

HANWHA SOLUTIONS CORPORATION

Separate Financial Statements

**December 31, 2021**

(With Independent Auditors' Report Thereon)

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## Independent Auditors' Report

Based on a report originally issued in Korean

To the Board of Directors and Stockholders of  
Hanwha Solutions Corporation:

### Opinion

We have audited the separate financial statements of Hanwha Solutions Corporation (the "Company"), which comprise the separate statement of financial position as of December 31, 2021, the separate statements of comprehensive income, changes in equity and cash flows for the year then ended, and notes to the separate financial statements, comprising significant accounting policies and other explanatory information.

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

We also have audited, in accordance with Korean Standards on Auditing ("KSAs"), the Company's Internal Control over Financial Reporting ("ICFR") as of December 31, 2021 based on the criteria established in Conceptual Framework for Designing and Operating Internal Control over Financial Reporting issued by the Operating Committee of Internal Control over Financial Reporting in the Republic of Korea, and our report dated March 15, 2022 expressed an unmodified opinion on the effectiveness of the Company's internal control over financial reporting.

### Basis for Opinion

We conducted our audit in accordance with KSAs. Our responsibilities under those standards are further described in the *Auditors' Responsibilities for the Audit of the Separate 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 separate financial statements in the Republic of Korea, and we have fulfilled our 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 matter is that matter that, in our professional judgement, was of most significance in our audit of the separate financial statements as of and for the year ended December 31, 2021. This matter was addressed in the context of our audit of the separate financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on this matter.



- Impairment test for the investment in subsidiary

Regarding Hanwha Q CELLS Co., Ltd., in which the Company holds a 100% shares, as described in Note 15 to the separate financial statements, an impairment test was conducted in accordance with K-IFRS 1036 Impairment of Assets during the current period, judging that there are indications of asset impairment in relation to the investment in subsidiary. As of December 31, 2021, the carrying amount of the share investment in the subsidiary is KRW 1,829,283 million.

The Company recognizes amount of impairment related to the investment stocks by measuring it at the amount higher of the value-in-use and fair value less cost of disposal. The estimation of value-in-use of the investments involves the significant judgement of management on the key assumptions such as sales growth rate, discount rate, permanent growth rate, and others. Therefore, we identified the impairment test on the investment in the subsidiary as a key audit matter.

The audit procedures for the key audit matter include followings:

- Understand the process related to measurement of value-in-use and impairment test, and test of design and operating effectiveness of certain internal controls over the process;
- Confirm the independence, objectivity and competence of the Company's external valuation experts;
- Compare the financial data used for impairment test with the mid to long-term business plans approved by the management;
- Engaging our valuation specialists to assist us in evaluating the key assumptions (sales growth rate, discount rate, permanent growth rate, etc.) used for impairment test, and impairment test methodology and
- Assess the completeness of the disclosures of notes to separate financial statements related to impairment of assets

#### **Other Information**

The procedures and practices utilized in the Republic of Korea to audit such financial statements may differ from those generally accepted and applied in other countries.

The separate financial statements of the Company as of and for the period ended December 31, 2020 were audited by other auditors in accordance with KSAs, whose report thereon dated March 15, 2021, expressed an unqualified opinion.

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

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

In preparing the separate financial statements, management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

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



### **Auditors' Responsibilities for the Audit of the Separate Financial Statements**

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

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

- Identify and assess the risks of material misstatement of the separate financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our 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 in the preparation of the separate financial statements 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 auditors' report to the related disclosures in the separate financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the separate financial statements, including the disclosures, and whether the separate financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

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

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



From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the separate financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditors' 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 auditors' report is Dae-jin Kim.

*KPMG Samjong Accounting Corp.*

KPMG Samjong Accounting Corp.  
Seoul, Korea

This report is effective as of March 15, 2022, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying separate financial statement and notes thereto. Accordingly, the readers of the audit report should understand that the above audit report has not been updated to reflect the impact of such subsequent events or circumstances, if any.

HANWHA SOLUTIONS CORPORATION  
 Separate Statements of Financial Position  
 As of December 31, 2021 and 2020

In won

	<u>Note</u>	<u>December 31, 2021</u>	<u>December 31, 2020</u>
<b>Assets</b>			
Current assets:			
Cash and cash equivalents	6, 7, 9	₩ 700,830,712,975	361,473,751,271
Other financial assets	6, 7, 11	46,048,055,508	42,013,357,132
FVTPL – financial assets	6, 7, 14	-	2,919,929,609
Trade receivables and other receivables	6, 7, 8, 10, 39	1,614,879,999,521	1,053,748,619,033
Other current assets	12, 43	127,527,587,719	155,638,570,436
Inventories	13	778,774,220,441	477,005,198,067
Non-current assets held for sale	20	7,377,750,003	-
		<u>3,275,438,326,167</u>	<u>2,092,799,425,548</u>
Non-current assets:			
FVTPL – financial assets	6, 7, 14	27,713,016,423	1,749,000
FVTOCI – financial assets	6, 7, 14	11,355,814,926	11,248,924,897
Other financial assets	6, 7, 11, 39	105,641,723,116	32,727,136,848
Long-term trade receivables and other receivables	6, 7, 10	12,815,991,369	14,011,851,948
Investments in associates and joint ventures	15, 38, 39	6,717,165,048,922	4,553,433,983,751
Investment property	16	90,887,371,541	72,570,205,323
Property, plant and equipment	17, 38	4,641,427,978,134	3,615,067,760,664
Intangible assets	18	103,274,185,210	116,182,356,736
Right-of-use assets	19	309,431,430,658	109,094,836,064
Other non-current assets	12	5,992,988,265	568,778,928
Deferred tax assets	36	8,915,828,654	8,707,622,595
		<u>12,034,621,377,218</u>	<u>8,533,615,206,754</u>
<b>Total assets</b>		<u>₩ 15,310,059,703,385</u>	<u>10,626,414,632,302</u>

HANWHA SOLUTIONS CORPORATION  
 Separate Statements of Financial Position, Continued  
 As of December 31, 2021 and 2020

In won

	<u>Note</u>	<u>December 31, 2021</u>	<u>December 31, 2020</u>
<b>Liabilities</b>			
Current liabilities:			
Trade payables and other payables	5, 6, 7, 21, 38, 39	₩ 1,687,885,608,843	756,013,641,257
Short-term borrowings	5, 6, 7, 22	1,535,303,659,886	1,304,495,052,669
Other financial liabilities	5, 6, 7, 19, 23, 39	286,734,827,210	172,103,406,424
Provisions	24	2,444,000,000	13,825,094,249
Other current liabilities	25	14,301,547,800	10,079,764,833
Contract liabilities	43	116,775,848,339	47,278,973,520
Current income tax liabilities		74,843,531,043	104,951,443,515
		<u>3,718,289,023,121</u>	<u>2,408,747,376,467</u>
Non-current assets:			
Long-term trade payables and other payables	5, 6, 7, 21, 38, 39	173,412,458,858	-
Long-term borrowings	5, 6, 7, 22	2,640,218,287,982	1,923,696,225,665
Other financial liabilities	5, 6, 7, 23, 39	415,057,294,040	156,254,648,301
Net defined benefit liabilities	26	427,295,908,894	359,621,677,858
Long-term employee benefits	39	24,302,067,202	20,917,812,997
Provisions	24	46,986,242,765	32,428,374,151
Other non-current liabilities		21,863,963,025	527,010,337
		<u>3,749,136,222,766</u>	<u>2,493,445,749,309</u>
<b>Total liabilities</b>		<u>7,467,425,245,887</u>	<u>4,902,193,125,776</u>
<b>Equity</b>			
Common stock	27	978,240,655,000	821,170,655,000
Capital surplus	27	1,914,964,340,408	762,796,518,589
Capital adjustments		(30,549,926,844)	(7,409,222,370)
Accumulated other comprehensive income	28	(1,826,098,470)	(1,911,586,744)
Retained earnings	29	4,981,805,487,404	4,149,575,142,051
		<u>7,842,634,457,498</u>	<u>5,724,221,506,526</u>
<b>Total equity</b>		<u>7,842,634,457,498</u>	<u>5,724,221,506,526</u>
<b>Total liabilities and equity</b>		<u>₩ 15,310,059,703,385</u>	<u>10,626,414,632,302</u>

See accompanying notes to the separate financial statements.

HANWHA SOLUTIONS CORPORATION  
 Separate Statements of Comprehensive Income  
 For the years ended December 31, 2021 and 2020

In won

	Note	2021	2020
<b>Revenue</b>	31, 39	₩ 7,395,684,853,708	5,717,317,071,646
<b>Cost of sales</b>	35, 39	<u>5,954,185,258,631</u>	<u>4,694,751,631,512</u>
<b>Gross profit</b>		<u>1,441,499,595,077</u>	<u>1,022,565,440,134</u>
Selling and administrative expenses	32, 35	<u>883,391,111,128</u>	<u>597,561,694,847</u>
<b>Operating income</b>		<u>558,108,483,949</u>	<u>425,003,745,287</u>
Other non-operating income	7, 33	233,253,151,046	248,484,152,947
Other non-operating expenses	7, 33	(276,395,854,861)	(302,838,115,702)
Financial income	7, 34	247,763,697,339	571,721,343,220
Financial expenses	7, 34	<u>(88,372,863,084)</u>	<u>(95,584,256,529)</u>
<b>Non-operating income</b>		<u>116,248,130,440</u>	<u>421,783,123,936</u>
<b>Profit before income tax expense</b>		<u>674,356,614,389</u>	<u>846,786,869,223</u>
Income tax expenses	36	<u>126,895,007,030</u>	<u>95,078,942,484</u>
<b>Profit from continuing operations</b>		<u>547,461,607,359</u>	<u>751,707,926,739</u>
<b>Loss from discontinued operations</b>	41	<u>-</u>	<u>(37,851,885,752)</u>
<b>Net income for the period</b>		<u>547,461,607,359</u>	<u>713,856,040,987</u>
<b>Other comprehensive Income (loss)</b>			
Items that will not be reclassified to profit or loss:			
Gain (loss) on valuation FVTOCI-financial assets		82,380,900	(14,482,372)
Remeasurement of net defined benefit liabilities		17,696,310,182	992,161,838
Items that are or may be reclassified to profit or loss:			
Gain (loss) on valuation of cash flow hedges		<u>825,490,378</u>	<u>-</u>
<b>Total comprehensive income for the period</b>	₩	<u><u>566,065,788,819</u></u>	<u><u>714,833,720,453</u></u>
<b>Earnings per share from continuing operations</b>			
Basic and diluted earnings per common share	37	₩ 2,936	4,667
Basic and diluted earnings per preferred share	37	2,986	4,731
<b>Loss per share from discontinued operations</b>			
Basic and diluted loss per common share	37	₩ -	(235)
Basic and diluted loss per preferred share	37	-	(236)

See accompanying notes to the separate financial statements.

HANWHA SOLUTIONS CORPORATION  
 Separate Statements of Change in Equity  
 For the years ended December 31, 2021 and 2020

In won

		Capital stock	Capital surplus	Capital adjustment	Accumulated other comprehensive income	Retained earnings	Total
<b>Balance at January 1, 2020</b>	₩	821,170,655,000	720,760,529,607	-	(1,931,867,501)	3,475,671,767,148	5,015,671,084,254
<b>Total comprehensive income (loss) for the period:</b>							
Net income		-	-	-	-	713,856,040,987	713,856,040,987
Items that will not be reclassified to profit or loss:							
Gain (loss) on valuation FVTOCI-financial assets (equity instrument)		-	-	-	(14,482,372)	-	(14,482,372)
Remeasurement of net defined benefit liabilities		-	-	-	-	992,161,838	992,161,838
<b>Transactions with shareholders:</b>							
Effects due to business combination		-	34,309,275,655	-	34,763,129	13,212,328,858	47,556,367,642
Treasury stock acquisition		-	-	(28,997,745,820)	-	-	(28,997,745,820)
Treasury stock disposition		-	12,763,080	8,158,920	-	-	20,922,000
Treasury stock incineration		-	-	21,580,364,530	-	(21,580,364,530)	-
Dividends paid		-	-	-	-	(32,576,792,250)	(32,576,792,250)
<b>Share-based payment</b>		-	7,713,950,247	-	-	-	7,713,950,247
<b>Balance at December 31, 2020</b>	₩	<u>821,170,655,000</u>	<u>762,796,518,589</u>	<u>(7,409,222,370)</u>	<u>(1,911,586,744)</u>	<u>4,149,575,142,051</u>	<u>5,724,221,506,526</u>

HANWHA SOLUTIONS CORPORATION  
 Separate Statements of Change in Equity, Continued  
 For the years ended December 31, 2021 and 2020

In won

		<u>Capital stock</u>	<u>Capital surplus</u>	<u>Capital adjustment</u>	<u>Accumulated other comprehensive income</u>	<u>Retained earnings</u>	<u>Total</u>
<b>Balance at January 1, 2021</b>	₩	821,170,655,000	762,796,518,589	(7,409,222,370)	(1,911,586,744)	4,149,575,142,051	5,724,221,506,526
<b>Total comprehensive income (loss) for the period:</b>							
Net income		-	-	-	-	547,461,607,359	547,461,607,359
Items that will not be reclassified to profit or loss							
Gain (loss) on valuation FVTOCI-financial assets (equity instrument)		-	-	-	82,380,900	-	82,380,900
Remeasurement of net defined benefit liabilities		-	-	-	-	17,696,310,182	17,696,310,182
Items that are or may be reclassified to profit or loss:							
Gain (loss) on valuation of cash flow hedges		-	-	-	825,490,378	-	825,490,378
<b>Transactions with shareholders:</b>							
Increase in paid-in capital		157,070,000,000	1,181,597,430,096	-	-	-	1,338,667,430,096
Effects due to business combination		-	(71,036,868,867)	(9,395,173,263)	(822,383,004)	267,846,621,846	186,592,196,712
Treasury stock acquisition		-	-	(13,772,288,760)	-	-	(13,772,288,760)
Treasury stock disposition		-	31,468,651	26,757,549	-	-	58,226,200
<b>Share-based payment</b>		-	12,905,814,786	-	-	-	12,905,814,786
<b>Other Capital Changes</b>		-	28,669,977,153	-	-	(774,194,034)	27,895,783,119
<b>Balance at December 31, 2021</b>	₩	<u>978,240,655,000</u>	<u>1,914,964,340,408</u>	<u>(30,549,926,844)</u>	<u>(1,826,098,470)</u>	<u>4,981,805,487,404</u>	<u>7,842,634,457,498</u>

See accompanying notes to the separate financial statements.

**HANWHA SOLUTIONS CORPORATION**  
**Separate Statements of Cash Flows**  
**For the years ended December 31, 2021 and 2020**

In won

	<u>Note</u>	<u>2021</u>	<u>2020</u>
<b>Cash flows from operating activities:</b>			
Cash generated from operating activities	40	₩ 922,296,711,656	881,768,282,401
Income taxes paid		(292,857,162,594)	(10,255,332,486)
<b>Net cash generated by operating activities</b>		<u>629,439,549,062</u>	<u>871,512,949,915</u>
<b>Cash flows from investing activities:</b>			
Interest received		8,484,610,780	5,554,745,479
Dividends received		237,426,732,441	566,356,096,900
Proceeds from disposal of investment in associates and joint ventures		2,364,991,894	-
Proceeds from disposal of other financial assets		53,008,286,488	114,359,323,506
Proceeds from disposal of investment property		357,736,000	15,556,916,960
Proceeds from disposal of plant, property and equipment		21,044,404,663	15,050,109,703
Proceeds from disposal of intangible assets		3,524,008,623	13,255,911,183
Proceeds from disposal of assets held for sale		-	34,536,000
Receipt of government grants		747,139,930	15,600,000
Increase from business combination		360,524,908,678	6,809,040,413
Acquisition of other financial assets		(103,818,285,679)	(55,114,619,502)
Acquisition of investment in associates and joint ventures		(2,200,439,710,561)	(413,774,148,047)
Acquisition of investment property		-	(3,530,862)
Acquisition of property, plant and equipment		(460,071,288,567)	(426,445,850,421)
Acquisition of intangible assets		(4,858,370,827)	(2,578,762,862)
Repayment of government grants		-	(300,000)
<b>Net cash used in investing activities</b>		<u>(2,081,704,836,137)</u>	<u>(160,924,931,550)</u>
<b>Cash flows from financing activities:</b>			
Proceeds from borrowings		2,910,738,817,641	2,516,353,269,345
Increase in paid-in capital		1,338,667,430,096	-
Increase of other financial liabilities		366,855,787	144,278,925
Repayment of borrowings		(2,354,221,463,583)	(3,088,868,437,939)
Decrease of other financial liabilities		(207,926,902)	(42,500,000)
Acquisition of treasury stock		(13,772,288,760)	(28,997,745,820)
Payment of interest		(32,787,880,071)	(95,829,753,974)
Lease payment		(64,184,564,958)	(21,380,368,799)
Payment of dividends		-	(32,576,792,250)
<b>Net cash provided by(used in) financing activities</b>		<u>1,784,598,979,250</u>	<u>(751,198,050,512)</u>
<b>Net increase (decrease) in cash and cash equivalents</b>		<u>332,333,692,175</u>	<u>(40,610,032,147)</u>
Cash and cash equivalents at January 1		361,473,751,271	405,278,228,896
Effects of exchange rate changes on the balance of cash held in foreign currencies		7,023,269,529	(3,194,445,478)
<b>Cash and cash equivalents at December 31</b>	<u>₩</u>	<u>700,830,712,975</u>	<u>361,473,751,271</u>

See accompanying notes to the separate financial statements.

**HANWHA SOLUTIONS CORPORATION**  
**Notes to the Separate Financial Statements**  
**For the years ended December 31, 2021 and 2020**

**1. General**

Hanwha Solutions Corporation (the "Company") was established on April 27, 1974, under the laws of the Republic of Korea. The Company is mainly engaged in the manufacturing and commercialization of synthetic resins, such as caustic soda, PVC, and LLDPE, other petrochemical products other and photovoltaic module, photovoltaic power plant, department store and real estate development. The Company's headquarters is located at Janggyo-dong, Jung-gu, Seoul and its manufacturing facilities are located in Ulsan and the petrochemical complex in Yeosu, Jeolla Namdo, Eum-seong and Jin-cheon, Choongchung Bukdo and Sejong Republic of Korea.

The Company listed its stocks on the Korea Stock Exchange on June 19, 1974. The Company changed its name from Hanwha Petrochemical Co., Ltd. to Hanwha Chemical Corporation on March 19, 2010.

The Company changed its name to Hanwha Solutions Corporation after completing the merger with its subsidiary Hanwha Q CELLS & Advanced Materials Co., Ltd. on January 1, 2020 under Article 527-3 of the Commercial Law in Republic of Korea.

The Company absorbed Hanwha Galleria Co., Ltd. and merged with divisional business department of Hanwha City Development Co., Ltd. on April 1, 2021.

As of December 31, 2021, the capital stock (including preferred capital stock) of the Company is W978,241 million and the major shareholders are as follows:

*In shares*

	<b>Common shares(*2)</b>		<b>Preferred shares</b>	
	<b>Shares</b>	<b>Ownership</b>	<b>Shares</b>	<b>Ownership</b>
Hanwha Corporation	69,460,211	36.31%	-	-
Treasury stock(*1)	698,117	0.36%	-	-
Others	121,120,169	63.33%	1,123,737	100.00%
	<u>191,278,497</u>	<u>100.00%</u>	<u>1,123,737</u>	<u>100.00%</u>

(\*1) The Company acquired a total of 300,000 shares of treasury stock during the current period and paid 1,443 shares as compensation for employees.

(\*2) The Company increased capital a total of 31,414,000 shares during the current period.

HANWHA SOLUTIONS CORPORATION  
Notes to the Separate Financial Statements  
For the years ended December 31, 2021 and 2020

**2. Basis of Accounting**

The separate financial statements of Hyundai Construction Equipment Co., Ltd. have been prepared in accordance with Korean International Financial Reporting Standards("K-IFRS"), as prescribed in Article 5, Clause 1 of the Act on External Audits of Corporations in the Republic of Korea.

The financial statements are separate financial statements in accordance with K-IFRS No.1027, 'Separate Financial Statements' presented by a parent, an investor with joint control of, or significant influence over, an investee, in which the investments are accounted for at cost.

The separate financial statements were authorized for issue by the board of directors on February 17, 2022 and will be submitted for approval to the shareholders' meeting to be held on March 23, 2022.

**(1) Application of accounting standards**

The separate financial statements have been prepared on the historical cost basis except for the following material items in the statement of financial position:

- Derivative financial instruments measured at fair value
- Financial instruments measured at fair value through profit or loss
- Financial instruments measured at fair value through other comprehensive income
- Contingent considerations recognized in business combinations measured at fair value.
- Liabilities for defined benefit plans recognized at the net of the present value of defined benefit obligations less the fair value of plan assets

**(2) Functional and presentation currency**

These separate financial statements are presented in Korean won, which is the Company's functional currency and the currency of the primary economic environment in which the Company operates.

**(3) Use of estimates and judgements**

The preparation of the financial statements in conformity with K-IFRS requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected

1) Uncertainty in management's judgement and estimates and assumptions

Information about critical judgments in applying accounting policies that have the most significant effect on the amounts recognized in the financial statements is included in the following note.

Note 31 – Revenue : Performance obligations and revenue recognition policies

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**2. Basis of Accounting, Continued**

**(3) Use of estimates and judgements, continued**

2) Uncertainties in assumptions and estimation

Information about assumptions and estimation uncertainties at the reporting date that have a significant risk of resulting in a material adjustment to the carrying amounts of assets and liabilities within the next financial year is included in the following notes:

Note 15- Investments in Subsidiaries, Associates and Joint Ventures

Note 24- Provisions

Note 26- Net Defined Benefit Liabilities

3) Measurement of fair value

A number of the Company's accounting policies and disclosures require the measurement of fair values, for both financial and non-financial assets and liabilities. The Company has an established control framework with respect to the measurement of fair values.

When measuring the fair value of an asset or a liability, the Company uses market observable data as far as possible. Fair values are categorized into different levels in a fair value hierarchy based on the inputs used in the valuation techniques as follow.

- Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities.

- Level 2: inputs to an asset or liability that are observable either directly (e.g., price) or indirectly (e.g., derived from price), except for the quoted price included in Level 1.

- Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs).

If the inputs used to measure the fair value of an asset or a liability fall into different levels of the fair value hierarchy, then the fair value measurement is categorized in its entirety in the same level of the fair value hierarchy as the lowest level input that is significant to the entire measurement. The Company recognizes transfers between levels of the fair value hierarchy at the end of the reporting period during which the change has occurred.

Further information about the assumptions made in measuring fair values is included in Note 6.

**3. Changes in Accounting Policies**

The Company initially applied amendment of Interest rate benchmark reform (K-IFRS No. 1109 'Financial Instrument', K-IFRS No. 1039 'Financial instrument: Recognition and Measurement', K-IFRS No. 1107 'Financial Instruments: Disclosures', K-IFRS No. 1104 'Insurance Contracts', and K-IFRS No. 1116 'Lease'). The other amendments applied after January 1, 2021 have no material effect on the Company's financial statements.

The Company applied the Phase 2 amendments of Interest rate benchmark reform retrospectively. However, in accordance with the exceptions permitted in the Phase 2 amendments, the Company has elected not to restate comparatives for the prior periods to reflect the application of these amendments

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**4. Significant Accounting Policies**

The significant accounting policies applied by the Company in the preparation of its separate financial statements are included below and the Company has consistently applied the accounting policies to all period presented in these separate financial statements, except for changes in accounting policies described in Note 3.

**(1) Business Combination**

The Company accounts for business combinations using the acquisition method when the acquired set of activities and assets meets the definition of a business and control is transferred to the Company. In determining whether a particular set of activities and assets is a business, the Company assesses whether the set of assets and activities acquired includes, at a minimum, an input and substantive process and whether the acquired set has the ability to produce outputs.

The Company has an option to apply a 'concentration test' that permits a simplified assessment of whether an acquired set of activities and assets is not a business. The optional concentration test is met if substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets.

The consideration transferred in the acquisition is generally measured at fair value, as are the identifiable net assets acquired. Any goodwill that arises is tested annually for impairment. Any gain on a bargain purchase is recognized in profit or loss immediately. Transaction costs are expensed as incurred, except if related to the issue of debt or equity securities. The costs to issue debt or equity securities are recognized in accordance with K-IFRS No. 1032, 'Financial Instruments: Presentation' and K-IFRS No. 1109 'Financial Instruments: Recognition and Measurement'.

The consideration transferred does not include amounts related to the settlement of pre-existing relationships. Such amounts are generally recognized in profit or loss.

Any contingent consideration is measured at fair value at the date of acquisition. If an obligation to pay contingent consideration that meets the definition of a financial instrument is classified as equity, then it is not re-measured and settlement is accounted for within equity. Otherwise, subsequent changes in the fair value of the contingent consideration are recognized in profit or loss.

**(2) Acquisitions from entities under common control**

In business combinations arising from transfers of interests in entities that are under the control of the shareholder that controls the Group, the assets and liabilities acquired are recognized at the carrying amounts in the Group controlling shareholder's consolidated financial statements. The components of equity of the acquired entities are added to the same components within Group equity except that any share capital of the acquired entities is recognized as appropriate capital item.

**(3) Interests in subsidiaries or investees applying equity method**

The Company's financial statements are separate financial statements in accordance with IAS 27. The Company selects and accounts for the cost method in accordance with IAS 27 for investment in subsidiaries and associates. Dividends received from subsidiaries and associates are recognized in profit or loss when the right to receive dividends is confirmed.

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**4. Significant Accounting Policies, Continued**

**(4) Discontinued operations**

A discontinued operation is a component of an entity that either has been disposed of, or is classified as held for sale, and

- represents a separate major line of business or geographical area of operations,
- is part of a single co-ordinated plan to dispose of a separate major line of business or geographical area of operations or
- is a subsidiary acquired exclusively with a view to resale

If there is a discontinued operation, the Company restates the statement of comprehensive income as if the operation was discontinued from the beginning of the comparative period.

**(5) Cash and cash equivalents**

The Company classifies investment assets with maturity within three months from the acquisition date as the cash and cash equivalents. Equity investments are excluded from cash equivalents unless they are, in substance, cash equivalents, for example in the case of preferred shares acquired within a short period of their maturity and with a specified redemption date.

**(6) Inventories**

The unit costs of inventories are determined by specific identification method for goods in transit, sales value reducing method for merchandise in the distribution sector (department store business), and the average method for other inventories. The cost of inventories shall comprise all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition. Fixed production overheads, which are included in the finished goods, and work in progress, are allocated based on the normal capacity of the production facilities.

Inventories are measured at the lower of cost and net realizable value. The amount of any write-down of inventories to net realizable value and all losses of inventories are recognized as an expense in the period the write-down or loss occurs. The amount of any reversal of any write-down of inventories, arising from an increase in net realizable value, are recognized as a reduction in the amount of inventories recognized as an expense in the period in which the reversal occurs.

**(7) Non-derivative financial assets**

1) Recognition and initial measurement

The Company initially recognizes trade receivables and debt securities issued on the date on which they are originated. Other financial assets and financial liabilities are recognized on trade date, which is the date on which the Company becomes a party to the contractual provisions of the instrument.

A financial asset (unless it is a trade receivable without a significant financing component) or financial liability is initially measured at fair value plus, for an item not at FVTPL, transaction costs that are directly attributable to its acquisition or issue. A trade receivable without a significant financing component is initially measured at the transaction price.

2) Classification and subsequent measurement

(i) Classification

On initial recognition, a financial asset is classified as measured at: amortized cost, FVOCI or FVTPL.

Financial assets are not reclassified subsequent 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 first reporting period following the change in the business model.

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**4. Significant Accounting Policies, Continued**

**(7) Non-derivative financial assets, continued**

2) Classification and subsequent measurement, continued

(i) Classification, continued

A financial asset is measured at amortized cost if it meets both of the following conditions and is not designated as at FVTPL:

- the asset is held within a business model whose objective is to hold assets to collect contractual cash flows; and
- the contractual terms of the financial asset give rise on specified dates to cash flows that are SPPI(Solely Payments of Principal and Interest).

A debt instrument is measured at FVOCI only if it meets both of the following conditions and is not designated as at FVTPL:

- the asset is held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets; and
- the contractual terms of the financial asset give rise on specified dates to cash flows that are SPPI.

On initial recognition of an equity investment that is not held for trading, the Company may irrevocably elect to present subsequent changes in fair value in OCI. This election is made on an investment-by-investment basis.

All other financial assets are classified as measured at FVTPL. These financial assets include all derivative financial assets. In addition, on initial recognition, the Company may irrevocably designate a financial asset that otherwise meets the requirements to be measured at amortized cost or at FVOCI as at FVTPL if doing so eliminates or significantly reduces an accounting mismatch that would otherwise arise. Once the Company designates a financial asset as at FVTPL, the Company will not reclassify those items to FVOCI subsequently.

(ii) Business model assessment

The Company makes an assessment of the objective of a business model in which an asset is held at a portfolio level because this best reflects the way the business is managed and information is provided to management. The information considered includes:

- the stated policies and objectives for the portfolio and the operation of those policies in practice. In particular, whether management's strategy focuses on earning contractual interest revenue, maintaining a particular interest rate profile, matching the duration of the financial assets to the duration of the liabilities that are funding those assets or realizing cash flows through the sale of the assets.;
- how the performance of the portfolio is evaluated and reported to the Company's management.;
- the risks that affect the performance of the business model (and the financial assets held within that business model) and its strategy for how those risks are managed.;
- how managers of the business are compensated (e.g. whether compensation is based on the fair value of the assets managed or the contractual cash flows collected).; and
- the frequency, volume and timing of sales in prior periods, the reasons for such sales and its expectations about future sales activity.

Transfers of financial assets to third parties in transactions that do not qualify for derecognition are not considered sales for this purpose, consistent with the Company's continuing recognition of the assets.

Financial assets that are held for trading or managed and whose performance is evaluated on a fair value basis are measured at FVTPL because they are neither held to collect contractual cash flows nor held both to collect contractual cash flows and to sell financial assets.

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4. Significant Accounting Policies, Continued

(7) Non-derivative financial assets, continued

2) Classification and subsequent measurement, continued

(iii) Assessment of whether contractual cash flows are solely payments of principal and interest

For the purposes of this assessment, 'principal' is defined as the fair value of the financial asset on 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 profit margin.

In assessing whether the contractual cash flows are SPPI, 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.

In making the assessment, the Company considers:

- contingent events that would change the amount and 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 criterion 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.

(iv) Subsequent measurement and gains and losses

Financial assets at FVTPL	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 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 investments at FVOCI	These assets are subsequently measured at fair value. Interest income 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 OCI. On derecognition, gains and losses accumulated in OCI are reclassified to profit or loss.
Equity investments at FVOCI	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 OCI and are never reclassified to profit or loss.

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**4. Significant Accounting Policies, Continued**

**(7) Non-derivative financial assets, continued**

3) Derecognition

(i) Financial assets

The Company derecognizes a financial asset when the contractual rights to the cash flows from the financial asset expire, or it transfers the rights to receive the contractual cash flows in a transaction in which substantially all of 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 retains either all or substantially all of the risks and rewards of the transferred assets. In these cases, the transferred assets are not derecognized.

(ii) Interest rate benchmark reform

The Company replaces an existing interest rate benchmark with an alternative benchmark rate when changes are made to contractual cash flows of financial assets or financial liabilities measured at amortized cost as a result of interest rate benchmark reform. Changes to the basis for determining the contractual cash flows are required by interest rate benchmark reform if and only if both of the following conditions are met:

- the modification is required as a direct consequence of interest rate benchmark reform
- the new basis for determining the contractual cash flows is economically equivalent to the previous basis (i.e. the basis immediately preceding the modification)

If there are changes to the basis for determining the contractual cash flows of financial assets or financial liabilities in addition to changes required by interest rate benchmark reform, the Company first replaces an existing interest rate benchmark of financial assets and financial liabilities, and then applies the applicable requirements to account for additional changes.

4) Offsetting

Financial assets and financial liabilities are offset and the net amount presented in the statement of financial position when, and only when, the Company currently has a legally enforceable right to set off the amounts and it intends either to settle them on a net basis or to realize the asset and settle the liability simultaneously.

**(8) Derivative financial instruments**

1) Derivative financial instruments and hedge accounting

Derivatives are initially measured at fair value. Subsequent to initial recognition, derivatives are measured at fair value, and changes therein are generally recognized in profit or loss.

The Company designated derivatives as hedging instruments to hedge the risk of changes in the volatility of future cash flows due to changes in exchange rates and interest rates on floating rate bonds (FRN).

At inception of designated hedging relationships, the Company documents the risk management objective and strategy for undertaking the hedge. The Company also documents the economic relationship between the hedged item and the hedging instrument, including whether the changes in cash flows of the hedged item and hedging instrument are expected to offset each other.

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**4. Significant Accounting Policies, Continued**

**(8) Derivative financial instruments, continued**

2) Hedging relationship affected by interest rate benchmark reform

The Company assumes that an interest rate benchmark does not change as a result of the interest rate benchmark reform when assessing the economic relationship between the hedged item and the hedging instrument if there is uncertainty in the timing or amount of cash flows based on the interest rate benchmark of hedged item, or the effective hedging instrument, and the interest rate benchmark designated as risk being hedged due to the Company's interest rate benchmark reform.

The Company no longer applies the assumption that no change occurs as a result of these interest rate benchmark reforms when the following events occur:

- when the uncertainty arising from interest rate benchmark reform is no longer present with respect to the timing and the amount of the interest rate benchmark-based cash flows of the hedged item
- when the hedging relationship that the hedged item is part of is discontinued

In relation to the hedged item or hedging instrument, the Company changes the formal designation of a hedge relationship documented in the past to reflect the changes, if the changes required in the interest rate benchmark reform are no longer uncertain in the timing or amount of cash flows based on interest rate benchmarks designated as hedged risks and the benchmarks of the interest rate of a hedged item or hedging instrument.

Such changes in documentation are made by the end of the reporting period in which changes in hedged risk, hedged item, or hedging instrument are made in accordance with the interest rate benchmark reform. This change in documentation does not terminate the hedging relationship or designate a new hedging relationship.

In the event of the change in a hedging relationship or in addition to the change in the designation of a hedging relationship, the Company determines whether hedge accounting should be discontinued as a result of the interest rate benchmark reform. If it is determined that hedge accounting is not discontinued, the formal designation of the hedging relationship previously documented is changed to reflect the changes required in the interest rate benchmark reform.

When modifying the description of the hedged item in the hedge accounting document to reflect the changes required in the interest rate benchmark reform, in accounting for cash flow hedges, the amount accumulated in the cash flow hedge reserve is considered to be based on the alternative benchmark interest rate used to determine the hedged future cash flow.

In the case of a similarly discontinued cash flow hedge relationship, when the interest rate benchmark changes on which the hedged future cash flows were based, as required by the interest rate benchmark reform, for the purpose of accounting for the amount accumulated in the cash flow hedge reserve to determine whether a hedged future cash flow is expected to occur, the amount accumulated in the cash flow hedge reserve for the hedging relationship is considered to be based on the alternative benchmark interest rate on which the hedged future cash flow is based.

3) Cash flow hedges

When a derivative is designated as a cash flow hedging instrument, the effective portion of changes in the fair value of the derivative is recognized in OCI and accumulated in the hedging reserve. The effective portion of changes in the fair value of the derivative that is recognized in OCI is limited to the cumulative change in fair value of the hedged item, determined on a present value basis, from inception of the hedge. Any ineffective portion of changes in the fair value of the derivative is recognized immediately in profit or loss.

The Company designates only the changes in fair value of the spot element of forward exchange contracts as the hedging instrument in cash flow hedging relationships. The change in fair value of the forward element of forward exchange contracts (forward points) is separately accounted for as a cost of hedging and recognized in a costs of hedging reserve within equity.

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**4. Significant Accounting Policies, Continued**

**(8) Derivative financial instruments, continued**

3) Cash flow hedges, continued

When the hedged forecast transaction subsequently results in the recognition of a non-financial item such as inventory, the amount accumulated in the hedging reserve and the cost of hedging reserve is included directly in the initial cost of the non-financial item when it is recognized.

For other hedged expected transactions, the hedging reserve and the cost of hedging reserve are reclassified to profit or loss in the same period or in the period in which the expected hedged cash flows affect profit or loss.

If the hedge no longer meets the criteria for hedge accounting or the hedging instrument is sold, expires, is terminated or is exercised, then hedge accounting is discontinued prospectively.

In hedge transactions where non-financial items are recognized, the hedging reserve and the cost of hedging reserve are retained in the equity item until the non-financial item is initially recognized and included in the cost of the non-financial item when the cashflow hedge accounting is discontinued. For cash flow hedge transactions other than the above, the hedging reserve and the cost of hedging reserve are reclassified to profit or loss through reclassification adjustments during the period in which the hedged future expected cash flows affect profit or loss.

If the hedged future cash flows are no longer expected to occur, then the amounts that have been accumulated in the hedging reserve and the cost of hedging reserve are immediately reclassified to profit or loss.

**(9) Impairment of financial assets**

1) Financial assets and contract assets

The Company recognizes recognizes loss allowances for 'expected credit losses' (ECLs) on:

- financial assets measured at amortized cost
- debt investments measured at FVOCI; and
- contract assets defined by K-IFRS No.1115.

The Company measures loss allowances at an amount equal to lifetime ECLs, except for the following, which are measured at 12-month ECLs:

- Debt securities that are determined to have low credit risk at the reporting date
- Other debt securities and bank deposit for which credit risk (i.e. the risk of default occurring over the expected life of the financial instrument) has not increased significantly since initial recognition

The Company measured loss allowances for lifetime ECLs on trade receivables and contract assets.

When determining whether the credit risk of a financial asset has increased significantly since initial recognition and when estimating ECLs, the Company considers reasonable and supportable information that is relevant and available without undue cost or effort. This includes both quantitative and qualitative information and analysis, based on the Company's historical experience and informed credit assessment and including forward-looking information.

The Company considers a financial asset to be in default when:

- the debtor is unlikely to pay its credit obligations to the Company in full, without recourse by the Company to actions such as realizing security (if any is held)

Lifetime ECLs are the ECLs that result from all possible default events over the expected life of a financial instrument.

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

The maximum period considered when estimating ECLs is the maximum contractual period over which the Company is exposed to credit risk.

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**4. Significant Accounting Policies, Continued**

**(9) Impairment of financial assets, continued**

2) Measurement of ECLs

ECLs are a probability-weighted estimate of credit losses. Credit losses are measured as the present value of all cash shortfalls (i.e. the difference between the cash flows due to the entity in accordance with the contract and the cash flows that the Company expects to receive). ECLs are discounted at the effective interest rate of the financial asset.

3) Credit-impaired financial assets

At each reporting date, the Company assesses whether financial assets carried at amortized cost and debt securities at FVOCI are credit-impaired. A financial asset is 'credit-impaired' when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred.

Evidence that a financial asset is credit-impaired includes the following observable data:

- significant financial difficulty of the debtor;
- a breach of contract such as a default or being more than 90 days past due;
- the restructuring of a loan or advance by the Company on terms that the Company would not consider otherwise;
- it is probable that the debtor will enter bankruptcy or other financial reorganization; or
- the disappearance of an active market for a security because of financial difficulties.

4) Presentation of allowance for ECL in the statement of financial position

Loss allowances for financial assets measured at amortized cost are deducted from the gross carrying amount of the assets. For debt securities at FVOCI, the loss allowance is charged to profit or loss and is recognized in OCI.

5) Write-off

The gross carrying amount of a financial asset is written off when the Company has no reasonable expectations of recovering a financial asset in its entirety or a portion thereof. For corporate customers, the Company individually makes an assessment with respect to the timing and amount of write-off based on whether there is a reasonable expectation of recovery. The Company expects no significant recovery from the amount written off. However, financial assets that are written off could still be subject to enforcement activities in order to comply with the Company's procedures for recovery of amounts due.

**(10) Property, plant and equipment**

All items of property, plant and equipment are initially recorded at cost. The cost of property, plant and equipment includes expenditures arising directly from the construction or acquisition of the asset, any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management and the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located.

Subsequent to initial recognition, an item of property, plant and equipment shall be carried at its cost less any accumulated depreciation and any accumulated impairment losses.

Property, plant and equipment, except for land, are depreciated on a straight-line basis over estimated useful lives that appropriately reflect the pattern in which the asset's future economic benefits are expected to be consumed.

A component that is significant compared to the total cost of property, plant and equipment is depreciated separately.

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4. Significant Accounting Policies, Continued

(10) Property, plant and equipment, continued

Gains and losses on disposal of an item of property, plant and equipment are determined by comparing the proceeds from disposal with the carrying amount of property, plant and equipment, and are recognized net within other income in profit or loss.

The estimated useful lives of the Company's property, plant and equipment are as follows:

	<u>Estimated useful lives (Years)</u>
Buildings	20 ~ 60
Structures	20 ~ 50
Machinery	4 ~ 20
Vehicles	2 ~ 12
Tools and equipments	2 ~ 8

Depreciation methods, useful lives and residual values are reviewed at the end of each reporting date and adjusted, if appropriate. If expectations differ from previous estimates, the changes are accounted for as a change in an accounting estimate.

Subsequent expenditures are capitalized only when it is probable that the economic benefits associated with the expenditure will flow to the Company.

(11) Intangible assets

Intangible assets are measured initially at cost and, subsequently, are carried at cost less accumulated amortization and accumulated impairment losses.

Amortization of intangible assets is calculated on a straight-line basis over the estimated useful lives of intangible assets, as described below, with nil residual value from the dated that they are available for use. However, as there are no foreseeable limits to the periods over which club memberships are expected to be available for use, this intangible asset is determined as having indefinite useful lives and not amortized.

	<u>Estimated useful lives (Years)</u>
Intellectual property rights	5 ~ 20
Rights of utilization	10 ~ 20
Membership	20
Other intangible assets	According to the respective contract period

Amortization periods and the amortization methods for intangible assets with finite useful lives are reviewed at the end of each reporting period. The useful lives of intangible assets that are not being amortized are reviewed at the end of each reporting period to determine whether events and circumstances continue to support indefinite useful life assessments for those assets. Changes are accounted for as changes in accounting estimates.

1) Research and development

Expenditures on research activities, undertaken with the prospect of gaining new scientific or technical knowledge and understanding, are recognized in profit or loss as incurred. Development expenditures are capitalized only if development costs can be measured reliably, the product or process is technically and commercially feasible, future economic benefits are probable, and the Company intends to and has sufficient resources to complete development and to use or sell the asset. Other development expenditures are recognized in profit or loss as incurred.

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**4. Significant Accounting Policies, Continued**

**(11) Intangible assets, continued**

2) Intangible assets acquired in business combinations

The acquisition cost of an intangible asset acquired in a business combination and recognized separately from goodwill is measured at the acquisition date fair value, and the intangible asset acquired in a business combination after initial recognition is presented as the acquisition cost minus the accumulated amortization and impairment loss.

3) Subsequent expenditures

Subsequent expenditures are capitalized only when they increase the future economic benefits embodied in the specific asset to which it relates. All other expenditures, including expenditures on internally generated goodwill and brands, are recognized in profit or loss as incurred.

**(12) Borrowing costs**

The Company capitalizes borrowing costs directly attributable to the acquisition, construction or production of a qualifying asset as part of the cost of that asset. Other borrowing costs are recognized in expense as incurred. A qualifying asset is an asset that requires a substantial period of time to get ready for its intended use or sale. Financial assets and inventories that are manufactured or otherwise produced over a short period of time are not qualifying assets. Assets that are ready for their intended use or sale when acquired are not qualifying assets.

To the extent that the Company borrows funds specifically for the purpose of obtaining a qualifying asset, the Company determines the amount of borrowing costs eligible for capitalization as the actual borrowing costs incurred on that borrowing during the period less any investment income on the temporary investment of those borrowings. To the extent that the Company borrows funds generally and uses them for the purpose of obtaining a qualifying asset, the Company shall determine the amount of borrowing costs eligible for capitalization by applying a capitalization rate to the expenditures on that asset. The capitalization rate shall be the weighted average of the borrowing costs applicable to the borrowings of the Company that are outstanding during the period, other than borrowings made specifically for the purpose of obtaining a qualifying asset. The amount of borrowing costs that the Company capitalizes during a period shall not exceed the amount of borrowing costs incurred during that period.

**(13) Government grants**

Government grants are not recognized until there is reasonable assurance that the Company will comply with the grant's conditions and that the grant will be received.

Government grants whose primary condition is that the Company purchase, construct or otherwise acquire long-term assets are deducted in calculating the carrying amount of the asset. The grant is recognized in profit or loss over the life of a depreciable asset as a reduced depreciation expense.

Other government grants are recognized in profit or loss on a systematic basis over the periods in which the Company recognizes as expenses the related costs for which the grants are intended to compensate.

Government grants that compensate for expenses or losses already incurred are recognized as other income during the period in which the right to receive government grants occurs. In this case, government grants are recognized when they become receivables.

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**4. Significant Accounting Policies, Continued**

**(14) Investment property**

Property held for the purpose of earning rentals or benefiting from capital appreciation is classified as investment property. Investment property is initially measured at its cost. Transaction costs are included in the initial measurement. Subsequently, investment property is carried at depreciated cost less any accumulated impairment losses.

Subsequent costs are recognized in the carrying amount of investment property at cost or, if appropriate, as separate items if it is probable that future economic benefits associated with the item will flow to the Company and the cost of the item can be measured reliably. The carrying amount of the replaced part is derecognized. The costs of the day-to-day servicing are recognized in profit or loss as incurred.

Investment property except for land, are depreciated on a straight-line basis over 20~60 years as estimated useful lives.

Depreciation methods, useful lives and residual values are reviewed at the end of each reporting date and adjusted, if appropriate. The change is accounted for as a change in an accounting estimate.

**(15) Impairment of non-financial assets**

The carrying amounts of the Company's non-financial assets, other than assets arising from employee benefits, inventories, deferred tax assets and non-current assets held for sale, are reviewed at the end of the reporting period to determine whether there is any indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated. Goodwill and intangible assets that have indefinite useful lives or that are not yet available for use, irrespective of whether there is any indication of impairment, are tested for impairment annually by comparing their recoverable amount to their carrying amount.

The Company estimates the recoverable amount of an individual asset, if it is impossible to measure the individual recoverable amount of an asset, then the Company estimates the recoverable amount of cash-generating unit ("CGU"). A CGU is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets. The recoverable amount of an asset or CGU is the greater of its value in use and its fair value less costs to sell. The value in use is estimated by applying a proper discount rate that reflect current market assessments of the time value of money and the risks specific to the asset or CGU for which estimated future cash flows have not been adjusted, to the estimated future cash flows expected to be generated by the asset or CGU.

An impairment loss is recognized in profit or loss if the carrying amount of an asset or a CGU exceeds its recoverable amount.

Goodwill acquired in a business combination is allocated to each CGU that is expected to benefit from the synergies arising from the goodwill acquired. Any impairment identified at the CGU level will first reduce the carrying amount of goodwill and then be used to reduce the carrying amount of the other assets in the CGU on a pro rata basis. Except for impairment losses in respect of goodwill which are never reversed, an impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount shall not exceed the carrying amount that would have been determined, net of depreciation or amortization, if no impairment loss had been recognized.

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**4. Significant Accounting Policies, Continued**

**(16) Leases**

A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

1) As a lessee

At commencement or on modification of a contract that contains a lease component, the Company allocates the consideration in the contract to each lease component on the basis of its relative stand-alone prices. However, for the leases of property the Company has elected not to separate non-lease components and account for the lease and non-lease components as a single lease component.

The Company recognizes a right-of-use asset and a lease liability at the lease commencement date. The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located, less any lease incentives received.

The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the end of the lease term, unless the lease transfers ownership of the underlying asset to the Company by the end of the lease term or the cost of the right-of-use asset reflects that the Company will exercise a purchase option. In that case the right-of-use asset will be depreciated over the useful life of the underlying asset, which is determined on the same basis as those of property and equipment. In addition, the right-of-use asset is periodically reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease liability.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, the Company's incremental borrowing rate. Generally, the Company uses its incremental borrowing rate as the discount rate.

The Company determines its incremental borrowing rate by obtaining interest rates from various external financing sources and makes certain adjustments to reflect the terms of the lease and type of the asset leased.

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

- fixed payments, including in-substance fixed payments;
- variable lease payments that depend on an index or a rate, initially measured using the index or rate as at the commencement date;
- amounts expected to be payable under a residual value guarantee; and
- the exercise price under a purchase option that the Company is reasonably certain to exercise, lease payments in an optional renewal period if the Company is reasonably certain to exercise an extension option, and penalties for early termination of a lease unless the Company is reasonably certain not to terminate early.

The lease liability is measured at amortized cost using the effective interest method. It is remeasured when there is a change in future lease payments arising from a change in an index or rate, if there is a change in the Company's estimate of the amount expected to be payable under a residual value guarantee, if the Company changes its assessment of whether it will exercise a purchase, extension or termination option or if there is a revised in-substance fixed lease payment.

When the lease liability is remeasured in this way, a corresponding adjustment is made to the carrying amount of the right-of-use asset, or is recorded in profit or loss if the carrying amount of the right-of-use asset has been reduced to zero.

In light of Phase 2 of the Interest rate benchmark reform, the company shall remeasure a lease liability by discounting the lease expense using a revised discount rate based on the alternative benchmark rate if the criteria used to estimate a lease expense is changed.

HANWHA SOLUTIONS CORPORATION  
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**4. Significant Accounting Policies, Continued**

**(16) Leases, continued**

1) As a lessee, continued

The Company presents right-of-use assets that do not meet the definition of investment property in 'property, plant and equipment' and lease liabilities in 'other debts' in the statement of financial position.

The Company has elected not to recognize right-of-use assets and lease liabilities for leases of low-value assets and short-term leases. The Company recognizes the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

2) As a lessor

At inception or on modification of a contract that contains a lease component, the Company allocates the consideration in the contract to each lease component on the basis of their relative standalone prices.

When the Company acts as a lessor, it determines at lease inception whether each lease is a finance lease or an operating lease.

To classify each lease, the Company makes an overall assessment of whether the lease transfers substantially all of the risks and rewards incidental to ownership of the underlying asset. If this is the case, then the lease is a finance lease; if not, then it is an operating lease. As part of this assessment, the Company considers certain indicators such as whether the lease is for the major part of the economic life of the asset.

When the Company is an intermediate lessor, it accounts for its interests in the head lease and the sub-lease separately. It assesses the lease classification of a sub-lease with reference to the right-of-use asset arising from the head lease, not with reference to the underlying asset. If a head lease is a short-term lease to which the Company applies the exemption described above, then it classifies the sub-lease as an operating lease.

If an arrangement contains lease and non-lease components, then the Company applies K-IFRS No. 1115 to allocate the consideration in the contract.

The Company applies the derecognition and impairment requirements in K-IFRS No. 1109 to the net investment in the lease. The Company further regularly reviews estimated unguaranteed residual values used in calculating the gross investment in the lease.

The Company recognizes lease payments received under operating leases as income on a straight-line basis over the lease term as part of 'other revenue'.

**(17) Non-current assets held for sale**

Non-current assets, or disposal groups comprising assets and liabilities, are classified as held-for-sale if it is highly probable that they will be recovered primarily through sale rather than through continuing use. In order to be classified as held for sale, the asset (or disposal groups) must be available for immediate sale in its present condition and its sale must be highly probable. The assets or disposal groups that are classified as non-current assets held for sale are measured at the lower of their carrying amount and fair value less cost to sell. The Company recognizes an impairment loss for any initial or subsequent write-down of an asset (or disposal groups) to fair value less costs to sell, and a gain for any subsequent increase in fair value less costs to sell up to the cumulative impairment loss previously recognized in accordance with K-IFRS No. 1036, 'Impairment of Assets'.

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**4. Significant Accounting Policies, Continued**

**(17) Non-current assets held for sale, continued**

Once non-current assets are classified as held-for-sale or part of disposal groups classified as held-for-sale, they are no longer amortized or depreciated.

**(18) Non-derivative financial liabilities**

The Company classifies non-derivative financial liabilities into financial liabilities measured at FVTPL or financial liabilities measured at amortized cost in accordance with 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.

1) Financial liabilities measured at FVTPL

Financial liabilities measured at FVTPL include financial liabilities held for trading or designated as such upon 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) Other financial liabilities

Non-derivative financial liabilities that are not classified as financial liabilities through profit or loss are classified as other financial liabilities. At the date of initial recognition, other financial liabilities are measured at fair value less transaction costs that are directly attributable to the acquisition. Subsequent to initial recognition, financial liabilities are measured at amortized cost using the effective interest method and interest costs are recognized using the effective interest method.

3) Derecognition of financial liabilities

The Company derecognizes a financial liability when its contractual obligations are discharged, cancelled, or expire. The Company derecognizes a financial liability when its terms are modified and the cash flows of the modified liability are substantially different, in which case a new financial liability based on the modified terms is recognized at fair value.

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

**(19) Employee benefits**

1) Short-term employee benefits

Short-term employee benefits are employee benefits that are due to be settled within 12 months after the end of the period in which the employees render the related service. When an employee has rendered service to the Company during an accounting period, the Company recognizes the undiscounted amount of short-term employee benefits expected to be paid in exchange for that service as gain or loss.

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**4. Significant Accounting Policies, Continued**

**(19) Employee benefits, continued**

2) Other long-term employee benefits

Other long-term employee benefits include employee benefits that are settled beyond 12 months after the end of the period in which the employees render the related service. The Company's net obligation in respect of long-term employee benefits is the amount of future benefit that employees have earned in return for their service in the current and prior periods. That benefit is discounted to determine its present value. Remeasurements are recognized in profit or loss in the period in which they arise.

3) Retirement benefits: Defined contribution plans

When an employee has rendered service to the Company during a period, the Company recognizes the contribution payable to a defined contribution plan in exchange for that service as a liability (accrued expense), after deducting any contribution already paid. If the contribution already paid exceeds the contribution due for service before the end of the reporting period, the Company recognizes that excess as an asset (prepaid expense) to the extent that the prepayment will lead to a reduction in future payments or a cash refund.

4) Retirement benefits: Defined benefit plans

The Company's net obligation in respect of defined benefit plans is calculated by estimating the amount of future benefit that employees have earned in return for their service in the current and prior periods, discounting that amount and deducting the fair value of any plan assets.

The calculation of defined benefit obligations is performed annually by an independent actuary using the projected unit credit method. When the calculation results in a potential asset for the Company, the recognized asset is limited to the present value of economic benefits available in the form of any future refunds from the plan or reductions in future contributions to the plan.

Remeasurements of the net defined benefit liability, which comprise actuarial gains and losses, the return on plan assets (excluding interest) and the effect of the asset ceiling (if any, excluding interest), are recognized immediately in OCI. The Company determines the net interest expense (income) on the net defined benefit liability (asset) for the period by applying the discount rate used to measure the defined benefit obligation at the beginning of the annual period to the then-net defined benefit liability (asset), taking into account any changes in the net defined benefit liability (asset) during the period as a result of contributions and benefit payments. Net interest expense and other expenses related to defined benefit plans are recognized in profit or loss.

When the benefits of a plan are changed or when a plan is curtailed, the resulting change in benefit that relates to past service or the gain or loss on curtailment is recognized immediately in profit or loss. The Company recognizes gains and losses on the settlement of a defined benefit plan when the settlement occurs.

5) Termination benefits

Termination benefits are expensed at the earlier of when the Company can no longer withdraw the offer of those benefits and when the Company recognizes costs for a restructuring. If benefits are not expected to be settled wholly within 12 months of the end of the reporting period, then they are discounted.

HANWHA SOLUTIONS CORPORATION  
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**4. Significant Accounting Policies, Continued**

**(20) 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.

The risks and uncertainties that inevitably surround many events and circumstances are taken into account in reaching the best estimate of a provision. Where the effect of the time value of money is material, provisions are determined at the present value of the expected future cash flows.

Where some or all of the expenditures required to settle a provision are expected to be reimbursed by another party, the reimbursement shall be recognized when, and only when, it is virtually certain that reimbursement will be received if the entity settles the obligation. The reimbursement shall be treated as a separate asset.

Provisions are reviewed at the end of each reporting period and adjusted to reflect the current best estimates. 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.

Product warranty liabilities are recognized when the product is sold, and it was estimated by considering past warranty experience, warranty experience of overseas subsidiaries in the same industry, and set rate of the same industry. The Company estimates all possible outcomes and their associated probabilities by weighted averages.

A provision shall be used only for expenditures for which the provision was originally recognized.

**(21) Emissions rights**

The Company accounts for greenhouse gases emission right and the relevant liability as below pursuant to *the Act on Allocation and Trading of Greenhouse Gas Emission*

1) Greenhouse Gases Emission Right

Greenhouse gas emission rights comprise emission rights allocated free of charge by the government and emission rights purchased for a fee.

Free allocation emission rights are measured and recognized as zero (0), and purchase emission rights are recognized as acquisition costs by adding other costs that are directly related to acquisition and occur normally.

The company classifies greenhouse gas emission rights held to fulfill the obligations stipulated by the relevant system as intangible assets and measures the cumulative amount of damage losses deducted from costs after initial recognition, and classifies them as current assets within one year from the end of the reporting period.

Emissions held to obtain short-term trading gains are classified as current assets and measured at fair value at the end of each reporting period, and changes in fair value are recognized in profit or loss.

The Company derecognizes an emission right asset when the emission allowance is unusable, disposed or submitted to government in which the future economic benefits are no longer expected to be probable.

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**4. Significant Accounting Policies, Continued**

**(21) Emissions rights, continued**

2) Emission liability

Emission liability is a present obligation of submitting emission rights to the government with regard to emission of greenhouse gas. The emission liability is measured by summing the expected expenditures required to fulfil the obligation for excess emission and carrying amount of emission rights held. Emissions liability is eliminated when submitted to the government.

**(22) Foreign currency**

Transactions in foreign currencies are translated to the functional currencies of the Company at exchange rates at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies are translated to the functional currency using the reporting date's closing rate. Non-monetary assets and liabilities denominated in foreign currencies that are measured at fair value are retranslated to the functional currency at the exchange rate at the date that the fair value was determined. Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rate at the date of the transaction.

Foreign currency differences arising on retranslation are recognized in profit or loss, except for differences arising on the retranslation of available-for-sale equity instruments, a financial liability designated as a hedge of the net investment in a foreign operation, or qualifying cash flow hedges, which are recognized in other comprehensive income. Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rate at the date of the transaction.

**(23) Equity capital**

Ordinary shares are classified as equity. Incremental costs directly attributable to the issuance of ordinary shares and share options are recognized as a deduction from equity, net of any tax effects.

Preferred stocks are classified as equity if they do not have to be repaid, if they are repaid only at the company's option, or if the payment of dividends is determined at the Company's discretion. Dividends are recognized when dividends are approved at the Company's shareholders' meeting. The preferred stocks are classified as liability, if stockholders are able to claim a fixed or determinable amount of redemption on or after a certain date, or if the company is obligated to repay. Relevant dividends are recognized in profit or loss as they are considered as interest expense at the time of occurrence.

When the Company repurchases its share capital, the amount of the consideration paid is recognized as a deduction from equity and classified as treasury shares. The profits or losses from the purchase, disposal, reissue, or retirement of treasury shares are not recognized as current profit or loss. If the Company acquires and retains treasury shares, the consideration paid or received is directly recognized in equity.

**(24) Share based payments**

The Company has granted shares or share options to its employees. For equity-settled share-based payment transactions, the Company measures the goods or services received, and the corresponding increase in equity as a capital adjustment at the fair value of the goods or services received, unless that fair value cannot be estimated reliably. If the Company cannot reliably estimate the fair value of the goods or services received, the Company measures their value, and the corresponding increase in equity, indirectly, by reference to the fair value of the equity instruments granted.

In the case of cash-settled share-based payment transactions that pay cash for goods or services received, the goods or services received and the liabilities borne in return are measured at fair value and recognized as employee benefit costs and liabilities during the vesting period. In addition, until the liability is settled, the fair value of the liability is remeasured at the end of each reporting period and at the final settlement date, and changes in the fair value are recognized as salaries.

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**4. Significant Accounting Policies, Continued**

**(25) Revenue from contracts with customers**

Company's accounting policies relating to revenue from contracts with customers is described in Note 31.

**(26) Finance income and finance costs**

The Company's finance income and finance costs include:

- interest income;
- interest expense;
- dividends income;
- the net gain or loss arising from the disposal of debt investments measured at FVOCI;
- the net gain or loss on financial assets at FVTPL;
- the foreign currency gain or loss on financial assets and financial liabilities;
- impairment losses (or subsequent gains) arising from debt investments measured at FVOCI or financial assets measured at amortized cost (or reversal of impairment loss);
- re-measured gains on the fair value of the existing interest in the acquiree in a business combination
- loss of fair value on contingent consideration classified as a financial liability
- hedge ineffectiveness recognized in profit or loss
- the reclassified net income or loss previously recognized in other comprehensive income in cash flow hedge of interest risk and exchange risk for borrowing liabilities
- reversal of financial guarantee contracts

Interest income or expense is recognized using the effective interest method. Dividend income is recognized in profit or loss on the date on which the Company's right to receive payment is established.

The effective interest rate is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument to the gross carrying amount of the financial asset or the amortized cost of the financial liability.

In calculating interest income and expense, the effective interest rate is applied to the gross carrying amount of the asset (when the asset is not credit-impaired) or to the amortized cost of the liability. However, for financial assets that have become credit-impaired subsequent to initial recognition, interest income is calculated by applying the effective interest rate to the amortized cost of the financial asset. If the asset is no longer credit-impaired, then the calculation of interest income reverts to the gross basis.

**(27) Income taxes**

Income tax expense comprises current and deferred tax. Current tax and deferred tax 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.

The Company has determined whether interest and penalties related to income taxes meet the definition of income taxes or not, and accounted for them under K-IFRS No. 1012 'Income Taxes' if they meet the definition of income taxes, otherwise under K-IFRS No. 1037 'Provisions, Contingent Liabilities and Contingent Assets'.

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**4. Significant Accounting Policies, Continued**

**(27) Income taxes, continued**

1) Current tax

Current tax is the expected tax payable or receivable on the taxable profit or loss for the year, using tax rates enacted or substantively enacted at the end of the reporting period and any adjustment to tax payable in respect of prior years. The taxable profit is different from the accounting profit for the period since the taxable profit is calculated excluding the temporary differences, which will be taxable or deductible in determining taxable profit (tax loss) of future periods, and non-taxable or non-deductible items from the accounting profit.

Current tax assets and current tax liabilities can be offset only if the Company :

- has the legally enforceable right to set off the recognized amounts; and
- intends either to settle on a net basis or realize the assets and settle the liabilities simultaneously.

2) Deferred tax

The measurement of deferred tax liabilities and deferred tax assets reflects the tax consequences that would follow from the manner in which the Company expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities. The Company recognizes a deferred tax liability for all taxable temporary differences associated with investments in subsidiaries, associates, and interests in joint ventures, except to the extent that the Company is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. The Company recognizes a deferred tax asset for all deductible temporary differences arising from investments in subsidiaries and associates, to the extent that it is probable that the temporary difference will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized.

The Company shall recognize a deferred tax asset for the carryforward of unused tax losses, unused tax credits, and deductible temporary differences to the extent that it is probable that sufficient future taxable profit will be available to utilize the unused tax losses, unused tax credits and deductible temporary differences.

The estimate of future taxable profit includes the expected expiry of the temporary differences.

The Company considers an expiry of existing temporary differences and the business plan in assessing the probable future taxable profit when taxable temporary differences are not be recognized as a deferred tax asset.

The carrying amount of a deferred tax asset is reviewed at 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 benefit of part or all of that deferred tax assets to be utilized.

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

The Company accounts for the tax consequences in the same way that it accounts for the future recovery (settlement) of the carrying amount of assets (liabilities) when assessing deferred tax assets and liabilities as of the end of the reporting period.

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**4. Significant Accounting Policies, Continued**

**(27) Income taxes, continued**

Deferred tax assets and liabilities are offset only if there is a legally enforceable right to offset the related current tax liabilities and assets, and they relate to income taxes levied by the same tax authority and they intend to settle current tax liabilities and assets on a net basis. The income tax consequences of dividends are recognized when a liability to pay the dividend is recognized.

**(28) 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 ordinary shares outstanding, adjusted for own shares held, for the effects of all dilutive potential ordinary shares, which comprise convertible notes and share options granted to employees.

**(29) New standards and interpretations not yet adopted**

The followings procurements are new and amended standards and interpretations that have been issued but are not yet effective. The Company has not applied the following standards or interpretations in the financial statements. The following standards and interpretations shall not have a significant impact on the financial statements of the Company.

- Onerous contracts – Cost of Fulfilling a Contract (Amendments to K-IFRS 1037 Provisions, Contingent Liabilities and Contingent Assets)
- Deferred Tax related to Assets and Liabilities arising from a Single Transaction (Amendments to K-IFRS 1012 Income Taxes)
- COVID-19-Related Rent Concessions beyond 30 June 2021 (Amendment to K-IFRS 1116 Leases).
- Reference to Conceptual Framework (Amendments to K-IFRS 1103 Business Combinations).
- Annual Improvements to IFRS Standards 2018–2020.
- Property, Plant and Equipment: Proceeds before Intended Use (Amendments to K-IFRS 1016 Property, Plant and Equipment).
- Classification of Liabilities as Current or Non-current (Amendments to K-IFRS 1001 Presentation of Financial Statements).
- K-IFRS 1117 Insurance Contracts and amendments to K-IFRS 1117 Insurance Contracts.
- Disclosure of Accounting Policies (Amendments to K-IFRS 1001 Presentation of Financial Statements).
- Definition of Accounting Estimates (Amendments to K-IFRS 1008).

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**5. Financial Risk Management**

**(1) Financial risk management factors**

The Company is exposed to a variety of financial risks, such as market risks (foreign exchange risks, interest rate risks), credit risk and liquidity risk due to its various activities. The Company's financial risk management focuses on minimizing market risk, credit risk, and liquidity risk arising from operating activities.

The Company carries out the financial risk management according to the policies approved by the board. The board evaluates and approves the risk management in overall, which includes foreign currency risk, interest rate risk, credit risk, derivatives and non-derivatives risks and liquidity risk.

**(2) Financial risk management**

1) Financial risk factor

The finance department of the Company manages operations, organizes access to domestic and international financial markets, and monitors and manages financial risks related to the Company's operations through an internal risk report that analyzes the extent and magnitude of each risk. These risks include market risk (including foreign exchange risk and interest rate risk), credit risk and liquidity risk.

There is no change in the Company's financial risk management purpose and risk management policy since the end of the previous year.

2) Market risk

(A) Foreign exchange risk

The Company's foreign exchange risk arises when future forecast transactions and recognized assets and liabilities are denominated in a currency other than the functional currency, and the major foreign currencies for which the exchange position occurs are USD, EUR, JPY, CNY and the others.

The Company selects the foreign exchange risk management policy of each company by considering the nature of the business and the existence of measures to cope with the exchange rate fluctuation risk of each company being connected. In addition, the Company regularly evaluates, manages and reports the risks of foreign exchange exposure, using the foreign exchange risk management model, so that the maximum amount of loss for foreign exchange risk exposure is within the allowable range. The Company uses derivatives for foreign exchange risk management purposes, if necessary.

The following table shows the sensitivity for each foreign currency on income before income tax, with all other variables held constant as of December 31, 2021 and 2020, when exchange rates change by 1% for the foreign exchange positions held by the Company.

*In thousands of won*

		December 31, 2021		December 31, 2020	
		1% increase	1% decrease	1% increase	1% decrease
USD	₩	2,540,864	(2,540,864)	268,134	(268,134)
EUR		(2,312,045)	2,312,045	(169,701)	169,701
JPY		156,921	(156,921)	33,560	(33,560)
CNY		74,456	(74,456)	43,189	(43,189)
Others		498,455	(498,455)	238,423	(238,423)
	₩	<u>958,651</u>	<u>(958,651)</u>	<u>413,605</u>	<u>(413,605)</u>

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**5. Financial Risk Management, Continued**

**(2) Financial risk management, continued**

The table above shows the sensitivity analysis performed on monetary assets and liabilities denominated in foreign currencies other than the Company's functional currency. The effect of changes in foreign exchange rates due to the hedging effectiveness of derivative instrument transactions was also considered.

(B) Interest rate risk

Interest rate risk is the risk that future changes in market interest rates will result in changes in interest income and interest costs, such as deposits and borrowing, mainly from deposits and borrowing in variable interest terms.

The purpose of the Company's interest rate risk management is to maximize the value of the company by seeking to minimize the uncertainty of interest rate changes and net interest costs.

If the interest rate on variable interest rate borrowings increased/decreased by 1% holding all other variables constant, income before income tax expense as of December 31, 2020, would have decreased/increased by ₩17,023 million (December 31, 2020: ₩5,091 million).

This analysis assumed that variables other than interest rates were constant, and the effect of interest rate fluctuations due to derivatives transactions that result in a hedge effect that is confirmed to be concluded was also considered.

3) Credit risk

The Company is exposed to credit risk that could result in financial loss to the other party due to the failure of one of the parties to the financial instrument to fulfill its obligations. The management of the Company is dealing with customers whose credit rating is above a certain level in order to manage credit risk. When a contract is made with a new customer, the Company evaluates the customer's creditworthiness by using financial information and information provided by the credit rating agency, and determines the credit limit based on this. In addition, the company periodically re-evaluates the credit rating of customers, re-evaluates the credit limit, readjusts the collateral level, and quarterly reports present condition of collection being delayed, and measures for recovery, and takes appropriate actions according to the reasons for delay.

The Company's maximum exposure to credit risk is the same as carrying amount and maximum guarantee amount of all financial assets (excluding equity instruments), which include cash and cash equivalents deposited at financial institutions and trade receivables and other receivables.

As of December 31, 2021, the company provides payment guarantees to related parties and others, and the maximum amount exposed to credit risk is ₩2,174,945 million.

The Company maintains a reasonable level of unused borrowing limits (see Note 38) and monitors its liquidity forecasts at all times in order to meet operating capital requirements so that it does not violate borrowing limits or commitments. When estimating liquidity, we consider such requirements if we have external legal or regulatory requirements, such as our financing plans, compliance with commitments, our target internal financial ratios, and restrictions on currencies.

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5. Financial Risk Management, Continued

(2) Financial risk management, continued

4) Liquidity risk

(A) Expected cash flows of non-derivative liabilities by maturity

Maturity analysis of non-derivative liabilities according to their remaining maturities as of December 31, 2021 and 2020, are as follows:

*In thousands of won*

		<b>December 31, 2021</b>			
		<b>Within 1 year</b>	<b>1 to 5 years</b>	<b>Over 5 years</b>	<b>Total</b>
Borrowings(*1)	₩	1,592,939,898	2,424,975,904	303,550,592	4,321,466,394
Trade payables and other payables		1,689,361,342	179,770,825	-	1,869,132,167
Other financial liabilities(*2)		218,204,944	246,013,811	347,773,382	811,992,137
	₩	<u>3,500,506,184</u>	<u>2,850,760,540</u>	<u>651,323,974</u>	<u>7,002,590,698</u>

(\*1) Includes projected cash flows of related interest expense.

(\*2) Expected cash flows from accrued interest and financial guarantee liabilities are not included.

*In thousands of won*

		<b>December 31, 2020</b>			
		<b>Within 1 year</b>	<b>1 to 5 years</b>	<b>Over 5 years</b>	<b>Total</b>
Borrowings(*1)	₩	1,360,267,241	1,718,425,612	282,959,012	3,361,651,865
Trade payables and other payables		756,013,641	-	-	756,013,641
Other financial liabilities(*2)		102,152,217	72,479,363	44,012,742	218,644,322
	₩	<u>2,218,433,099</u>	<u>1,790,904,975</u>	<u>326,971,754</u>	<u>4,336,309,828</u>

(\*1) Includes projected cash flows of related interest expense.

(\*2) Expected cash flows from accrued interest and financial guarantee liabilities are not included.

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5. Financial Risk Management, Continued

(2) Financial risk management, continued

(B) Expected cash flows of derivative liabilities by maturity

Expected cash flows of derivative liabilities by maturity as of December 31, 2021 and 2020, are as follows:

*In thousands of won*

		<b>December 31, 2021</b>			
		<b>Within 1 year</b>	<b>1 to 5 years</b>	<b>Over 5 years</b>	<b>Total</b>
Derivatives liabilities(*)	₩	(7,066,500)	(20,684,495)	-	(27,750,995)

(\*) Even if derivatives settled gross were classified as assets, expected cash flows are included in the liquidity risk analysis. Derivatives settled on a gross basis whose prices have not yet been determined are reflected in the expected net cash flows.

*In thousands of won*

		<b>December 31, 2020</b>			
		<b>Within 1 year</b>	<b>1 to 5 years</b>	<b>Over 5 years</b>	<b>Total</b>
Derivatives liabilities(*)	₩	(4,627,559)	29,227,349	22,816,027	47,415,817

(\*) Even if derivatives settled gross were classified as assets, expected cash flows are included in the liquidity risk analysis. Derivatives settled on a gross basis whose prices have not yet been determined are reflected in the expected net cash flows.

(C) In addition to the above financial liabilities, the company enters into financial guarantee contracts and fund supplement agreements for related parties and employees. Therefore, additional payment obligations may arise within one year if the related parties and employees provided with the guarantee fail to fulfill their payment obligations, and the maximum amount of the related liquidity risk is ₩2,174,945 million (December 31, 2020: ₩1,966,979 million). (see Note 38. (4) and Note 39. (6), (7), (8))

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5. Financial Risk Management, Continued

(3) Capital risk management

The purpose of capital management is to have abilities to provide continuous profits to the shareholders and stakeholders as a going concern company, and to reduce cost of capital.

In order to maintain or to adjust the structure of the equity, the Company adjusts the dividends that are distributed to the shareholders. Also the Company issues shares and sells the assets in order to reduce its liabilities.

The Company manages its equity based on debt ratio. Debt ratio is calculated by dividing the total liabilities by the total equity of the Company. The total liabilities and the total equity are "total liabilities" and "total equity" in the statements of financial position.

The Company's debt ratio as of December 31, 2021 and 2020, are as follows:

*In thousands of won*

		December 31, 2021	December 31, 2020
Liabilities (A)	₩-	7,467,425,246	4,902,193,126
Equity (B)		7,842,634,457	5,724,221,507
Debt Ratio (A/B)		95.2%	85.6%

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6. Fair value

(1) Fair value of financial instruments by category

Fair values of financial instruments by category as of December 31, 2021 and 2020, are as follows:

*In thousands of won*

	December 31, 2021		December 31, 2020	
	Book value	Fair Value	Book value	Fair Value
<b>Financial assets</b>				
Cash and cash equivalents	₩ 700,830,713	700,830,713	361,473,751	361,473,751
FVTPL – income financial assets	27,713,016	27,713,016	2,921,679	2,921,679
FVTOCI – income financial assets(*)	11,355,815	11,355,815	11,248,925	11,248,925
Derivative assets	32,873,379	32,873,379	12,954,637	12,954,637
Trade receivables and other receivables	1,627,695,991	1,627,695,991	1,067,760,471	1,067,760,471
Other financial assets	118,816,400	118,816,400	61,785,857	61,785,857
	₩ 2,519,285,314	2,519,285,314	1,518,145,320	1,518,145,320
<b>Financial liabilities</b>				
Trade payables and other payables	₩ 1,861,298,068	1,861,298,068	756,013,641	756,013,641
Borrowings	4,175,521,948	4,171,868,096	3,228,191,278	3,219,551,668
Derivative liabilities	5,122,384	5,122,384	60,370,454	60,370,454
Other financial liabilities	696,669,737	696,669,737	267,987,600	267,987,600
	₩ 6,738,612,137	6,734,958,285	4,312,562,973	4,303,923,363

(\*) The acquisition cost was used as fair value for trade receivables and other receivables and non-listed shares whose difference between fair value and acquisition cost is not important.

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**6. Fair value, Continued**

**(2) Fair value hierarchy**

Financial instruments that are measured at fair values are separated by hierarchy level and defined levels are as follows:

- Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities.
- Level 2: inputs to an asset or liability that are observable either directly (e.g., price) or indirectly (e.g., derived from price), except for the quoted price included in Level 1.
- Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs).

Financial instruments that are measured at fair values by hierarchy level as of December 31, 2021 and 2020, are as follows:

*In thousands of won*

		<b>December 31, 2021</b>			
		<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Total</b>
Recurring fair value measurements					
FVTOCI – income financial assets	₩	-	-	11,355,815	11,355,815
FVTPL – income financial assets		-	-	27,713,016	27,713,016
Derivative assets		-	32,873,379	-	32,873,379
Derivative liabilities		-	5,122,384	-	5,122,384
Trade payables and other payables - contingent consideration		-	-	37,711,894	37,711,894

(\*) For the year ended December 31, 2021, contingent consideration related to the consideration transferred were recognized as fair value when acquiring the shares in WOS inc. (see Note 38(7)).

*In thousands of won*

		<b>December 31, 2020</b>			
		<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Total</b>
Recurring fair value measurements					
FVTOCI – income financial assets	₩	-	-	11,248,925	11,248,925
FVTPL – income financial assets		-	-	2,921,679	2,921,679
Derivative assets		-	12,954,637	-	12,954,637
Derivative liabilities		-	60,370,454	-	60,370,454

The fair value hierarchy was not disclosed for financial assets and financial liabilities whose book value was judged to be a reasonable approximation of fair value.

**(3) There was no transfer between Level 2 and Level 3 for the year ended December 31, 2021.**

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6. Fair value, Continued

(4) Changes in fair value of financial assets classified as Level 3 for the year ended December 31, 2021 are as follows:

In thousands of won

		2021			
		FVTPL – income financial assets	FVTOCI – income financial assets	Contingent consideration	Total
Balance at 1 January	₩	2,921,679	11,248,925	-	14,170,604
Business combination		20,000,000	-	-	20,000,000
Acquisition		5,801,434	-	(37,462,772)	(31,661,338)
Disposal		(3,292,350)	-	-	(3,292,350)
Amount recognized in net income		2,275,515	-	(249,122)	2,026,393
Amount recognized in other comprehensive income		-	113,629	-	113,629
Others		6,739	(6,739)	-	-
Balance at 31 December	₩	<u>27,713,017</u>	<u>11,355,815</u>	<u>(37,711,894)</u>	<u>1,356,938</u>

(5) Valuation techniques and inputs used in the recurring fair value measurements of financial instruments categorized within Level 2 and Level 3 of the fair value hierarchy are as follows:

- Derivative instruments (currency forward, currency swap, interest rate swap)

Fair value of currency forwards is measured based on forward exchange rate quoted in the current market at the end of the reporting period, which has the same remaining period of derivatives to be measured. If the forward exchange rate, which has the same remaining period of currency forward, is not quoted in the current market, fair value is measured using estimates of similar period of forward exchange rate by applying interpolation method with quoted forward exchange rates. Fair value of currency forward, swap and interest rate swap, which has no quoted forward exchange rate, is measured based on reports received from banks. As the inputs used to measure fair value of derivative instruments are supported by observable market data, such as forward exchange rates, the Company classified the estimates of fair value measurements of the derivative instruments as Level 2 of the fair-value hierarchy.

- Unlisted equity securities

Fair value of unlisted equity securities is measured using discounted cash flow projection and certain assumptions not based on observable market prices or rates, such as sales growth rate, pretax operating income ratio and discount rate based on business plan and circumstance of industry are used to estimate the future cash flow. The weighted-average cost of capital used to discount the future cash flows, is calculated by applying the Capital Asset Pricing Model, using the data of similar listed companies. The Company determines that the effect of estimation and assumptions referred above affecting fair value of unlisted equity securities is significant and classifies fair value measurements of unlisted securities as Level 3 of the fair-value hierarchy.

- Contingent consideration

The fair value of contingent consideration is measured using a cash flow discount model, and some assumptions such as the feasibility of contingent consideration based on business plans and industry conditions and discount rates are used to estimate future cash flows. The discount rate used to discount future cash flows is the interest rate on corporate bonds considering the company's credit rating and term coefficient. The company classified the fair value measurement of the contingent consideration as Level 3 in the fair value hierarchy, judging that the effect of the above-mentioned major assumptions and estimates on the fair value of the contingent consideration is significant.

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7. Financial Instruments by Category

(1) Carrying amount of financial instruments by category

1) Carrying amount of financial assets by category as of December 31, 2021 and 2020, are as follows:

*In thousands of won*

		<b>December 31, 2021</b>				
		<b>Financial assets at FVTPL</b>	<b>Financial assets at FVTOCI</b>	<b>Financial assets at amortized cost</b>	<b>Others(*)</b>	<b>Total</b>
Cash and cash equivalents	₩	-	-	700,830,713	-	700,830,713
Trade receivables and other receivables		-	62,746,815	1,552,133,185	-	1,614,880,000
Other financial assets		10,847,120	-	34,224,650	976,286	46,048,056
FVTPL - financial assets		27,713,016	-	-	-	27,713,016
FVTOCI - financial assets		-	11,355,815	-	-	11,355,815
Trade receivables and other receivables		-	-	12,815,991	-	12,815,991
Other long-term financial assets		21,049,973	-	84,591,750	-	105,641,723
	₩	59,610,109	74,102,630	2,384,596,289	976,286	2,519,285,314

(\*) Includes hedging derivative instruments, which financial assets by category is not applicable.

*In thousands of won*

		<b>December 31, 2020</b>			
		<b>Financial assets at FVTPL</b>	<b>Financial assets at FVTOCI</b>	<b>Financial assets at amortized cost</b>	<b>Total</b>
Cash and cash equivalents	₩	-	-	361,473,751	361,473,751
Trade receivables and other receivables		-	29,131,463	1,024,617,156	1,053,748,619
Other financial assets		12,954,637	-	29,058,720	42,013,357
FVTPL - financial assets		2,921,679	-	-	2,921,679
FVTOCI - financial assets		-	11,248,925	-	11,248,925
Trade receivables and other receivables		-	-	14,011,852	14,011,852
Other long-term financial assets		-	-	32,727,137	32,727,137
	₩	15,876,316	40,380,388	1,461,888,616	1,518,145,320

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7. Financial Instruments by Category, Continued

(1) Carrying amount of financial instruments by category, continued

2) Carrying amounts of financial liabilities by category as of December 31, 2021 and 2020, are as follows:

*In thousands of won*

		<b>December 31, 2021</b>			
		<b>Financial liabilities FVTPL</b>	<b>Financial liabilities at amortized cost</b>	<b>Others(*)</b>	<b>Total</b>
Current:					
Trade payables and other payables	₩	4,902,203	1,682,983,406	-	1,687,885,609
Short-term borrowings		-	1,535,303,660	-	1,535,303,660
Other financial liabilities		4,756,906	225,399,935	56,577,986	286,734,827
Non-current:					
Trade payables and other payables		32,809,691	140,602,768	-	173,412,459
Long-term borrowings		-	2,640,218,288	-	2,640,218,288
Other long-term financial liabilities		365,478	414,691,816	-	415,057,294
	₩	<u>42,834,278</u>	<u>6,639,199,873</u>	<u>56,577,986</u>	<u>6,738,612,137</u>

(\*) It includes financial guarantee liabilities(see Note 23) that are not subject to financial liabilities by category.

*In thousands of won*

		<b>December 31, 2020</b>			
		<b>Financial liabilities FVTPL</b>	<b>Financial liabilities at amortized cost</b>	<b>Others(*)</b>	<b>Total</b>
Current:					
Trade payables and other payables	₩	-	756,013,641	-	756,013,641
Short-term borrowings		-	1,304,495,053	-	1,304,495,053
Other financial liabilities		8,327,079	106,953,934	56,822,393	172,103,406
Non-current:					
Long-term borrowings		-	1,923,696,225	-	1,923,696,225
Other long-term financial liabilities		52,043,375	104,169,512	41,761	156,254,648
	₩	<u>60,370,454</u>	<u>4,195,328,365</u>	<u>56,864,154</u>	<u>4,312,562,973</u>

(\*) It includes financial guarantee liabilities(see Note 23) that are not subject to financial liabilities by category.

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7. Financial Instruments by Category, Continued

(2) Net profit or loss of financial instruments by category

Details of net profit or loss of financial instruments by category for the years ended December 31, 2021 and 2020, are as follows:

In thousands of won

	2021						
	Financial assets at FVTPL	Financial assets at FVTOCI	Financial assets at amortized cost	Financial liabilities at FVTPL	Financial liabilities at amortized cost	Others	Total
Bad debt expense	₩ -	-	(8,183,205)	-	-	-	(8,183,205)
Other bad debt expense	-	-	(1,014,830)	-	-	-	(1,014,830)
Gain on foreign currency transactions	-	-	65,312,365	-	5,446,224	-	70,758,589
Gain on foreign currency translation	-	-	11,718,739	-	6,472,229	-	18,190,968
Loss on foreign currency transactions	-	-	(12,291,590)	-	(55,193,405)	-	(67,484,995)
Loss on foreign currency translation	-	-	(3,278,069)	-	(79,162,473)	-	(82,440,542)
Gain on valuation of financial asset	2,290,740	-	-	-	-	-	2,290,740
Loss on valuation of financial asset	(15,225)	-	-	-	-	-	(15,225)
Loss on disposal of financial asset	(123,756)	(558,112)	-	-	-	-	(681,868)
Gain on transactions of derivatives	19,024,719	-	-	-	-	-	19,024,719
Loss on valuation of derivatives	(3,539,195)	-	-	-	-	-	(3,539,195)
Loss on transactions of derivatives	(41,374,032)	-	-	-	-	-	(41,374,032)
Gain on valuation of derivatives	83,917,279	-	-	-	-	-	83,917,279
Interest income (expense)	-	-	10,336,965	(249,122)	(88,123,741)	-	(78,035,898)
Reversal of financial guarantee liabilities	-	-	-	-	-	12,744,101	12,744,101
Dividend income	900,774	421,297	-	-	-	-	1,322,071
Profit(loss) before income tax	61,081,304	(136,815)	62,600,375	(249,122)	(210,561,166)	12,744,101	(74,521,323)
Other comprehensive income:							
Gain (loss) on valuation	-	113,629	-	-	-	-	113,629
Gain (loss) on valuation of derivatives	-	-	-	-	-	1,058,623	1,058,623
Comprehensive income before tax	₩ 61,081,304	(23,186)	62,600,375	(249,122)	(210,561,166)	13,802,724	(73,349,071)

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7. Financial Instruments by Category, Continued

(2) Net profit or loss of financial instruments by category, Continued

In thousands of won

	2020					Total
	Financial assets at FVTPL	Financial assets at FVTOCI	Financial assets at amortized cost	Financial liabilities at amortized cost	Others	
Bad debt expense	₩ -	-	(1,355,740)	-	-	(1,355,740)
Other bad debt expense	-	-	(15,929,805)	-	-	(15,929,805)
Gain on foreign currency transactions	-	-	69,815,150	36,945,168	-	106,760,318
Gain on foreign currency translation	-	-	2,778,702	64,815,112	-	67,593,814
Loss on foreign currency transactions	-	-	(92,774,063)	(23,834,719)	-	(116,608,782)
Loss on foreign currency translation	-	-	(25,384,405)	(1,591,648)	-	(26,976,053)
Gain on valuation of financial asset	47,892	-	-	-	-	47,892
Loss on valuation of financial asset	(513,887)	-	-	-	-	(513,887)
Loss on disposal of financial asset	(3,246)	(7,338)	(556,277)	-	-	(566,861)
Gain on transactions of derivatives	30,519,304	-	-	-	-	30,519,304
Loss on valuation of derivatives	(61,496,882)	-	-	-	-	(61,496,882)
Loss on transactions of derivatives	(17,726,583)	-	-	-	-	(17,726,583)
Gain on valuation of derivatives	12,685,183	-	-	-	-	12,685,183
Interest income (expense)	-	-	5,365,246	(95,584,257)	-	(90,219,011)
Reversal of financial guarantee liabilities	-	-	-	-	12,683,599	12,683,599
Dividend income	-	421,297	-	-	-	421,297
Profit(loss) before income tax	<u>(36,488,219)</u>	<u>413,959</u>	<u>(58,041,192)</u>	<u>(19,250,344)</u>	<u>12,683,599</u>	<u>(100,682,197)</u>
Other comprehensive income:						
Gain (loss) on valuation	-	(19,976)	-	-	-	(19,976)
Comprehensive income before tax	₩ <u>(36,488,219)</u>	<u>393,983</u>	<u>(58,041,192)</u>	<u>(19,250,344)</u>	<u>12,683,599</u>	<u>(100,702,173)</u>

8. Transfer of Financial Assets

1) If the counterparty holds the right to recourse the transferred asset, it will be proceeded in the way of not derecognising whole financial assets, and the debt related to the transferred financial asset is recorded as a short-term loan. As of the end of the current year, there are no financial assets that have been transferred but have not been completely derecognized.

2) As of December 31, 2021, there is no continuous involvement in transferred financial assets that have been derecognized.

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**9. Cash and Cash Equivalents**

Cash and cash equivalents as of December 31, 2021 and 2020, are as follows:

<i>In thousands of won</i>	<b>December 31, 2021</b>	<b>December 31, 2020</b>
Cash	₩ 759,868	-
Cash deposits	343,456,618	98,362,871
Cash equivalents(*)	356,614,227	263,110,880
	<u>₩ 700,830,713</u>	<u>361,473,751</u>

(\*) Other cash equivalents of ₩100 million are provided as transaction performance guarantee as of December 31, 2021.

**10. Trade Receivables and Other Receivables**

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

<i>In thousands of won</i>	<b>December 31, 2021</b>		<b>December 31, 2020</b>	
	<b>Current</b>	<b>Non-current</b>	<b>Current</b>	<b>Non-current</b>
Trade receivables	₩ 1,576,269,413	2,875,372	1,046,948,614	526,543
Less : present value discount	(9,647)	(57,937)	(9,684)	(67,584)
Allowances for doubtful accounts	(26,630,680)	(12,081)	(15,001,523)	-
	<u>1,549,629,086</u>	<u>2,805,354</u>	<u>1,031,937,407</u>	<u>458,959</u>
Other receivables	66,548,533	11,838,450	22,286,426	13,996,904
Less : present value discount	-	(411,673)	-	(444,011)
Allowances for doubtful account	(1,297,619)	(1,416,140)	(475,214)	-
	<u>65,250,914</u>	<u>10,010,637</u>	<u>21,811,212</u>	<u>13,552,893</u>
	<u>₩ 1,614,880,000</u>	<u>12,815,991</u>	<u>1,053,748,619</u>	<u>14,011,852</u>

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10. Trade Receivables and Other Receivables, Continued

(2) The aging analysis of trade receivables and other receivables as of December 31, 2021 and 2020, are as follows:

<i>In thousands of won</i>	<u>December 31, 2021</u>	<u>December 31, 2020</u>
Receivables not past due(*1):	₩ 1,406,897,617	892,735,267
Past due but not impaired:		
Less than 3 months	159,384,983	109,864,392
Less than 6 months	15,232,849	22,377,735
Less than 1 year	31,945,911	31,380,381
Over 1 year	26,896,010	14,502,080
	<u>233,459,753</u>	<u>178,124,588</u>
Impaired(*1):		
Less than 1 year	1,227,853	1,262,861
Over 1 year	15,946,545	11,635,771
	<u>17,174,398</u>	<u>12,898,632</u>
Total(*2)	₩ <u>1,657,531,768</u>	<u>1,083,758,487</u>

(\*1) The above classification of non-impaired and impaired receivables is the result of the individual assessment.

(\*2) The total amount of trade receivables and other receivables before deducting the present value discount.

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10. Trade Receivables and Other Receivables, Continued

(3) Changes in allowance for doubtful accounts for the years ended December 31, 2021 and 2020, are as follows:

*In thousands of won*

		2021		
		Non-impaired receivables	Impaired receivables	Total
Balance at 1 January 2021	₩	2,578,105	12,898,632	15,476,737
Business combination		4,800,016	1,512,823	6,312,839
Write-offs		(1,463,880)	(151,641)	(1,615,521)
Reversal		259,432	-	259,432
Changes by increases or collecting of receivables		6,008,450	2,914,583	8,923,033
Balance at 31 December 2021(*)	₩	12,182,123	17,174,397	29,356,520

(\*) As of December 31, 2021, the Company applies the practical expedient of K-IFRS 1109 and measures loss allowance of trade and other accounts receivable at lifetime expected credit losses.

*In thousands of won*

		2020		
		Non-impaired receivables	Impaired receivables	Total
Balance at 1 January 2020	₩	611,942	950,444	1,562,386
Business combination		1,087,989	12,199,826	13,287,815
Write-offs		(25,370)	(511,126)	(536,496)
Changes by increases or collecting of receivables		903,544	259,488	1,163,032
Balance at 31 December 2020(*)	₩	2,578,105	12,898,632	15,476,737

(\*) As of December 31, 2020, the Company applies the practical expedient of K-IFRS 1109 and measures loss allowance of trade and other accounts receivable at lifetime expected credit losses.

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11. Other Financial Assets

(1) Other financial assets as of December 31, 2021 and 2020, are as follows:

<i>In thousands of won</i>	December 31, 2021		December 31, 2020	
	Current	Non-current	Current	Non-current
Financial instruments(*)	₩ 27,309,041	2,593,500	28,315,377	1,731,000
Loans	2,143,680	39,577,886	-	6,465,889
Accrued revenue	402,770	-	369,025	-
Deposits	4,369,159	42,420,364	374,318	24,530,248
Derivative assets	11,823,406	21,049,973	12,954,637	-
	₩ 46,048,056	105,641,723	42,013,357	32,727,137

(\*) Restricted other financial assets as of December 31, 2021 are ₩26,574 million (2020: ₩23,622 million).

(2) Derivatives

The Company entered into currency forwards, cross currency swaps and other contracts to hedge exchange rate risk of trade receivables denominated in foreign currencies. Derivatives as of December 31, 2021 and 2020, are as follows:

<i>In thousands of won</i>	December 31, 2021		December 31, 2020	
	Assets	Liabilities	Assets	Liabilities
Current:				
Currency forwards	₩ 356,228	3,173,717	12,442,245	1,085,030
Currency swaps	11,467,178	1,583,189	512,392	6,861,056
Interest swaps	-	-	-	380,993
	11,823,406	4,756,906	12,954,637	8,327,079
Non-current:				
Currency swaps	20,941,668	365,478	-	51,941,274
Interest swaps	108,305	-	-	102,101
	21,049,973	365,478	-	52,043,375
	₩ 32,873,379	5,122,384	12,954,637	60,370,454

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12. Other Assets

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

		December 31, 2021		December 31, 2020	
		Current	Non-current	Current	Non-current
In thousands of won					
Advance payments	₩	69,581,950	4,048,924	108,378,264	-
Prepaid construction cost		1,289,810	-	2,002,851	-
Prepaid expenses		12,435,006	1,944,064	8,325,345	568,779
Prepaid value-added tax and others		36,727,675	-	28,117,742	-
Emission rights		4,229,097	-	4,441,306	-
Refundable assets		80,913	-	-	-
Contract assets		3,183,137	-	4,373,062	-
	₩	<u>127,527,588</u>	<u>5,992,988</u>	<u>155,638,570</u>	<u>568,779</u>

13. Inventories

(1) Inventories as of December 31, 2021 and 2020, are as follows:

		December 31, 2021			December 31, 2020		
		Acquisition cost	Valuation reserve	Book value	Acquisition cost	Valuation reserve	Book value
In thousands of won							
Merchandise	₩	59,643,132	(1,310,867)	58,332,265	6,329,181	(222,761)	6,106,420
Finished goods		518,482,862	(44,212,963)	474,269,899	303,025,468	(5,833,792)	297,191,676
Work in process		4,321,253	-	4,321,253	1,033,787	-	1,033,787
Raw materials		136,580,139	(5,443,037)	131,137,102	92,501,367	(1,964,282)	90,537,085
Supplies		43,257,377	-	43,257,377	54,180,465	-	54,180,465
Goods in transit		67,456,324	-	67,456,324	27,955,765	-	27,955,765
	₩	<u>829,741,087</u>	<u>(50,966,867)</u>	<u>778,774,220</u>	<u>485,026,033</u>	<u>(8,020,835)</u>	<u>477,005,198</u>

(2) The loss(reversal) on valuation of inventories included in cost of sales in the separate statements of comprehensive income ended December 31, 2021, amounts to ₩39,866 million (December 31, 2020: (-) ₩3,024 million).

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**14. Fair Value Financial Assets**

**(1) Fair value financial assets through other comprehensive income as of December 31, 2021 and 2020, are as follows:**

<i>In thousands of won</i>	<u>December 31, 2021</u>	<u>December 31, 2020</u>
Equity securities Unlisted securities(*) ₩	11,355,815	11,248,925

(\*) The Company has employed an irrevocable option, designating equity instrument for the purpose of strategic investment, not for trading, as financial assets at FVTOCI.

**(2) Fair value financial assets through profit or loss as of December 31, 2021 and 2020, are as follows:**

<i>In thousands of won</i>	<u>December 31, 2021</u>	<u>December 31, 2020</u>
Equity securities ₩	27,362,363	2,919,930
Beneficiary certificate	2,387	1,749
Debt instruments	348,266	-
₩	<u>27,713,016</u>	<u>2,921,679</u>

**(3) Acquisition cost was measured at fair value for unlisted stocks where the difference between fair value and acquisition cost is not important.**

**(4) Changes in Fair value through other comprehensive income financial assets for the years ended December 31, 2021 and 2020, are as follows:**

<i>In thousands of won</i>	<u>2021</u>	<u>2020</u>
Balance at 1 January ₩	11,248,925	11,262,162
Business combination	-	6,739
Gain (loss) on valuation as equity	113,629	(19,976)
Others	(6,739)	-
Balance at 31 December ₩	<u>11,355,815</u>	<u>11,248,925</u>

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15. Investments in Subsidiaries, Associates and Joint Ventures

(1) Investments in subsidiaries, associates and joint ventures as of December 31, 2021 and 2020, are as follows:

In thousands of won

Investees	Location	December 31, 2021		December 31, 2020	
		Ownership (%)	Book value	Ownership (%)	Book value
Subsidiaries:					
Hanwha Galleria Co., Ltd.(*1)	Korea	-	₩ -	100.00	₩ 499,034,692
Hanwha City Development Co., Ltd.(*2)	Korea	100.00	98,374,528	100.00	209,771,145
Hanwha Compound Co., Ltd.	Korea	100.00	57,850,875	100.00	57,850,875
Hanwha Global Asset Corporation(*3)	Korea	100.00	1,000,114,865	100.00	735,620,349
Hanwha Chemical Overseas Holdings, Co., Ltd.	Korea	100.00	95,014,350	100.00	95,014,350
Hanwha Chemical Trading (Shanghai) Co., Ltd.	China	100.00	3,209,559	100.00	3,209,559
HANWHA CHEMICAL INDIA PRIVATE LIMITED	India	99.99	168,991	99.99	168,991
Hanwha Chemical Malaysia Sdn. Bhd.	Malaysia	100.00	3,314,400	100.00	3,314,400
Hanwha Chemical (Ningbo) Co., Ltd.	China	100.00	262,048,271	100.00	262,048,271
Hanwha Chemical (Thailand) Co., Ltd.	Thailand	99.99	24,907,971	99.99	24,907,971
Hanwha International Corp.	USA	100.00	55,314,190	100.00	55,314,190
Hanwha Q CELLS Co., Ltd.(*4)	England	100.00	1,829,283,117	100.00	1,442,597,607
Haeorum PV Plant Corporation(*5)	Korea	100.00	3,805,000	100.00	2,305,000
Q CELLS ASSET MANAGEMENT LIMITED	England	100.00	3,571,026	100.00	3,571,026
HAMC Holdings Corp.(*8)	USA	100.00	69,639,912	100.00	11,515,389
HANWHA SOLUTIONS USA HOLDINGS(*9)	USA	100.00	158,380,000	-	-
RES Mediterranean(*20)	France	100.00	1,014,247,609	-	-
Hanwha EU ENERGY Solutions SE(*21)	Germany	100.00	179,659	-	-
WOS Inc.(*10)	Korea	100.00	102,056,795	-	-
NXEF CO.,LTD (*22)	Korea	100.00	3,000,000	-	-
Hanwha Galleria Timeworld Co., Ltd.(*6)	Korea	99.99	163,275,050	-	-
Hanwha B&B Co., Ltd.(*6)(19)	Korea	100.00	3,407,276	-	-
Asan Techno Valley(*7)(*11)	Korea	-	-	-	-
Gyeonggi Yongin Techno Valley Co., Ltd.(*7)	Korea	75.00	6,149,392	-	-
Gimhae Techno Valley Co., Ltd.(*7)	Korea	80.00	2,454,720	-	-
SEOSAN TECHNO VALLEY(*7)	Korea	65.00	7,920,713	-	-
H-Techno Valley Co.,Ltd(*7)	Korea	80.00	3,536,226	-	-
The Second Yong In Techno Valley Co, Ltd(*7)	Korea	70.00	3,011,908	-	-
West Ochang Techno Valley Co., ltd.(*7)(*12)	Korea	73.00	-	-	-
Anseong Techno Valley(*7)	Korea	75.00	-	-	-
H-Valley Co.,Ltd.(*7)	Korea	51.00	-	-	-
Associates:					
Hanwha Eagles Professional Baseball Club	Korea	40.00	-	40.00	-
Hanwha Impact Corporation (formerly, Hanwha General Chemical Co., Ltd.)(*13)	Korea	47.93	1,021,440,817	36.05	535,477,300
Hanwha Hotels and Resorts Co., Ltd.(*14)(*18)	Korea	47.90	270,356,369	48.70	241,577,469
Crystal Solar Inc.	USA	29.09	-	29.09	-
Smile Ventures Co., Ltd.(*6)(*15)	Korea	17.69	1,947,426	-	-
Hanwha Station Development Co., Ltd.(*7)	Korea	40.01	64,713,166	-	-
Envisioning Climate Solutions Fund (*16)	Korea	22.49	2,250,000	-	-
HANWHA FUND INVESTMENT 1 HO (*23)	Korea	20.00	5,335,468	-	-
Joint ventures:					
YECHUN NCC Co., Ltd.	Korea	50.00	370,135,400	50.00	370,135,400
Ulsan Complex City Development Co., Ltd. (*17)	Korea	45.00	6,750,000	-	-
			₩ 6,717,165,049		₩ 4,553,433,984

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**15. Investments in Subsidiaries, Associates and Joint Ventures, Continued**

**(1) Investments in subsidiaries, associates and joint ventures as of December 31, 2021 and 2020, are as follows, continued:**

(\*1) On April 1, 2021, The Company merged Hanwha Galleria Co., Ltd.

(\*2) On April 1, 2021, The Company divided Hanwha City Development Co., Ltd. and merged.

(\*3) The company participated in Hanwha Global Asset Corporation paid-in capital increase and invested ~~₩~~264,495 million for the year ended December 31, 2021.

(\*4) The company participated in the paid-in capital increase of Hanwha Q CELLS Co., Ltd. and invested ~~₩~~386,686 million for the year ended December 31, 2021.

(\*5) The company participated in the paid-in capital increase of Haeorum PV Plant Corporation and invested ~~₩~~1500 million in the subsidiary, and provided all of the shares invested in the subsidiary as collateral for the investment company's borrowings (see Note 38) for the year ended December 31, 2021.

(\*6) The company acquired associates and subsidiaries of Hanwha Galleria Co., Ltd. by merging Hanwha Galleria Co., Ltd. for the year ended December 31, 2021.

(\*7) The company acquired associates and subsidiaries of Hanwha Urban Development Co., Ltd. by dividing and merging Hanwha City Development Co., Ltd. for the year ended December 31, 2021.

(\*8) The company invested ~~₩~~58,125 million in HAMC Holdings Corp. for the year ended December 31, 2021.

(\*9) The company invested ~~₩~~158,380 million in HANWHA SOLUTIONS USA HOLDINGS for the year ended December 31, 2021.

(\*10) The company invested ~~₩~~102,057 million in WOS Inc. for the year ended December 31, 2021.

(\*11) The company liquidated ~~₩~~1,666 million in Asan Techno Valley for the year ended December 31, 2021.

(\*12) The company provided all of the shares invested in the subsidiary as collateral for the investment company's borrowings in the PF loan agreement of Seochang Techno Valley Co., Ltd. (see Note 38) for the year ended December 31, 2021.

(\*13) The company acquired an additional ~~₩~~485,964 million in shares of Hanwha Impact Co., Ltd. (formerly, Hanwha Chemical Co., Ltd.) during the current period. The acquisition price is paid in installments, and a pledge has been established for some of the shares to secure the payment of the remaining unpaid amount for the year ended December 31, 2021. (see Note 38).

(\*14) The ratio of shareholding has been changed due to the increase in the number of issued shares due to the allocation of new shares.

(\*15) The ratio of shareholding has been changed due to the increase in the number of issued shares due to the paid-in capital increase. We have indicated the effective ratio of shareholding in consideration of preferred stocks with voting rights.

(\*16) The company invested ~~₩~~2,250 million in the Envisioning Climate Solutions Fund for the year ended December 31, 2021.

(\*17) The company invested ~~₩~~6,750 million in Ulsan Complex City Development Co., Ltd. for the year ended December 31, 2021.

(\*18) The company invested ~~₩~~28,779 million in Hanwha Hotels and Resorts Co., Ltd. for the year ended December 31, 2021.

(\*19) The company impaired Hanwha B&B Co., Ltd. by ~~₩~~1,527 million for the year ended December 31, 2021.

(\*20) The company invested ~~₩~~1,014,248 million in RES Mediteranee for the year ended December 31, 2021.

(\*21) The company invested ~~₩~~180 million in Hanwha EU ENERGY Solutions SE for the year ended December 31, 2021.

(\*22) The company invested ~~₩~~3,000 million in NXEF CO.,LTD for the year ended December 31, 2021.

(\*23) The company invested ~~₩~~5,355 million in HANWHA FUND INVESTMENT 1 HO for the year ended December 31, 2021.

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15. Investments in Subsidiaries, Associates and Joint Ventures, Continued

(2) Changes in investments in subsidiaries, associates and joint ventures for the years ended December 31, 2021 and 2020, are as follows:

<i>In thousands of won</i>		<u>2021</u>	<u>2020</u>
Balance at 1 January	₩	4,553,433,984	4,489,322,832
Business combination		(350,823,240)	(349,662,996)
Acquisition		2,518,393,029	413,774,148
Disposal		(2,312,151)	-
Impairment		(1,526,573)	-
		<u>6,717,165,049</u>	<u>4,553,433,984</u>
Balance at 31 December	₩	<u>6,717,165,049</u>	<u>4,553,433,984</u>

(3) Impairment test for investments in subsidiaries, associates and joint ventures

1) The cost method is applied to investments in subsidiaries, associates and joint ventures, and the Company is reviewing the existence of signs indicating the impairment of the investments. When there are any signs that may be impaired, the recoverable amount is estimated using the discounted cash flow method, and if the recoverable amount is lower than carrying amount, an impairment loss is immediately recognized as cost by reducing the carrying amount to recoverable amount.

2) The company has subsidiary investment stocks held with a 100% stake in Hanwha Q CELLS Co., Ltd. for the year ended December 31, 2021. The Company determined that there were indications of asset impairment in relation to investments in subsidiary and conducted an impairment test in accordance with IFRS No. 1036. 'Asset Impairment'.

The recoverable amount of the cash flows generating unit (group) as of December 31, 2021 and 2020, are determined based on the estimated value of use based on the five-year financial budget approved by the management. The carrying amount and recoverable amount of the investment in subsidiary are as follows:

i) Carrying amount and recoverable amount of the Hanwha Q CELLS Co., Ltd as of December 31, 2021 and 2020, are as follows:

<i>In thousands of won</i>		<u>December 31, 2021</u>	<u>December 31, 2020</u>
Carrying amount	₩	1,829,238,117	1,442,597,607
Recoverable amount		2,160,996,450	1,491,368,408

ii) Key assumptions applied in calculating recoverable amount(value in use) as of December 31, 2021 and 2020, are as follows:

		<u>2021</u>	<u>2020</u>
Pre-tax discount rate	₩	10.00%	9.80%
Nominal permanent growth rate		-	-

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16. Investment Property

(1) Investment property as of December 31, 2021 and 2020, are as follows:

In thousands  
of won

		December 31, 2021			December 31, 2020		
		Acquisition cost	Accumulated depreciation(*)	Book value	Acquisition cost	Accumulated depreciation	Book value
Land	₩	53,991,478	-	53,991,478	37,993,837	-	37,993,837
Buildings		50,299,490	(13,403,596)	36,895,894	46,054,711	(11,478,343)	34,576,368
	₩	<u>104,290,968</u>	<u>(13,403,596)</u>	<u>90,887,372</u>	<u>84,048,548</u>	<u>(11,478,343)</u>	<u>72,570,205</u>

(\*) Includes accumulated impairment losses.

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

In thousands of won

		2021		
		Land	Buildings	Total
Balance at 1 January 2021	₩	37,993,837	34,576,368	72,570,205
Business combination		15,128,339	3,549,781	18,678,120
Disposal		(353,748)	-	(353,748)
Depreciation		-	(1,230,255)	(1,230,255)
Reclassified to non-current assets held for sale		(7,377,750)	-	(7,377,750)
Transfer		8,600,800	-	8,600,800
Balance at 31 December 2021	₩	<u>53,991,478</u>	<u>36,895,894</u>	<u>90,887,372</u>

In thousands of won

		2020			
		Land	Buildings	Structures	Total
Balance at 1 January 2020	₩	43,430,421	39,682,903	1,307,468	84,420,792
Business combination		1,265,837	776,739	-	2,042,576
Disposal		(7,224,429)	(4,664,648)	(1,202,264)	(13,091,341)
Depreciation		-	(1,252,400)	(105,204)	(1,357,604)
Transfer		522,008	33,774	-	555,782
Balance at 31 December 2020	₩	<u>37,993,837</u>	<u>34,576,368</u>	<u>-</u>	<u>72,570,205</u>

(3) The rent income from investment property for the years ended December 31, 2021 and 2020, are ₩3,800 million and ₩4,347 million, respectively, and rental fee for the years ended December 31, 2021 and 2020, are ₩85 million and ₩6 million, respectively.

(4) The fair value of investment property of the Company as of December 31, 2021 is ₩114,072 million, and it is determined based on the evaluation of an independent real estate valuation firm with appropriate qualifications and experience in relation to the property assessment in the region.

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17. Property, Plant and Equipment

(1) Property, plant and equipment as of December 31, 2021 and 2020, are as follows:

In thousands of won

	December 31, 2021				December 31, 2020			
	Acquisition Cost	Accumulated depreciation(*)	Government grants	Book value	Acquisition Cost	Accumulated depreciation(*)	Government grants	Book value
Land	₩ 1,501,482,357	-	-	1,501,482,357	758,475,018	-	-	758,475,018
Buildings	1,095,364,544	(305,793,667)	(72,112)	789,498,765	769,616,876	(179,819,355)	-	589,797,521
Structures	453,926,867	(190,785,198)	(51,353)	263,090,316	414,800,148	(207,816,528)	(55,248)	206,928,372
Machineries	4,419,178,422	(2,642,645,051)	(1,046,918)	1,775,486,453	4,473,610,361	(2,792,114,167)	(663,987)	1,680,832,207
Tools and equipment	277,909,969	(207,794,955)	(42,122)	70,072,892	193,006,063	(153,828,756)	(74,959)	39,102,348
Vehicles	43,152,725	(38,702,259)	-	4,450,466	40,161,519	(33,830,433)	-	6,331,086
Construction in progress	237,237,710	-	(205,137)	237,032,573	332,972,547	-	39,800	333,012,347
Machinery in transit	295,234	-	-	295,234	588,862	-	-	588,862
Others	18,922	-	-	18,922	-	-	-	-
	₩ <u>8,028,566,750</u>	<u>(3,385,721,130)</u>	<u>(1,417,642)</u>	<u>4,641,427,978</u>	<u>6,983,231,394</u>	<u>(3,367,409,239)</u>	<u>(754,394)</u>	<u>3,615,067,761</u>

(\*) Includes accumulated impairment losses.

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17. Property, Plant and Equipment, Continued

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

In thousands of won

	2021									
	Land	Buildings	Structures	Machineries	Vehicles	Tools and equipment	Construction In progress	Machinery In transit	Others	Total
Balance at 1 January 2021	₩ 758,475,018	589,797,521	206,928,372	1,680,832,207	6,331,086	39,102,348	333,012,347	588,862	-	3,615,067,761
Business combination	752,298,184	170,687,211	7,600,425	-	316,624	20,192,867	827,755	-	18,922	951,941,988
Acquisition(*2)	82,519	15,860,922	35,300	-	-	2,507,745	450,756,384	5,057,357	-	474,300,227
Transfers	(7,885,511)	59,656,853	65,837,602	381,935,863	1,336,827	30,608,723	(547,563,913)	(5,350,985)	-	(21,424,541)
Disposal	(1,487,853)	(5,082,279)	(262,400)	(1,914,167)	-	(764,513)	-	-	-	(9,511,212)
Depreciation	-	(41,261,082)	(17,029,190)	(238,393,624)	(3,534,071)	(21,312,147)	-	-	-	(321,530,114)
Impairment loss(*1)	-	(160,381)	(19,793)	(46,973,826)	-	(262,131)	-	-	-	(47,416,131)
Balance at 31 December 2021	₩ <u>1,501,482,357</u>	<u>789,498,765</u>	<u>263,090,316</u>	<u>1,775,486,453</u>	<u>4,450,466</u>	<u>70,072,892</u>	<u>237,032,573</u>	<u>295,234</u>	<u>18,922</u>	<u>4,641,427,978</u>

(\*1) The Company recognized the unrecoverable amount as impairment losses.

(\*2) The replacement amount from retirement benefits and other long-term employee benefits is included (see Note 26).

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17. Property, Plant and Equipment, Continued

(2) Changes in property, plant and equipment for the years ended December 31, 2021 and 2020, are as follows, continued:

In thousands of won

	2020								
	Land	Buildings	Structures	Machineries	Vehicles	Tools and equipment	Construction In progress	Machinery In transit	Total
Balance at 1 January 2021	₩ 627,892,359	190,516,081	148,044,288	907,990,486	7,084,378	14,596,346	319,884,575	288,645	2,216,297,158
Business combination Acquisition(*2)	113,528,085	403,400,760	38,953,547	625,497,116	1,652,411	23,619,486	80,787,110	5,904	1,287,444,419
Transfers	31,166,245	15,357,121	35,822,514	383,783,627	871,727	17,264,954	(491,822,815)	(7,701,610)	(15,258,237)
Disposal	(10,325,152)	(546,577)	(467,802)	(4,493,659)	-	(457,277)	-	-	(16,290,467)
Depreciation	-	(18,596,994)	(14,982,416)	(220,491,873)	(3,277,430)	(15,920,098)	-	-	(273,268,811)
Impairment loss(*1)	(3,786,519)	(332,870)	(441,759)	(11,453,490)	-	(1,063)	-	-	(16,015,701)
Balance at 31 December 2020	₩ 758,475,018	589,797,521	206,928,372	1,680,832,207	6,331,086	39,102,348	333,012,347	588,862	3,615,067,761

(\*1) The Company recognized the unrecoverable amount as impairment losses.

(\*2) The replacement amount from retirement benefits and other long-term employee benefits is included (see Note 26).

(3) Capital borrowing costs are ₩5,006 million and ₩5,507 million for the years December 31, 2021 and 2020, respectively, and the weighted-average capitalization rates of interest for the years ended December 31, 2021 and 2020, are 1.89% and 2.25%, respectively.

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17. Property, Plant and Equipment, Continued

(4) Line items which include depreciation expenses of property, plant and equipment for the years ended December 31, 2021 and 2020, are as follows:

<i>In thousands of won</i>	<b>2021</b>	<b>2020</b>
Manufacturing cost and others	₩ 271,542,652	250,604,386
Selling and administrative expenses(*)	49,987,462	22,178,308
Loss from discontinued operations	-	486,117
	₩ 321,530,114	273,268,811

(\*) Includes amounts allocated to ordinary research and development expense.

(5) Property, plant and equipment are provided as collateral ₩1,244,958 million for borrowings as of December 31, 2021(₩1,021,045 million as of December 31, 2020)(see Note 38).

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18. Intangible Assets

(1) Intangible assets as of December 31, 2021 and 2020, are as follows:

	December 31, 2021			December 31, 2020		
	Acquisition cost	Accumulated depreciation(*)	Book value	Acquisition cost	Accumulated depreciation(*)	Book value
Goodwill	₩ 35,018,051	(9,542,646)	25,475,405	35,018,051	-	35,018,051
Industrial property rights	6,997,705	(4,085,362)	2,912,343	5,644,694	(3,627,008)	2,017,686
Development costs	71,276,324	(51,341,040)	19,935,284	90,279,262	(57,412,577)	32,866,685
Membership	37,100,001	(1,370,246)	35,729,755	23,611,647	(1,315,502)	22,296,145
Emission rights	76,763	-	76,763	-	-	-
Other intangible assets	59,407,044	(40,262,409)	19,144,635	52,639,607	(28,655,817)	23,983,790
	₩ 209,875,888	(106,601,703)	103,274,185	207,193,261	(91,010,904)	116,182,357

(\*) Includes accumulated impairment losses.

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18. Intangible Assets, Continued

(2) Changes in intangible assets for the years ended December 31, 2021 and 2020, are as follows:

In thousands of won

		2021						
		Goodwill	Industrial property rights	Development costs	Membership	Emission rights	Other intangible assets	Total
Balance at 1 January 2021	₩	35,018,051	2,017,686	32,866,685	22,296,145	-	23,983,790	116,182,357
Business combination		-	31,411	-	11,902,970	-	95,495	12,029,876
Acquisition		-	1,025,375	-	3,630,494	224,292	-	4,880,161
Disposal		-	(357)	-	(2,585,416)	(147,529)	-	(2,733,302)
Amortization		-	(409,145)	(12,931,401)	(177,078)	-	(11,497,394)	(25,015,018)
Impairment loss(*)		(9,542,646)	-	-	-	-	-	(9,542,646)
Transfer		-	247,373	-	662,640	-	6,562,744	7,472,757
Balance at 31 December 2021	₩	25,475,405	2,912,343	19,935,284	35,729,755	76,763	19,144,635	103,274,185

(\*) The company recognized the impairment loss of the cash generation unit of the TDI division for the year ended December 31, 2021.

In thousands of won

		2020						
		Goodwill	Industrial property rights	Development costs	Membership	Emission rights	Other intangible assets	Total
Balance at 1 January 2020	₩	18,510,215	1,544,838	-	20,337,010	99,548	2,990,080	43,481,691
Business combination		18,207,836	458,507	46,178,739	7,992,759	-	26,806,457	99,644,298
Acquisition		-	332,215	-	1,234,764	-	-	1,566,979
Disposal		-	-	-	(8,889,410)	(4,096,400)	-	(12,985,810)
Decrease(*)		(1,700,000)	-	-	-	-	-	(1,700,000)
Amortization		-	(331,613)	(13,312,054)	(116,378)	-	(10,394,812)	(24,154,857)
Impairment loss		-	(196,339)	-	-	-	-	(196,339)
Transfer		-	210,078	-	1,737,400	3,996,852	4,582,065	10,526,395
Balance at 31 December 2020	₩	35,018,051	2,017,686	32,866,685	22,296,145	-	23,983,790	116,182,357

(\*) The subsequent measurement for goodwill which had been acquired in the course of acquisition of business was completed during the current period, which resulted in the adjustment of goodwill amounts.

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18. Intangible Assets, Continued

(3) Emission rights

1) The quantity of free allocation emission rights for the 3rd planned period (2021-2025) is as follows:

<i>In quantity in tCO2-eq</i>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>Total</u>
Free Allocation Emission Rights	2,584,299	2,584,299	2,584,299	2,560,095	2,560,095	12,873,087

2) Changes in emission rights and emission liabilities for the years ended December 31, 2021 and 2020, are as follows:

i) Emission rights

<i>In thousands of won, quantity in tCO2-eq</i>	<u>2021</u>		<u>2020</u>	
	<u>Quantity</u>	<u>Amount(*2)</u>	<u>Quantity</u>	<u>Amount</u>
Balance at 1 January	198,329	₩ 4,441,305	4,381	₩ 99,548
Increase	571	7,802	326,948	8,052,457
Decrease(*1)	(76,226)	(143,247)	(133,000)	(3,710,700)
Balance at 31 December	<u>122,674</u>	<u>₩ 4,305,860</u>	<u>198,329</u>	<u>₩ 4,441,305</u>

(\*1) The Company sold 55,000 tons and 133,000 tons of surplus free allocation emission rights for the second term of the emission trading system to the carbon emission market for the years ended December 31, 2021 and 2020, respectively.

(\*2) The amount includes ₩4,229,097 thousand in emission rights classified as current assets.

ii) Emission liabilities

<i>In thousands of won, quantity in tCO2-eq</i>	<u>2021</u>		<u>2020</u>	
	<u>Quantity</u>	<u>Amount</u>	<u>Quantity</u>	<u>Amount</u>
Balance at 1 January	-	₩ -	42,665	₩ 1,710,883
Increase	154,677	2,444,139	-	-
Decrease	(154,677)	(2,444,139)	(42,665)	(1,710,883)
Balance at 31 December	<u>-</u>	<u>₩ -</u>	<u>-</u>	<u>₩ -</u>

(4) There are no capital borrowings costs in acquisition of intangible assets.

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18. Intangible Assets, Continued

(5) Valuation of goodwill impairment loss

1) The Company's goodwill is distributed according to the unit(cash-generating units or groups of cash-generating units), which is the category allocated by the Company's board as of December 31, 2021 and 2020, are as follows:

<i>In thousands of won</i>	<u>December 31, 2021</u>	<u>December 31, 2020</u>
TDI Unit in the chemical part	₩ 8,967,569	18,510,215
Composite Pressure Vessel Unit in the advanced material part	<u>16,507,836</u>	<u>16,507,836</u>
	<u>₩ 25,475,405</u>	<u>35,018,051</u>

2) The recoverable amount of the unit is measured by the value in use based on the assumption of five year financial budgets set by the board of directors, and the calculation of such value in use is as below :

	<u>TDI Unit in the chemical part</u>	<u>Composite Pressure Vessel Unit in the advanced material part</u>
Profit to turnover ratio(*1)	3.7%	2.1%
Growth of sales ratio(*2)	3.2%	37.9%
Discount ratio(*3)	12.5%	14.2%

(\*1) The average profit to turnover ratio in order to predict the cash flow in the future.

(\*2) The average growth of annual sales in order to predict the cash flow in the future.

(\*3) discount ratio reflecting specific risks associated with the CGU and country.

3) As a result of the impairment test on goodwill, it is judged that the carrying amount of the cash-generating unit (group) will not exceed the recoverable amount in the case of the goodwill of hydrogen tank division of the Advanced Material Component. However, it was judged that the carrying amount of the cash-generating unit (group) of the TDI business unit in the Chemical Component has exceeded the recoverable amount, and a loss of ₩9,542,646 thousands was recognized.

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19. Lease

(1) Changes in right-of-use asset for the years ended December 31, 2021 and 2020, are as follows:

In thousands of won

		2021					Total
		Land	Buildings	Structures	Vehicles	Others	
Balance at 1 January 2021	₩	166,072	96,221,886	8,708,240	2,052,389	1,946,249	109,094,836
Business combination		-	246,077,467	-	2,493,920	-	248,571,387
Increase		133,530	51,208,188	530,323	3,897,727	8,245,172	64,014,940
Decrease		(10,081)	(63,429,260)	(15,188)	(926,216)	(4,060,276)	(68,441,021)
Depreciation		(150,862)	(33,720,420)	(2,730,520)	(3,137,184)	(2,291,145)	(42,030,131)
Impairment loss		-	(1,778,580)	-	-	-	(1,778,580)
Balance at 31 December 2021	₩	<u>138,659</u>	<u>294,579,281</u>	<u>6,492,855</u>	<u>4,380,636</u>	<u>3,840,000</u>	<u>309,431,431</u>

In thousands of won

		2021					Total
		Land	Buildings	Structures	Vehicles	Others	
Balance at 1 January 2020	₩	15,028	50,313,309	11,150,063	985,319	3,830,589	66,294,308
Business combination		-	53,246,310	-	1,157,180	-	54,403,490
Increase		286,557	94,681,994	1,023,637	2,015,074	369,927	98,377,189
Decrease		(10,871)	(89,220,193)	(637,840)	(447,923)	-	(90,316,827)
Depreciation		(124,642)	(12,799,534)	(2,827,620)	(1,657,261)	(2,254,267)	(19,663,324)
Balance at 31 December 2020	₩	<u>166,072</u>	<u>96,221,886</u>	<u>8,708,240</u>	<u>2,052,389</u>	<u>1,946,249</u>	<u>109,094,836</u>

(2) The amounts recognized as profit and loss for the years ended December 31, 2021 and 2020, are as follows:

In thousands of won

		2021	2020
Depreciation of right-of-use asset	₩	42,030,131	19,596,065
Interest expense of lease liabilities		21,065,170	3,043,142
Expenses of short term lease		1,313,796	460,633
Expenses of leases of low value asset		2,024,351	1,567,365
Expenses of variable lease payments not included in lease liabilities measures		10,324,224	7,528,794
Revenue of sublease of right-of-use asset		1,914,338	-
Transfer of lease expenses related with discontinued operations		-	109,639

Total amount of cash outflow due to lease is ₩77,847 million and ₩30,937 million for the years ended December 31, 2021 and 2020, respectively.

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19. Lease, Continued

(3) The maturity analysis of lease liabilities as of December 31, 2021 and 2020, are as follows:

<i>In thousands of won</i>		<u>December 31, 2021</u>	<u>December 31, 2020</u>
Less than 1 year	₩	73,740,317	19,751,649
Over 1 year and less than 5 year		229,021,490	61,116,541
Over 5 year		339,489,164	41,598,660
		<u>642,250,971</u>	<u>122,466,850</u>
Less: present value discount		<u>(181,351,485)</u>	<u>(14,060,961)</u>
Present value of lease liabilities	₩	<u>460,899,486</u>	<u>108,405,889</u>

(4) The classification of liquidity of lease liabilities as of December 31, 2021 and 2020, are as follows:

<i>In thousands of won</i>		<u>December 31, 2021</u>	<u>December 31, 2020</u>
Current liabilities	₩	71,483,660	18,013,008
Non-Current liabilities		<u>389,415,826</u>	<u>90,392,881</u>
	₩	<u>460,899,486</u>	<u>108,405,889</u>

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**20. Non-Current Assets Held for Sale**

Non-current assets held for sale as of December 31, 2021 is as follows:

*In thousands of won*

		<u>December 31, 2021</u>
Land	₩	7,377,750

For the year ended December 31, 2021, some of the land owned by the urban development sector was classified as assets held for sale according to the resolution of the board of directors on May 11, 2021. The company initially decided to transfer ownership of the company's land in the business area following the approval notice of its subsidiary Anseong Techno Valley, but plans to cancel the land disposal plan to Anseong Techno Valley due to the postponement of the sale schedule and invest in kind in the logistics fund.

**21. Trade Payables and Other Payables**

Trade payables and other payables as of December 31, 2021 and 2020, are as follows:

*In thousands of won*

		<u>December 31, 2021</u>		<u>December 31, 2020</u>	
		<u>Current</u>	<u>Non-current</u>	<u>Current</u>	<u>Non-current</u>
Trade payables	₩	1,182,506,527	-	582,796,966	-
Other payables		505,476,879	176,035,671	173,216,675	-
Less : present value discount		(97,797)	(2,623,212)	-	-
	₩	<u>1,687,885,609</u>	<u>173,412,459</u>	<u>756,013,641</u>	<u>-</u>

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22. Borrowings and Debentures

(1) Borrowings as of December 31, 2021 and 2020, are as follows:

*In thousands of won*

		December 31, 2021		December 31, 2020	
		Current	Non-current	Current	Non-current
Borrowings from financial institutions(*)	₩	975,547,664	1,113,597,620	1,042,499,005	527,565,334
Debentures		560,490,000	1,532,029,000	262,320,000	1,400,800,000
Less: discount on debentures		(734,004)	(5,408,332)	(323,952)	(4,669,109)
	₩	<u>1,535,303,660</u>	<u>2,640,218,288</u>	<u>1,304,495,053</u>	<u>1,923,696,225</u>

(\*) Property, plant and equipment are provided as collateral ₩1,244,958 million for borrowings from financial institutions as of December 31, 2021(see Note 38).

(2) Borrowings from financial institutions as of December 31, 2021 and 2020, are as follows:

*In thousands of won*

	Financial Institutions	Interest rate (%)	December 31, 2021	December 31, 2020
Borrowings in local currency	KDB and others	1.07 ~ 3.50	₩ 1,358,588,600	1,243,965,334
Borrowings in foreign currency	KDB and others	0.10 ~ 1.64	<u>730,556,684</u>	<u>326,099,005</u>
			₩ <u>2,089,145,284</u>	<u>1,570,064,339</u>

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22. Borrowings and Debentures, Continued

(3) Debentures as of December 31, 2021 and 2020, are as follows:

<i>In thousands of won</i>	<b>Maturity date</b>	<b>Interest rate (%)</b>	<b>December 31, 2021</b>	<b>December 31, 2020</b>
246-2 <sup>nd</sup> public bonds	-	-	₩ -	50,000,000
252 <sup>nd</sup> FRN	-	-	-	32,640,000
253 <sup>rd</sup> FRN	-	-	-	54,400,000
254-1 <sup>st</sup> public bonds	-	-	-	60,000,000
254-2 <sup>nd</sup> public bonds	2023.11.29	2.50	90,000,000	90,000,000
255 <sup>th</sup> public bonds	2024.01.31	2.31	150,000,000	150,000,000
256 <sup>th</sup> FRN	2022.04.04	3ML+1.15	237,100,000	217,600,000
257 <sup>th</sup> FRN	2022.10.11	3ML+0.95	59,275,000	54,400,000
258 <sup>th</sup> FRN	2022.10.11	3ML+0.95	59,275,000	54,400,000
259 <sup>th</sup> FRN	2022.10.11	3ML+1.00	59,275,000	54,400,000
260-1 <sup>st</sup> public bonds	2022.10.24	1.79	110,000,000	110,000,000
260-2 <sup>nd</sup> public bonds	2024.10.24	1.98	80,000,000	80,000,000
260-3 <sup>rd</sup> public bonds	2026.10.24	2.28	60,000,000	60,000,000
267 <sup>th</sup> FRN	-	-	-	32,640,000
268 <sup>th</sup> FRN	-	-	-	32,640,000
269-1 <sup>st</sup> public bonds	2023.01.20	1.83	140,000,000	140,000,000
269-2 <sup>nd</sup> public bonds	2025.01.22	2.04	140,000,000	140,000,000
270 <sup>th</sup> public bonds	2023.04.21	2.38	210,000,000	210,000,000
271 <sup>st</sup> private bonds	2023.06.30	2.63	40,000,000	40,000,000
273 <sup>rd</sup> private bonds	2022.07.19	3ML+0.95	35,565,000	-
276 <sup>th</sup> FRN	2026.10.07	3M EL+1.20	134,234,000	-
276 <sup>th</sup> FRN	2024.11.23	3ML+1.04	118,550,000	-
278 <sup>th</sup> FRN	2024.12.30	3ML+0.81	82,985,000	-
275-1 <sup>st</sup> public bonds	2024.06.17	1.70	70,000,000	-
275-2 <sup>nd</sup> public bonds	2026.06.17	2.06	30,000,000	-
Green bonds	2024.04.19	3.00	186,260,000	-
			<u>2,092,519,000</u>	<u>1,663,120,000</u>
Less: Discount on debentures			(6,142,336)	(4,993,061)
Less: Current portion of debentures			<u>(559,755,996)</u>	<u>(261,996,048)</u>
			<u>₩ 1,526,620,668</u>	<u>1,396,130,891</u>

The debentures are to be repaid temporarily after the issue date, and the interest payment condition is a three-month repayment condition. Discounts on debentures are amortized using the effective interest rate method over the repayment period of the debentures and added to finance costs. On the other hand, the above bonds are subject to limitations such as keeping the debt ratio below 300% or 400% until the obligation to pay the principal of the debentures is completed according to the agreement, and restrictions on the lien. If the Company fail to fulfill the obligations, the Company will immediately lose the benefit of the due date for the debentures, and must notify the "bondholders" and "bond management companies" that the Company knows of.

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**22. Borrowings and Debentures, Continued**

**(4) Changes in borrowings and debentures for the years ended December 31, 2021 and 2020, are as follows:**

<i>In thousands of won</i>		<u>2021</u>	<u>2020</u>
Balance at 1 January	₩	3,228,191,278	2,352,786,341
Business combination		318,843,379	1,494,016,364
Increase in debentures		606,205,147	527,868,488
Repayment of debentures		(296,325,000)	(608,000,000)
Increase in borrowing from financial institutions		2,304,478,099	1,988,484,781
Repayment of borrowing from financial institutions		(2,057,896,464)	(2,480,868,438)
Others(*)		72,025,509	(46,096,258)
		<u>4,175,521,948</u>	<u>3,228,191,278</u>
Balance at 31 December	₩	<u>4,175,521,948</u>	<u>3,228,191,278</u>

(\*) Includes the effects of changes in foreign exchange rates.

**(5) Some of the Company's borrowings and debentures include acceleration clause in the event of reasons such as a drop in credit ratings.**

**23. Other Financial Liabilities**

Other financial liabilities as of December 31, 2021 and 2020, are as follows:

<i>In thousands of won</i>	<u>December 31, 2021</u>		<u>December 31, 2020</u>	
	<u>Current</u>	<u>Non-current</u>	<u>Current</u>	<u>Non-current</u>
Lease liabilities	₩ 73,740,317	568,510,654	19,751,649	102,715,201
Less: discount on lease liabilities	(2,256,657)	(179,094,828)	(1,738,641)	(12,322,320)
Accrued expense	144,604,685	24,269,690	80,206,480	13,627,280
Deposits	9,313,765	1,006,848	8,736,072	149,624
Less: discount on deposit	(2,175)	(548)	(1,626)	(273)
Derivatives liabilities	4,756,906	365,478	8,327,079	52,043,375
Financial guarantee liabilities(*)	56,577,986	-	56,822,393	41,761
	<u>₩ 286,734,827</u>	<u>415,057,294</u>	<u>172,103,406</u>	<u>156,254,648</u>

(\*) The Company provides payment guarantees to related parties as of December 31, 2021 (See Note 39).

As of the end of the reporting period, management evaluated the past overdue experience of debt instruments subject to financial guarantee contracts, the debtor's debt status, as well as the industry outlook to which the debtor belongs, and as a result, credit risk is not increasing significant after the initial recognition of the financial guarantee liability. Therefore, the loss provision for the financial guarantee contract was measured at the equivalent of the 12-month expected credit loss. There are no change regarding estimate method or significant assumptions to evaluate financial guarantee liabilities for the year ended December 31, 2021.

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24. Provisions

Changes in provisions for the years ended December 31, 2021 and 2020, are as follows:

*In thousands of won*

		<b>2021</b>					
		<b>Construction warranties</b>	<b>Product warranties</b>	<b>Provision for litigation</b>	<b>Construction warranties</b>	<b>Others</b>	<b>Total</b>
Balance at 1 January 2021	₩	1,193,591	31,234,783	2,444,000	-	11,381,094	46,253,468
Business combination		-	-	-	-	6,527,861	6,527,861
Recognition of provision		648,966	8,460,617	-	393,681	-	9,503,264
Reversal		(453,934)	-	-	-	(1,250,902)	(1,704,836)
Used		(2,750)	(1,016,572)	-	-	(9,500,000)	(10,519,322)
Transfer		-	-	-	-	(630,192)	(630,192)
Balance at 31 December 2021	₩	<u>1,385,873</u>	<u>38,678,828</u>	<u>2,444,000</u>	<u>393,681</u>	<u>6,527,861</u>	<u>49,430,243</u>

*In thousands of won*

		<b>2020</b>					
		<b>Emissions liabilities(*1)</b>	<b>Construction warranties</b>	<b>Product warranties</b>	<b>Provision for litigation</b>	<b>Others</b>	<b>Total</b>
Balance at 1 January 2020	₩	1,710,882	-	-	-	22,271,704	23,982,586
Business combination		-	1,135,093	22,669,264	-	-	23,804,357
Recognition of provision		(9,763,340)	190,469	8,811,184	2,444,000	12,362,361	14,044,674
Reversal		-	(114,134)	-	-	(7,133,871)	(7,248,005)
Transfer(*2)		8,052,458	-	-	-	-	8,052,458
Used		-	(17,837)	(245,665)	-	(16,119,100)	(16,382,602)
Balance at 31 December 2020	₩	<u>-</u>	<u>1,193,591</u>	<u>31,234,783</u>	<u>2,444,000</u>	<u>11,381,094</u>	<u>46,253,468</u>

(\*1) The amount of greenhouse gas estimated to have been discharged for the year ended December 31, 2020 is 2,368,358ton (CO2).

(\*2) The emission rights are transferred from intangibles to current assets in the statement of financial position for the year ended December 31, 2020.

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**25. Other Liabilities**

Other liabilities as of December 31, 2021 and 2020, are as follows:

*In thousands of won*

	<b>December 31, 2021</b>		<b>December 31, 2020</b>	
	<b>Current</b>	<b>Non-current</b>	<b>Current</b>	<b>Non-current</b>
Withholdings	₩ 8,763,138	-	6,688,663	-
Value-added tax withheld	2,366,992	-	24,679	-
Advances from customers	1,938,711	193,744	2,280,795	526,740
Deferred income	24,553	542	1,085,628	270
Refund liabilities	1,208,154	21,669,677	-	-
	₩ <u>14,301,548</u>	<u>21,863,963</u>	<u>10,079,765</u>	<u>527,010</u>

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**26. Net Defined Benefit Liabilities**

**(1) Net defined benefit liabilities as of December 31, 2021 and 2020, are as follows:**

<i>In thousands of won</i>		<u>December 31, 2021</u>	<u>December 31, 2020</u>
Present value of defined benefit obligation	₩	562,408,197	479,412,843
Fair value of plan assets		<u>(135,112,288)</u>	<u>(119,791,165)</u>
Net defined benefit liabilities	₩	<u>427,295,909</u>	<u>359,621,678</u>

**(2) Changes in the present value of defined benefit obligation for the years ended December 31, 2021 and 2020, are as follows:**

<i>In thousands of won</i>		<u>2021</u>	<u>2020</u>
Balance at 1 January	₩	479,412,843	330,307,537
Business combination		59,198,861	120,835,308
Current service cost		69,097,794	45,947,030
Interest expense		16,094,094	13,314,314
Remeasurements		(25,795,974)	(2,528,714)
Benefits paid		(33,032,005)	(29,646,660)
Transfer from/to affiliates		<u>(2,567,416)</u>	<u>1,184,028</u>
Balance at 31 December	₩	<u>562,408,197</u>	<u>479,412,843</u>

**(3) Remeasurement of defined benefit obligation as of December 31, 2021 and 2020, are as follows:**

<i>In thousands of won</i>		<u>2021</u>	<u>2020</u>
Actuarial (gains) losses due to empirical adjustments	₩	12,488,046	(2,081,097)
Actuarial (gains) losses from demographic assumptions		(1,713,922)	-
Actuarial (gains) losses due to changes in financial assumptions		(29,903,881)	(447,617)
Actuarial (gains) losses due to changes in retirement age		<u>(6,666,217)</u>	<u>-</u>
	₩	<u>(25,795,974)</u>	<u>(2,528,714)</u>

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26. Net Defined Benefit Liabilities, Continued

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

<i>In thousands of won</i>		<u>2021</u>	<u>2020</u>
Balance at 1 January	₩	119,791,165	120,000,577
Business combination		1,341,104	3,079,310
Interest income		3,534,477	3,572,571
Remeasurements			
- Return on plan assets(excluding amounts included in interest income)		(1,679,468)	(1,160,215)
Contributions by the employer		21,058,070	1,547,092
Benefits paid		(8,635,883)	(6,375,856)
Transfer from/to affiliates		(93,570)	(696,781)
Administration fees		(203,607)	(175,533)
		<u>135,112,288</u>	<u>119,791,165</u>
Net defined benefit liabilities	₩	<u>135,112,288</u>	<u>119,791,165</u>

(5) Plan assets as of December 31, 2021 and 2020, are as follows:

<i>In thousands of won</i>		<u>2021</u>	<u>2020</u>
Principal guaranteed financial instruments	₩	134,450,570	119,085,881
Transferred to national pension fund		661,718	705,284
		<u>135,112,288</u>	<u>119,791,165</u>
	₩	<u>135,112,288</u>	<u>119,791,165</u>

(6) Expenses recognized in the condensed separate statements of comprehensive income for the years ended December 31, 2021 and 2020, are as follows:

<i>In thousands of won</i>		<u>2021</u>	<u>2020</u>
Current service cost	₩	69,097,794	45,947,030
Net interest cost		12,559,617	9,741,742
Administration fees		203,607	175,533
		<u>81,861,018</u>	<u>55,864,305</u>
Total(*)	₩	<u>81,861,018</u>	<u>55,864,305</u>

(\*) Retirement benefits of ₩952 million and ₩629 million were transferred to construction in progress under property, plant and equipment for the years ended December 31, 2021 and 2020, respectively.

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

	<u>December 31, 2021</u>	<u>December 31, 2020</u>
Discount rate	3.73%	3.23%
Expected salary growth rate	4.12%	4.47%

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26. Net Defined Benefit Liabilities, Continued

(8) Sensitivity analysis of defined benefit obligation due to changes in key actuarial assumptions as of December 31, 2021 is as follows:

<i>In thousands of won</i>	<u>Change in assumption</u>	<u>Increase in assumption</u>	<u>Decrease in assumption</u>
Discount rate	1.00% ₩	(37,400,412)	42,909,667
Expected salary growth rate	1.00%	43,239,638	(38,344,176)

(9) The maturity of pension benefit payments not discounted as of December 31, 2021 is as follows:

<i>In thousands of won</i>	<u>Within 1 year</u>	<u>1 to 2 years</u>	<u>2 to 5 years</u>	<u>More than 5 years</u>
Benefits payments	₩ 23,985,191	101,435,175	184,587,869	1,371,043,790

The weighted-average maturity of defined benefit obligation is 7.55 years.

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**27. Capital Stock and Surplus**

**(1) Capital stock as of December 31, 2021 and 2020, are as follows:**

*In thousands of won, except for share data*

	December 31, 2021		December 31, 2020	
	Common shares	Preferred shares(*)	Common shares	Preferred shares(*)
Number of authorized shares	200,000,000	100,000,000	200,000,000	100,000,000
Par value per share	₩ 5,000	5,000	5,000	5,000
Number of issued shares	191,278,497	1,123,737	159,864,497	1,123,737
Capital	₩ 972,621,970	5,618,685	815,551,970	5,618,685

(\*) Non-cumulative preferred shares are eligible to receive cash dividends equal to cash dividends for common shares plus an additional 1%.

As the company retired 3,245,897 shares of the company for the year ended December 31, 2021, the total face value of common stock capital and issued shares varies by ₩16,229 million..

**(2) Changes in the number of outstanding shares for the years ended December 31, 2021 and 2020, are as follows:**

*In thousands of won*

	December 31, 2021		December 31, 2020	
	Common shares	Preferred shares	Common shares	Preferred shares
Balance at 1 January	₩ 159,464,937	1,123,737	161,479,290	1,123,737
Retirement of treasury stock	-	-	(1,614,793)	-
Acquisition of treasury stock	(300,000)	-	(399,560)	-
Disposal of treasury stock	1,443	-	-	-
Paid-in capital increase	31,414,000	-	-	-
Balance at 31 December	₩ 190,580,380	1,123,737	159,464,937	1,123,737

**(3) Capital surplus as of December 31, 2021 and 2020, are as follows:**

*In thousands of won*

	December 31, 2021	December 31, 2020
Paid-in capital in excess of par value	₩ 1,668,350,654	486,753,224
Gain from merger	75,670,859	75,670,859
Revaluation reserve	218,556,235	86,071,253
Other capital surplus	(47,613,408)	114,301,183
	₩ 1,914,964,340	762,796,519

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**28. Accumulated Other Comprehensive Income**

Accumulated other comprehensive income consists of gain(loss) on valuation of FVTOCI–financial assets(equity instrument), gain(loss) on valuation of cash flow hedges derivatives and revaluation surpluses, etc. as of December 31, 2021 and 2020.

Changes in accumulated other comprehensive income for the years ended December 31, 2021 and 2020 are as follows:

<i>In thousands of won</i>		<b>2021</b>	<b>2020</b>
Balance at 1 January (before tax)	₩	(2,638,759)	(2,664,645)
Business combination		(1,054,337)	45,862
Valuation		1,173,646	(19,976)
Reclassification		(1,394)	-
Balance at 31 December (before tax)		(2,520,844)	(2,638,759)
Income tax effect		694,746	727,172
Balance at 31 December (after tax)	₩	<u>(1,826,098)</u>	<u>(1,911,587)</u>

**29. Retained Earnings**

**(1) Retained earnings as of December 31, 2021 and 2020, are as follows:**

<i>In thousands of won</i>		<b>December 31, 2021</b>	<b>December 31, 2020</b>
Legal reserves(*1)	₩	107,999,058	68,399,058
Voluntary reserves(*2)		3,742,431,385	3,035,951,218
Retained earnings from equity method investees		145,358,676	119,918,995
Revaluation surplus		643,966,811	218,825,704
Unappropriated retained earnings		<u>342,049,557</u>	<u>706,480,167</u>
	₩	<u>4,981,805,487</u>	<u>4,149,575,142</u>

(\*1) The Commercial Law of the Republic of Korea requires the Company to appropriate for each financial period an amount equal to a minimum of 10% of cash dividends paid until such reserve equals 50% of its issued capital stock. The reserve is not available for cash dividends payment, but may be transferred to capital stock or used to reduce accumulated deficit. When the accumulated legal reserves (the sum of capital reserves and earned profit reserves) are greater than 1.5 times the paid-in capital amount, the excess legal reserves may be distributed.

(\*2) The Company appropriates a certain portion of its retained earnings as reserves for research and development which are provided in order to obtain tax benefits under Tax Reduction and Exemption Control Act of Korea. Among these reserves, the reversed amount according to the terms of related tax laws may be distributed.

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29. Retained Earnings, Continued

(2) Statement of appropriation of retained earnings for the years ended December 31, 2021 and 2020, are as follows:

<i>In thousands of won</i>		<u>December 31, 2021</u>	<u>December 31, 2020</u>
Retained earnings before appropriations:	₩	342,049,557	706,480,167
Net income		547,461,607	713,856,041
Remeasurement of net defined benefit liabilities		17,696,310	992,162
Business combination		(223,108,360)	13,212,329
Treasury stock incineration		-	(21,580,365)
Transfer from voluntary reserve:		39,600,000	10,000,000
Legal reserves(effect of Buisness combination)		39,600,000	-
Reserve for research and human resource development		-	10,000,000
		<u>381,649,557</u>	<u>716,480,167</u>
Appropriations of retained earnings:		381,649,557	716,480,167
Legal reserves		-	-
Voluntary reserves		381,649,557	716,480,167
Dividends		-	-
Unappropriated retained earnings to be carried forward to subsequent year	₩	<u>-</u>	<u>-</u>

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**30. Dividends**

- (1) No dividends on common shares and preferred shares for the year ended December 31, 2020.
- (2) No dividends on common shares and preferred shares for the year ended December 31, 2021 are to be proposed at the regular general shareholders' meeting scheduled for March 23, 2022.

**31. Revenue**

- (1) The Company makes profits as below by transferring goods according to the types of goods and sales regions at one point or over time.

<i>In thousands of won</i>		<u>2021</u>	<u>2020</u>
Revenue recognized at a point in time			
Finished goods revenue	Domestic	₩ 2,542,194,584	2,136,588,419
	Export	3,501,299,633	2,839,328,021
Merchandise revenue	Domestic	416,582,701	161,387,280
	Export	631,845,671	499,903,271
Other revenue		149,409,748	27,981,231
Subtotal		<u>7,241,332,337</u>	<u>5,665,188,222</u>
Revenue recognized over time			
Construction contract revenue		118,243,401	44,660,864
Other revenue		36,109,116	7,467,986
Subtotal		<u>154,352,517</u>	<u>52,128,850</u>
Total		<u>₩ 7,395,684,854</u>	<u>5,717,317,072</u>

- (2) Receivables, contract assets and contract liabilities arising from contracts with customers for the year ended December 31, 2021 and 2020, are as follows:

<i>In thousands of won</i>		<u>December 31, 2021</u>	<u>December 31, 2020</u>
Trade Receivables and Other Receivables		₩ 1,552,434,440	1,032,396,366
Contract assets			
Due from customers for contract work		3,183,137	4,373,062
Contract liabilities			
Due to customers for contract work		9,472,624	10,603,451
Advances for construction work		4,662,900	13,122,240
Advances for others (operational advance)		76,506,078	23,553,283
Customer options for additional goods or services		26,134,246	-
Total Contract liabilities		<u>₩ 116,775,848</u>	<u>47,278,974</u>

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31. Revenue, Continued

(3) Performance obligations and revenue recognition policies

Revenue is measured based on the consideration specified in a contract with a customer. The Company recognizes revenue when it transfers control over a good or service to a customer.

The following table provides information about the nature and timing of the satisfaction of performance obligations in contracts with customers, including significant payment terms, and the related revenue recognition policies.

Type of product / service	Nature and timing of fulfillment of performance obligations, including significant payment terms	Revenue recognition policies
Product and commodity sales	Controls are transferred at the time of delivery to the customer. At this point, the bill is issued and the revenue is recognized.	The company recognizes the revenue from the sale of the goods at the time when the control is transferred to the customer and the performance obligation is fulfilled. Sales-related advance payments received prior to delivery of goods are included in the contract liabilities.
Obligation to perform transport / insurance services included in export	The company provides transportation / insurance services to customers under some INCOTERMS when exporting. In these transactions, the consideration for the sale of goods includes the consideration for transportation / insurance services. This performance obligation is fulfilled upon delivery to the customer after the shipment.	The company provides transportation / insurance services as an agent to the customer and deducts transportation / insurance related expenses from the product and merchandise sales, assuming that there is no profit derived from transportation / insurance services.
Construction sales	According to the contract with the customer, the company performs the construction of the solar power plant on the customer's land and recognizes the profit by applying the percentage of completion. Bills are issued over period of time contracted, and consideration for milestone and related bills are issued to the customers once reached to certain percentage of completion or milestone. Dues from customers for construction work are recognized as contract asset, and classified as receivables at the time of claiming dues from the customers. If amounts to be claimed based on the percentage of completion have exceeded the revenue recognized in accordance with cost-based input method, the difference shall be recognized as contract liability(Due to customers for contract work).	Revenue is recognized based on progression percentage according to cost input method over period of transferring performance obligation.
Direct sales / Specific sales / Rental sales	The company sells various products. The revenue from the sale of the product is recognized by the transfer of control at the time the customer takes over the product.	Revenue associated with the sale of the goods is recognized at the time of delivery of the goods, when control of the assets is transferred to the customer. On the other hand, the company recognizes revenue from sales of products at certain stores acting as agents on behalf of the company, minus specific purchase costs from sales considerations at the time of delivery of the delivery of the products to the customer.

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31. Revenue, Continued

(3) Performance obligations and revenue recognition policies, continued

Type of product / service	Nature and timing of satisfaction of performance obligations, including significant payment terms	Revenue recognition policies
Loyalty program	Under the Customer Loyalty Program, the company allocates a portion of its sales to provide points that can be used to purchase future products.	<p>The company operates customer loyalty systems such as customer compensation points (hereinafter referred to as "points") and VIP systems in relation to the customer choice to acquire additional goods or services, which allow customers to accumulate points, discount, and provide additional services. Customer loyalty schemes provide customers with important rights and are therefore separate performance obligations.</p> <p>The company allocates a portion of the consideration received to the customer loyalty system. This allocation is measured according to the relative stand-alone selling price. The amount allocated to the loyalty system is deferred and recognized as revenue when points are used or expired.</p> <p>Deferred revenue is included in the contractual liabilities. When estimating the fair value of a customer option, the company considers the likelihood that the customer will use the benefit.</p>
Marketing and Land Development Services	<p>The company provides customers with pre-sale services for industrial complex construction and business agency services related to land construction. The consideration of the business agency service is determined at the time of the initial contract, and various tasks related to the construction of the industrial complex are performed during the contract period.</p>	Revenue is recognized over the period in which the service is provided.

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**32. Selling and Administrative Expenses**

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

*In thousands of won*

	<u>2021</u>	<u>2020</u>
Salaries	₩ 178,674,298	120,113,834
Retirement benefits	32,702,718	14,785,814
Welfare expenses	24,392,754	24,967,053
Bad debt expenses	8,183,205	1,355,740
Travel expenses	5,260,342	3,984,649
Advertising expenses	28,151,107	11,914,750
Outsourcing expenses	60,011,004	51,777,607
Commissions	81,163,627	14,217,056
Research expenses	104,175,289	98,853,946
Ordinary development expenses	35,601,263	26,022,167
Training expenses	4,363,328	2,842,336
Market development expenses	2,499,934	2,758,349
Rental expenses	7,090,313	1,734,855
Lease expenses	7,573,928	7,173,412
Freight and warehousing expenses	91,004,079	90,186,376
Export selling expenses	38,159,021	34,993,534
Sales commissions	12,609,911	14,250,864
Depreciation	42,071,879	14,376,209
Depreciation - right-of-use asset	37,449,185	14,918,391
Amortization	5,777,465	4,828,653
Taxes and dues	30,654,696	6,048,319
Warranty expenses	9,171,611	8,811,184
Others	36,650,154	26,646,597
	<u>₩ 883,391,111</u>	<u>597,561,695</u>

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**33. Other Non-Operating Income and Expenses**

**(1) Other non-operating income for the years ended December 31, 2021 and 2020, are as follows:**

*In thousands of won*

	<u>2021</u>	<u>2020</u>
Gain on foreign currency transactions	₩ 70,758,589	106,760,318
Gain on foreign currency translations	18,190,968	67,593,814
Gain on valuation of derivatives	83,917,279	12,685,183
Gain on transactions of derivatives	19,024,719	30,519,304
Gain on valuation of FVTPL – financial assets	2,290,740	47,892
Gain on disposal of investment in associates	53,468	-
Gain on disposal of property, plant and equipment	15,798,667	1,673,654
Gain on disposal of investment property	3,987	2,503,247
Gain on disposal of intangible assets	-	894,329
Gain on disposal of non-current assets held for sale	-	8,886
Gain on commissions (non-operating)	16,015	-
Reversal of other allowance for bad debts	-	1,313,000
Gains on Insurance Settlements	-	(320)
Reversal of financial guarantee liabilities	12,744,101	12,683,599
Miscellaneous	10,454,618	11,801,247
	<u>₩ 233,253,151</u>	<u>248,484,153</u>

**(2) Other non-operating expenses for the years ended December 31, 2021 and 2020, are as follows:**

*In thousands of won*

	<u>2021</u>	<u>2020</u>
Loss on foreign currency transactions	₩ 67,484,995	116,608,782
Loss on foreign currency translations	82,440,542	26,976,053
Loss on valuation of derivatives	3,539,195	61,496,882
Loss on transactions of derivatives	41,374,032	17,726,583
Loss on valuation of FVTPL—financial asset	15,225	513,887
Loss on transactions of FVTPL—financial asset	123,756	18,058
Loss on inventory abandoned	1,052,006	1,122,445
Loss on disposal of trade receivables	558,112	548,803
Loss on disposal of property, plant and equipment	4,510,216	3,986,696
Loss on disposal of investment property	-	37,671
Loss on disposal of intangible assets	85,745	238,527
Impairment loss on property, plant and equipment	47,416,132	12,061,145
Impairment loss on intangible assets	9,542,646	16,189
Impairment loss on right-of-use assets	1,778,581	-
Loss on disposal of investment in associates	627	-
Impairment loss on investment in associates	1,526,573	-
Other bad debt expenses	1,014,830	15,929,805
Commissions (non-operating)	4,645,141	1,200,548
Loss on acquisition of financial guarantee liabilities	-	36,973,525
Donations	3,975,601	4,112,984
Miscellaneous	5,311,900	3,265,546
Other expenses	-	3,987
	<u>₩ 276,395,855</u>	<u>302,838,116</u>

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**34. Financial Income and Expenses**

**(1) Financial income for the years ended December 31, 2021 and 2020, are as follows:**

<i>In thousands of won</i>		<u>2021</u>	<u>2020</u>
Interest income	₩	10,336,965	5,365,246
Dividends income		<u>237,426,732</u>	<u>566,356,097</u>
	₩	<u>247,763,697</u>	<u>571,721,343</u>

**(2) Financial expenses for the years ended December 31, 2021 and 2020, are as follows:**

<i>In thousands of won</i>		<u>2021</u>	<u>2020</u>
Interest expense	₩	88,372,863	95,584,257

**35. Expenses by Nature**

Details of expenses by nature for the years ended December 31, 2021 and 2020, are as follows:

<i>In thousands of won</i>		<u>2021</u>	<u>2020</u>
Changes in finished goods, semi finished goods, work in process	₩	(180,365,689)	(12,172,374)
Merchandise sales		942,326,704	633,364,266
Use of raw materials and supplies		4,042,175,289	3,109,725,271
Employee benefits(*1)		674,044,825	515,859,092
Welfare expenses		89,309,291	76,950,200
Rental expenses		10,203,053	4,409,438
Lease expenses		13,662,371	9,634,736
Depreciation(*2)		364,790,501	293,736,363
Amortization		25,015,018	24,154,858
Freight and warehousing expenses		99,983,830	98,894,801
Utility expenses		71,917,964	63,988,538
Outsourcing expenses		385,732,974	205,926,975
Export selling expenses		38,210,363	34,993,609
Taxes and dues		44,155,556	13,944,622
Others		<u>216,414,320</u>	<u>218,902,931</u>
Total(*3)	₩	<u>6,837,576,370</u>	<u>5,292,313,326</u>

(\*1) Includes salaries and wages, and retirement benefits.

(\*2) Includes depreciation of investment property and right-of-use assets.

(\*3) The total amount is the sum of cost of sales and selling and administrative expenses in the separate financial statements of comprehensive income.

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**36. Income Tax Expense**

**(1) Income tax expenses for the years ended December 31, 2021 and 2020, are as follows:**

<i>In thousands of won</i>	<u>2021</u>	<u>2020</u>
Current income tax:		
Current income taxes (*)	₩ 183,007,575	124,127,708
Adjustments for prior years	(2,825,789)	(6,605,014)
	<u>180,181,786</u>	<u>117,522,694</u>
Deferred income tax:		
Changes of temporary differences	(75,505,312)	(37,356,411)
Income tax charged directly to equity	22,218,533	(370,844)
Income tax expense	₩ <u>126,895,007</u>	<u>79,795,439</u>

(\*) The Company adjusts income tax expense due to Corporate Income Refund Tax to current income tax.

**(2) The differences between the amount calculated theoretically using the corporate tax expense and the corporate tax rate for the net profit before the corporate tax expense deduction are as follows:**

<i>In thousands of won</i>	<u>2021</u>	<u>2020</u>
Profit(loss) before income tax	₩ 674,356,614	793,651,480
Statutory tax rate	27.5%	27.5%
Income tax based on statutory tax rate	<u>185,448,069</u>	<u>218,254,157</u>
Adjustments:		
Effects due to application of tax in different phases	(10,362,000)	(10,399,877)
Permanent differences	(17,040,845)	(111,081,096)
Adjustments for prior years	(2,825,789)	(6,605,014)
Tax credit	(25,162,959)	(2,884,604)
Effects of unrecognized deferred tax	(5,670,435)	(5,267,333)
Others	2,508,966	(2,220,794)
	<u>(58,553,062)</u>	<u>(138,458,718)</u>
	₩ <u>126,895,007</u>	<u>79,795,439</u>
Effective tax rate	18.8%	10.1%

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36. Income Tax Expense, Continued

(3) Income tax credited(charged) directly to equity for the years ended December 31, 2021 and 2020, are as follows:

<i>In thousands of won</i>		<u>2021</u>	<u>2020</u>
Remeasurement of net defined benefit liabilities	₩	(6,420,196)	(376,337)
Gain (Loss) on valuation of equity investments at FVTOCI		(31,248)	5,493
Equity method capital surplus		<u>28,669,977</u>	<u>-</u>
	₩	<u>22,218,533</u>	<u>(370,844)</u>

(4) Changes in deferred income tax for the years ended December 31, 2021 and 2020, are as follows:

<i>In thousands of won</i>		<u>2021</u>					<u>Balance at December 31, 2021</u>
		<u>Balance at January 1, 2021</u>	<u>Business combination</u>	<u>Profit or loss</u>	<u>Other comprehensive income</u>	<u>Equity</u>	
Allowance for doubtful accounts	₩	6,170,868	1,200,018	861,929	-	-	8,232,815
Loss on valuation of inventories		2,205,730	847,052	10,963,106	-	-	14,015,888
Gain (loss) on valuation of derivatives		109,968	281,697	2,147,660	-	-	2,539,325
FVTOCI - financial assets		1,060,436	-	-	(31,248)	-	1,029,188
Investments in associates and joint ventures		(79,045,699)	(11,569,618)	6,408,388	-	28,669,977	(55,536,952)
Bonuses		12,969,516	-	18,803,700	-	-	31,773,216
Defined benefit obligation		131,644,579	14,827,496	14,890,257	(6,882,050)	-	154,480,282
Plan assets		(32,748,617)	(365,222)	(4,321,922)	461,854	-	(36,973,907)
Revaluation reserve		(27,504,811)	-	617,408	-	-	(26,887,403)
Revaluation surplus		(80,698,697)	(134,927,265)	1,810,540	-	-	(213,815,422)
Impairment loss on property, plant and equipment (Polysilicon)		51,727,961	-	(33,745,951)	-	-	17,982,010
Right-of-use asset/Lease liabilities		(189,460)	45,869,548	1,462,539	-	-	47,142,627
Others		<u>23,005,849</u>	<u>8,539,187</u>	<u>33,389,126</u>	<u>-</u>	<u>-</u>	<u>64,934,162</u>
Balance at December 31, 2021	₩	<u>8,707,623</u>	<u>(75,297,107)</u>	<u>53,286,780</u>	<u>(6,451,444)</u>	<u>28,669,977</u>	<u>8,915,829</u>

HANWHA SOLUTIONS CORPORATION  
Notes to the Separate Financial Statements  
For the years ended December 31, 2021 and 2020

36. Income Tax Expense, Continued

(4) Changes in deferred income tax for the years ended December 31, 2021 and 2020, are as follows, continued:

In thousands of won

	2020				
	Balance at January 1, 2020	Business combination	Profit or loss	Other comprehensive income	Balance at December 31, 2020
Allowance for doubtful accounts	₩ 2,257,851	1,058,837	2,854,180	-	6,170,868
Loss on valuation of inventories	2,948,450	120,690	(863,410)	-	2,205,730
Gain (loss) on valuation of derivatives	367,313	203,453	(460,798)	-	109,968
FVTOCI - financial assets	1,054,943	-	-	5,493	1,060,436
Investments in associates and joint ventures	(84,074,126)	-	5,028,427	-	(79,045,699)
Bonuses	2,311,156	91,869	10,566,492	-	12,969,517
Defined benefit obligation	90,653,218	29,219,894	12,466,864	(695,396)	131,644,580
Plan assets	(32,818,803)	(729,404)	480,530	319,059	(32,748,618)
Revaluation reserve	(27,609,145)	-	104,334	-	(27,504,811)
Revaluation surplus	(80,893,727)	-	195,030	-	(80,698,697)
Impairment loss on property, plant and equipment (Polysilicon)	59,507,581	-	(7,779,620)	-	51,727,961
Others	18,105,931	(10,424,768)	15,135,225	-	22,816,388
Balance at December 31, 2020	₩ (48,189,358)	19,540,571	37,727,254	(370,844)	8,707,623

(5) Deductible(taxable) temporary differences not recognized as deferred income tax as of December 31, 2021 and 2020 are as follows:

In thousands of won

	Balance at December 31, 2021	Balance at December 31, 2020
Investments in associates and joint ventures (*)	₩ 159,175,229	171,522,292

(\*) Temporary differences on investments in associates and joint ventures which are not likely to be reversed.

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37. Earnings Per Share

(1) Basic earnings per common shares from continuing operations for the years ended December 31, 2021 and 2020, are as follows:

<i>In thousands of won, except for share data and eps</i>	<u>2021</u>	<u>2020</u>
Profit from continuing operations	₩ 547,461,607	751,707,927
Profit from continuing operations available to common shares	544,106,110	746,391,959
Weighted average number of common shares	<u>185,321,202</u>	<u>159,922,212</u>
Basic earnings per common shares from continuing operations (In won)	₩ <u>2,936</u>	<u>4,667</u>

(2) Basic loss per common share from discontinued operations for the year ended December 31, 2020 is as follows:

<i>In thousands of won, except for share data and eps</i>	<u>2020</u>
Loss from discontinued operations	₩ (37,851,886)
Loss from discontinued operations available to common shares	(37,587,012)
Weighted average number of common shares	<u>159,922,212</u>
Basic loss per common shares from discontinued operations (In won)	₩ <u>(235)</u>

(3) Basic earnings per preferred shares from continuing operations for the years ended December 31, 2021 and 2020, are as follows:

<i>In thousands of won, except for share data and eps</i>	<u>2021(*)</u>	<u>2020(*)</u>
Profit from continuing operations	₩ 547,461,607	751,707,927
Profit from continuing operations to preferred shares	3,355,497	5,315,968
Weighted average number of preferred shares	<u>1,123,737</u>	<u>1,123,737</u>
Basic earnings per preferred shares from continuing operations (In won)	₩ <u>2,986</u>	<u>4,731</u>

(\*) Preferred shares were issued under former commercial law prior to amendments in 1997. These preferred shares hold the same priority as common shares in terms of dividends pay out and distribution of residual properties. Thus, earning per share was calculated accordingly.

HANWHA SOLUTIONS CORPORATION  
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**37. Earnings Per Share, Continued**

**(4) Basic loss per preferred shares from discontinued operations for the year ended December 31, 2020 is as follows:**

<i>In thousands of won, except for share data and eps</i>		<u>2020(*)</u>
Loss from discontinued operations	₩	(37,851,886)
Loss from discontinued operations to preferred shares		(264,874)
Weighted average number of preferred shares		<u>1,123,737</u>
Basic loss per preferred shares from discontinued operations (In won)	₩	<u>(236)</u>

(\*) Preferred shares were issued under former commercial law prior to amendments in 1997. These preferred shares hold the same priority as common shares in terms of dividends pay out and distribution of residual properties. Thus, earning per share was calculated accordingly.

**(5) Potential ordinary shares as of December 31, 2021 and 2020, are as follows:**

<i>In shares</i>	<u>Balance at 31 December 2021</u>	<u>Balance at 31 December 2020</u>
Restricted Stock Unit(RSU) (*)	596,079	287,102

(\*) Basic and diluted earnings per for the years ended December 31, 2021 and 2020, are identical due to the antidilutive effect of RSU shares.

HANWHA SOLUTIONS CORPORATION  
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**38. Commitments and Contingencies**

**(1) Credit limits provided by financial institutions as of December 31, 2021 are as follows:**

<i>In thousands of won, In USD, EUR</i>	<u>Currency</u>	<u>Limit</u>
Overdraft	KRW	6,000,000
Usance	USD	351,700,000
D/A, D/P, Local and foreign trade	USD	50,000,000
Others	KRW	1,846,000,000
	USD	577,650,000
	EUR	268,000,000
Total	KRW	1,852,000,000
	USD	979,350,000
	EUR	268,000,000

**(2) Details of assets provided as a collateral for borrowing as of December 31, 2021 are as follows:**

<i>In thousands of won</i>	<u>Guaranteed amount</u>	<u>Collateral right holder</u>
Property, plant and equipment	1,244,957,828	KDB
Investments in subsidiaries	73,548,000	INDUSTRIAL BANK OF KOREA, KFCC

**(3) Details of Guarantees provided by others as of December 31, 2021 are as follows:**

*In USD, EUR, CNY*

<u>Guarantee details</u>	<u>Guaranteed by</u>	<u>Currency</u>	<u>Limit</u>	<u>Execution Amount</u>
Contract performance guarantee	KEB Hana Bank	USD	20,000,000	10,428,000
FRN Payment guarantee	KEB Hana Bank	USD	150,000,000	150,000,000
	Shinhan Bank	USD	50,000,000	50,000,000
		EUR	100,000,000	100,000,000
	NongHyup Bank	USD	50,000,000	50,000,000
Foreign currency payment guarantee	CGIF	CNY	1,000,000,000	1,000,000,000
Total		USD	270,000,000	260,428,000
		EUR	100,000,000	100,000,000
		CNY	1,000,000,000	1,000,000,000

In addition to the above details, the company has received a guarantee of ₩55,437 million from Seoul Guarantee Insurance for solar power plant construction and maintenance/repair.

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**38. Commitments and Contingencies, Continued**

**(4) Guarantees provided to others**

As of December 31, 2021, the Company is responsible for the obligations to guarantee of construction of photovoltaic plant and construction warranties to Korea South-East Power Co., Ltd. and others.

As of December 31, 2021, the Company provides guarantees to Bayerische Motoren Werke AG (the "BMW") and its affiliates for damages which may be caused from the non-compliance of contractual obligations of the Company and its subsidiaries in the course of transaction with the BMW. The period of guarantees is from submission date of the letter of guarantees to 15 years from the last order on the last project with the BMW, and the amount of guarantees is unlimited.

As of December 31, 2021, the Company provides payment guarantees totaling ₩32,969 million for loans taken out by employees from financial institutions.

As of December 31, 2021, the Company provides payment guarantees and supplementary funding arrangements for related parties (see Note 39).

**(5) Legal proceedings in process**

The Company is a plaintiff in eight pending litigations involving an aggregate litigation amount of ₩1,766 million and is a defendant in thirteen pending litigations involving an aggregate amount of ₩10,745 million, and there is one case in which the company has participated to support the Defendant Saemangeum Solar Power Co., Ltd as of December 31, 2021. The company expects that the results of the lawsuit will not have a significant impact on the financial statements, and the results of the above pending lawsuit as of December 31, 2021 cannot be predicted.

**(6) Contractual terms of the stock sale and purchase agreement**

On July 30, 2021, the company acquired a stake in Hanwha Impact Corporation (formerly, Hanwha General Chemical Co., Ltd.) from Samsung C&T Corporation and Samsung SDI Co., Ltd. Of the stake acquisition price and interest of about ₩479.3 billion, about ₩191.7 billion has been completed in the first payment, and the second and third payments will be paid about ₩287.6 billion by July 2023. A pledge has been established for some of the stocks transferred to secure the payment of the secondary and tertiary payments.

**(7) Contingent consideration**

On August 19, 2021, the company acquired a 100% stake in WOS Inc. from Wave Electronics Co.,Ltd. and gained control. An additional ₩40 billion conditional consideration (Earn-out) clause is included in relation to the relocation consideration, and up to ₩40 billion will be paid in installments from 2022 to 2025, when achieving orders and sales targets. An additional ₩40 billion contingent consideration (Earn-out) clause is included in relation to the relocation consideration, and up to ₩40 billion will be paid in installments from 2022 to 2025, when achieving orders and sales targets.

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39. Related Parties

(1) Details of related parties as of December 31, 2021 are as follows:

Description		Company name
Parent company		Hanwha Corporation
Subsidiaries	Domestic	Gyeonggi Yongin Techno Valley Co., Ltd. Gimhae Techno Valley Co., Ltd. SEOSAN TECHNO VALLEY West Ochang Techno Valley Co., Ltd. Anseong Techno Valley H-Valley Co.,Ltd The Second Yong In Techno Valley Co, Ltd Hanwha Galleria Timeworld Co., Ltd. Hanwha City Development Co., Ltd. Hanwha B&B Co., Ltd. Yungam Techno Solar Power Corp. Yungam Hae-oreum Solar Power Corp. Hi-pass Solar Corporation Hanwha Global Asset Corporation Hanwha Compound Co., Ltd. Hanwha Chemical Overseas Holdings, Co., Ltd. Sunrise Solar Haesarang Solar Power Corp. Haeorum PV Plant Corporation H-Techno Valley Co.,Ltd Youngam Q Power Solarfarm 1 Co.,Ltd. Goheung Q Power Solarfarm 1 Co., Ltd. WOS Inc Hanwha Savings Bank Co., Ltd. NXEF CO.,LTD
	Overseas	Hanwha Chemical Trading (Shanghai) Co., Ltd. Aceka 2 Gunes Enerjisi A.S. Aceka 3 Gunes Enerjisi A.S. Alkin Enerji Uretim Ltd. Sti. ARBECA SOLAR SLU Aslan Gunes Enerjisi A.S. Avenir el Divisadero SpA Bilgidar 2 Gunes Enerjisi Limited Sirketi Buselik 2 Gunes Enerjisi Limited Sirketi Buselik 3 Gunes Enerjisi Limited Sirketi CASTELLDANS SOLAR SLU CASTELLNOU SOLAR SLU Dimetoka 2 Gunes Enerjisi Limited Sirketi Dimetoka 3 Gunes Enerjisi Limited Sirketi Don Rodrigo Hive SL Elcin Enerji Uretim Ltd. Sti. Fior Gunes Enerjisi Anonim Sirketi

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39. Related Parties, Continued

(1) Details of related parties as of December 31, 2021 are as follows, continued

Description		Company name
Subsidiaries	Overseas	Fnt Gida Turizm Ic Ve Dis Ticaret Sanayi Ltd. Sti. Garnet Solar Power Generation 1, LLC Guadajoz Hive SL Hanwha Advanced Materials America LLC Hanwha Advanced Materials Beijing Co., Ltd. Hanwha Advanced Materials Chongqing Co., Ltd. Hanwha Advanced Materials Europe, s.r.o. Hanwha Advanced Materials Germany GmbH Hanwha Advanced Materials Holdings USA Inc. Hanwha Advanced Materials Holdings USA LLC Hanwha Advanced Materials Mexico S. De R.L. De C.V. Hanwha Advanced Materials Shanghai Co., Ltd. Hanwha America Development Inc. Hanwha AZDEL, Inc. Hanwha Chemical (Ningbo) Co., Ltd. Hanwha Chemical (Thailand) Co., Ltd. HANWHA CHEMICAL INDIA PRIVATE LIMITED Hanwha Chemical Malaysia Sdn. Bhd. Hanwha Holdings (USA), Inc. Hanwha International Corp. Hanwha International LLC Hanwha Machinery Americas, Inc. Hanwha Parcel O LLC Hanwha Property USA LLC Hanwha PVPLUS LLC Hanwha Q CELLS (Nantong) Co., Ltd. Hanwha Q CELLS (Qidong) Co., Ltd. Hanwha Q CELLS America Inc. Hanwha Q CELLS America Project Holdings Hanwha Q CELLS Americas Holdings. Corp. Hanwha Q CELLS Australia Pty Ltd. Hanwha Q CELLS Canada, Corp. Hanwha Q CELLS Chile SpA Hanwha Q CELLS Co., Ltd. Hanwha Q CELLS EPC USA, LLC Hanwha Q CELLS France SAS Hanwha Q CELLS GmbH Hanwha Q CELLS Hong Kong Limited Hanwha Q CELLS Investment Co., Ltd. Hanwha Q CELLS Malaysia Sdn. Bhd. Hanwha Q CELLS Peru S.A.C Hanwha Q CELLS Servicios Comerciales, S DE RL DE CV

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39. Related Parties, Continued

(1) Details of related parties as of December 31, 2021 are as follows, continued

Description		Company name
Subsidiaries	Overseas	HANWHA Q CELLS SOLAR POWER SDN. BHD. Hanwha Q CELLS Technology (Shanghai) Co., Ltd. Hanwha Q CELLS Til Til Uno SPA Hanwha Q CELLS Turkey Hanwha Q CELLS USA Corp. Hanwha Q CELLS USA, INC. Hanwha Resources (USA) Corporation Hanwha Solar Electric Power Engineering Co., Ltd. Hanwha SolarOne (Laiyang) Co., Ltd Hanwha SolarOne (Rugao) Co., Ltd Hanwha SolarOne GmbH Hanwha SolarOne Investment Holding Ltd. Hanwha SolarOne Power Generation (Wuxi) Co., Ltd. Hanwha Solarone(beipiao)Co.,Ltd HANWHA TECHM USA LLC Hanwha Village Market, LLC Hanwha West Properties LLC Hiprom Enerji Yatirmlari A.S. HQ MEX, LLC HQ MEXICO HOLDINGS S DE RL DE CV HQ MEXICO Solar I S DE RL DE CV HQ MEXICO Solar II S DE RL DE CV HQC Maywood, LLC HQC Rock River Solar Holdings, LLC HQC Rock River Solar Power Generation Station, LLC HSEA HVES, LLC HSESM American Union LLC HSESM LeGrandUHS LLC HSESM PlanadaES LLC Huoqiu Hanrui New Energy Power Generation Co., Ltd. INCOGNITWORLD, LDA. Isfahan 3 Gunes Enerjisi Limited Sirketi Kalaeloa Renewable Energy Park, LLC Kartal Enerji Uretim Ltd. Sti. KMPT Solarpark Verwaltung GmbH Las Coronadas Hive SL Malhada Green S.A Marel Bilisim Muhendislik Enerji Insaat Iletisim Turizm GidaSan. Ve Dis Tic. Ltd. Sti. Meva Muhendislik Bilisim Enerji Insaat Iletisim Turizm San.Ve Dis Tic. Ltd. Sti. Moravia Enerji Sanayi ve Ticaret Ltd. Sti. Mutlak Enerji Uretim Ltd. Sti.

HANWHA SOLUTIONS CORPORATION  
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39. Related Parties, Continued

(1) Details of related parties as of December 31, 2021 are as follows, continued

Description		Company name
Subsidiaries	Overseas	Onan 2 Gunes Enerji Uretim A.S. Onan 3 Gunes Enerji Uretim A.S. PV Jagodne Sp. z.o.o. PV Vallenar Uno SpA Q CELLS ASSET MANAGEMENT LIMITED Q CELLS DO BRASIL CONSULTORIA EMPRESARIAL LTDA HQC PORTUGAL HOLDINGS, LDA QSUN PORTUGAL 2, UNIPessoal LDA QSUN PORTUGAL 3, UNIPessoal LDA QSUN PORTUGAL 4, UNIPessoal LDA QSUN PORTUGAL 5, UNIPessoal LDA QSUN PORTUGAL 6, UNIPessoal LDA QSUN PORTUGAL 7, UNIPessoal LDA REUS SOLAR SLU Q CELLS SPAIN HOLDINGS, S.L. (formerly, SACRAMENTO DIRECTORSHIP, S.L.) Sema Enerji Uretim Ltd. Sti. Serimer Optik Medikal Kirtasiye Temizlik Insaat Ithalat Ihracat Sanayi Tic. Ltd. Sti. SFH Solarpark GmbH Silesian Sun Energy Sp. z o.o. Solar Monkey 1, LLC Solar Monkey 2, LLC Toprakkale Altyapi ve Malzeme Hizmetleri A.S. Ulu Gunes Enerjisi AnonimSirketi Universal Bearings LLC Uno Enerji A.S. VECIANA SOLAR SLU WSE Bradley Road Ltd Rippey Solar Holdings, LLC Coniglio Solar Holdings, LLC Kellam Solar Holdings, LLC HQC Solar Holdings 1, LLC (formerly, H-Flats Solar Holdings, LLC) GREEN RIC ENERGY, S.L. SILVER RIC ENERGY, S.L. REAL ENERGY POWER, S.L. GALAXY ENERGY, S.L. LASTRAFI POWER, S.L. HESTIA SUN, S.L. CAPRICORNIO ENERGY, S.L. SPRING POWER, S.L. GALGO POWER, S.L. LEBREL POWER, S.L. PODENCO POWER, S.L.

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39. Related Parties, Continued

(1) Details of related parties as of December 31, 2021 are as follows, continued

Description		Company name
Subsidiaries	Overseas	Kellam Solar Class B, LLC HAMC Holdings Corp. Growing Energy Labs, Inc. INCOGNITWORLD 2, UNIPESOAL LDA INCOGNITWORLD 3, UNIPESOAL LDA INCOGNITWORLD 4, UNIPESOAL LDA INCOGNITWORLD 5, UNIPESOAL LDA MALHADA GREEN 2, UNIPESOAL LDA BOLERO ENERGY, S.L. DIONISIO SUN, S.L. VALS ENERGY POWER, S.L. CAMPANA ENERGY, S.L. PALOMA POWER, S.L. CLAVE DE SOL ENERGY, S.L.U IRON POWER ENERGY, S.L.U LINE ENERGY, S.L.U RIMA ENERGY, S.L.U GAVILAN POWER, S.L.U GERIFALTE POWER, S.L.U HARRIER POWER, S.L.U ALDGATE EAST INVESTMENTS, SL ALFAZ DIRECTORSHIP, SL ALQUIZAR INVESTMENTS, SL ANNAPURNA SERVICIOS EMPRESARIALES, SL BENIF INVESTMENTS, SL BURETE DIRECTORSHIP, SL CABUYA CORPORATE SERVICES, SL CANARY WHARF INVESTMENTS, SL CANNING TOWN INVESTMENTS, SL COMBA DIRECTORSHIP, SL CONVENT GARDEN INVESTMENTS, SL DICKSON SERVICIOS EMPRESARIALES, SL EMPER INVESTMENTS, SL ENDINO SERVICIOS EMPRESARIALES, SL GARDAYA INVESTMENTS, SL KADOK CORPORATE SERVICES, SL KAMPALA CORPORATE SERVICES, SL MONTALBAN DIRECTORSHIP, SL NEPAL SERVICIOS EMPRESARIALES, SL OTERO DIRECTORSHIP, SL AZOR POWER SL Espardell Directorship, SL

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39. Related Parties, Continued

(1) Details of related parties as of December 31, 2021 are as follows, continued

Description		Company name
Subsidiaries	Overseas	CONIGLIO SOLAR CLASS B, LLC Johnson City Solar, LLC Johnson City Storage, LLC Plateau Solar, LLC Plateau Storage, LLC Purvis Solar, LLC Purvis Storage, LLC South Cheyenne Solar, LLC NUN SUN POWER S.L. ISIS SUN POWER S.L. DONALLY CORPORATE SERVICES, SL FAIRLEAD CORPORATE SERVICES, SL FFNEV DESARROLLORS ESPANA I, SL FFNEV DESARROLLORS ESPANA II, SL NORWOOD CORPORATE SERVICES, S.L. HANWHA SOLUTIONS USA HOLDINGS CORPORATION HSHC NAM INV LLC HSHC LIBRA INV LLC HANWHA Q CELLS US O&M LLC Hanwha Cimarron LLC Cabrero Solar SPA Centaurus Solar Spa Draco Solar SPA HSHC FF INV LLC Hanwha Advanced Materials USA Corp HES America Ltd. HESAL System Solutions Corp. EnFin Corp. HQCA Energy Solutions LLC VGES Project LLC HAU Cheshire Project LLC HAU Newington Project LLC HQCA Grid Equity LLC GELI Australia Pty Ltd BT Cunningham Storage, LLC Q CELLS Germany Holdings GmbH ENVIRIA IPP DevCO1 GmbH & Co. KG Hanwha EU ENERGY Solutions SE RES Mediterranee CEPE BEL AIR SUD CEPE BOIS DE L'AIGUILLE CEPE Champs Carres S.A.R.L

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39. Related Parties, Continued

(1) Details of related parties as of December 31, 2021 are as follows, continued

Description		Company name
Subsidiaries	Overseas	CEPE CHAMPS PAILLE
		CEPE CHARMONSEL
		CEPE CHAUMES DES COMMUNES
		CEPE Chesnots
		CEPE COTE DES VAUZELLES
		CEPE COTE RENARD
		CEPE CROIX DE BERTHAULT
		CEPE CROIX DE L'ERABLE
		CEPE Croix des Trois
		CEPE Croix du Picq
		CEPE DE BRAQUETTE
		CEPE DE CHATILLONNAIS
		CEPE DE L'ESCUR
		CEPE de Mirebellois
		CEPE des Grunes S.A.R.L
		CEPE du Souleilla S.A.R.L
		CEPE Fleur du Nivernais S.A R.L
		CEPE FORET DE MARSANNE
		CEPE FOSSE A LOUP
		CEPE FRETTEs
		CEPE GRAND CERISIER
		CEPE GRANDS COMMUNAUX
		CEPE HAUT PERRON
		CEPE LA TIRROYE
		CEPE LE LANGROIS
		CEPE LES LORETTES
		CEPE LES VACANTS
		CEPE MERELLEs
		CEPE MONT DE CONDY
		CEPE NOUVELLOIS
		CEPE NOYER BERGER
		CEPE ORAIN
		CEPE Plaine de Pericaud
		CEPE Plo du Laurier
		CEPE RENOUVELLEMENT HAUT CABARDES
		CEPE Sud vesoul SARL
		CEPE TERRIERS DE LA POINTE
		CEPE TROIS PROVINCES
		CEPE VAL D'YONNE EN FORTERRE
		CEPE Val de Vingeanne EST
		CEPE VENTS DE LOIRE
		CEPES JUGE

HANWHA SOLUTIONS CORPORATION  
Notes to the Separate Financial Statements  
For the years ended December 31, 2021 and 2020

39. Related Parties, Continued

(1) Details of related parties as of December 31, 2021 are as follows, continued

Description		Company name
Subsidiaries	Overseas	Chaume Solar
		CPES AUCHES
		CPES BASSE MONTAGNE
		CPES BOIS SOLEIL
		CPES BORY
		CPES BRECHE
		CPES CAHUZAC SUR ADOUR
		CPES CALENTA
		CPES CAUSSES PERIGORD
		CPES CHAMPS DE LA COUR
		CPES CHAPUS
		CPES COURSIADA
		CPES COUSSEAU
		CPES CRASSIER LAUDUN
		CPES CROUEE
		CPES FONT DE LA LEVE
		CPES FONTANILLE
		CPES GANDOLLE
		CPES GARDIOLE
		CPES GENEBRE
		CPES GRAND OUSTATOU
		CPES GRIFFOUL
		CPES HOMME DE PIERRE
		CPES Juncarot
		CPES LA BREDE
		CPES la Gineste
		CPES LAC DE CLOYES
		CPES LAC DE LONGCHAMPS
		CPES LAC DE ROUAN
		CPES LAROQUE
		CPES LASCOURS
		CPES LAURAGAIS
		CPES LE PLAN
		CPES LES CROUZOURETS
		CPES LIBAROS
		CPES LUE
		CPES MAS D'EN RAMIS
		CPES MILHAT
		CPES MONDONNE
		CPES MORAS
		CPES MORILLON
		CPES MURES BASSES

HANWHA SOLUTIONS CORPORATION  
Notes to the Separate Financial Statements  
For the years ended December 31, 2021 and 2020

39. Related Parties, Continued

(1) Details of related parties as of December 31, 2021 are as follows, continued

Description		Company name
Subsidiaries	Overseas	CPES OMBRIPARK
		CPES PASCARATE
		CPES PAYS THIBERIEN
		CPES PEROLERA
		CPES PERRIERE
		CPES PEYROLE LAC
		CPES PLACE ROYALE
		CPES PLAN DE BANON
		CPES RENARDEYRE
		CPES ROMEGUERAR
		CPES SABLE ROUGE
		CPES SAINT ANGE
		CPES SEBENS
		CPES SOLEIL ROUGE
		CPES SUR L'EPINE
		CPES TALLER
		CPES THUILIERES
		CPES TREMEGE
		CPES VILLAGE SOLAIRE
		Cret meuron suisse
		CSE AMPERE
		CSE ARMAND
		CSE COULOMB
		CSE GAULARD
		CSE JOULE
		CSE LECLANCHE
		CSE PLANTE
		CSE TARASCON
		CSE VOLTA
		LASCOVENT
		Les Eoliennes Entre Loire et Rhone
		RES SAS
		CPES LIGNE SOLAIRE HAUTE LANDE
CPES MARDALOU		
NAUTILUS ENERGIES		
CEPE BOIS DE LA LONDE		
CPES LANDE DE MUSSET		
Larrey des Vignes		
SPV LOCANERGY TWO		
Associates /Joint ventures	Domestic	Smile ventures Co., Ltd.
		HANWHA Eagles Professional Baseball Club

HANWHA SOLUTIONS CORPORATION  
Notes to the Separate Financial Statements  
For the years ended December 31, 2021 and 2020

39. Related Parties, Continued

(1) Details of related parties as of December 31, 2021 are as follows, continued

Description		Company name
Associates /Joint ventures	Domestic	YEOCHUN NCC Co., Ltd. Eagles Energy Co.,Ltd H2 Co., Ltd Hanwha Station Development Co., Ltd. Hanwha Impact Corporation(formerly, Hanwha General Chemical Co., Ltd.) Hanwha Hotels and Resort Co., Ltd. Ulsan Complex City Development Co., Ltd. Envisioning Climate Solutions Fund HANWHA FUND INVESTMENT 1 HO
	Overseas	Burdur Enerji A.S. Crystal Solar Inc. GRANSOLAR ATOTONILCO, S.A. DE C.V. GRANSOLAR OCOTLAN, S.A. DE C.V. Gulf Advanced Cables Insulation Company HSP TW TE, LLC International Polymers Company Lakeshore East Retail LLC Luxbon Solar S.A. Parcel O LLC SwitchDin Pty Limited Kellam Tax Equity Partnership, LLC JV Cooke Solar, LLC CONIGLIO TAX EQUITY PARTNERSHIP, LLC Q&G PV Solutions GmbH Simply Foods Inc. Lancium Technologies Corporation Finless Foods Inc.
Conglomerate(*)	Domestic	HANWHA TOTAL PETROCHEMICAL Co., Ltd. Hanwha Engineering & Construction Corporation Hanwha LIFE INSURANCE CO., LTD. Hanwha General Insurance Co., Ltd. Hanwha Energy Corporation HANWHA 63 CITY CORPORATION HANWHA AEROSPACE CO., LTD Hanwha Defense Systems Corp. and others
	Overseas	Hanwha Q CELLS Japan Co., Ltd. Hanwha Europe GmbH Hanwha Impact Partners INC. And others

(\*) Although these companies are not applicable to related parties defined in K-IFRS 1024 Paragraph 9, a group of large-size affiliates designated by the Korea Fair Trade Commission are classified as related parties according to the resolution by the Securities & Futures Commission in accordance with substantial relationship defined in K-IFRS 1024 Paragraph 10.

HANWHA SOLUTIONS CORPORATION  
Notes to the Separate Financial Statements  
For the years ended December 31, 2021 and 2020

39. Related Parties, Continued

(2) Transactions with related parties for the years ended December 31, 2021 and 2020, are as follows:

In thousands of won

Company name	2021			
	Sales	Disposal on fixed assets	Purchase	Acquisition of fixed assets
Parent company:				
Hanwha Corporation	₩ 83,207,249	-	22,712,329	44,587,802
Subsidiaries:				
West Ochang Techno Valley Co., Ltd.	426,618	-	-	-
Anseong Techno Valley	473,347	-	-	-
H-Techno Valley Co., Ltd.	109,056	-	-	-
Hanwha Galleria Co., Ltd.(*1)	284,066	-	135,128	-
Hanwha Galleria Timeworld Co., Ltd.	23,346,033	-	3,019,440	-
Hanwha Savings Bank Co., Ltd.	37,673	-	-	-
Yungam Techno Solar Power Corp.	143,817	-	-	-
Yungam Hae-oreum Solar Power Corp.	115,418	-	-	-
WOS Inc	353,440	-	-	-
Hanwha B&B Co., Ltd.	209,483	-	317,614	-
Hi-pass Solar Corporation	147,849	-	-	-
Hanwha Global Asset Corporation	542,078	-	-	-
Hanwha Compound Co., Ltd.	84,317,632	-	11,970,102	-
Hanwha Chemical Trading (Shanghai) Co., Ltd.	132,898,068	-	2,041,292	-
Sunrise Solar	18,111	-	-	-
Haesarang Solar Power Corp.	177,251	-	-	-
Garnet Solar Power Generation 1, LLC	94,888	-	-	-
Growing Energy Labs, Inc.	-	-	7,380,331	-
Hanwha Advanced Materials America LLC	23,645,281	-	38,613	-
Hanwha Advanced Materials Beijing Co., Ltd.	5,994,155	-	-	-
Hanwha Advanced Materials Chongqing Co., Ltd.	2,188,845	-	29,256	-
Hanwha Advanced Materials Europe, s.r.o.	47,099,978	-	185,733	-
Hanwha Advanced Materials Germany GmbH	844,843	-	-	-
Hanwha Advanced Materials Holdings USA LLC	130,045	-	-	-
Hanwha Advanced Materials Mexico S. De R.L. De C.V.	6,618,159	-	-	-
Hanwha Advanced Materials Shanghai Co., Ltd.	8,385,648	-	6,425	-
Hanwha AZDEL, Inc.	914,527	-	9,073	-
Hanwha Chemical (Ningbo) Co., Ltd. (*2)(*3)	25,183,856	-	-	-
Hanwha Chemical (Thailand) Co., Ltd.	1,549,530	-	-	-
HANWHA CHEMICAL INDIA PRIVATE LIMITED	-	-	892,384	-
Hanwha Chemical Malaysia Sdn. Bhd. (*4)	-	-	34,805	-
Hanwha Holdings(USA), Inc.	-	-	1,092,138	-
Hanwha International LLC.	93,962,906	-	2,855,086	-
Hanwha Q CELLS (Qidong) Co., Ltd.	8,756,921	-	128,643,681	37,160
Hanwha Q CELLS America Inc.	636,124,675	-	22,875	-
Hanwha Q CELLS Americas Holdings. Corp.	62,107	-	-	-

HANWHA SOLUTIONS CORPORATION  
Notes to the Separate Financial Statements  
For the years ended December 31, 2021 and 2020

39. Related Parties, Continued

(2) Transactions with related parties for the years ended December 31, 2021 and 2020 are as follows, continued

In thousands of won

Company name	2021			
	Sales	Disposal on fixed assets	Purchase	Acquisition of fixed assets
Subsidiaries:				
Hanwha Q CELLS Australia Pty Ltd.	₩ 23,875,796	-	11,755	-
Hanwha Q CELLS Canada, Corp.	29,460,393	-	-	-
Hanwha Q CELLS EPC USA, LLC	278,395	-	-	-
Hanwha Q CELLS GmbH	261,972,038	-	54,860,141	-
Hanwha Q CELLS Malaysia Sdn. Bhd.	18,595,602	-	582,206,771	-
Hanwha Q CELLS Turkey	53,814,807	-	-	-
Hanwha Q CELLS USA, INC.	297,591,792	-	1,793,533	-
Joint ventures:				
YEOCHUN NCC Co., Ltd.(*5)	28,461,682	-	1,652,051,777	-
Ulsan Complex City Development Co., Ltd.	172,594	-	-	-
Gulf Advanced Cables Insulation Company	157,619	-	-	-
Associates:				
HANWHA Eagles Professional Baseball Club	37,112	-	913,960	-
Eagles Energy Co.,Ltd	83,917	-	-	-
Hanwha Station Development Co., Ltd.	50,466	-	-	-
Hanwha Impact Corporation (formerly, Hanwha General Chemical Co., Ltd.)	7,213,967	-	33,153,493	-
Hanwha Hotels and Resort Co., Ltd.	1,602,111	2,959,473	15,025,616	147,000
International Polymers Company	23,552	-	-	-
Conglomerate:				
Data Analytics Lab	630	-	-	-
Seoulyeokbukbuyeoksegwon Development Co.	490	-	-	-
SIT CO.,LTD	58,088	-	-	-
SIT Tech CO.,LTD	10,929	-	-	-
Yeosu sea world corporation	90	-	-	-
Ilsan sea world corporation	67	-	-	-
HANWHA 63 CITY CORPORATION	226,061	-	54,228	-
Hanwha Engineering & Construction Corporation	1,849,489	-	38,510	56,196,932
Hanwha Estate Co., Ltd.(*6)	131,531	-	8,760,370	55,300
Hanwha Estate Service Co., Ltd.	5,880	-	-	-
The Tastable Co., Ltd	274,088	-	134,901	-
Hanwha aqua planet	188,240	-	-	-
H-Solution Corporation(*7)	210	-	-	-
Eco E&O corporation	16,660	-	-	-
Jeju Ocean Science Museum Corporation	23	-	-	-
HPND Co., Ltd.	7,250	-	-	-
Carrot Co., Ltd	39,365	-	485,215	-

HANWHA SOLUTIONS CORPORATION  
Notes to the Separate Financial Statements  
For the years ended December 31, 2021 and 2020

39. Related Parties, Continued

(2) Transactions with related parties for the years ended December 31, 2021 and 2020, are as follows, continued

In thousands of won

Company name	2021			
	Sales	Disposal on fixed assets	Purchase	Acquisition of fixed assets
Conglomerate:				
DNC Plaza	₩ 9	-	-	-
Hanwha Defense	1,735,387	-	-	-
HANWHA LIFE LAB Co., Ltd.	44,732	-	-	-
Hanwha Life Financial Service Co, Ltd.	914,003	-	-	-
Hanwha LIFE INSURANCE CO., LTD.	6,993,225	-	13,339,922	-
Hanwha General Insurance Co., Ltd.	2,773,606	-	11,693,574	263
HANWHA I&A Co., Ltd.	119,218	-	-	-
HANWHA SYSTEMS Co., Ltd.	1,697,132	-	39,853,399	23,591,463
Hanwha Energy Corporation	712,402	-	159,446,246	-
HANWHA AEROSPACE CO., LTD	2,196,602	-	-	-
Hanwha Asset Management Co., Ltd.	73,736	-	-	-
Hanwha Precision Machinery Co., Ltd.	481,379	-	60,100	545,985
HANWHA TECHWIN CO., LTD.	534,609	-	-	80,200
HANWHA TOTAL PETROCHEMICALS Co., Ltd.	6,668,013	-	119,124,461	-
HANWHA INVESTMENT AND SECURITIES CO., LTD.	790,345	-	220,592	-
Hanwha Power System Co. Ltd.	190,888	-	279,094	138,390
Hanwha Europe GmbH	131,624,075	-	285,577	-
Hanwha Impact Partners INC.	-	-	450,916	-
Hanwha Q CELLS Japan Co., Ltd.	103,796,028	-	54,548,526	-
	<u>₩ 2,175,909,876</u>	<u>2,959,473</u>	<u>2,930,178,982</u>	<u>125,380,495</u>

(\*1) This is the transaction amount made before the merger (21.04.01) of Hanwha Galleria Co., Ltd.

(\*2) For the year ended December 31, 2021, the total transaction amount was ₩23,450 million in relation to the proxy agreement for purchase of raw material with Hanwha Chemical (Ningbo) Co., Ltd.

(\*3) For the year ended December 31, 2021, the dividend of ₩43,880 million received from Hanwha Chemical (Ningbo) Co., Ltd. was recognized as financial income.

(\*4) For the year ended December 31, 2021, the dividend of ₩5,665 million received from Hanwha Chemical Malaysia Sdn.bhd. was recognized as financial income.

(\*5) For the year ended December 31, 2021, the dividends of ₩170,000 million received from YEOCHUN NCC Co., Ltd. are recognized as financial income.

(\*6) This is the transaction amount made before the merger (21.07.01) of Hanwha Estate Co., Ltd.

(\*7) This is the transaction details before the merger with HANWHA ENERGY CORPORATION.

In addition to the above details, for the year ended December 31, 2021, the dividends of ₩16,544 million received from subsidiary Hanwha Chemical Overseas Holdings, Co., Ltd are recognized as financial income.

HANWHA SOLUTIONS CORPORATION  
Notes to the Separate Financial Statements  
For the years ended December 31, 2021 and 2020

39. Related Parties, Continued

(2) Transactions with related parties for the years ended December 31, 2021 and 2020, are as follows, continued

In thousands of won

Company name	2020			
	Sales	Disposal on fixed assets	Purchase	Acquisition of fixed assets
Parent company:				
Hanwha Corporation (*1)	₩ 79,974,156	-	22,604,727	51,267,148
Subsidiaries:				
Hanwha Galleria Co., Ltd. (*2)	141,418	-	2,503,737	-
Yungam Techno Solar Power Corp.	216,966	-	-	-
Yungam Hae-oreum Solar Power Corp.	225,914	-	-	-
Hi-pass Solar Corporation	147,931	-	-	-
Hanwha B&B Co., Ltd.	-	-	140,340	-
Hanwha Compound Co., Ltd.	81,903,907	-	13,264,859	-
Hanwha International LLC.	49,876,289	-	3,614,571	-
Hanwha Chemical Trading (Shanghai) Co., Ltd.	103,488,668	-	1,946,008	-
Hanwha Chemical(Ningbo) Co.,Ltd.(*3)	13,728,492	-	-	-
Hanwha Q CELLS GmbH	170,332,411	-	50,475,355	-
HANWHA CHEMICAL INDIA PRIVATE LIMITED	-	-	1,189,798	-
Hanwha Chemical Malaysia Sdn. Bhd.(*4)	-	-	16,362	-
Sunrise Solar	17,540	-	-	-
Haesarang Solar Power Corp.	174,924	-	-	-
Hanwha Advanced Materials America LLC	28,676,794	-	-	-
Hanwha Advanced Materials Beijing Co., Ltd.	8,439,625	-	-	-
Hanwha Advanced Materials Chongqing Co., Ltd.	3,559,242	-	10,355	-
Hanwha Advanced Materials Europe, s.r.o.	41,848,231	-	204,441	-
Hanwha Advanced Materials Germany GmbH	1,622,732	-	-	-
Hanwha Advanced Materials Holdings USA LLC	138,764	-	-	-
Hanwha Advanced Materials Mexico S. De R.L. De C.V.	3,780,766	-	-	-
Hanwha Advanced Materials Shanghai Co., Ltd.	8,885,961	-	4,493	-
Hanwha AZDEL, Inc.	218,879	-	-	-
Hanwha Holdings(USA), Inc.	-	-	662,862	-
Hanwha Q CELLS (Qidong) Co., Ltd.	6,471,346	-	3,067,911	-
Hanwha Q CELLS America Inc.	693,831,710	-	30,906	-
Hanwha Q CELLS Americas Holdings. Corp.	373,536,662	-	-	-
Hanwha Q CELLS Australia Pty Ltd.	56,522,954	-	-	-
Hanwha Q CELLS Canada, Corp.	27,321,611	-	-	-
Hanwha Q CELLS Hong Kong Limited	196,123	-	-	-
Hanwha Q CELLS Malaysia Sdn. Bhd.	11,871,510	-	420,779,858	-
Hanwha Q CELLS Turkey	42,753,315	-	-	-
Joint ventures:				
YEOCHUN NCC Co., Ltd.(*5)	20,916,008	-	1,100,032,564	-
Gulf Advanced Cables Insulation Company	284,228	-	-	-

HANWHA SOLUTIONS CORPORATION  
Notes to the Separate Financial Statements  
For the years ended December 31, 2021 and 2020

39. Related Parties, Continued

(2) Transactions with related parties for the years ended December 31, 2021 and 2020, are as follows, continued

In thousands of won

Company name	2020			
	Sales	Disposal on fixed assets	Purchase	Acquisition of fixed assets
Associates:				
Hanwha Hotels and Resort Co., Ltd.	₩ 5,066	-	4,940,596	-
HANWHA Eagles Professional Baseball Club	-	-	1,053,976	-
Eagles Energy Co.,Ltd	216,988	-	-	-
Saudi Specialized Products Company(*6)	3,867	-	-	-
Hanwha Impact Corporation(formerly, Hanwha General Chemical Co., Ltd.)	5,312,969	-	23,761,703	-
HANWHA INVESTMENT AND SECURITIES CO., LTD.	-	-	13,535	-
Conglomerate:				
HANWHA TOTAL PETROCHEMICALS Co., Ltd.	4,255,906	675,000	53,548,020	-
Hanwha Engineering & Construction Corporation	248,206	-	3,244,675	145,291,875
Hanwha LIFE INSURANCE CO., LTD.	1,985,690	-	12,205,971	-
Hanwha General Insurance Co., Ltd.	17,445	-	8,542,556	-
HANWHA SYSTEMS Co., Ltd.	3,336,202	-	25,255,164	6,800,981
Hanwha Energy Corporation	7,118,204	-	149,501,505	-
HANWHA AERO ENGINES.,LTD	483,556	-	-	-
Hanwha General Chemical USA Corp.	-	-	288,704	-
HANWHA Q CELLS JAPAN CO., LTD.	108,643,395	-	46,011,653	-
Hanwha Europe GMBH	85,643,208	-	500,632	-
S&P World Networks DMCC	2,634,116	-	-	-
Hanwha Estate Co., Ltd.	-	-	9,501,761	13,295
HANWHA 63 CITY CORPORATION	-	-	44,498	-
HANWHA AEROSPACE CO., LTD	518,690	-	-	-
Hanwha Defense	255,382	-	-	-
Hanwha Power System Co. Ltd.	-	-	335,899	82,284
Hanwha Precision Machinery Co., Ltd.	-	-	41,200	309,200
Carrot Co., Ltd	-	-	513,224	-
Tg Solar Co., Ltd.	67,750	-	-	-
SIT CO.,LTD	-	-	-	2,700
	<u>₩ 2,051,851,717</u>	<u>675,000</u>	<u>1,959,854,419</u>	<u>203,767,483</u>

(\*1) For the year ended December 31, 2020, dividends of ₩11,909 million are paid to Hanwha Corporation.

(\*2) For the year ended December 31, 2020, dividends ₩396,000 million received from Hanwha Galleria Co., Ltd. are recognized as financial income.

(\*3) For the year ended December 31, 2020, the total transaction amount was ₩37,050 million in relation to the proxy agreement for purchases of raw materials with Hanwha Chemical (Ningbo) Co., Ltd.

(\*4) For the year ended December 31, 2020, dividends ₩4,935 million received from Hanwha Chemical Malaysia Sdn. Bhd. are recognized as financial income.

(\*5) Dividends ₩165,000 million received from YEOCHUN NCC Co., Ltd. are recognized as financial income.

(\*6) Saudi Specialized Products Company was excluded from the scope of related party as of December 30, 2020, and the related party transaction details are from January 1, 2020 and December 30, 2020.

HANWHA SOLUTIONS CORPORATION  
Notes to the Separate Financial Statements  
For the years ended December 31, 2021 and 2020

39. Related Parties, Continued

(3) Outstanding receivables and payables from transactions with related parties as of December 31, 2021 and 2020, are as follows:

In thousands of won

	December 31, 2021				
	Receivables			Payables	
	Accounts receivable	Loans	Other receivables	Accounts payable	Other payables
Parent company:					
Hanwha Corporation	₩ 5,445,800	-	2,078,390	59,228	21,024,269
Subsidiaries:					
West Ochang Techno Valley Co., Ltd.	-	5,002,301	277,487	-	-
Anseong Techno Valley	-	19,205,576	-	-	-
Hanwha Galleria Timeworld Co., Ltd.	342,411	-	4,317,950	-	14,780,604
Yungam Techno Solar Power Corp.	-	-	126,000	-	-
Yungam Hae-oreum Solar Power Corp.	-	-	69,000	-	-
WOS Inc	-	-	388,784	-	-
Hanwha B&B Co., Ltd.	-	-	338	-	224,294
Hi-pass Solar Corporation	42,833	-	-	-	-
Hanwha Global Asset Corporation	405,705	-	190,581	-	-
Hanwha Compound Co., Ltd.	13,966,422	-	-	1,982,925	619,625
Hanwha Chemical Trading (Shanghai) Co., Ltd.	10,599,341	-	-	-	-
Sunrise Solar	5,605	-	-	-	-
Haesarang Solar Power Corp.	49,623	-	220	-	-
Growing Energy Labs, Inc.	-	-	-	-	2,172,848
Hanwha Advanced Materials America LLC	3,614,974	-	1,956,379	-	33,885
Hanwha Advanced Materials Beijing Co., Ltd.	1,030,274	-	239,961	-	-
Hanwha Advanced Materials Chongqing Co., Ltd.	433,689	-	45,213	-	-
Hanwha Advanced Materials Europe, s.r.o.	7,678,155	-	1,592,480	-	-
Hanwha Advanced Materials Germany GmbH	-	-	631	-	-
Hanwha Advanced Materials Mexico S. De R.L. De C.V.	1,440,484	-	608,803	-	-
Hanwha Advanced Materials Shanghai Co., Ltd.	1,750,857	-	247,909	-	-
Hanwha AZDEL, Inc.	-	-	31,739	-	-
Hanwha Chemical (Ningbo) Co., Ltd.	3,553,388	-	581,858	-	-
Hanwha Chemical (Thailand) Co., Ltd.	1,552,821	-	-	-	-
HANWHA CHEMICAL INDIA PRIVATE LIMITED	-	-	-	-	53,165
Hanwha Holdings(USA), Inc.	-	-	-	630,159	-
Hanwha International LLC.	13,790,423	-	-	81,005	149,141
Hanwha Q CELLS America Inc.	301,157,253	-	356,000	-	15,708
Hanwha Q CELLS Australia Pty Ltd.	22,464,398	-	-	-	-
Hanwha Q CELLS Canada, Corp.	11,583,227	-	-	-	-
Hanwha Q CELLS Co., Ltd.	-	-	474,200	-	-
Hanwha Q CELLS GmbH	104,812,833	-	1,222,341	13,808,346	-
Hanwha Q CELLS Investment Co., Ltd.	-	-	401,700	-	-
Hanwha Q CELLS Malaysia Sdn. Bhd.	9,136,216	-	8,131,328	214,696,784	-
Hanwha Q CELLS Turkey	18,544,188	-	4,161	-	-
Hanwha Q CELLS USA Corp.	-	-	592,750	-	-
Hanwha Q CELLS USA, INC.	127,406,248	-	-	768,866	854,284
Hanwha Q CELLS (Qidong) Co., Ltd.	1,825,734	-	-	31,083,289	-
Joint ventures:					
YEOCHUN NCC Co., Ltd.	2,687,322	-	144,712	305,475,308	8,716,062
Gulf Advanced Cables Insulation Company(*1)	-	16,216,125	447,411	-	-
Associates:					
HANWHA Eagles Professional Baseball Club	-	-	363,853	-	-
Eagles Energy Co.,Ltd	51,489	-	120,000	-	-
Hanwha Impact Corporation (formerly, Hanwha General Chemical Co., Ltd.)	1,982,129	-	104,950	6,573,927	150,397
Hanwha Hotels and Resort Co., Ltd.	188,284	-	28,580,303	-	2,046,121
Crystal Solar Inc.(*2)	-	1,866,931	329,066	-	-
International Polymers Company	-	-	1,843,582	-	-

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39. Related Parties, Continued

(3) Outstanding receivables and payables from transactions with related parties as of December 31, 2021 and 2020, are as follows, continued:

In thousands of won

	December 31, 2021				
	Receivables			Payables	
	Accounts receivable	Loans	Other receivables	Accounts payable	Other payables
Conglomerate:					
SIT CO.,LTD	₩ 2,309	-	-	-	-
HANWHA 63 CITY CORPORATION	96	-	-	-	437
Hanwha Engineering & Construction Corporation	29,419	-	1,003	-	-
The Tasty Co., Ltd	7,279	-	-	2,836	3,023
Hanwha aqua planet	14,885	-	1,012	-	-
Hanwha Defense	190,875	-	2,340	-	-
HANWHA LIFE LAB Co., Ltd.	1,284	-	-	-	-
Hanwha Life Financial Service Co, Ltd.	9,321	-	-	-	3,269
Hanwha LIFE INSURANCE CO., LTD.	613,015	-	90,817,919	-	9,383
Hanwha General Insurance Co., Ltd.	44,679	-	99,584	510	50,850
HANWHA SYSTEMS Co., Ltd.	36,715	-	-	5,971	9,913,238
Hanwha Energy Corporation	56,471	-	7,312	16,327,363	21,464
HANWHA AEROSPACE CO., LTD	46,618	-	5,682	-	-
Hanwha Asset Management Co., Ltd.	334	-	-	-	-
Hanwha Precision Machinery Co., Ltd.	6,645	-	-	-	118,293
HANWHA TOTAL PETROCHEMICALS Co., Ltd.	1,013,806	-	7,890	14,777,833	-
HANWHA INVESTMENT AND SECURITIES CO., LTD.	16,423	-	-	-	193
Hanwha Power System Co. Ltd.	-	-	-	-	244,838
Hanwha Europe GmbH	37,001,613	-	-	8,505	344
Hanwha Q CELLS Japan Co., Ltd.	12,130,182	-	1,009,960	2,367,873	1,880,434
	₩ 718,764,095	42,290,933	147,822,782	608,650,728	63,086,169

(\*1) The Company recognized allowance for doubtful accounts for loans and others of Gulf Advanced Cables Insulation Company as of December 31, 2021.

(\*2) The Company recognized allowance for doubtful accounts for loans and others of Crystal Solar Inc. as of December 31, 2021.

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39. Related Parties, Continued

(3) Outstanding receivables and payables from transactions with related parties as of December 31, 2021 and December 2020 are as follows, continued:

In thousands of won

	December 31, 2020				
	Receivables			Payables	
	Accounts receivable	Loans	Other receivables	Accounts payable	Other payables
Parent company:					
Hanwha Corporation	₩ 4,611,335	-	2,007,562	57,952	12,472,125
Subsidiaries:					
Hanwha Galleria Co., Ltd.	4,950	-	2,219	-	10,778
Yungam Techno Solar Power Corp.	-	-	155,000	-	-
Yungam Hae-oreum Solar Power Corp.	-	-	91,000	-	-
Hanwha B&B Co., Ltd.	-	-	-	-	4,268
Hanwha Compound Co., Ltd.	7,365,343	-	-	2,457,771	472,527
Hanwha International LLC.	8,983,490	-	-	-	25,833
Hanwha Chemical Trading (Shanghai) Co., Ltd.	10,120,249	-	-	-	-
Hanwha Chemical(Ningbo) Co.,Ltd.	-	-	1,647,340	-	-
Hanwha Q CELLS GmbH	41,947,110	-	253,843	-	12,911,041
HANWHA CHEMICAL INDIA PRIVATE LIMITED	-	-	-	-	95,133
Sunrise Solar	19,294	-	-	-	-
Haesarang Solar Power Corp.	-	-	220	-	-
Garnet Solar Power Generation Station 1, LLC	-	-	27,127	-	-
Hanwha Advanced Materials America LLC	6,851,534	-	1,825,783	-	-
Hanwha Advanced Materials Beijing Co., Ltd.	1,219,035	-	348,343	-	-
Hanwha Advanced Materials Chongqing Co., Ltd.	747,908	-	117,633	-	-
Hanwha Advanced Materials Europe, s.r.o.	7,834,929	-	1,535,521	-	23,945
Hanwha Advanced Materials Germany GmbH	-	-	884	-	-
Hanwha Advanced Materials Mexico S. De R.L. De C.V.	371,715	-	476,725	-	-
Hanwha Advanced Materials Shanghai Co., Ltd.	1,382,144	-	302,405	-	-
Hanwha AZDEL, Inc.	-	-	1,758	-	-
Hanwha Q CELLS (Qidong) Co., Ltd.	5,373,584	-	1,505,792	-	34,045
Hanwha Q CELLS America Inc.	262,582,325	-	-	-	-
Hanwha Q CELLS Americas Holdings. Corp.	117,535,922	-	-	-	-
Hanwha Q CELLS Australia Pty Ltd.	32,056,580	-	-	-	-
Hanwha Q CELLS Canada, Corp.	9,222,786	-	-	-	-
Hanwha Q CELLS Co., Ltd.	-	-	1,398,229	-	-
Hanwha Q CELLS Investment Co., Ltd.	-	-	803,400	-	-
Hanwha Q CELLS Malaysia Sdn. Bhd.	5,156,575	-	10,753,820	148,758,991	-
Hanwha Q CELLS Turkey	11,118,197	-	-	-	-
Hanwha Q CELLS Hong Kong Limited	-	-	190,400	-	-
Joint ventures:					
YEOCHUN NCC Co., Ltd.	2,752,907	-	286,530	165,678,829	10,139,651
Gulf Advanced Cables Insulation Company(*2)	-	15,941,122	630,300	-	-
Associates:					
Hanwha Hotels and Resort Co., Ltd.	-	-	21,310,062	-	130,465
International Polymer Company	-	-	1,691,869	-	-
Crystal Solar Inc.(*1)	-	1,866,931	329,066	-	-
HANWHA Eagles Professional Baseball Club	-	-	167,028	-	-
Hanwha Impact Corporation	1,296,916	-	1,100,826	2,090,269	123,752
(formerly, Hanwha General Chemical Co., Ltd.)					
Eagles Energy Co.,Ltd	-	-	53,000	-	-

HANWHA SOLUTIONS CORPORATION  
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39. Related Parties, Continued

(3) Outstanding receivables and payables from transactions with related parties as of December 31, 2021 and 2020, are as follows, continued:

In thousands of won

	December 31, 2020				
	Receivables			Payables	
	Accounts receivable	Loans	Other receivables	Accounts payable	Other payables
Conglomerate:					
HANWHA TOTAL PETROCHEMICALS Co., Ltd.	₩ 973,672	-	-	7,702,893	-
Hanwha Engineering & Construction Corporation	4,950	-	2,219	125,387	8,084,185
Hanwha LIFE INSURANCE CO., LTD.	-	-	93,332,649	-	9,157
Hanwha General Insurance Co., Ltd.	-	-	80,936	75	32,981
HANWHA SYSTEMS Co., Ltd.	404,786	-	-	139,480	4,083,443
Hanwha Energy Corporation	54,143	-	11,302	17,144,595	102,306
HANWHA Q CELLS JAPAN CO., LTD.	5,801,904	-	31,573	2,307,923	418,324
Hanwha Europe GmbH	10,222,976	-	-	-	-
Hanwha Estate Co., Ltd.	-	-	-	-	795,953
HANWHA 63 CITY CORPORATION	-	-	-	-	223
HANWHA AEROSPACE CO., LTD	28,049	-	12,572	-	-
Hanwha Defense	11,549	-	5,177	-	-
Hanwha Power System Co. Ltd.	-	-	-	163,680	86,803
HANWHA AERO ENGINES.,LTD	430,770	-	-	-	422,938
Hanwha Precision Machinery Co., Ltd.	-	-	-	-	42,350
	₩ 556,487,627	17,808,053	142,490,113	346,627,845	50,522,226

(\*1) The Company recognized allowance for doubtful accounts for loans and others of Gulf Advanced Cables Insulation Company as of December 31, 2020.

(\*2) The Company recognized allowance for doubtful accounts for loans and others of Crystal Solar Inc as of December 31, 2020.

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39. Related Parties, Continued

(4) Loan transactions with related parties for the years ended December 31, 2021 and 2020, are as follows:

In thousands of won

		2021					Balance at 31 December 2021
Company	Balance at 1 January 2021	Business combination	Increase	Decrease	Others(*)		
Subsidiaries:							
West Ochang Techno Valley Co., Ltd.	₩ -	1,600,736	3,400,000	-	1,565	5,002,301	
Anseong Techno Valley	-	2,500,723	16,700,000	-	4,853	19,205,576	
		-	-	-	275,003	16,216,125	
Joint venture:							
Gulf Advanced Cables Insulation Company	15,941,122	-	-	-	-	-	
		-	-	-	-	-	
Associate:							
Crystal Solar Inc.	1,866,931	-	-	-	-	1,866,931	
	₩ 17,808,053	4,101,459	20,100,000	-	281,421	42,290,933	

(\*) Includes the accrued interest income on loans.

In thousands of won

		2020				Balance at 31 December 2020
Company	Balance at 1 January 2020	Increase	Decrease	Others(*)		
Joint venture:						
Gulf Advanced Cables Insulation Company	₩ 16,624,074	-	-	(682,952)	15,941,122	
Associate:						
Crystal Solar Inc.	1,866,931	-	-	-	1,866,931	
Saudi Specialized Products Company	14,424,381	-	(14,059,603)	(364,778)	-	
	₩ 32,915,386	-	(14,059,603)	(1,047,730)	17,808,053	

(\*) Includes the accrued interest income on loans.

(5) Equity transactions with the Company's related parties for the year ended December 31, 2021 are as follows:

In thousands of won

	Company	Capital injection
Subsidiaries:		
	Haeorum PV Plant Corporation	₩ 1,500,000
	Hanwha Q CELLS Co., Ltd.	386,685,510
	Hanwha Global Asset Corporation	264,494,516
	HAMC Holdings Corp.	58,124,522
	WOS Inc	4,500,000
	HANWHA SOLUTIONS USA HOLDINGS CORPORATION	140,770,000
	RES Mediterranee	26,496,892
Associate:		
	Hanwha Hotels and Resort Co., Ltd.	28,778,900

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39. Related Parties, Continued

(6) Payment guarantees provided for related parties as of December 31, 2021 are as follows:

1) Payment guarantees for borrowings from financial institutions and corporate bond provided to related parties as of December 31, 2021 are as follows:

*In USD, EUR, CNY, MYR, thousands of won*

Guarantee	Currency	Payment guarantee		Use of payment guarantee
		Limit	Amount	
Hanwha International LLC	USD	43,000,000	43,000,000	Borrowings from financial institutions
Hanwha Chemical Ningbo Co., Ltd.	USD	90,000,000	90,000,000	Borrowings from financial institutions
International Polymers Company	USD	5,600,000	5,600,000	Borrowings from financial institutions
Hanwha Q CELLS USA Corp.	USD	110,500,000	80,500,000	Borrowings from financial institutions
Hanwha Q CELLS (Qidong) Co., Ltd.	USD	186,800,000	140,000,000	Borrowings from financial institutions
Hanwha Q CELLS Co., Ltd.	USD	60,000,000	60,000,000	Borrowings from financial institutions
	USD	40,000,000	40,000,000	corporate bond
Hanwha Q CELLS Investment Co., Ltd.	KRW	80,340,000	80,000,000	corporate bond
Hanwha Q CELLS USA, INC.	USD	50,000,000	35,000,000	Borrowings from financial institutions
Hanwha Q CELLS Malaysia Sdn. Bhd.	USD	290,000,000	188,557,422	Borrowings from financial institutions
	MYR	967,000,000	967,000,000	Borrowings from financial institutions
Hanwha Q CELLS GmbH	USD	19,200,000	8,843,751	Borrowings from financial institutions
	EUR	185,000,000	141,455,333	Borrowings from financial institutions
Garnet Solar Power Generation Station 1, LLC	USD	6,741,264	6,741,264	Borrowings from financial institutions
Hanwha Q CELLS Investment Co., Ltd.	USD	19,200,000	-	Derivatives deposit
		-	-	Borrowings from financial institutions
Hanwha Advanced Materials Beijing Co.,Ltd.	CNY	42,000,000	-	Borrowings from financial institutions
Hanwha Advanced Materials Holdings USA LLC	USD	20,000,000	20,000,000	Borrowings from financial institutions
Hanwha Advanced Materials America LLC	USD	79,000,000	79,000,000	Borrowings from financial institutions
Hanwha Azdel Inc.	USD	18,000,000	11,000,000	Borrowings from financial institutions
Hanwha Advanced Materials Mexico S. De R.L. De C.V.	USD	5,000,000	4,000,000	Borrowings from financial institutions
Hanwha Advanced Materials Europe, s.r.o.	EUR	25,200,000	19,000,000	Borrowings from financial institutions
	USD	986,274,597	795,225,855	
	MYR	822,000,000	822,000,000	
	CNY	382,050,000	242,679,784	
	EUR	230,600,000	161,000,000	
	KRW	80,340,000	80,000,000	

2) In addition, as of December 31, 2021, the Company has provided a payment guarantee of USD 65 million for BT Coniglio Solar LLC's power price difference transaction payment. However, Hanwh QCELLS USA Corp. and Coniglio Tax Equity Partnership, LLC have the nature of a simultaneous guarantee for the same project, and the sum of the two guarantee limits does not exceed USD 72 million (see Note 39(8)).

HANWHA SOLUTIONS CORPORATION  
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39. Related Parties, Continued

(7) Joint guarantees provided for related parties as of December 31, 2021 are as follows:

In USD	Guarantee	Currency	Payment guarantee		Use of payment guarantee
			Limit	Amount	
	Hanwha Q CELLS USA, INC.	USD	76,666,667	76,666,667	Borrowings from financial institutions
	HQC Maywood, LLC	USD	8,509,415	8,509,415	Lease fee
	Kalaeloa Renewable Energy Park, LLC	USD	8,950,970	8,950,970	Lease fee
	Hanwha Q CELLS EPC USA, LLC	USD	30,836,926	30,836,926	Performance guarantees
		USD	<u>124,963,978</u>	<u>124,963,978</u>	

(8) Performance guarantees and Fund supplement agreements

1) Performance guarantees provided for related parties as of December 31, 2021 are as follows:

In USD, MYR, CNY, EUR, thousands of won

Company	Contract counterparty	Currency	Amount
Hanwha Q CELLS Japan Co., Ltd.	Marubeni Corporation	USD	131,000,000
	NTT Facilities Inc.	JPY	4,610,000,000
	Itochu Corporation	USD	2,526,518
	JGC Corporation	JPY	131,348,708
	GK Rokunohe Solar Park	JPY	296,000,000
	Nippon Renewable Energy K.K.	JPY	2,111,360,000
Hanwha Q CELLS America Inc.	NextEra Energy Constructors, LLC.	USD	218,549,172
Hanwha Q CELLS EPC USA, LLC	Oberon Solar 1B, LLC	USD	7,593,219
Hanwha Q CELLS USA Corp.	RBC Kellam Holding Co, LLC	USD	27,028,000
	Coniglio Tax Equity Partnership, LLC (*)	USD	68,973,431
Hanwha Q CELLS EPC USA, LLC	Grizzly Ridge Solar, LLC	USD	82,225,908
Hanwha Station Development Co., Ltd.	Korea Rail Network Authority	KRW	3,202,968
RES Mediterranee	ORIT Holdings Limited	EUR	16,823,800
	Elios Energy 3 France SAS	EUR	6,011,553
	The Renewables Infrastructure group(France)	EUR	5,483,444
	CPES Mas d'en Ramis	EUR	2,500,667
	CPES La Brede	EUR	2,308,745
	RTE	EUR	360,000
		USD	537,896,248
		JPY	7,148,708,708
		EUR	33,488,209
		KRW	<u>3,202,968</u>

(\*) BT Coniglio Solar, LLC has the nature of a simultaneous guarantee for the same project, and the sum of the two guarantees does not exceed USD 72 million. (see Note 39(6)).

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Notes to the Separate Financial Statements  
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39. Related Parties, Continued

(8) Performance guarantees and Fund supplement agreements, continued

2) Fund supplement agreements provided to related parties as of December 31, 2021 are as follows:

Company	Contract counterparty	Currency	Amount
Hanwha City Development Co., Ltd.	West Ochang Techno Valley Co., Ltd.	KRW	72,000,000

(9) As of December 31, 2021, the company has provided the entire investments in subsidiary, Haeorum PV Plant Corporation, as collateral for the borrowing of the investee.

(10) As of December 31, 2021, the company has provided the guarantees of system total efficiency and responsible operations through the business consignment service with the related party such as Hi-pass Solar Corporation.

(11) Details of compensation for key executives for the years ended December 31, 2021 and 2020, are as follows:

In thousands of won

		2021	2020
Short-term employee benefits (*)	₩	55,955,605	43,230,285
Retirement benefits		8,094,650	5,244,704
Other long-term employee benefits		23,459	15,725

(\*) Short-term employee benefits include ₩12,906 million of equity- settlement (2020: ₩7,714 million) and ₩7,880 million of cash settlement (2020: ₩14,230 million) in relation to the share-based payment system.

(12) Changes in lease liabilities about related parties, including conglomerates for years ended December 31, 2021 and 2020, are as follows:

In thousands of won

Company	2021			Balance at 31 December 2021
	Balance at 1 January 2021	Business combination	Variation	
Parent company: Hanwha Corporation	₩ 18,443,320	-	(2,018,767)	16,424,553
Subsidiaries: Hanwha Galleria Timeworld Co., Ltd.	-	-	15,969,117	15,969,117
Conglomerate: Hanwha LIFE INSURANCE CO., LTD.	75,680,087	8,517,703	(59,323,367)	24,874,423
	-	368,662	(35,590)	333,072
	38,263	-	(37,528)	735
	₩ 94,161,670	8,886,365	(45,446,135)	57,601,900

(\*) The amount is the net amount of lease liabilities excluding the present value discount.

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40. Cash Flows

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

<i>In thousands of won</i>		<u>2021</u>	<u>2020</u>
Income before income tax expense	₩	674,356,614	793,651,480
Adjustments:		465,901,158	(1,599,107)
Financial income		(247,763,697)	(571,730,370)
Financial expense		88,372,863	96,516,928
Allowance for doubtful accounts		8,183,205	1,178,216
Reversal of financial guarantee liabilities		(12,744,101)	(12,683,599)
Reversal of loss (gain) on valuation of inventories		39,865,840	(2,689,792)
Loss on inventory abandoned		2,992,036	3,832,343
Depreciation		363,560,245	292,932,134
Depreciation of investment property		1,230,256	1,357,604
Other bad debt expense		1,014,830	15,929,805
Amortization		25,015,018	24,154,858
Retirement benefits		80,705,352	55,059,393
Other long-term employee benefits		2,840,267	4,402,300
Transfer on provisions		7,404,747	6,796,669
Loss on foreign currency translation		82,440,542	26,976,053
Loss on valuation of FVTPL – financial assets		15,225	513,887
Loss on disposal of FVTPL – financial assets		123,756	18,057
Loss on valuation of derivatives		3,539,195	61,496,882
Loss on disposal of trade receivables		558,112	569,120
Impairment loss of Investments in associates and joint ventures		1,526,573	-
Impairment loss of property, plant and equipment		47,416,131	16,022,986
Impairment loss of Intangible assets		9,542,646	196,339
Reversal of impairment loss of property, plant and equipment		-	(7,285)
Impairment loss of right-of-use assets		1,778,581	-
Loss on disposal of Investments in associates and joint ventures		627	-
Loss on disposal of investment property		4,510,216	4,132,724
Loss on disposal of investment property		-	37,671
Loss on disposal of intangible assets		85,745	238,527
Gain on disposal of intangible assets		-	(894,329)
Gain on disposal of investment property		(3,987)	(2,503,247)
Gain on disposal of property, plant and equipment		(15,798,666)	(2,957,775)
Gain on disposal of non-current assets held for sale		-	(8,886)
Gain on valuation of FVTPL – financial assets		(2,290,740)	(47,892)

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40. Cash Flows, Continued

(1) Cash flows generated from operating activities for the years ended December 31, 2021 and 2020, are as follows, continued:

<i>In thousands of won</i>	<u>2021</u>	<u>2020</u>
Adjustments:	₩	
Gain on disposal of Investments in associates and joint ventures	(53,468)	-
Gain on foreign currency translation	(18,190,968)	(67,593,814)
Gain on valuation of derivatives	(83,917,279)	(12,685,183)
Other expenses(income)	73,942,056	59,840,569
Changes in operating assets and liabilities:	(217,961,060)	89,715,909
Trade receivables	(333,732,547)	105,059,972
Other receivables	(33,142,008)	33,328,765
Inventories	(313,608,945)	104,398,446
Other financial assets	452,049	17,002,111
Other current assets	15,496,787	9,799,637
Other non-current assets	(1,653,278)	-
Trade payables	451,580,706	(115,020,419)
Other payables	66,756,804	(4,874,960)
Other financial liabilities	24,730,549	28,796,365
Financial guarantee liabilities	833,517	(36,973,525)
Provision	(10,519,322)	(16,382,602)
Other current liabilities	(31,346,063)	3,069,397
Other non-current liabilities	(1,985,199)	(204,548)
Payment of other long-term employee benefits	(3,819,189)	(2,552,922)
Payment of severance indemnities	(35,686,474)	(28,462,632)
Plan assets	(12,318,447)	5,525,545
Payment of derivatives	-	(12,792,721)
Cash generated from operations	₩ <u>922,296,712</u>	<u>881,768,282</u>

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40. Cash Flows, Continued

(2) Significant transactions not affecting cash flows for the years ended December 31, 2021 and 2020, are as follows:

<i>In thousands of won</i>	<u>2021</u>	<u>2020</u>
Transfer to the related assets from construction in progress	₩ 547,563,913	491,203,319
Transfer to stored goods from machinery in transit	5,350,985	7,701,610
Reclassification of current portion of non-current rental deposit	2,939,411	86,709
Changes in advance payments due to acquisition of property, plant and equipment	1,576,793	(710,177)
Changes in other payables due to acquisition of property, plant and equipment	7,160,775	(5,719,647)
Reclassification of property, plant and equipment to investment property	(8,600,800)	(552,251)
Reclassification of current portion of debentures and borrowings	825,821,094	656,361,577
Increase of contingent consideration	37,462,772	-
Changes in other payables due to acquisition of Investments in associates and joint ventures	280,490,547	-
Changes in right-of-use assets	(4,426,081)	8,060,362
Reclassification of investment property to non-current assets held for sale	7,377,750	-

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

<i>In thousands of won</i>	<u>Borrowings and Debentures</u>	
Balance at 1 January 2021	₩	3,228,191,278
Business combination		318,843,379
Changes in cashflows from financing activities		556,517,354
Effects due to exchange rate changes		68,880,037
Other changes related to liabilities:		
Amortization on discount on debentures		3,089,900
Balance at 31 December 2021	₩	<u>4,175,521,948</u>

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**41. Discontinued Operation**

**(1) Decision to discontinue the Polysilicon Business Unit**

The board of directors had decided to discontinue the Polysilicon Business Unit on February 20, 2020, expecting that it would be difficult to keep the cost competitiveness due to the decline in polysilicon price and unfavorable cost structures.

**(2) Loss from discontinued operations for the year ended December 31, 2020 are as follows:**

<i>In thousands of won</i>	<b>2020</b>
Revenue	₩ 3,599,880
Cost of Sale	(33,455,334)
Selling and administrative expenses	(583,241)
Other income(expenses)	(22,696,694)
Loss before income tax expense	(53,135,389)
Income tax benefit (expense)	15,283,503
	<hr/>
Loss from discontinued operations	₩ (37,851,886)

**(3) Cash flows from discontinued operations for the year ended December 31, 2020 are as follows:**

<i>In thousands of won</i>	<b>2020</b>
Cash flows from operating activities	₩ (33,301,241)
Cash flows from investing activities	6,855,029
Cash flows from financing activities	26,443,523
	<hr/>
Net cash flows	₩ (2,689)

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42. Business Combination

On April 1, 2021, as the date of the merger, the Company merged its 100% subsidiary Hanwha Galleria Co., Ltd. and Hanwha City Development Co., Ltd., which are subject to merger after spin-off. The target divisions are the rest of the existing divisions of Hanwha City Development Co., Ltd, except for those related to Ulju real estate. The Company recognized the acquired assets and the acquired liabilities as the carrying amounts in the consolidated financial statements of the ultimate parent company, and recognized the difference between the removed investment stocks and the carrying amounts as equity.

(1) Generals of business combination

	<u>Merged Corporation</u>	<u>Corporation amalgamated</u>	<u>Corporation amalgamated</u>
Company name	HANWHA SOLUTIONS CORPORATION	Hanwha Galleria Co., Ltd.	Hanwha City Development Co., Ltd (Divisions subject to merger)
Listed	Listed	Not Listed	Not Listed
Location	86, Cheonggyecheon - ro, Jung-gu, Seoul	50, 63 - ro, Yeongdeungpo - gu, Seoul	16, Haewian - gil 62beon - gil, Dunpo - myeon, Asan - si, Chungcheongnam - do
Merger date		April 1, 2021	

(2) The carrying amounts of acquired assets and liabilities as of merger date are as follows:

*In thousands of won*

	<u>Amount</u>
Current assets:	
Cash and cash equivalents	₩ 360,524,909
Trade receivables and other receivables	190,503,513
Inventories	25,690,968
Other current assets	13,521,566
	<u>590,240,956</u>
Non-current assets:	
Investments in associates and joint ventures	259,608,069
Property, plant and equipment	951,941,988
Intangible assets	12,029,877
Other non-current assets	314,446,980
	<u>1,538,026,914</u>
Current liabilities:	
Trade payables and other payables	244,949,700
Short-term borrowings	183,285,775
Other current liabilities	259,058,897
	<u>687,294,372</u>
Non-current liabilities:	
Long-term borrowings	135,557,604
Provisions	6,527,861
Net defined benefit liabilities	63,373,197
Deferred tax liabilities	75,297,107
Other non-current liabilities	363,194,223
	<u>643,949,992</u>
Fair value of identifiable net asset (*)	<u>₩ 797,023,506</u>

(\*) As a type of small merger without issue of shares, the acquired asset and liabilities are non-cash transaction except for the account of cash and cash equivalents.

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43. Construction Contracts

(1) Changes in construction contracts for the year ended December 31, 2021 are as follows:

*In thousands of won*

	<u>Balance at 1 January 2021</u>	<u>Variance</u>	<u>Revenue Recognition</u>	<u>Balance at 31 December 2021</u>
Construction of domestic solar power plants	₩ 14,442,550	108,759,665	(84,995,145)	38,207,070
Construction of overseas solar power plants	53,047,468	36,540,311	(33,248,256)	56,339,523
	<u>₩ 67,490,018</u>	<u>145,299,976</u>	<u>(118,243,401)</u>	<u>94,546,593</u>

(2) Construction revenues and cost recognized in relation to the ongoing construction contract for the year ended December 31, 2021 are as follows:

*In thousands of won*

	<u>Cumulative revenue</u>	<u>Cumulative cost</u>	<u>Cumulative profit</u>	<u>Due to customers</u>
Construction of domestic solar power plants	₩ 81,827,706	76,272,353	5,555,353	782,000
Construction of overseas solar power plants	50,458,246	48,500,799	1,957,447	3,880,900
	<u>₩ 132,285,952</u>	<u>124,773,152</u>	<u>7,512,800</u>	<u>4,662,900</u>

(3) Contract assets and liabilities in relation to the construction contract as of December 31, 2021 are as follows:

*In thousands of won*

	<u>2021</u>		
	<u>Unclaimed construction(*1)</u>	<u>Overclaimed construction(*2)</u>	<u>Advances from construction contracts(*2)</u>
Construction of domestic solar power plants	₩ 3,183,137	5,139,528	782,000
Construction of overseas solar power plants	-	4,333,096	3,880,900
	<u>₩ 3,183,137</u>	<u>9,472,624</u>	<u>4,662,900</u>

(\*1) The unclaimed constructions are accounted as Other current assets in the statement of financial position

(\*2) The overclaimed construction and advances from construction contracts are accounted as Contract liabilities in the statement of financial position.

(4) The effects on profits and contract assets, liabilities resulting from the change of the estimation of revenue and cost in relation with the construction of solar plant are as follows:

*In thousands of won*

	<u>Changes of estimation</u>		<u>Effects on profit</u>		<u>Changes in balance</u>	
	<u>Revenue</u>	<u>Cost</u>	<u>2021</u>	<u>Future</u>	<u>Contract assets</u>	<u>Contract liabilities</u>
Construction of overseas solar power plants	₩ 33,473	(1,150,998)	1,184,599	(128)	1,185,499	900

Contracts newly signed during the current year are excluded, and changes above are the changes in an accounting estimate.

(5) There are no individual contracts for the years ended December 31, 2021 and 2020 that use the cost-based input method to measure percentage of completion, with the contract amount exceeding 5% of the sales in the previous fiscal year.

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**44. Share-Based Payment**

The Company granted 308,977 shares of Restrictive Stock Units (the "RSU") to the executives, and also granted the cash compensation linked with the share price. The Company recognized the compensation expenses of ₩20,786 million for the year ended December 31, 2021.

Stock option is measured at the fair value at the grant date for the Restrictive Stock Units, while cash compensation linked with the share price is measured at the closing price at the end of every reporting period. The annual share-based payment will be fully vested for executives above executive directors if they provide service for more than six months in the fiscal year in which it includes the grant date, while executives below managing directors will be granted the annual share-based payment in the concept of performance-based incentives on December 31 and it will be fully vested at the same time. Share-based payment will be effective after the grant date, from 5 to 10 years.

**45. Subsequent Events**

**(1) Acquisition of shares and investment securities of other corporations**

The company acquired REC silicon ASA shares (acquisition amount: ₩190,081 million, acquisition date: January 17, 2022).

**(2) Participation in paid-in capital increase and acquisition/disposition of stocks and investment securities of other corporations**

The company participated in the paid-in capital increase of Hanwha EU ENERGY Solutions SE (₩1,014,248 million, payment date: February 4, 2022) and invested all of the RES Mediteranee issued shares in Hanwha EU ENERGY Solutions SE (our 100% subsidiary) in kind, and the company acquired 10,000,000 new shares.

**(3) Determination of acquisition/disposition of shares and investment securities of other corporations**

All Hanwha Chemical (Ningbo) CO., Ltd. issued shares held by the company will be invested in kind in HCC Holdings Co., Ltd. (estimated acquisition/disposition date: 31 March 2022). The company will dispose of 2,940,000 convertible preferred shares (49% interest) of HCC Holdings Co., Ltd. to Heimdal Private Equity Co., Ltd. (Scheduled disposal amount: ₩676,200 million, scheduled disposal date: March 31, 2022)

**(4) Participation in paid-in capital increase and acquisition of stocks and investment securities of other corporations**

The company has participated in the paid-in capital increase of Hanwh Q CELLS Co., Ltd. (hereinafter referred to as "HQCL"), a 100% overseas subsidiary (Amount: ₩368,717 million, Payment date: February 24, 2022).

**(5) Investment in related parties**

The company participated in the paid-in capital increase of Hanwha Global Asset Co., Ltd. (Investment amount: ₩72,324 million, date of investment: February 24, 2022).

The company will participate in the paid-in capital increase of Hanwha NXMD Co., Ltd. (estimated investment amount: ₩105,800 million, expected investment date: March 28, 2022 and July 25, 2022).

**(6) Transfer of contractual status for related parties**

The company has agreed to transfer some assets of communications module business contracted with SAMSUNG ELECTRO-MECHANICS CO.,LTD. and the status of the transferee as on the share transfer contract to Hanwha NXMD Co., Ltd. (transfer price: ₩7,070 million, transfer date: February 18, 2022).

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**45. Subsequent Events, Continued**

**(7) Asset transferred/ operation transferred/ share acquired from related parties**

The company plans to take over the site and building of Jirisan Mountain from Hanwha Hotels & Resorts CO., LTD. (planned transfer price: ₩10,424 million), and take over the Jade Palace golf course operation project and Jade Garden arboretum business (planned transfer price: ₩61,485 million).

In addition, from Hanwha Hotels & Resorts CO., LTD., (i) 50% interests in the Sumit Apollo Eleven LLC, (ii) 100% of the partnership interest in HHR Development B LLC, (iii) 50% of specific investment interests and 24.95% of preferred investment interests of H Properties special purpose company, (iv) 25% of specific investment interest and 24.95% of preferred investment interests of Premium Hirafu Properties special purpose company are planned to acquire (estimated acquisition price: ₩31,634 million) (estimated transfer/estimated acquisition date: March 31, 2022).

## **Comments On The Audit or Review of Internal Accounting Control system**

This report is annexed in relation to the audit of the separate financial statements as of December 31, 2021 and the audit of internal accounting control system pursuant to Article 8-7 of the Act on External Audits of Corporations in the Republic of Korea.

Attachment 1. Independent Auditors' Report on Internal Control over Financial Reporting

Attachment 2. Internal Control over Financial Reporting Operating Status Report by CEO and Internal Accounting Manager



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## **Independent Auditors' Report on Internal Control over Financial Reporting**

Based on a report originally Issued in Korean

To the Shareholders and the Board of Directors of  
HANWHA SOLUTIONS CORPORATION

### **Opinion on Internal Control over Financial Reporting**

We have audited HANWHA SOLUTIONS CORPORATION's ("the Company") internal control over financial reporting ("ICFR") as of December 31, 2021 based on the criteria established in the Conceptual Framework for Designing and Operating ICFR ("ICFR Design and Operation Framework") issued by the Operating Committee of Internal Control over Financial Reporting in the Republic of Korea (the "ICFR Committee").

In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on ICFR Design and Operation Framework.

We also have audited, in accordance with Korean Standards on Auditing ("KSAs"), the separate financial statements of the Company, which comprise the separate statement of financial position as of December 31, 2021, the separate statements of comprehensive income, changes in equity and cash flows for the year then ended, and notes, comprising significant accounting policies and other explanatory information, and our report dated March 15, 2022, expressed an unmodified opinion on those separate financial statements.

### **Basis for Opinion**

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

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

The Company's management is responsible for designing, operating and maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Internal Control over Financial Reporting Operating Status Report by CEO and Internal Accounting Manager.

Those charged with governance are responsible for overseeing the Company's internal control over financial reporting.



### **Auditors' Responsibilities for the Audit of the Internal Control over Financial Reporting**

Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We conducted our audit in accordance with KSAs. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk.

### **Definition and limitations of Internal Control over Financial Reporting**

A Company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with Korean International Financial Reporting Standards ("K-IFRS"). A Company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with K-IFRS, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Company's assets that could have a material effect on the financial statements.

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

The engagement partner on the audit resulting in this independent auditors' report is Dae-Jin Kim.

*KPMG Samjony Accounting Corp.*

Seoul, Korea  
March 15, 2022

This report is effective as of March 15, 2022, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the internal control over financial reporting. Accordingly, the readers of the audit report should understand that the above audit report has not been updated to reflect the impact of such subsequent events or circumstances, if any.

## [Internal Control over Financial Reporting Operating Status Report by CEO and Internal Accounting Manager]

To the Shareholders, Board of Directors and Audit Committee of Hanwha Solutions Corporation.

We, as the Chief Executive Officer and the Internal Accounting Manager of the Company, assessed designing and operating status of the Company's Internal Control over Financial Reporting ("ICFR") for the year ending December 31, 2021.

Design and operation of ICFR is the responsibility of the Company's management, including the Chief Executive Officer and the Internal Accounting Manager. We evaluated whether the Company effectively designed and operated its ICFR to prevent and detect errors or frauds which may cause a misstatement in financial statements to ensure preparation and disclosure of reliable financial information. We used the 'Conceptual Framework for Designing and Operating Internal Control over Financial Reporting' established by the Operating Committee of Internal Control over Financial Reporting in Korea (the "ICFR Committee") as the criteria for design and operation of the Company's ICFR. And we conducted an evaluation of ICFR based on the 'Management Guideline for Evaluating and Reporting Effectiveness of Internal Control over Financial Reporting' established by the ICFR Committee.

Based on our assessment, we concluded that the Company's ICFR is designed and operated effectively as of December 31, 2021, in all material respects, in accordance with the 'Conceptual Framework for Designing and Operating Internal Control over Financial Reporting.

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

February 8, 2022

Hanwha Solutions Corporation

Chief Executive Officer Koo Yung Lee (Signature)

Internal Accounting Manager Gil Seob Lee (Signature)