subsequent measurement

On initial recognition, a financial asset is classified as measured at amortized cost, debt instruments measured at fair value through other comprehensive income, equity instruments measured at fair value through other comprehensive income or financial assets measured at fair value through profit or loss.

Financial assets are not reclassified subsequently to their initial recognition unless the Company changes its business model for managing financial assets, in which case all affected financial assets are reclassified on the first day of the reporting period following the change in the business model.

A financial asset is measured at amortized cost if it meets both of the following conditions and is not designated as at fair value through profit or loss.

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

A debt instrument is measured at fair value through other comprehensive income if it meets both of the following conditions and is not measured at fair value through profit or loss.

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

On initial recognition of an equity instrument that is not held for trading, the Company can elect to recognize subsequent changes in fair value of the investment assets in other comprehensive income. However, this election is irrevocable and is made by investment-by-investment basis.

All financial assets that are not classified as measured at amortized cost or fair value through other comprehensive income as described above are measured at fair value through profit or loss. This includes all derivative financial assets. On initial recognition, the Company may designate a financial asset that otherwise meets the requirements to be measured at amortized cost or fair value through other comprehensive income as measured at fair value through profit or loss, if doing so eliminates or significantly reduces an accounting mismatch that would otherwise arise; provided that this election is irrevocable.

2.2 Significant Accounting Policies (Cont'd)

The Company assesses the purpose of the business model in which financial assets are held at a portfolio level because this best reflects the way the business is managed, and information is provided to management. Such information includes the followings:

- The stated accounting policies and purposes of the portfolio, and the operation of those policies in practice, which include gaining of contractual interest income, maintaining of a certain level of interest income, matching the duration of liabilities that procures financial assets with the financial asset's duration, outflow of expected cash flows from asset disposition, and management's strategies focused on realization;
- How the performance of the business model and the financial assets held within that business model are evaluated and reported to the entity's key management personnel;
- The risks that affect the performance of the business model (and the financial assets held within that business model) and, in particular, the way in which those risks are managed;
- How management are compensated (e.g. whether the compensation is based on the fair value of the assets managed or on the contractual cash flows collected); and
- The frequency, volume and timing of sales of financial assets in prior periods, the reason for those sales and expectation about future sales activity for financial asset.

Transfers of financial assets to third parties in transactions that do not qualify for derecognition are not considered sales for this purpose.

The financial asset portfolio that qualifies the definition of held for trading or of which performance is evaluated at fair value is measured at fair value through profit or loss.

For the purposes of this assessment, the principal amount is measured at fair value of the financial assets at initial recognition. Interest is defined as consideration for the time value of money and for the credit risk associated with the principal amount outstanding during a particular period of time and for other basic lending risks and costs (e.g., liquidity risk and administrative costs), as well as a profit margin.

In assessing whether the contractual cash flows are solely payments of principal and interest, the Company considers the contractual terms of the instrument. This includes assessing whether the financial asset contains a contractual term that could change the timing or amount of contractual cash flows such that it would not meet this condition.

2.2 Significant Accounting Policies (Cont'd)

In making this assessment, the Company considers:

- Contingent events that would change the amount or timing of cash flows;
- Terms that may adjust the contractual coupon rate, including variable-rate features;
- Prepayment and extension features; and
- Terms that limit the Company's claim to cash flows from specified assets (e.g., non-recourse features).

A prepayment feature is consistent with the solely payments of principal and interest criteria if the prepayment amount substantially represents unpaid amounts of principal and interest on the principal amount outstanding, which may include reasonable additional compensation for early termination of the contract.

Additionally, for a financial asset acquired at a discount or premium to its contractual par amount, a feature that permits or requires prepayment at an amount that substantially represents the contractual par amount plus accrued (but unpaid) contractual interest (which may also include reasonable additional compensation for early termination) is treated as consistent with this criterion if the fair value of the prepayment feature is insignificant at initial recognition.

The following accounting policies apply to subsequent measurements of financial assets.

Classification	Subsequent measurements
Financial assets measured at fair value through profit or loss	These assets are subsequently measured at fair value. Net gains and losses, including any interest or dividend income, are recognized in profit or loss.
Financial assets measured at amortized cost	These assets are subsequently measured at amortized cost using the effective interest method. The amortized cost is reduced by impairment losses. Interest income, foreign exchange gains and losses and impairment are recognized in profit or loss. Any gain or loss on derecognition is recognized in profit or loss.
Debt instruments at fair value through other comprehensive income	These assets are subsequently measured at fair value. Interest income is calculated using the effective interest method. Foreign exchange gains and losses and impairment are recognized in profit or loss. Other net gains and losses are recognized in other comprehensive income.
Equity instruments measured at fair value through other comprehensive income	These assets are subsequently measured at fair value. Dividends are recognized as income in profit or loss unless the dividend clearly represents a recovery of part of the cost of the investment. Other net gains and losses are recognized in other comprehensive income and are never reclassified to profit or loss.

2.2 Significant Accounting Policies (Cont'd)

3) De-recognition

The Company derecognizes a financial asset when the contractual rights to the cash flows from the asset expire, or it transfers the rights to receive the contractual cash flows in a transaction in which substantially all the risks and rewards of ownership of the financial asset are transferred or in which the Company neither transfers nor retains substantially all of the risks and rewards of ownership and it does not retain control of the financial asset.

The Company enters into transactions whereby it transfers assets recognized in its statement of financial position. but retain either all or substantially all of the risks and rewards of the transferred assets. In these cases, the transferred assets are not derecognized.

4) Offsetting

Financial assets and financial liabilities are offset, and the net amount is presented in the statement of financial position only when the Company currently has a legally enforceable right to offset the recognized amounts, and there is the intention to settle on a net basis or to realize the asset and settle the liability simultaneously.

5) Impairment of financial instruments

(a) Recognition of impairment loss on financial assets

The Company recognizes loss allowance for expected credit losses (ECL) on:

- Financial assets measured at amortized cost;
- Debt instruments measured at fair value through other comprehensive income; and
- Contract assets as defined in KIFRS 1115

The Company recognizes loss allowances of financial assets based on their lifetime ECLs except for the following financial assets which loss allowances are recognized based on 12-month ECLs.

- Debt securities that are determined to have low credit risk at the end of reporting period
- Other debt securities and bank deposits which credit risk has not increased significantly since the initial
- recognition (i.e., the default risk over the expected life of a financial asset).

2.2 Significant Accounting Policies (Cont'd)

The Company recognizes loss allowances at an amount equal to the lifetime expected credit losses for trade receivables and contract assets.

In assessing whether the credit risk on a financial instrument has increased significantly since initial recognition and estimating expected credit loss, the Company considers both quantitative and qualitative information that is reasonable and supportable, including historical experience and forward-looking information that is available without undue cost or effort.

The lifetime expected credit loss is that resulted from all possible default events over the expected life of a financial instrument.

12-month ECLs is that resulted from possible default events within the 12 months (or a shorter period if the expected life of the instrument is less than 12 months) after the reporting date.

The longest period to consider when measuring expected credit losses is the longest term for which the Company is exposed to credit risk.

(b) Measurement of expected credit loss
ECLs are the probability-weighted estimate of credit losses. Credit losses are measured as the present value of all cash shortfalls (i.e., the difference between the contractual cash flows to be paid according to the contract and the contractual cash flows that the Company expects to receive). ECLs are discounted at the effective interest rate of financial instrument.

(c) Credit-impaired financial instrument
A debt instrument carried at amortized cost and fair value through other comprehensive income (FVOCI) is assessed as of the end of each reporting period to determine whether there is objective evidence that it is impaired. A financial asset is impaired if objective evidence indicates that one or more loss events had a negative effect on the estimated future cash flows of that asset.

Objective evidence that a financial asset is impaired includes:

- Significant financial difficulty of the issuer or borrower;
- A breach of contract, such as default in payments;
- The lender, for economic or legal reasons relating to the borrower's financial difficulty, granting to the borrower a concession that the lender would not otherwise consider;
- It is highly probable that a borrower goes into bankruptcy or other financial restructuring process; or
- A disappearance of an active market for a financial asset due to financial difficulties

2.2 Significant Accounting Policies (Cont'd)

(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.

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.

2.2 Significant Accounting Policies (Cont'd)

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.

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 is 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.

2.2 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.

2.2 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) Non-derivative financial liabilities

The Company classifies non-derivative financial liabilities into financial liabilities measured at fair value through profit or loss or financial liabilities measured at amortized cost according to the substance of the contractual arrangement and the definitions of financial liabilities. The Company recognizes financial liabilities in the statement of financial position when the Company becomes a party to the contractual provisions of the financial liability.

2.2 Significant Accounting Policies (Cont'd)

1) Financial liabilities at fair value through profit or loss

A financial liability is classified as measured at fair value through profit or loss if it is classified as held-for-trading or is a derivative instrument or is designated as measured at fair value through profit or loss at initial recognition. Subsequent to initial recognition, financial liabilities at fair value through profit or loss are measured at fair value, and changes therein are recognized in profit or loss. Upon initial recognition, transaction costs that are directly attributable to the acquisition are recognized in profit or loss as incurred.

2) Financial liabilities measured at amortized cost

Non-derivative financial liabilities other than financial liabilities measured at fair value through profit or loss are classified as financial liabilities measured at amortized cost. At initial recognition, financial liabilities measured at amortized costs are measured at fair value, net of transaction costs that are directly attributable to the issuance. Financial liabilities at amortized cost are subsequently measured using the effective interest rate method. The Company recognizes interest expenses by applying the effective interest rate method.

3) De-recognition of financial liabilities

The Company derecognizes a financial liability when its contractual obligations are discharged or cancelled or expired. The Company also derecognizes a financial liability when contractual terms are modified which give rise to significantly different cash flows. In such case, the Company recognizes the fair value of a new financial liability based on the modified terms.

On derecognition of a financial liability, the difference between the carrying amount and the consideration paid (including any non-cash assets transferred or liabilities assumed) are recognized in profit or loss.

(14) 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.

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.

(15) 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.

(16) Paid-in capital

Ordinary shares are classified as equity. Incremental costs directly attributable to the issuance of ordinary shares is recognized as a deduction from equity, net of any tax effects. When preferred shares may not be redeemed or are redeemed at its discretion and payment of dividends is determined by the Company, they are classified as equity. If dividend is approved at the meeting of shareholders of the Company, the dividend is recognized.

If the Company repurchases its own equity instrument, the equity instrument is directly deducted from equity as an item of treasury shares. The profits or losses from the purchase, disposal, issue or retirement of its own equity instruments are not recognized as current profit or loss.

2.2 Significant Accounting Policies (Cont'd)

(17) 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.

(18) 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.

2.2 Significant Accounting Policies (Cont'd)

(19) 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-ofuse 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 12).

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.

2.2 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 are 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.

(20) Income Taxes 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.

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. It also includes additional income tax payables or refundable attributable to income tax expenses incurred in previous years that are recognized in the current year. The Company calculates on the basis of the tax laws enacted or substantively enacted as of 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.

2.2 Significant Accounting Policies (Cont'd)

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.

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.

(21) 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.

(22) Approval date on issuance of the financial statements

The financial statements of the Company for the year ended December 31, 2021, were approved by the Board of Directors on February 8, 2022, and will be submitted at the annual shareholders' meeting to be held on March 29, 2022.

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 (Refer to Note 4).

3.1 Accounting Judgment

In the process of applying the accounting policies, management's judgments that had the most significant effect on the amounts recognized in the financial statements are as follows:

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

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

The fair value of a financial instrument that has no active market is determined using a broad range of valuation techniques including a discounted cash flow approach. If observable market information is hardly used for input factors into such valuation techniques, considerable estimates are required to measure the fair value. This judgment includes consideration of the input variables for liquidity risk, credit risk and variability. A change in these factors may impact the fair value of a financial instrument.

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 carrying amounts of monetary assets and liabilities denominated in foreign currencies instead of functional currencies as of December 31, 2021, and 2020 are as follows:

(Unit: KRW)

Classification	USD	
	December 31, 2021	December 31, 2020
Financial assets in foreign currencies	71,390,798,424	76,159,234,078
Financial liabilities in foreign currencies	7,497,732,388	23,523,714,411
On balance	63,893,066,036	52,635,519,667

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, 2021, and 2020, is as follows:

(Unit: KRW)

Classification	2021		2020	
	If increased by 10%	If decreased by 10%	If increased by 10%	If decreased by 10%
Income or loss before income taxes	6,389,306,603	(6,389,306,603)	5,263,551,966	(5,263,551,966)

The sensitivity analysis above is aimed at the monetary assets and liabilities denominated in foreign currencies other than the functional currency as of the December 31, 2021.

4. Financial Risk Management (cont'd)

2) Interest rate risk

The Company has no floating-rate financial liabilities exposed to interest rate risk as of December 31, 2021, and 2020 and financial assets are as follows:

(Unit: KRW)

Classification	December 31, 2021	December 31, 2020
Financial assets	2,319,359,246	32,353,009,936

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 year ended December 31, 2021, and 2020.

(Unit: KRW)

Classification	2021		2020	
	If increased by 100bp	If decreased by 100bp	If increased by 100bp	If decreased by 100bp
Net income or loss before income taxes	23,193,592	(23,193,592)	323,530,099	(323,530,099)

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, 2021, and 2020 are as follows and the carrying amount indicates the maximum exposure to credit risk.

(Unit: KRW)

Classification	December 31, 2021	December 31, 2020
Cash and cash equivalents	6,013,285,833	132,365,584,385
Short and Long-Term Investment Securities:		
Financial assets measured at fair value through profit or loss	185,536,366,469	264,908,689,686
Trade receivables and other receivables	102,077,829,011	150,617,068,653
Total	293,627,481,313	547,891,342,724

Apart from the above-mentioned financial assets, the guarantee limit (refer to Note 30) 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, 2021, and 2020 are as follows:

1) December 31, 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

2) December 31, 2020

(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	44,849,532,087	3,451,713,124	13,661,091,814	10,472,515,494	61,952,176	72,496,804,695
Non-trade receivables	18,258,457,792	7,696,312,351	5,125,803,367	15,600,019,971	32,423,916,300	79,104,509,781
Accrued income	24,953,555	-	-	-	-	24,953,555
Long-term loans	379,138,874	-	-	-	-	379,138,874
Deposits	1,094,662,000	-	-	-	-	1,094,662,000
Total	64,606,744,308	11,148,025,475	18,786,895,181	26,072,535,465	32,485,868,476	153,100,068,905

(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, 2021 and 2020 is as follows:

1) December 31, 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

2) December 31, 2020

(Unit: KRW)

Classification	Carrying amount	Total cash flows	Less than 1 year	1 to 5 years	More than 5 years
Current liabilities:					
- Trade payables	74,017,714,935	74,017,714,935	74,017,714,935	-	-
- Other payables	7,204,897,355	7,204,897,355	7,204,897,355	-	-
- Current bonds	98,896,648,477	102,750,243,750	102,750,243,750	-	-
- Current lease liabilities	1,391,738,216	1,428,209,196	1,428,209,196	-	-
Subtotal	181,510,998,983	185,401,065,236	185,401,065,236	-	-
Non-current liabilities:					
- Lease liabilities	930,013,162	1,092,281,127	-	930,281,127	162,000,000
- Long-term other payables	114,262,335	114,262,335	-	114,262,335	-
Subtotal	1,044,275,497	1,206,543,462	-	1,044,543,462	162,000,000
Total	182,555,274,480	186,607,608,698	185,401,065,236	1,044,543,462	162,000,000

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 the December 31, 2020, 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 30.

(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, 2021, and 2020 are as follows:

(Unit: KRW)

Classification	December 31, 2021	December 31, 2020
Total liabilities	180,666,683,063	277,643,740,117
Total equity	518,188,257,488	512,544,165,865
Bank deposits	6,013,285,833	132,365,584,385
Bonds (*1)	74,752,054,534	98,896,648,477
Debt-to-equity ratio	34.9%	54.2%
Net borrowing rate (*2)	13.3%	(6.5%)

(*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 and short-term financial instruments as of December 31, 2021, and 2020 are as follows:

(Unit: KRW)

Classification	December 31, 2021	December 31, 2020
Cash and cash equivalents		
- MMDA	2,319,359,246	32,353,009,936
- Bank deposits and others	3,693,926,587	100,012,574,449
Total	6,013,285,833	132,365,584,385

(2) Financial instruments with restricted use as of December 31, 2021, and 2020 are as follows:

(Unit: KRW)

Classification	December 31, 2021	December 31, 2020	Content of Restricted Use
Cash and cash equivalents	24,361	12,574,449	Social contribution funds
Other quick assets	2,443,436,866	1,195,725,310	Corporate contributions related to national assignments
Total	2,443,461,227	1,208,299,759	

6. Short and long-term investment securities

Short and Long-term investment securities as of December 31, 2021, and 2020 are as follows:

(Unit: KRW)

Classification	December 31, 2021		December 31, 2020	
	Acquisition cost	Carrying amount	Acquisition cost	Carrying amount
Current assets:				
<Financial assets measured at fair value through profit or loss>				
MMW (Money Market WRAP)	157,517,226,790	156,281,189,569	260,000,000,000	260,403,166,286
Other Investment Securities	25,000,000,000	24,735,250,000	-	-
Subtotal	182,517,226,790	181,016,439,569	260,000,000,000	260,403,166,286
Non-current:				
<Financial assets measured at fair value through profit or loss>				
Other Equity Investments	4,500,000,000	4,519,926,900	4,500,000,000	4,505,523,400
Total	187,017,226,790	185,536,366,469	264,500,000,000	264,908,689,686

7. Trade Receivables and Other Receivables

(1) Trade receivables and other receivables as of December 31, 2021, and 2020 are as follows:

(Unit: KRW)

Classification	December 31, 2021				December 31, 2020			
	Credit Amount	Present Value Discount	Loss allowance	Book Value	Credit Amount	Present Value Discount	Loss allowance	Book Value
Current:								
Trade receivables	31,081,762,610	-	(1,895,850,257)	29,185,912,353	72,496,804,695	-	(382,600,000)	72,114,204,695
Non-trade receivables	38,074,577,170	-	-	38,074,577,170	47,253,046,703	-	-	47,253,046,703
Short-term loans	96,398,062	-	-	96,398,062	91,652,766	-	-	91,652,766
Accrued income	930,505	-	-	930,505	24,953,555	-	-	24,953,555
Subtotal	69,253,668,347	-	(1,895,850,257)	67,357,818,090	119,866,457,719	-	(382,600,000)	119,483,857,719
Non-current:								
Long-term non-trade receivables	34,705,799,154	(1,551,603,144)	(1,142,026,052)	32,012,169,958	31,851,463,078	(342,372,888)	(1,758,027,364)	29,751,062,826
Long-term loans	413,596,373	-	-	413,596,373	287,486,108	-	-	287,486,108
Deposits	2,294,244,590	-	-	2,294,244,590	1,094,662,000	-	-	1,094,662,000
Subtotal	37,413,640,117	(1,551,603,144)	(1,142,026,052)	34,720,010,921	33,233,611,186	(342,372,888)	(1,758,027,364)	31,133,210,934
Total	106,667,308,464	(1,551,603,144)	(3,037,876,309)	102,077,829,011	153,100,068,905	(342,372,888)	(2,140,627,364)	150,617,068,653

(2) Details of changes in allowance for bad debts for the year ended December 31, 2021, and 2020 are as follows:

1) 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

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

1) 2020

(Unit: KRW)

Classification	Beginning balance	Bad debt expenses	Other changes	Ending balance
Loss allowance for trade receivables	-	382,600,000	-	382,600,000
Loss allowance for long-term non-trade receivables	-	1,758,027,364	-	1,758,027,364
Total	-	2,140,627,364	-	2,140,627,364

8. Inventories

Details of inventories as of December 31, 2021, and 2020 are as follows:

(Unit: KRW)

Classification	December 31, 2021			December 31, 2020		
	Acquisition Cost	Allowance for Valuation Losses	Book Value	Acquisition Cost	Allowance for Valuation Losses	Book Value
Merchandise	71,417,164,350	(203,327,913)	71,213,836,437	19,635,047,230	(292,104,628)	19,342,942,602
Finished goods	15,534,662,452	-	15,534,662,452	14,112,956,134	-	14,112,956,134
Semi-finished goods	21,525,451,013	-	21,525,451,013	9,889,764,278	-	9,889,764,278
Raw materials	49,281,493,865	(1,745,226,102)	47,536,267,763	39,835,607,389	(1,775,894,684)	38,059,712,705
Others	3,454,068,933	(49,660,035)	3,404,408,898	1,970,659,391	(76,255,079)	1,894,404,312
Materials-in-transit	49,795,366,515	-	49,795,366,515	28,946,983,655	-	28,946,983,655
Total	211,008,207,128	(1,998,214,050)	209,009,993,078	114,391,018,077	(2,144,254,391)	112,246,763,686

Losses on valuation of inventories for year ended December 31, 2021, and 2020 is KRW (146,040,341) and KRW 1,218,073,488, respectively.

9. Other Assets

Details of other assets as of December 31, 2021, and 2020 are as follows:

(Unit: KRW)

Classification	December 31, 2021		December 31, 2020	
	Current	Non-current	Current	Current
Advance payments	28,192,311,123	-	19,163,684,099	-
Prepaid expenses	2,603,635,940	19,684,941,457	3,896,821,434	11,320,262,077
Value-added tax payments	1,594,809,871	-	3,230,567,817	-
Other quick assets	2,443,436,866	-	1,195,725,310	-
Total	34,834,193,800	19,684,941,457	27,486,798,660	11,320,262,077

10. Investments in associates

(1) Details of the Company's investments in associates as of December 31, 2021, and 2020 are as follows:

(Unit: KRW)

Name of an associate	Location	Equity ratio	Acquisition cost		Carrying amount	
			December 31, 2021	December 31, 2020	December 31, 2021	December 31, 2020
Daesan Green Energy Co., Ltd. (*)	Republic of Korea	10.00%	5,100,000,000	5,100,000,000	2,883,127,099	3,084,739,356

(*) 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 in view of the composition of 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 (Refer to Note 31).

(2) Details of changes in investments in associates for the year ended December 31, 2021, and 2020 are as follows:

1) 2021

(Unit: KRW)

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

2) 2020

(Unit: KRW)

Name of an associate	Beginning balance	Share of profit	Ending balance
Daesan Green Energy Co., Ltd.	1,464,179,132	1,620,560,224	3,084,739,356

10. Investments in associates (cont'd)

(3) Financial information of the associate is summarized for the year ended December 31, 2021, and 2020 are as follows:

1) 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)

2) 2020

(Unit: KRW)

Name of an associate	Assets	Liabilities	Revenue	Profit for the year
Daesan Green Energy Co., Ltd.	275,911,345,623	211,475,900,801	62,286,112,331	15,145,248,966

(4) Adjustments from the amount of investee's net assets to carrying amount of the investments in associates as of December 31, 2021, and 2020 are as follows:

1) December 31, 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

2) December 31, 2020

(Unit: KRW)

Name of an associate	Net asset	Equity ratio (%)	Share of net asset	Internal transaction, etc.	carrying amount
Daesan Green Energy Co., Ltd.	64,435,444,822	10.0	6,443,544,482	(3,358,805,126)	3,084,739,356

11. Financial instruments by category and others

(1) Details of the Company's financial instruments by category as of December 31, 2021, and 2020 are as follows:

1) December 31, 2021

(Unit: KRW)

Financial assets	Financial assets at amortized cost	Financial assets at fair value through profit or loss	Total
Cash and cash equivalents	6,013,285,833	-	6,013,285,833
Short-term investment securities	-	181,016,439,569	181,016,439,569
Trade receivables and other receivables	102,077,829,011	-	102,077,829,011
Long-term investment securities	-	4,519,926,900	4,519,926,900
Total	108,091,114,844	185,536,366,469	293,627,481,313

(Unit: KRW)

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

2) December 31, 2020

(Unit: KRW)

Financial assets	Financial assets at amortized cost	Financial assets at fair value through profit or loss	Total
Cash and cash equivalents	132,365,584,385	-	132,365,584,385
Short-term financial instruments	-	260,403,166,286	260,403,166,286
Trade receivables and other receivables	150,617,068,653	-	150,617,068,653
Long-term financial assets	-	4,505,523,400	4,505,523,400
Total	282,982,653,038	264,908,689,686	547,891,342,724

(Unit: KRW)

Financial liabilities	Financial liabilities at amortized cost
Trade payables and other payables	81,336,874,625
Current lease liabilities	98,896,648,477
Debentures	1,391,738,216
Lease liabilities	930,013,162
Total	182,555,274,480

11. 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, 2021, and 2020 are as follows:

1) December 31, 2021

(Unit: KRW)

Classification	Level 2	Level 2	Level 3	Total
Financial assets measured at fair value through profit or loss :				
Financial assets at fair value through profit or loss	-	185,536,366,469	-	185,536,366,469

2) December 31, 2020

(Unit: KRW)

Classification	Level 2	Level 2	Level 3	Total
Financial assets measured at fair value through profit or loss :				
Financial assets at fair value through profit or loss	-	264,908,689,686	-	264,908,689,686

The Company uses the following hierarchy for determining and disclosing the fair value of financial instruments as of December 31, 2021, and 2020:

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.

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

11. Financial instruments by category and others (cont'd)

Valuation techniques used to measure the fair value of financial instruments include:

- Quoted market price or dealer price of a similar instrument;
- The fair value of derivative instruments is measured by discounting the amount at present value using forward exchange rate as of the end of the reporting period; and
- Cash flow discount technique and other applied to the remaining financial instruments.

The carrying amount of financial instruments in the same scope with trade receivables and other receivables that are current assets is estimated at a reasonable approximate value.

(3) Profit or loss of financial instruments by category

Profit or loss of financial instruments recognized for the year ended December 31, 2021, and 2020 by category is as follows:

1) 2021

(Unit: KRW)

Classification	December 31, 2021					
	Interest income (expenses)	Dividends income	Gain (loss) on Valuation	Gain (loss) on Disposal	Impairment	
					Bad debt expenses	Other bad debt expenses
Financial assets:						
Financial assets at amortized cost	168,903,040	-	-	-	(1,513,250,257)	(1,142,026,052)
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)	-	-	-	-	-

11. Financial instruments by category and others (cont'd)

2) 2020

(Unit: KRW)

Classification	December 31, 2020				
	Interest income (expenses)	Dividends income	Gain (loss) on Valuation	Impairment	
				Bad debt expenses	Other bad debt expenses
Financial assets:					
Financial assets at amortized cost	2,248,124,995	-	-	(382,600,000)	(1,758,027,364)
Financial assets at fair value through profit or loss	272,090,956	5,523,400	403,166,286	-	-
Financial liabilities:					
Financial liabilities at amortized cost	(4,957,072,443)	-	-	-	-

Meanwhile, foreign exchange differences (gain or loss on foreign currency translations) from foreign currency transactions arise from financial assets at amortized cost and financial liabilities at amortized cost.

12. Property, plant, and equipment

The carrying amounts of property, plant, and equipment as of December 31, 2021, and 2020 are as follows:

1) December 31, 2021

(Unit: KRW)

Description	Acquisition cost	Cumulated depreciation	Cumulated loss on impairment	Government grans	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

12. Property, plant, and equipment (cont'd)

2) December 31, 2020

(Unit: KRW)

Description	Acquisition cost	Cumulated depreciation	Cumulated loss on impairment	Government grans	Revaluation Surplus	Carrying amount
Land	2,433,165,113	-	-	-	615,314,887	3,048,480,000
Buildings	9,972,968,497	(1,187,527,938)	-	-	-	8,785,440,559
Structures	5,228,691,674	(1,978,461,494)	-	-	-	3,250,230,180
Machinery	30,989,088,680	(10,685,506,312)	-	-	-	20,303,582,368
Delivery equip& vehicles	339,552,233	(276,381,651)	-	-	-	63,170,582
Tools & instrument	2,137,007,961	(979,732,870)	-	(23,360,148)	-	1,133,914,943
Furniture & fixture	1,949,915,578	(1,367,317,774)	-	(2,613,130)	-	579,984,674
Construction in progress	12,856,227,872	-	(1,014,800,000)	-	-	11,841,427,872
Right-of-use assets_buildings	3,610,642,875	(1,378,829,301)	-	-	-	2,231,813,574
Right-of-use assets_delivery equip & vehicles	336,199,262	(290,855,144)	-	-	-	45,344,118
Total	69,853,459,745	(18,144,612,484)	(1,014,800,000)	(25,973,278)	615,314,887	51,283,388,870

12. Property, plant, and equipment (cont'd)

(2) Changes in the carrying amounts of property, plant and equipment for the year ended December 31, 2021 and 2020 are as follows:

1) 2021

(Unit: KRW)

Description	Beginning of Year	Acquisition	Revaluation	Disposition	Depreciation (*1)	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 (*1)	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) The amount accured due to the termination of the lease contract is included.

12. Property, plant, and equipment (cont'd)

2) 2020

(Unit: KRW)

Description	Beginning of Year	Acquisition	Disposition	Depreciation	Others	End of Year
Land	3,048,480,000	-	-	-	-	3,048,480,000
Buildings	8,958,252,581	8,567,400	-	(271,379,422)	90,000,000	8,785,440,559
Structures	3,766,899,388	6,000,000	-	(522,669,208)	-	3,250,230,180
Machinery	23,135,890,851	250,270,000	-	(3,082,578,483)	-	20,303,582,368
Vehicles	131,081,018	-	-	(67,910,436)	-	63,170,582
Tools & instrument	665,846,982	681,454,850		(382,703,561)	192,676,820	1,157,275,091
Furniture & fixture	700,936,287	237,799,954	(404,008)	(355,734,429)	-	582,597,804
Construction in progress	-	11,931,427,872	-	-	(90,000,000)	11,841,427,872
Subtotal	40,407,387,107	13,115,520,076	(404,008)	(4,682,975,539)	192,676,820	49,032,204,456
(Deduction) Govern. grants	(2,123,203)	(27,489,785)	-	3,639,710	-	(25,973,278)
Total deductions	40,405,263,904	13,088,030,291	(404,008)	(4,679,335,829)	192,676,820	49,006,231,178
Right-of-use assets for buildings	2,197,143,573	1,252,345,405	-	(1,217,675,404)	-	2,231,813,574
Right-of-use assets for vehicles	125,832,753	132,484,956	-	(132,423,351)	(80,550,240)	45,344,118
Subtotal	2,322,976,326	1,384,830,361	-	(1,350,098,755)	(80,550,240)	2,277,157,692
Total	42,728,240,230	14,472,860,652	(404,008)	(6,029,434,584)	112,126,580	51,283,388,870

(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.

Other comprehensive income recognized in the statement of comprehensive income related to revaluation model, which the Company applies to measurement of the land is KRW 230 million for the year ended December 31, 2021.

In addition, if the land were stated at cost, the land would amount to KRW 2,882 million and KRW 2,433 million as of December 31, 2021, and 2020, respectively.

12. 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 year ended December 31, 2021 are as follows.

(Unit: KRW)

Classification	Amount
Borrowing costs capitalized	111,307,696
Capitalization interest rate	4.0%

13. Intangible Assets

(1) The carrying amount as of December 31, 2021, and 2020 is as follows:

1) December 31, 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

2) December 31, 2020

(Unit: KRW)

Description	Acquisition Cost	Cumulative Depreciation	Government Grants	Carrying Amount
Goodwill	24,231,548,166	-	-	24,231,548,166
Development expenses	4,228,508,849	(2,134,757,604)	-	2,093,751,245
Other intangible assets	2,751,638,082	(1,503,776,360)	(53,674,950)	1,194,186,772
Membership	458,330,408	-	-	458,330,408
Total	31,670,025,505	(3,638,533,964)	(53,674,950)	27,977,816,591

13. Intangible Assets (cont'd)

(2) Changes in carrying amounts for the year ended December 31, 2021, and 2020 are as follows:

1) 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

2) 2020

(Unit: KRW)

Description	Beginning of Year	Acquisition	Depreciation	End of Year
Goodwill	24,231,548,166	-	-	24,231,548,166
Development costs	2,939,453,009	-	(845,701,764)	2,093,751,245
Other intangible assets	1,000,563,975	700,999,020	(453,701,273)	1,247,861,722
Membership	458,330,408	-	-	458,330,408
Total	28,629,895,558	700,999,020	(1,299,403,037)	28,031,491,541
(Deduction) Government grants	(32,375,512)	(32,343,878)	11,044,440	(53,674,950)
Total deductions	28,597,520,046	668,655,142	(1,288,358,597)	27,977,816,591

(3) R&D expenditures for the years ended December 31, 2021, and 2020 are as follows:

(Unit: KRW)

Classification	2021	2020
Manufacturing costs	305,643,924	65,909
Selling and administrative expenses	5,118,679,453	3,922,796,678
Total	5,424,323,377	3,922,862,587

13. 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 capitalize development costs and recognize 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

(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 year ended December 31, 2021, and 2020.

(7) Impairment test on goodwill

1) Before impairment test, the carrying amount of goodwill was allocated to CGUs as of December 31, 2021, and 2020 as follows:

(Unit: KRW)

CGUs	December 31, 2021	December 31, 2020	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 the December 31, 2021, are as follows:

(Unit: KRW)

Classification	Valuation Technique	Level 3 Inputs	Inputs
Goodwill	Cash flow discount approach	Permanent growth rate	1.0%
		Weighted equity expenses	16.91%

13. Intangible Assets (cont'd)

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, 2021.

14. Other Payables and Other Liabilities

(1) Details of other payables as of December 31, 2021, and 2020 are as follows:

(Unit: KRW)

Classification	December 31, 2021		December 31, 2020	
	Current	Non-current	Current	Non-current
Non-trade payables	11,937,373,045	552,506,017	5,563,668,292	114,262,335
Accrued expenses	301,595,391	-	1,641,229,063	-
Total	12,238,968,436	552,506,017	7,204,897,355	114,262,335

(2) Details of other liabilities as of December 31, 2021, and 2020 are as follows:

(Unit: KRW)

Classification	December 31, 2021		December 31, 2020	
	Current	Non-current	Current	Non-current
Advances received (*)	13,884,386,272	-	53,193,967,065	-
Deposits received	1,485,828,044	-	2,055,393,060	-
Accrued expenses	6,784,406,818	1,260,964,176	6,144,487,860	1,098,525,162
Unearned revenues	427,053,110	-	32,310,797	-
Total	22,581,674,244	1,260,964,176	61,426,158,782	1,098,525,162

(*) Contract liabilities recognized according to provision of Merchandise and services as of December 31, 2021, and 2020 are KRW 13,884,386,272 and KRW 53,193,967,065, respectively.

15. Bonds

Details of bonds issued by the Company as of December 31, 2021, and 2020 are as follows:

(Unit: KRW)

Classification	Maturity	Interest Rate	December 31, 2021	December 31, 2020
1st non-guaranteed public bonds (*1)	Oct. 15, 2021	-	-	99,000,000,000
2nd non-guaranteed public bonds	Sep. 15, 2023	3.81%	75,000,000,000	-
(Deduction) Discount on bonds			(247,945,466)	(103,351,523)
Subtotal			74,752,054,534	98,896,648,477
(Deduction) Reclassification of current portion			-	(98,896,648,477)
Total deductions			74,752,054,534	-

(*1) The above-mentioned bonds are accounts payables that have been succeeded from Doosan Corporation, the existing Company after a spin-off due to the spin-off pursuant to Article 530-9 Paragraph 1 of the Commercial Code. The bond was repaid at maturity on October 15, 2021.

16. Lease Liabilities

(1) Changes in the carrying amounts of lease liabilities for the year ended December 31, 2021, and 2020 are as follows:

(Unit: KRW)

Classification	2021	2020
Beginning balance	2,321,751,378	2,345,856,870
New lease contracts	16,076,945,158	1,384,830,361
Interest expenses	421,467,694	88,579,882
Redemption	(2,014,269,919)	(1,415,749,857)
Others	(6,870,217,092)	(81,765,878)
Ending balance	9,935,677,219	2,321,751,378

(2) The total amount of minimum lease payments for each period to be paid in the future related to lease liabilities as of the December 31, 2021, present value and liquidity classification are as follows:

(Unit: KRW)

Classification	Lease Payment Amount
Lease liabilities not discounted	
- Within a year	2,970,602,784
- Over a year	8,471,440,382
Subtotal	11,442,043,166
Amount discounted at present value	(1,506,365,947)
Total after deductions	9,935,677,219
Lease Liabilities in the Statement of Financial Position:	
- Current lease liabilities	2,871,983,927
- Non-current lease liabilities	7,063,693,292

(3) The following are the amounts recognized in profit or loss related right-of-use and lease liabilities for the year ended December 31, 2021, and 2020 are as follows:

(Unit: KRW)

Classification	2021	2020
Depreciation expense of right-of-use assets	1,773,734,957	1,350,098,755
Interest expense on lease liabilities	421,467,694	88,579,882
Expense relating to short-term leases	574,696,982	510,559,540
Expense relating to leases of low-value assets	104,366,712	29,833,031

(4) During the year ended December 31, 2021, and 2020, the cash outflow from financing activities due to the repayment of lease liabilities is KRW 2,014 million, KRW 1,416 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 679 million, KRW 540 million respectively.

17. 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, 2021, and 2020 are as follows:

(Unit: KRW)

Classification	December 31, 2021	December 31, 2020
Present value of defined benefit obligations	15,577,818,722	11,719,068,729
Fair value of plan assets	(15,400,808,914)	(10,111,564,603)
Contribution to national pension plan	(2,917,900)	(2,917,900)
Net defined benefit liabilities	174,091,908	1,604,586,226

(2) The amount recognized relating to the defined benefit plan as retirement benefits for the year ended December 31, 2021, and 2020 is as follows:

(Unit: KRW)

Classification	2021	2020
Current service costs	2,133,538,557	1,738,141,150
Interest cost	273,924,383	188,259,967
Effect from curtailment and settlement	(235,344,284)	(143,488,211)
Total	2,172,118,656	1,782,912,906

17. Retirement Benefit Plan (cont'd)

(3) Changes in the present value of the defined benefit obligations for the year ended December 31, 2021, and 2020 are as follows:

(Unit: KRW)

Classification	2021	2020
Beginning balance	11,719,068,729	9,255,650,407
Transfer to related parties	586,536,152	506,436,517
Current service cost	2,133,538,557	1,738,141,150
Interest cost	273,924,383	188,259,967
Retirement benefit payments	(797,798,140)	(387,088,440)
Remeasurements related to defined benefit obligation:		
- Demographic assumption changes	118,264	72,224,041
- Financial assumption changes	90,840,432	(310,865,600)
- Other changes	1,571,590,345	656,310,687
Ending balance	15,577,818,722	11,719,068,729

(4) Changes in plan assets for the year ended December 31, 2021, and 2020 are as follows:

(Unit: KRW)

Classification	2021	2020
Beginning balance	10,111,564,603	7,123,662,010
Expected profits from plan assets	235,344,284	143,488,211
Transfer to related parties	445,131,117	269,028,209
Remeasurements related to plan assets	(133,794,773)	20,317,491
Contributions	5,300,000,000	2,850,000,000
Retirement benefit payments	(534,740,761)	(274,347,253)
Management cost deducted from plan assets	(22,695,556)	(20,584,065)
Ending balance	15,400,808,914	10,111,564,603

(5) The expected maturity of the defined benefit obligation as of the December 31, 2021, is as follows:

(Unit: KRW)

Classification	Within 1 year	1 to 5 years	5 to 10 years	After 10 years	Total
Retirement benefits paid	818,455,482	4,287,506,074	3,596,571,517	6,875,285,648	15,577,818,721

(6) Plan assets are mostly invested in a time deposit as of December 31, 2021, and 2020.

17. Retirement Benefit Plan (cont'd)

(7) Key assumptions for actuarial valuation as of December 31, 2021, and 2020 are as follows:

(Unit: KRW)

Classification	December 31, 2021	December 31, 2020
Discount rate	2.90%	2.40%
Expected salary growth rate	Workers 3.6%	Workers 3.0%
	Executives 0.8%	Executives 1.4%

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, 2021, and 2020 because the present currency and maturity are consistent with the currency and estimated maturity of the defined benefit obligations.

(8) Sensitivity analysis

The sensitivity analysis of defined benefit obligations as of December 31, 2021, and 2020 is as follows:

(Unit: KRW)

Classification	December 31, 2021				December 31, 2020			
	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	(1,266,611,433)	1,468,811,967	1,376,917,545	(1,217,608,450)	(995,732,099)	1,156,400,483	1,083,657,769	(957,347,301)
Ratio	(8.13%)	9.43%	8.84%	(7.82%)	(8.50%)	9.87%	9.25%	(8.17%)

(9) As of December 31, 2021, the weighted average maturity of the defined benefit obligation is about 8.9 years (As of December 31, 2020: 9.3 years), and the Company expects to make an estimated contribution amounting to KRW 1,130,906,320 to the defined benefit plans in 2022.

18. 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, 2021, and 2020 is approximately KRW 24,247million and KRW 22,397million, respectively.

2) Provision for product warranties

The Company recognized probable outflow of fuel cell services of KRW 19,250million and KRW 9,321million as of December 31, 2021, and 2020, respectively.

(2) Changes in provisions for the year ended December 31, 2021, and 2020 are as follows:

1) 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

2) 2020

(Unit: KRW)

Classification	Beginning Balance	Increase	Decrease	Reversal (*)	Ending Balance
Other provisions	4,560,836,180	24,830,556,036	(13,481,742,288)	688,240,239	16,597,890,167
Provision for product warranties	1,248,736,995	8,282,393,065	(209,427,909)	-	9,321,702,151
Total	5,809,573,175	33,112,949,101	(13,691,170,197)	688,240,239	25,919,592,318

(*) Some of the other provisions for the year ended December 31, 2020, are deducted from trade receivables as variable consideration of service contracts.

19. Capital and Capital Surplus

(1) Changes in capital stock and share premium for the current and prior years are as follows:

(Amount Unit: KRW, Share Unit: Shares)

Date	Changes	Number of Shares Issued		Capital stock			Share Premium
		Ordinary Shares	Preferred Shares	Ordinary Shares	Preferred Shares	Total	
January 1, 2020	Beginning of the prior year	55,493,726	16,350,500	5,549,372,600	1,635,050,000	7,184,422,600	148,541,268,989
December 16, 2020	Increased paid-in capital	10,000,000	-	1,000,000,000	-	1,000,000,000	330,884,517,535
December 31, 2020	Ending of the prior year	65,493,726	16,350,500	6,549,372,600	1,635,050,000	8,184,422,600	479,425,786,524
December 31, 2021	Ending of the current year	65,493,726	16,350,500	6,549,372,600	1,635,050,000	8,184,422,600	479,425,786,524

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 number of treasury stocks with the limited voting rights under the Commercial Code is 3,915 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 the December 31, 2021, preferred shares without voting rights have voting rights.

(2) Details of capital surplus as of December 31, 2021 and 2020 are as follows:

(Unit: KRW)

Classification	December 31, 2021	December 31, 2020
Share Premium	479,425,786,524	479,425,786,524
Other capital surplus	(1,861,563,095)	2,008,105
Total	477,564,223,429	479,427,794,629

20. Other Components of Equity

(1) Details of other components of equity as of December 31, 2021 and 2020 are as follows:

(Unit: KRW)

Classification	December 31, 2021	December 31, 2020
Treasury shares	(28,074,580)	(28,074,580)

(2) Details of treasury stocks as of the December 31, 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
Treasury shares (*)	3,915	1,517	5,432	21,567,143	6,507,437	28,074,580

(*) The Company acquires 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 and accounted for the shares as other components of equity.

21. Accumulated Other Comprehensive Income

Details of the accumulated other comprehensive income as of December 31, 2021 and 2020 are as follows:

(Unit: KRW)

Classification	2021	2020
Revaluation surplus	640,537,938	466,408,684

22. Retained Earnings

(1) Changes in the retained earnings for the year ended December 31, 2021 and 2020 are as follows:

(Unit: KRW)

Classification	2021	2020
Beginning retained earnings	24,493,614,532	10,604,518,883
Profit for the year	8,695,162,181	14,190,288,190
Remeasurement of defined benefit plans	(1,361,628,612)	(301,192,541)
Unappropriated retained earnings	31,827,148,101	24,493,614,532

(2) The Company's statements of appropriation of retained earnings for the year ended December 31, 2021 and 2020 is as follows:

Second (Current) Period	from January 01, 2021 to December 31, 2021	First (Prior) Period	from January 01, 2020 to December 31, 2020
Estimated Appropriation Date	March 29, 2022	Approved Date	March 29, 2021

(Unit: KRW)

Accounting Title	2021		2020	
I. Retained earnings before appropriation		31,827,148,101		24,493,614,532
Unappropriated retained earnings carried over from the prior year	24,493,614,532		10,604,518,883	
Remeasurements of defined benefit plans	(1,361,628,612)		(301,192,541)	
Profit for the year	8,695,162,181		14,190,288,190	
II. Appropriation of retained earnings		-		-
III. Unappropriated retained earnings carried forward to the subsequent year		31,827,148,101		24,493,614,532

23. Revenue from Contracts with Customers

(1) Revenue from contracts with customers

Revenue for the year ended December 31, 2021, and 2020 is comprised as follows:

(Unit: KRW)

Classification	2021	2020
Revenue from contracts with customers:		
Fuel cell revenue, etc.	287,208,408,870	395,049,644,423
Service revenue	94,203,938,940	66,789,337,609
Total	381,412,347,810	461,838,982,032
Timing of revenue recognition:		
Transfer at a point in time	287,208,408,870	395,049,644,423
Transfer over time	94,203,938,940	66,789,337,609
Total	381,412,347,810	461,838,982,032

(2) Assets and liabilities associated with contracts with customers

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

(Unit: KRW)

Classification	December 31, 2021	December 31, 2020
Contract assets – Unclaimed assets after delivery of fuel cells	-	30,595,296,938
Contract assets – Unclaimed assets relating to fuel cell operational services	14,487,895,431	12,406,264,581
Total contract assets (*1)	14,487,895,431	43,001,561,519
Contract liabilities – Advances received for performance of fuel cell delivery (*2)	7,526,424,640	46,883,599,998
Contract liabilities – Advances received for performance relating to fuel cell operational services (*2)	6,357,961,632	6,310,367,067
Contract liabilities – Fuel cell performance obligation liability (*3)	16,065,581,995	16,597,890,167
Total contract liabilities	29,949,968,267	69,791,857,232

(*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.

23. Revenue from Contracts with Customers (cont'd)

The contract assets are the amount that we have not claimed that we have the right to be paid for the goods or services transferred to our customers, which will be replaced by 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 replaced by profits as goods or services are transferred to customers. Among the contract liabilities as of December 31, 2020, the amount recognized as income during the current yeqr is KRW 51,974 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 between 2021 and 2020 are as follows:

1) 2021

(Unit: KRW)

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

2) 2020

(Unit: KRW)

Client	Projects	Beginning balance	Increase/ Decrease	Recorded in sales	Ending Balance
Daesan Green Energy Co., Ltd.	Operation service contract	1,278,477,915,827	140,169,358,373	66,789,337,609	1,351,857,936,591

24. Selling and Administrative Expenses

Selling and administrative expenses for the year ended December 31, 2021, and 2020 are as follows:

(Unit: KRW)

Classification	2021	2020
Wages and salaries	10,492,519,534	10,505,177,727
Retirement benefits	688,430,427	575,862,582
Employee welfare	3,120,287,532	2,062,441,485
Depreciation	1,648,413,705	1,199,325,091
Training expenses	729,363,334	676,529,306
Travel expense	332,545,220	291,774,147
Freight expenses and warehousing	746,221,187	1,072,049,452
Commission expenses	6,368,589,816	4,729,291,597
Amortization	1,211,507,315	1,140,310,643
Bad debt expenses	1,513,250,257	382,600,000
Others	3,360,264,676	1,953,945,112
Total	30,211,393,003	24,589,307,142

25. Classification of Expenses by Nature

Information on the classification of expenses incurred for the year ended December 31, 2021, and 2020 by nature is provided as follows;

(Unit: KRW)

Classification	2021	2020
Changes in inventories	(96,262,881,736)	(34,595,747,406)
Purchase of raw materials and merchandise	352,134,613,506	373,508,815,642
Employee benefit expenses	30,517,108,219	28,771,861,603
Employee welfare	7,029,519,406	5,111,532,241
Taxes and dues	721,238,566	345,104,524
Freight expenses and warehousing	2,318,438,599	2,245,884,881
Commission expenses	16,674,464,497	9,631,307,444
Supplies expense	6,905,837,701	5,437,510,013
Utility cost	1,393,342,358	1,034,320,065
Outside order expenses	18,511,010,178	22,996,623,673
Depreciation	5,251,195,128	4,679,335,829
Intangible asset depreciation	1,628,383,289	1,288,358,597
Depreciation of right-of-use assets	1,773,734,957	1,350,098,755
Others	14,826,161,511	14,000,033,976
Total (*)	363,422,166,179	435,805,039,837

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

26. Other Income and Expenses

Details of other income and expenses for the year ended December 31, 2021, and 2020 are as follows:

(Unit: KRW)

Classification	2021	2020
Other income:		
Rental income	35,052,000	38,721,000
Gain on valuation of short-term investment securities	-	403,166,286
Gain on disposal of short-term investment securities	4,096,763,755	-
Gain related lease contracts	200,526,195	1,215,638
Miscellaneous income	456,774,086	659,763,135
Total	4,789,116,036	1,102,866,059
Other expenses:		
Loss on disposal of tangible assets	1,727,883	-
Loss on valuation of short-term investment securities	1,500,787,221	-
Donations	1,053,268,000	10,202,000
Other bad debt expenses	1,142,026,052	1,758,027,364
Miscellaneous loss	186,263,807	3,138,278,408
Total	3,884,072,963	4,906,507,772
Total deductions	905,043,073	(3,803,641,713)

27. Financial Income and Costs

Details of finance income and costs for the year ended December 31, 2021, and 2020 are as follows:

(Unit: KRW)

Classification	2021	2020
Financial income:		
Interest income	168,903,040	2,520,215,951
Dividend income	14,403,500	5,523,400
Gain on foreign currency transactions	11,600,790,181	12,757,933,748
Gain on foreign exchange translation	5,247,589,356	1,215,028,675
Total	17,031,686,077	16,498,701,774
Financial expenses:		
Interest expenses	5,041,786,347	4,957,072,443
Loss on foreign currency transactions	11,766,954,655	11,387,890,604
Loss on foreign exchange translation	42,332,963	5,006,985,498
Financial guarantee expenses	244,693,001	731,006,136
Total	17,095,766,966	22,082,954,681
Total after deduction	(64,080,889)	(5,584,252,907)

28. Income Tax Expenses

(1) Details of income tax expenses for the year ended December 31, 2021 and 2020 are as follows:

(Unit: KRW)

Classification	2021	2020
Income tax payable	10,671,115,173	9,000,068,625
Changes in deferred tax due to a temporary difference	(1,710,834,286)	(5,019,908,112)
Changes in deferred tax directly reflected to equity	974,088,490	96,159,096
Income tax expenses	9,934,369,377	4,076,319,609

(2) Changes in deferred tax assets(liabilities) for the year ended December 31, 2021, and 2020 are as follows:

1) 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

28. Income Tax Expenses (cont'd)

2) 2020

(Unit: KRW)

Classification	Beginning Balance	Changes		Ending Balance
		Profit or loss	Equity	
Accrued income	(6,899,581)	860,821	-	(6,038,760)
Undetermined cost	3,062,042,749	5,121,653,864	-	8,183,696,613
Depreciation	152,522,874	51,253,386	-	203,776,260
Government grants	8,348,689	18,745,395	-	27,094,084
Defined benefit obligations	2,223,110,118	399,797,035	101,075,929	2,723,983,082
Plan assets	(1,724,632,339)	(717,449,462)	(4,916,833)	(2,446,998,634)
Valuation allowance for inventories	224,135,779	294,773,784	-	518,909,563
Advanced depreciation provision	(205,877,098)	-	-	(205,877,098)
Revaluation of property, plant and equipment	(158,137,047)	-	-	(158,137,047)
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	(562,160,271)	11,088,110	-	(551,072,161)
Lease liabilities	567,697,363	(5,833,530)	-	561,863,833
Long-term prepaid expenses	-	(1,209,804,399)	-	(1,209,804,399)
Long-term non-trade receivables	-	82,854,239	-	82,854,239
Loss allowance	-	289,085,872	-	289,085,872
Investments in associates	-	487,693,076	-	487,693,076
Other	-	99,030,825	-	99,030,825
Total	3,876,885,906	4,923,749,016	96,159,096	8,896,794,018

(3) Details of deferred taxes directly added to or subtracted from equity as of December 31, 2021, and 2020 are as follows:

(Unit: KRW)

Classification	December 31, 2021			December 31, 2020		
	Before Taxes	Tax Effect	After Taxes	Before Taxes	Tax Effect	After Taxes
Remeasurements of defined benefit plans	(1,796,343,815)	434,715,203	(1,361,628,612)	(397,351,637)	96,159,096	(301,192,541)
Revaluation surplus	229,721,970	(55,592,717)	174,129,253	-	-	-
Share premium	(2,458,537,203)	594,966,003	(1,863,571,200)	-	-	-
Balance	(4,025,159,048)	974,088,489	(3,051,070,559)	(397,351,637)	96,159,096	(301,192,541)

28. 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, 2021, and 2020:

(Unit: KRW)

Classification	2021	2020
Profit for the year before income tax expenses	18,629,531,558	18,266,607,799
Tax burden at applied statutory tax rates	4,076,496,943	4,420,519,087
Adjustments:		
Permanent difference (Non-deductible, etc.) effect	894,123,795	357,576,183
Tax deduction	(726,811,745)	-
Effect of changes in temporary difference not recognized as deferred taxes	5,864,034,656	(879,868,650)
Other effect	(173,474,272)	178,092,989
Subtotal	5,857,872,434	(344,199,478)
Income tax expenses	9,934,369,377	4,076,319,609
Average effective tax rate	53.33%	22.32%

29. Earnings per Share

(1) Basic earnings per share

1) Basic earnings per share for the year ended December 31, 2021, and 2020 are as follows:

(Unit: KRW)

Classification	2021	2020
Basic earnings per ordinary shares	106	203
Basic earnings per old-type preferred shares (*)	106	174

(*) 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*.

29. Earnings per Share (cont'd)

2) Profit for the year attributable to the ordinary equity holders of the Company for the year ended December 31, 2021 and 2020 is as follows:

(Unit: KRW)

Classification	2021	2020
Profit for the year	8,695,162,181	14,190,288,190
(-) Profit attributable to new-type preferred shares	(317,257,612)	(517,268,954)
(-) Profit attributable to old-type preferred shares	(1,419,779,944)	(2,328,226,520)
Profit for the year attributable to the ordinary equity holders of the Company	6,958,124,625	11,344,792,716

3) Weighted-average number of outstanding ordinary and preferred shares for the year ended December 31, 2021, and 2020 are as follows:

(Unit: Shares)

Classification	2021		2020	
	Ordinary Shares	Old-type Preferred Shares	Ordinary Shares	Old-type Preferred Shares
Beginning outstanding shares	65,489,811	13,362,957	55,489,811	13,362,957
Increased paid-in capital	-	-	383,562	-
Weighted-average number of outstanding ordinary shares	65,489,811	13,362,957	55,873,373	13,362,957

(2) Diluted earnings per share

There are no dilutive potential ordinary shares, and basic and diluted earnings per share for the year ended December 31, 2021, and 2020 are the same.

(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.

30. Contingent liabilities and significant commitments

(1) The credit limit granted by financial institutions as of the December 31, 2021, is as follows:

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

Financial Institution	Content	Currency	Limit
KEB Hana Bank	Import letter of credit and others	KRW	10,000,000,000
	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

(2) Payment guarantees provided by financial institutions to the Company as of the December 31, 2021, 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	361,594,152,000	90,155,842,000
Seoul Guarantee Insurance Company	Performance guarantee, etc.	KRW	108,098,829,135	108,098,829,135
		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 introduction contracts

As of December 31, 2021, and 2020, the Company has entered into an agreement with Doosan Fuel Cell America, Inc. to introduce key technology, and the cost for introducing technology recognized as expenses by the Company for the year ended December 31, 2021, and 2020 is KRW 6,103 million, KRW 7,063 million, respectively. During the year ended December 31, 2020, the Company signed a license agreement with Ceres Power Licence Co., Ltd. to introduce 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 technology introduction fee paid by the Company during the year ended December 31, 2021, and 2020 is KRW 10,771 million, KRW 8,838 million respectively and is recognized as construction in progress.

(5) The details of payment guarantee provided by the Company to employees as of the December 31, 2021, are as follows.

(Unit: KRW)

Classification	Guaranteed	Currency	Amount	Description	Surety
Other	Employee ownership association	KRW	16,412,246,000	Loan for the acquisition	The Korea Securities Finance Corporation

30. Contingent liabilities and significant commitments (cont'd)

(6) Cash deficiency support agreement

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 an inter-financial investment agreement, and if the net operating cash inflow of Daesan Green Energy Co., Ltd., does not meet the risk sharing standard, the investors will be responsible for the shortfall in proportion to percentage of ownership. In accordance with the settlement procedure agreement signed with Daesan Green Energy Co., Ltd., investors are obliged to provide cash, execute subordinated loans, or fail to receive payments.

31. Transactions with Related Parties

(1) Details of related parties of the Company as of December 31, 2021, and 2020 are as follows:

Type	2021	2020
Ultimate Parent	Doosan Corporation (*1)	Doosan Corporation (*1)
The largest shareholder	Doosan Heavy Industries & Construction Co., Ltd. (*2)	-
Subsidiaries of the ultimate parent and the largest shareholder (*3)	Doosan Bobcat and its subsidiaries, Doosan Fuel Cell America, Inc., Oricom Inc., Doosan Cuvex Co., Ltd., Doosan Mecatec Co., Ltd., Doosan H2 Innovation, Doosan Business Research Institute (formerly, DLI Corporation), etc.	Doosan Heavy Industries & Construction Co., Ltd., Doosan Infracore Co., Ltd., Doosan Engineering & Construction Co., Ltd., and its subsidiaries, Doosan Fuel Cell America, Inc., Oricom Inc., Doosan Cuvex Co., Ltd., Doosan Business Research Institute (formerly, DLI Corporation), etc.
Associate of the largest shareholder	Doosan Engineering & Construction Co., Ltd., Samcheok Blue Power Co., Ltd., HYCHANGWON Co., Ltd.	-
Associate	Daesan Green Energy Co., Ltd.	Daesan Green Energy Co., Ltd.
Other related parties (*4)	Chung-ang University Hospital, Doosan Yonkang Foundation, etc.	Chung-ang University Hospital, Doosan Yonkang Foundation, etc.

(*1) During the year ended December 31, 2021, control was acquired and changed from the largest shareholder to the parent.

(*2) During the year ended December 31, 2021, this Company was changed to the largest shareholder by receiving the Company's stocks from a related party of the largest shareholder.

(*3) During the year ended December 31, 2021, the business division, excluding the investment division of Doosan Infracore Co., Ltd., was sold, and was excluded from related parties.

(*4) Other related parties are out of the scope specified in KIFRS 1024 but include subsidiaries of the same group of large-scale enterprises pursuant to the Monopoly Regulation and Fair-Trade Act.

31. Transactions with Related Parties (cont'd)

(2) Significant transactions with the related parties for the year ended December 31, 2021, and 2020 are as follows:

1) 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 Heavy Industries & Construction Co., Ltd.	Other expenses	-	42,505
Subsidiaries of the ultimate parent	Doosan Fuel Cell America, 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 (formerly, DLI Corporation)	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

31. Transactions with Related Parties (cont'd)

2) 2020

(Unit: KRW)

Classification	Name of Related Parties	Content of Transactions	Revenue, etc.	Purchase, etc.
Parent	Doosan Corporation	Purchase of raw materials, etc.	-	45,816,761,934
		Rental income	38,721,000	-
Subsidiaries of the parent	Doosan Fuel Cell America, Inc.	Sale of raw materials, etc.	31,010,945,646	-
		Purchase of goods, etc.	-	197,488,581,848
	Doosan Digital Innovation America, Inc.	Other expenses	-	50,642,097
	Doosan Infracore Co., Ltd.	Other expenses	-	3,787,362
	Doosan Engineering & Construction Co., Ltd.	Revenue, etc.	135,274,162,188	-
	Oricom Inc.	Use of group services	-	408,556,971
	Doosan Business Research Institute(formerly, DLI Corporation)	Training expenses	-	515,165,656
	Doosan Cuvex Co., Ltd.	Other expenses	-	298,118,448
Associate	Daesan Green Energy Co., Ltd.	Revenue	14,737,320,461	-
		Other expenses	-	43,200,000
Other related parties	Chung-ang University Hospital	Other expenses	-	65,620,000
Total			181,061,149,295	244,690,434,316

31. Transactions with Related Parties (cont'd)

(3) Receivables from and payables to the related parties as of December 31, 2021, and 2020 are as follows:

1) December 31, 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 the end of the year 2021, we have set allowance of KRW 1,142 million for Doosan Fuel Cell America, Inc. receivables.

2) December 31, 2020

(Unit: KRW)

Classification	Name of Related Parties	Receivables		Payables	
		Trade Receivables	Other receivables	Trade Payables	Other Payables
Parent	Doosan Corporation	-	40,179,648	1,318,296,198	1,019,595,025
Subsidiaries of the parent	Doosan Fuel Cell America, Inc.	2,324,982,875	94,832,786,180	43,973,917,814	1,727,904,959
	Doosan Engineering & Construction Co., Ltd.	30,271,627,206	-	-	-
	Oricom Inc.	-	-	-	24,611,089
	Doosan Business Research Institute (formerly, DLI Corporation)	-	33,423,344	-	1,506,907
	Doosan Cuvex Co., Ltd.	-	-	-	107,800
Associate	Daesan Green Energy Co., Ltd.	3,625,000,000	-	-	3,960,000
Other related parties	Chung-ang University Hospital	-	-	-	36,680,000
Total		36,221,610,081	94,906,389,172	45,292,214,012	2,814,365,780

31. Transactions with Related Parties (cont'd)

(4) There was no financial and equity transaction with related parties for the year ended December 31, 2021, and 2020.

(5) MMW classified as short-term investment securities acquired by the company during the year ended December 31, 2021, includes corporate bills amounting to KRW 9,820 million issued by Samcheok Blue Power Co., a subsidiary of the parent company.

(6) The Company pledged its certain assets as collateral for related parties as of December 31, 2021, as follows:

(Korean Won Unit: KRW, Foreign Currency Unit: USD)

Pledged Assets	Book Value	Pledged Amount	Security Right Holder	Provided to
Investments in associates	2,883,127,099	5,100,000,000	KDB	Daesan Green Energy Co., Ltd.

(7) There is no payment guarantee provided by the Company for related parties as of the December 31, 2021.

(8) 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 year ended December 31, 2021 and 2020 are as follows:

(Unit: KRW)

Type	2021	2020
Salaries	2,372,171,435	2,713,388,152
Retirement benefits	102,299,057	105,455,008
Total	2,474,470,492	2,818,843,160

32. Statements of Cash Flows

(1) Cash generated from operating activities for the year ended December 31, 2021, and 2020 is as follows:

(Unit: KRW)

Accounting Title	2021	2020
Profit for the year	8,695,162,181	14,190,288,190
Adjustments:		
- Non-cash adjustments:	53,544,474,447	54,209,980,369
Income tax expenses	9,934,369,377	4,076,319,609
Retirement benefits	1,959,404,007	1,782,912,906
Depreciation	5,251,195,128	4,679,335,829
Amortization	1,628,383,289	1,288,358,597
Depreciation of right-of-use assets	1,773,734,957	1,350,098,755
Loss on disposal of property, plant and equipment	1,727,883	-
Interest income	(168,903,040)	(2,520,215,951)
Interest expenses	5,041,786,347	4,957,072,443
Gain on valuation of short-term investment securities	-	(403,166,286)
Loss on valuation of short-term investment securities	1,500,787,221	-
Gain on disposal of short-term investment securities	(4,096,763,755)	-
Dividend income	(14,403,500)	(5,523,400)
Gain related to lease contracts	(200,526,195)	(1,215,638)
Gain on valuation of inventories	(146,040,341)	-
Loss on valuation of inventories	-	1,218,073,488
Gain on foreign currency translations	(5,247,589,356)	(1,215,028,675)
Loss on foreign currency translations	42,332,963	5,006,985,498
Share of profit of associates	-	(1,620,560,224)
Share of loss of associates	201,612,257	-
Increase in provisions	33,405,395,340	33,112,949,101
Bad debt expenses	1,513,250,257	382,600,000
Other bad debt expenses	1,142,026,052	1,758,027,364
Other	22,695,556	362,956,953
- Changes in operating assets and liabilities	(187,936,823,125)	(132,646,415,158)
Trade receivables	41,421,513,027	23,293,399,721
Other receivables	9,812,312,529	(17,873,562,962)
Inventories	(96,929,779,547)	(36,006,497,714)
Other current assets	(11,888,452,140)	(9,440,097,692)
Other non-current assets	(8,364,679,380)	(6,621,825,388)
Trade payables	(57,086,187,403)	32,036,472,685
Other payables	3,606,150,748	(5,100,091,182)
Other current liabilities	(39,239,226,851)	(97,023,435,803)
Other non-current liabilities	162,439,014	505,726,253
Retirement benefits paid	(263,057,379)	(112,741,187)
Transfer of defined benefit liabilities from affiliates	141,405,035	237,408,308
Contribution to plan assets	(5,300,000,000)	(2,850,000,000)
Provision for product warranties	(370,812,290)	(209,427,909)
Other Provision	(23,638,448,488)	(13,481,742,288)
Cash generated from operating activities	(125,697,186,497)	(64,246,146,599)

32. Statements of Cash Flows (cont'd)

(2) The significant non-cash transactions for the year ended December 31, 2021, and 2020 are as follows:

(Unit: KRW)

Classification	2021	2020
Reclassification of current portion of bonds	-	98,863,633,407
Reclassification of current portion of lease liabilities	4,216,072,885	1,412,853,903
Reclassification of construction in progress to property, plant and equipment and others	3,039,211,607	90,000,000
Increase (decrease) in non-trade payables related to acquisition of property, plant, and equipment	2,043,839,110	307,201,890
Increase (decrease) in non-trade payables related to acquisition of intangible assets	694,728,299	(98,760,000)

(3) Changes in liabilities arising from financing activities for the year ended December 31, 2021, and 2020 are as follows:

1) 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

2) 2020

(Unit: KRW)

Classification	Beginning Balance	Cash flows from financing activities	Reclassification of current portion	Others	Ending Balance
Current bonds	-	-	98,863,633,407	33,015,070	98,896,648,477
Bonds	98,765,305,916	-	(98,863,633,407)	98,327,491	-
Current lease liabilities	1,420,954,420	(1,327,169,975)	1,379,719,649	(81,765,878)	1,391,738,216
Non-current leases liabilities	924,902,450	-	(1,379,719,649)	1,384,830,361	930,013,162

33. 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 year ended December 31, 2021, and 2020 are as follows:

(Unit: KRW)

Major customers	2021	2020
Korea Western Power Co., Ltd.	141,880,917,321	118,648,071,743
Kumho Construction Co., Ltd.	56,221,200,000	1,728,000,000
SK ecoplant Co., Ltd.	44,523,000,000	1,783,800,000
Doosan Engineering & Construction Co., Ltd.	40,756,617,794	134,679,032,206
Daesan Green Energy Co., Ltd.	14,500,000,000	14,737,320,461
Samchully Energy Solution. Co., Ltd.	5,784,511,638	72,375,357,413
Total	303,666,246,753	343,951,581,823

34. Events after the reporting period

In accordance with the resolution of the board of directors on February 8, 2022, the company decided to transfer all rights and obligations related to research projects such as solid oxide fuel cell (SOFC) system development to Doosan H2 Innovation.

35. 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 are 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 12 and 13), 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.