SK Chemicals Co., Ltd.

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

SK Chemicals Co., Ltd.

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Independent auditor's report

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Independent auditor's report

(English Translation of a Report Originally Issued in Korean)

The Shareholders and Board of Directors

SK Chemicals Co., Ltd.

Opinion

We have audited the financial statements of SK Chemicals Co., Ltd. (the "Company"), which comprise the statements of financial position as of December 31, 2021 and 2020, and the statements of profit or loss and other comprehensive income, statements of changes in equity and statements of cash flows for the years then ended, and notes to the financial statements, including a summary of significant accounting policies.

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

We also have audited the Company's internal control over financial reporting as of December 31, 2021, based on criteria established in Internal Control – Design and Operation Integrated Framework in accordance with Korean Standards on Auditing ("KSAs") issued by the Committee of Internal Control Operations, and our report dated March 18, 2022 expressed an unqualified opinion thereon.

Basis for opinion

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

Key audit matters

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

Timing of export sales recognition

As described in Note 28, sales from the company's export transactions during the current period amounted to 605,771 million, accounting for 55.4% of the total sales. Export sales are subject to various performance obligations depending on the contract and export conditions with the customer and requires management's judgment on the timing of revenue recognition because the timing of the transfer of control of each good or service is different. Therefore, considering the possibility of incurring error from Company's judgment or intentional misstatement in recognition of export sales cut-off, we selected appropriateness of timing of revenue recognition related to export sales as key audit matter.

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In this regard, the main audit procedures we have performed are as follows.

- Understanding and evaluation of accounting policies, accounting processes, and internal control related to the Company's export transactions cut-off.
- Review of contracts by major sales transaction types (identification of performance obligations, review of contract conditions by performance obligations, appropriateness of the timing of revenue recognition)
- Comparing between the time of occurrence of sales and the time of recognition of the Company's sales using sampling methods for export transactions that occurred before and after the end of the reporting period.

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

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

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

Auditor's responsibilities for the audit of the financial statements
Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with 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 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 financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a

manner that achieves fair presentation.

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

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

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

The partner in charge of the audit resulting in this independent auditor's report is Tae Hwan Kim.

Ernst & Young Han Young

March 18, 2022

This audit report is effective as of March 18, 2022, the independent auditor's report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the independent auditor's report date to the time this report is used. Such events and circumstances could significantly affect the accompanying financial statements and may result in modifications to this report.

SK Chemicals Co., Ltd.
statements of financial position
as of December 31, 2021 and 2020

(Korean won)

	Notes	2021	2020
Assets			
Current assets		850,385,823,428	542,386,697,294
Cash and cash equivalents		102,201,908,694	36,666,181,689
Short-term financial assets	5, 9, 35	214,551,624,180	145,208,941,838
Trade and other accounts receivable	5, 6, 23, 25, 35	349,597,114,345	201,600,472,662
Inventories	7	176,670,484,280	152,017,683,321
Other current assets	5, 8, 19, 23, 35	7,364,691,929	6,893,417,784
Non-current assets		1,136,764,094,471	1,202,198,118,635
Long-term financial assets	5, 9	32,500,000	32,500,000
Other investment assets	5, 10, 35	34,581,491,369	24,492,063,443
Long-term trade and other receivables	5, 6, 25	2,245,126,852	-
Investment in affiliates or joint ventures	11	13,175,778,325	5,090,513,325
Investment in subsidiaries	11	369,310,002,987	248,206,168,483
Property, plant and equipment	12, 24, 27	663,484,729,233	878,396,296,608
Right-of-use assets	13, 27	1,078,904,249	7,430,750,867
Intangible assets	14, 27	25,581,562,950	18,815,248,305
Investment properties	15, 27	17,212,277,612	17,055,665,021
Other non-current assets	5, 8, 20, 23, 35	8,859,518,669	1,615,773,781
Deferred income tax assets	31	1,202,202,225	1,063,138,802
Total Assets		1,987,149,917,899	1,744,584,815,929
Liabilities			
Current liabilities		608,416,133,260	461,440,722,505
Trade and other payables	5, 16, 23, 25, 34, 35	334,166,345,831	190,846,337,416
Short-term borrowings	5, 6, 17, 33, 34	-	106,636,902,688
Current portion of long-term liabilities	5, 17, 34	159,886,421,716	85,953,003,944
Current portion of lease liabilities	5, 13, 34	615,347,491	1,786,785,263
Current portion of contract liabilities	21	15,475,431,335	978,603,271
Current portion of provisions	22, 24	22,437,979,100	-
Income taxes payable	31	70,778,733,402	63,708,030,987
Other current liabilities	5, 18, 34	5,055,874,385	11,531,058,936
Non-current liabilities		223,149,669,532	398,070,772,061
Bonds payable	5, 17, 34	220,560,771,999	380,007,551,432
Long-term borrowings	5, 17, 34	-	9,375,000,000
Lease liabilities	5, 13, 34	478,871,282	5,433,745,338
Defined benefit liabilities	20	-	3,254,475,291
Other non-current liabilities	5, 18	2,110,026,251	-
Total Liabilities		831,565,802,792	859,511,494,566
Equity			
Issued capital	26	98,681,045,000	66,000,330,000
Capital surplus	26	155,974,381,098	188,347,198,411
Other components of equity	26	(12,345,389,915)	(9,117,046,764)
Retained earnings	26	913,274,078,924	639,842,839,716
Total equity		1,155,584,115,107	885,073,321,363
Total liabilities and equity		1,987,149,917,899	1,744,584,815,929

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

SK Chemicals Co., Ltd.
statements of profit and other comprehensive income
for the years ended December 31, 2021 and 2020

(Korean won)

	Notes	2021	2020
Revenue	25, 27, 28	1,093,356,680,705	905,274,693,060
Cost of sales	25, 29	829,072,845,806	652,901,500,834
Gross profit		264,283,834,899	252,373,192,226
Selling, and administrative expenses	29	181,990,857,414	154,677,911,194
Operating income	27	82,292,977,485	97,695,281,032
Other income	25, 30	488,792,502,374	11,261,719,908
Other expenses	25, 30	41,362,691,966	21,231,924,327
Financial income	5, 30	43,397,938,556	40,541,724,156
Financial cost	5, 30	32,235,463,899	49,432,978,219
Profit before tax from continuing operation	31	540,885,262,550	78,833,822,550
Income tax expenses from continuing operation	31	136,417,287,717	28,087,244,608
Profit for the year from continuing operation		404,467,974,833	50,746,577,942
Profit (loss) before tax from discontinued operation	36	(134,518,761,720)	218,163,748,291
Income tax expenses from discontinued operation	31, 36	(32,553,540,336)	53,167,701,588
Profit (loss) for the year from discontinued operation	36	(101,965,221,384)	164,996,046,703
Profit before income tax		406,366,500,830	296,997,570,841
Income tax expense	31	103,863,747,381	81,254,946,196
Profit for the year		302,502,753,449	215,742,624,645
Other comprehensive loss		(2,921,264,291)	(877,961,861)
Other comprehensive loss not to be reclassified to profit or loss in subsequent period		(2,921,264,291)	(877,961,861)
Remeasurement loss on defined benefit plans	20	(2,921,264,291)	(877,961,861)
Total comprehensive income, net of tax		299,581,489,158	214,864,662,784
Earnings per share	32		
Basic and diluted, earnings for the year			
Basic earnings (loss) per ordinary share from continuing operation		20,659	2,583
Basic earnings (loss) per ordinary share from discontinued operation		(5,208)	8,400
Diluted earnings per ordinary share from continuing operation		20,531	2,580
Diluted earnings per ordinary share from discontinued operation		-	8,363
Basic earnings per preferred share			
Basic earnings (loss) per preferred share from continuing operation		20,726	2,591
Basic earnings (loss) per preferred share from discontinued operation		(5,225)	8,425

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

SK Chemicals Co., Ltd.
Statements of changes in equity
for the years ended December 31, 2021 and 2020

(Korean won)

	Equity				
	Issued capital	**Capital surplus**	**Other capital adjustments**	**Retained earnings**	**Total equity**
As of January 1, 2020	66,000,330,000	188,347,198,411	(888,883,656)	430,985,192,132	684,443,836,887
Profit for the year	-	-	-	215,742,624,645	215,742,624,645
Remeasurement loss on defined benefit plans	-	-	-	(877,961,861)	(877,961,861)
Stock options granted<Note 26>	-	-	561,602,700	-	561,602,700
Stock options exercised<Note 26>	-	-	(4,354,860,000)	-	(4,354,860,000)
Cash dividend<Note 26>	-	-	-	(6,007,015,200)	(6,007,015,200)
Acquisition of treasury stock<Note 26>	-	-	(4,434,905,808)	-	(4,434,905,808)
As of December 31, 2020	66,000,330,000	188,347,198,411	(9,117,046,764)	639,842,839,716	885,073,321,363
As of January 1, 2021	66,000,330,000	188,347,198,411	(9,117,046,764)	639,842,839,716	885,073,321,363
Profit for the year	-	-	-	302,502,753,449	302,502,753,449
Remeasurement loss on defined benefit plans	-	-	-	(2,921,264,291)	(2,921,264,291)
Stock option granted<Note 26>	-	-	125,936,990	-	125,936,990
stock options exercised<Note 26>	50,000,000	861,558,500	(186,537,500)	-	725,021,000
Cash dividend<Note 26>	-	-	-	(26,150,249,950)	(26,150,249,950)
Capital increase without consideration<Note 26>	32,630,715,000	(33,234,375,813)	-	-	(603,660,813)
Acquisition of treasury stock<Note 26>	-	-	(3,167,742,641)	-	(3,167,742,641)
As of December 31, 2021	98,681,045,000	155,974,381,098	(12,345,389,915)	913,274,078,924	1,155,584,115,107

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

SK Chemicals Co., Ltd.
statements of cash flows
for the years ended December 31, 2021 and 2020

(Korean won)

	2021	2020
Cash flows from operating activities		
Profit for the year	302,502,753,449	215,742,624,645
Non-cash adjustments to reconcile profit (loss) for the year to net cash flows provided by operating activities<Note 33>	(187,191,487,993)	(92,339,223,140)
Working capital adjustments<Note 33>	(53,245,780,477)	29,279,267,913
Interest received	579,673,872	354,163,301
Interest paid	(11,479,551,082)	(20,216,410,647)
Dividends received	8,952,750,000	5,873,600,000
Income tax paid	(95,999,462,006)	(19,303,810,420)
Net cash flows provided by (used in) operating activities	(35,881,104,237)	119,390,211,652
Cash flows from investment activities		
Business transfer	71,472,753,210	380,919,480,691
Decrease in long term-deposit	339,043,619	127,500,000
Decrease in short term money lending	300,000,000	800,000,000
Recovery of long-term investment assets	25,000,000	-
Disposal of tangible assets and right-of-use assets	2,447,014,817	47,436,177
Disposal of intangible assets	735,778,790	3,150,532,026
Receipt of government grant	85,756,878	124,713,507
Disposal of subsidiaries' investment shares	498,114,884,460	38,500
Net change in short-term financial assets	(65,382,558,834)	(142,288,023,478)
Increase in deposits	(141,541,000)	(237,500,000)
Increase in short-term money lending	-	(800,000,000)
Acquisition of long-term financial assets	(8,970,673,609)	(2,500,000,000)
Acquisition of tangible assets	(83,994,724,969)	(79,491,303,757)
Acquisition of tangible assets due to borrowing cost	(943,630,987)	(1,341,008,513)
Discard and overhaul of tangible assets	(1,198,619,330)	-
Acquisition of intangible assets	(5,598,777,628)	(1,916,946,173)
Decrease in cash due to spin-off	(57,000,000,000)	-
Acquisition of investments in subsidiaries and affiliates	(16,838,150,000)	(11,677,638,900)
Net cash flows provided by investing activities	333,451,555,417	144,917,280,080
Cash flows from financing activities		
Proceeds from short-term borrowings	-	115,000,000,000
Stock options exercised	725,021,000	-
Net decrease in short term borrowings in foreign currency	(31,636,902,688)	(21,478,169,612)
Repayment of short-term borrowings	(75,000,000,000)	(175,000,000,000)
Repayment of current portion of bonds	(85,000,000,000)	(146,000,000,000)
Repayment of current portion of long-term borrowings	(1,003,200,000)	(104,401,400,000)
Repayment of current portion of lease liabilities	(1,428,642,346)	(4,823,119,406)
Repayment of long-term borrowings	(9,375,000,000)	(30,625,000,000)
Acquisition of treasury stock	(3,167,742,641)	(4,434,905,808)
Dividend paid	(26,148,257,500)	(6,006,549,700)
Outflows from stock options exercised	-	(4,354,860,000)
Net cash flows used in financing activities	(232,034,724,175)	(382,124,004,526)
Net Increase (decrease) in cash and cash equivalents	65,535,727,005	(117,816,512,794)
Cash and cash equivalents at the beginning of the year	36,666,181,689	154,482,694,483
Cash and cash equivalents at the end of the year	102,201,908,694	36,666,181,689

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

1. Corporate information

On December 1, 2017, SK Chemicals Co., Ltd. (the “Company”) was spun off from SK Discovery Co., Ltd. (formerly, SK Chemicals Co., Ltd.) as a newly established entity and it primarily engages in the manufacture and sale of co-polyester and related products and development, manufacture and sale of pharmaceuticals and vaccines. The ordinary shares of the Company were relisted and have been publicly traded on the Korea Exchange since January 5, 2018. The Company’s headquarters is located in 310 Pangyo-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, Korea. The Company owns and operates factories in Ulsan, Cheongju and Andong.

On May 1, 2018, the Company merged by absorbing SK petrochemical Co., Ltd. a wholly owned subsidiary. On July 1, 2018, the Company newly established SK Bioscience Co., Ltd., that primarily engages in the development, manufacture and sales of vaccine, through a split-off of its division. In addition, on December 1, 2019, the Company merged by absorbing Initz Co., Ltd., a wholly owned subsidiary.

Furthermore, the Company established SK Multi-Utility Co., Ltd. for the purpose of supplying utilities through a split-off on December 1, 2021, the date of split-off.

Details of the Company’s major shareholders as of December 31, 2021 are as follows:

Name of shareholder	Ordinary shares		Preferred stocks	
	Number of shares	Equity ownership (%)	Number of shares	Equity ownership (%)
SK Discovery Co., Ltd.	6,137,781	34.83	-	-
Treasury stock	30,857	0.18	148,133	7.00
Others	11,452,142	64.99	1,967,296	93.00
Total	17,620,780	100.00	2,115,429	100.00

The financial statements for the year ended December 31, 2021 have been approved by the Company’s Board of Directors on February 10, 2022 and will be finalized at the shareholders' meeting to be held on March 28, 2022.

2. Summary of significant accounting policies

Basis of financial statements preparation

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

The financial statements of the Company have been prepared on historical cost basis, except when otherwise indicated and are presented in Korean won with all values rounded to the nearest thousands, except when otherwise indicated. The financial statements have been prepared on a historical cost basis, except for investment properties, land and buildings classified as property, plant and equipment, derivative financial instruments, debt and equity financial assets and non-cash distribution liabilities that have been measured at fair value. The carrying values of recognized assets and liabilities that are designated as hedged items in fair value hedges that would otherwise be carried at amortized cost are adjusted to record changes in the fair values attributable to the risks that are being hedged in effective hedge relationships. The financial statements are presented in Korean won (KRW) and all values are rounded to the nearest thousands, except when otherwise indicated.

Subsidiaries, associates and jointly controlled entities

Pursuant to KIFRS 1027, the accompanying financial statements are accounted for, by a parent, investment in an associate or a joint venture on the basis of the direct equity interest rather than on the basis of the reported results and net assets of the investees. Moreover, KIFRS 1027 requires that, in the financial statements, investments in subsidiaries, affiliates or joint ventures should be accounted for at cost. However, in accordance with KIFRS 1101, carrying amounts of those investments based on Previous Local GAAP at transition date to KIFRS are deemed to be cost. All dividends should be recognized in profit or loss within the financial statements once the right to receive payments has been established.

Foreign currency translation

The Company's financial statements are presented in Korean won, which is also its functional currency.

Transactions in foreign currencies are initially recorded by the Company at their respective functional currency spot rates at the date the transaction first qualifies for recognition. Monetary assets and liabilities denominated in foreign currencies are retranslated at the functional currency spot rate of exchange at the reporting date.

Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rates at the dates of the initial transactions. Non-monetary items measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value is determined. The gain or loss arising on translation of non-monetary items measured at fair value is treated in line with the recognition of the gain or loss on the change in fair value of the item (i.e., translation differences on items whose fair value gain or loss is recognized in OCI or profit or loss is also recognized in OCI or profit or loss, respectively).

In determining the spot exchange rate to use on initial recognition of the related asset, expense or income (or part of it) on the derecognition of a non-monetary asset or non-monetary liability relating to advance consideration, the date of the transaction is the date on which the Company initially recognizes the non-monetary asset or non-monetary liability arising from the advance consideration. If there are multiple payments or receipts in advance, the Company determines the transaction date for each payment or receipt of advance consideration.

2. Summary of significant accounting policies (cont'd)

Revenue from contract with customers

The Company has two business divisions: Green Chemicals and Life Science. The Green Chemicals business produces and sells PET resins, high-performance PETG resins and industrial adhesives. The Life Science business is engaged in the pharmaceutical and vaccine businesses. Revenue from contracts with customers is recognized when control of the goods or services is transferred to the customer at an amount that reflects the consideration to which the Company expects to be entitled in exchange for those goods or services. The Company has generally concluded that it is the principal in its revenue arrangements, because it typically controls the goods or services before transferring them to the customer.

(1) Sale of goods

Revenue from the sale of goods is recognized when the significant risks and rewards of ownership of the goods have passed to the buyer, usually on delivery of the goods. The normal credit term is in 90 days upon delivery. The Company considers whether there are other promises in the contract that are separate performance obligations to which a portion of the transaction price needs to be allocated. (e.g., warranties, customer loyalty points). In determining the transaction price for the sale of equipment, the Company considers the effects of variable consideration, the existence of significant financing components, noncash consideration, and consideration payable to the customer (if any).

① Variable consideration

In a contract to supply goods to a customer, the company received or to be received from a customer may change because the Company pays discounts and incentives for the purpose of increasing the customer's sales or allows returns. If the contract includes variable consideration, the Company estimate the amount they will receive in consideration for transferring the promised goods to the customer. When the uncertainties associated with the variable consideration are later addressed, the variable consideration is estimated at the point of commencement of the contract and is included in the transaction price only to the extent that it is highly probable that a significant portion of the amount of accumulated profits recognized will not be returned. Some of the contracts for the sales of goods provide the customer with the right to return. The right to return corresponds to a variable consideration.

➢ Right of return

Certain contracts provide a customer with a right to return the goods within a specified period. The Company uses the expected value method to estimate the goods that will not be returned because this method best predicts the amount of variable consideration to which the Company will be entitled. The requirements in KIFRS 1115 on constraining estimates of variable consideration are also applied in order to determine the amount of variable consideration that can be included in the transaction price. For goods that are expected to be returned, instead of revenue, the Company recognizes a refund liability. A right of return asset (and corresponding adjustment to cost of sales) is also recognized for the right to recover products from a customer.

➢ Volume rebates

The Company provides retrospective volume rebates to certain customers once the quantity of products purchased during the period exceeds a threshold specified in the contract. Rebates are offset against amounts payable by the customer. To estimate the variable consideration for the expected future rebates, the Company applies the most likely amount method for contracts with a single-volume threshold and the expected value method for contracts with more than one volume threshold. The selected method that best predicts the amount of variable consideration is primarily driven by the number of volume thresholds contained in the contract. The Company then applies the requirements on constraining estimates of variable consideration and recognizes a refund liability for the expected future rebates.

2. Summary of significant accounting policies (cont'd)

(2) Contract balances

① Contract assets
A contract asset is the right to consideration in exchange for goods or services transferred to the customer. If the Company performs by transferring goods or services to a customer before the customer pays consideration or before payment is due, a contract asset is recognized for the earned consideration that is conditional. The contract assets are assessed for impairment.

② Trade receivables
A receivable is recognized when an amount of unconditional consideration is due for payment by and from the customer (that is, where only the lapse of time is required before the consideration is paid upon maturity). Refer to accounting policies of financial assets in the Note *Financial instruments – Initial recognition and subsequent measurement*.

③ Contract liabilities
A contract liability is the obligation to transfer goods or services to a customer for which the Company has received consideration (or an amount of consideration is due) from the customer. If a customer pays consideration before the Company transfers goods or services to the customer, a contract liability is recognized when the payment is made or the payment is due (whichever is earlier). Contract liabilities are recognized as revenue when the Company performs under the contract

(3) Assets and liabilities arising from rights of return

① Right of return assets
Right of return asset represents the Company's right to recover the goods expected to be returned by customers. The asset is measured at the former carrying amount of the inventory, less any expected costs to recover the goods, including any potential decreases in the value of the returned goods.

② Refund liabilities
A refund liability is the obligation to refund some or all of the consideration received (or receivable) from the customer and is measured at the amount the Company ultimately expects it will have to return to the customer. The Company updates its estimates of refund liabilities (and the corresponding change in the transaction price) at the end of each reporting period. Refer to above accounting policy on variable consideration.

Refer to Note 3 for significant judgments, estimates, and assumptions related to revenue from contract with customers.

Government grants
Government grants are recognized where there is reasonable assurance that the grant will be received and all attached conditions will be complied with. When the grant relates to an expense item, it is recognized as income on a systematic basis over the periods that the related costs, for which it is intended to compensate, are expensed. When the grant relates to an asset, it is recognized as income in equal amounts over the expected useful life of the related asset.

2. Summary of significant accounting policies (cont'd)

When the Company receives grants of non-monetary assets, the asset and the grant are recorded at nominal amounts and released to profit or loss over the expected useful life of the asset, based on the pattern of consumption of the benefits of the underlying asset by equal annual instalments. When loans or similar assistance are provided by the government or related institutions, with an interest rate below the current applicable market rate, the effect of this preferential interest is regarded as a government grant. The loan or assistance is initially recognized and measured at fair value and the government grant is measured as the difference between the initial carrying value of the loan and the proceeds received.

Taxes

(1) Current income tax

Current income tax assets and liabilities for the current and prior periods are measured at the amount expected to be recovered from or paid to the taxation authorities. The tax rates and tax laws used to compute the amount are those that are enacted or substantively enacted, at the reporting date, in the countries where the Company operates and generates taxable income.

Current income tax relating to items recognized directly in equity is recognized in equity and not in the statements of comprehensive income. Management periodically evaluates positions taken in the tax returns with respect to situations in which applicable tax regulations are subject to interpretation and establishes provisions where appropriate.

(2) Deferred tax

Deferred tax is provided using the liability method on temporary differences at the reporting date between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes.

Deferred tax liabilities are recognized for all taxable temporary differences, except:

- When the deferred tax liability arises from the initial recognition of goodwill
- When the deferred tax liability arises from the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss.
- In respect of taxable temporary differences associated with investments in subsidiaries, associates and interests in joint ventures, where the timing of the reversal of the temporary differences can be controlled and it is probable that the temporary differences will not reverse in the foreseeable future.

Deferred tax assets are recognized for all deductible temporary differences, carry forward of unused tax credits and unused tax losses, to the extent that it is probable that taxable profit will be available against which the deductible temporary differences, and the carry forward of unused tax credits and unused tax losses can be utilized except:

- When the deferred tax asset relating to the deductible temporary difference arises from the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss.
- In respect of deductible temporary differences associated with investments in subsidiaries, associates and interests in joint ventures, deferred tax assets are recognized only to the extent that it is probable that the temporary differences will reverse in the foreseeable future and taxable profit will be available against which the temporary differences can be utilized.

The carrying amount of deferred tax assets is reviewed at each reporting date and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be utilized. Unrecognized deferred tax assets are reassessed at each reporting date and are recognized to the extent that it has become probable that future taxable profits will allow the deferred tax asset to be recovered.

2. Summary of significant accounting policies (cont'd)

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the year when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the reporting date.

Deferred tax relating to items recognized outside profit or loss is recognized outside profit or loss. Deferred tax items are recognized in correlation to the underlying transaction either in other comprehensive income or directly in equity.

If the tax benefits acquired as a part of a business combination did not satisfy the separate recognition criteria at the relevant point in time, yet were recognized during the measurement period as a result of new information on the facts and circumstances existing on the date of acquisition, the relevant deferred tax benefits are recognized. The acquired deferred tax benefits recognized are applied to reduce the book amount of the goodwill related to the acquisition, and if the book amount of the goodwill is zero, the remaining deferred tax benefits are recognized as current profit or loss.

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

(3) Sales tax

Revenue, expenses and assets are recognized as the net of any applicable sales tax. However, if the sales tax related to the purchase of an asset or service cannot be refunded by and from the tax authorities, it is recognized as part of the acquisition cost or a part of the expense item, and the relevant receivables and liabilities are presented as the amount including the sales tax.
The net amount of the sales tax to be refunded by or payable to the tax authority is included in the receivables or liabilities in the statement of financial position.

Pensions and other post-employment benefit plans

The Company operates a defined benefit pension plan in Korea, which requires contributions to be made to a separately administered fund. The cost of providing benefits under the defined benefit plan is determined using the projected unit credit method. Remeasurements, comprising of actuarial gains and losses, the effect of the asset ceiling, excluding amounts included in net interest on the net defined benefit liability and the return on plan assets (excluding amounts included in net interest on the net defined benefit liability), are recognized immediately in the statement of financial position with a corresponding debit or credit to retained earnings through OCI in the period in which they occur. Remeasurements are not reclassified to profit or loss in subsequent periods.

Past service costs are recognized in profit or loss on the earlier of:
- The date of the plan amendment or curtailment, and
- The date that the Company recognizes restructuring-related costs

Net interest is calculated by applying the discount rate to the net defined benefit liability or asset. The Company recognizes the following changes in the net defined benefit obligation under 'cost of sales', 'selling and administrative expenses' in the statement of comprehensive income (by function):

In addition, the Company operates a defined contribution plan for some employees, and the contribution is recognized as a cost when employees provide services.

2. Summary of significant accounting policies (cont'd)

Financial instruments – Initial recognition and subsequent measurement

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

(1) Financial assets

Initial recognition and measurement

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

The classification of financial assets at initial recognition depends on the financial asset's contractual cash flow characteristics and the Company's business model for managing them. With the exception of trade receivables that do not contain a significant financing component or for which the Company has applied the practical expedient, the Company initially measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs. Trade receivables that do not contain a significant financing component or for which the Company has applied the practical expedient are measured at the transaction price determined under KIFRS 1115.

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

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

Purchases or sales (formatted transaction) of a financial asset that requires the transfer of a financial asset within a period frame set by market consensus or regulation is recognized at the transaction date. That is, the date on which the consolidation entity has agreed to buy or sell financial assets.

Subsequent measurement

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

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

① Financial assets at amortized cost (debt instruments)

The Company measures financial assets at amortized cost if both of the following conditions are met:
- The financial asset is held within a business model with the objective to hold financial assets in order to collect contractual cash flows, and
- The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding

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

2. Summary of significant accounting policies (cont'd)

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

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

- The financial asset is held within a business model with the objective of both holding to collect contractual cash flows and selling, and
- The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding

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

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

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

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

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

④ Financial assets at fair value through profit or loss

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

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

This category includes listed equity instruments that are not irrevocably elected to account for changes in derivatives and fair value in other comprehensive income.

Dividends on listed equity instruments are recognized in profit or loss when the right is determined.

2. Summary of significant accounting policies (cont'd)

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

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

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

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

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

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

Impairment of financial assets
Further disclosures relating to impairment of financial assets are also provided in the following notes:

- Disclosures for significant assumptions – Note 3
- Trade receivables, including contract assets – Note 5

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

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

2. Summary of significant accounting policies (cont'd)

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

For debt instruments at fair value through OCI, the Company applies the low credit risk simplification. At every reporting date, the Company evaluates whether the debt instrument is considered to have low credit risk using all reasonable and supportable information that is available without undue cost or effort. In making that evaluation, the Company reassesses the internal credit rating of the debt instrument. In addition, the Company considers that there has been a significant increase in credit risk when contractual payments are more than 30 days past due.

The Company's debt instruments at fair value through OCI comprise solely of quoted bonds that are graded in the top investment category by the Credit Rating Agency and, therefore, are considered to be low credit risk investments. It is the Company's policy to measure ECLs on such instruments on a 12-month basis. However, when there has been a significant increase in credit risk since origination, the allowance will be based on the lifetime ECL. The Company uses the ratings from the Credit Rating Agency both to determine whether the debt instrument has significantly increased in credit risk and to estimate ECLs.

The Company considers a financial asset in default when contractual payments are 90 days past due. However, in certain cases, the Company may also consider a financial asset to be in default when internal or external information indicates that the Company is unlikely to receive the outstanding contractual amounts in full before taking into account any credit enhancements held by the Company. A financial asset is written off when there is no reasonable expectation of recovering the contractual cash flows.

(2) Financial liabilities

Initial recognition and measurement

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

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

The Company's financial liabilities include trade and other accounts payable, loans and borrowings including bank overdrafts, and derivative financial instruments.

Subsequent measurement

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

Financial liabilities at fair value through profit or loss

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

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

2. Summary of significant accounting policies (cont'd)

Gains or losses on liabilities held for trading are recognized in the statement of profit or loss and other comprehensive income (loss).

Financial liabilities designated upon initial recognition at fair value through profit or loss are designated at the initial date of recognition, and only if the criteria in KIFRS 1109 are satisfied. The Company has not designated any financial liability as of fair value through profit or loss.

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

Amortized cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the EIR.

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

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

(3) Offsetting of financial instruments

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

Fair value measurement
The Company measures financial instruments, such as derivatives, at fair value at each balance sheet date. Fair-value related disclosures for financial instruments and non-financial assets that are measured at fair value or where fair values are disclosed, are summarized in Note 35.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place either:

- in the principal market for the asset or liability, or
- in the absence of a principal market, in the most advantageous market for the asset or liability

The principal or the most advantageous market must be accessible by the Company.

The fair value of an asset or a liability is measured using the assumptions that market participants would use when pricing the asset or liability, assuming that market participants act in their economic best interest.

A fair value measurement of a non-financial asset takes into account a market participant's ability to generate economic benefits by using the asset in its highest and best use or by selling it to another market participant that would use the asset in its highest and best use.

The Company uses valuation techniques that are appropriate in the circumstances and for which sufficient data are available to measure fair value, maximizing the use of relevant observable inputs and minimizing the use of unobservable inputs.

2. Summary of significant accounting policies (cont'd)

All assets and liabilities for which fair value is measured or disclosed in the financial statements are categorized within the fair value hierarchy, described as follows, based on the lowest level input that is significant to the fair value measurement as a whole:

Level 1: Quoted (unadjusted) market prices in active markets for identical assets or liabilities
Level 2: Valuation techniques for which the lowest level input that is significant to the fair value measurement is directly or indirectly observable
Level 3: Valuation techniques for which the lowest level input that is significant to the fair value measurement is unobservable

For assets and liabilities that are recognized in the financial statements at fair value on a recurring basis, the Company determines whether transfers have occurred between levels in the hierarchy by re-assessing categorization (based on the lowest level input that is significant to the fair value measurement as a whole) at the end of each reporting period.

For the purpose of fair value disclosures, the Company has determined classes of assets and liabilities on the basis of the nature, characteristics and risks of the asset or liability and the level of the fair value hierarchy as explained above.

Derivative financial instruments and hedge accounting

(1) Initial recognition and subsequent measurement
The Company uses derivative financial instruments, such as forward currency contracts, interest rate swaps and forward commodity contracts to hedge its foreign currency risks, interest rate risks and commodity price risks, respectively. Such derivative financial instruments are initially recognized at fair value on the date on which a derivative contract is entered into and are subsequently remeasured at fair value. Derivatives are carried as financial assets when the fair value is positive and as financial liabilities when the fair value is negative. Any gains or losses arising from changes in fair value on derivatives are taken directly to the statement of comprehensive income, except for the effective portion of cash flow hedges, which is recognized in OCI.

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

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

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

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

2. Summary of significant accounting policies (cont'd)

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

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

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

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

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

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

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

The Company uses forward currency contracts as hedges of its exposure to foreign currency risk in forecast transactions and firm commitments, as well as forward commodity contracts for its exposure to volatility in the commodity prices. The ineffective portion relating to foreign currency contracts is recognized as other expense and the ineffective portion relating to commodity contracts is recognized in other operating income or expenses. Refer to Note 22 for more details.

The Company designates only the spot element of forward contracts as a hedging instrument. The forward element is recognized in OCI and accumulated in a separate component of equity under cost of hedging reserve.

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

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

2. Summary of significant accounting policies (cont'd)

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

Cash and cash equivalents
Cash and cash equivalents in the statement of financial position comprise cash at banks and on hand and short-term deposits with an original maturity of three months or less, net of outstanding bank overdrafts.

Inventories
Inventories are stated at the lower of cost or net realizable value, with cost being determined using the moving average method. The cost of inventories comprises purchase costs, conversion costs, and other costs such as transportation costs.

Property, plant and equipment
Construction in progress is stated at cost, net of accumulated impairment losses. Property, plant and equipment is stated at cost, net of accumulated depreciation and accumulated impairment losses, if any. Such cost includes the cost of replacing part of the plant and equipment and borrowing costs for long-term construction projects if the recognition criteria are met. Likewise, when a major inspection is performed, its cost is recognized in the carrying amount of the plant and equipment as a replacement if the recognition criteria are satisfied. All other repair and maintenance costs are recognized in the statements of comprehensive income as incurred.

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

Classification	Useful lives(years)
Buildings	40 years
Structures	40 years
Machinery	10-15 years
Vehicles	5 years
Others	5 years

An item of property, plant and equipment and any significant part initially recognized is derecognized upon disposal or when no future economic benefits are expected from its use or disposal. Any gain or loss arising on derecognition of the asset (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in the statements of comprehensive income when the asset is derecognized.

The assets' residual values, useful lives and methods of depreciation are reviewed at each financial year end, and adjusted prospectively, if appropriate and also the impacts of health, safety and environmental laws and regulations are reviewed at the same time.

Borrowing costs
Borrowing costs directly attributable to the acquisition, construction or production of an asset that necessarily takes a substantial period of time to get ready for its intended use or sale are capitalized as part of the cost of the respective asset. All other borrowing costs are expensed in the period in which they occur.

2. Summary of significant accounting policies (cont'd)

Investment properties

Investment properties are measured initially at cost, including transaction costs. Such cost includes the cost of replacing part of the plant and equipment if the recognition criteria are met. However, other costs incurred from ordinary management performance are expensed in the period in which they occur. Subsequent to initial recognition, investment properties are stated at depreciated cost less any accumulated impairment losses.

Investment properties are derecognized either when they have been disposed of or when they are permanently withdrawn from use and no future economic benefit is expected from their disposal. The difference between the net disposal proceeds and the carrying amount of the asset is recognized in the statement of profit or loss in the period of derecognition. The consideration (amount) to be included in the profit or loss arising from the derecognition of investment real estate properties is calculated in accordance with the requirements on the calculation of transaction price under KIFRS1115.

Transfers are made to (or from) investment property only when there is a change in use. For a transfer from investment property to owner-occupied property, the deemed cost for subsequent accounting is the fair value at the date of change in use. If owner-occupied property becomes an investment property, the Company accounts for such property in accordance with the policy stated under property, plant and equipment up to the date of change in use.

Lease

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

(1) Accounting as a lessee

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

1) Right-of-use asset

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

If ownership of the leased asset transfers to the Company at the end of the lease term or the cost reflects the exercise of a purchase option, depreciation is calculated using the estimated useful life of the asset.

The right-of-use assets are also subject to impairment. Refer to the accounting policies in Note *Impairment of non-financial assets*.

2. Summary of significant accounting policies (cont'd)

2) Lease liabilities
At the commencement date of the lease, the Company recognizes lease liabilities measured at the present value of lease payments to be made over the lease term. The lease payments include fixed payments (including in-substance fixed payments) less any lease incentives receivable, variable lease payments that depend on an index or a rate, and amounts expected to be paid under residual value guarantees. The lease payments also include the exercise price of a purchase option reasonably certain to be exercised by the Company and payments of penalties for terminating the lease, if the lease term reflects the Company exercising the option to terminate.

Variable lease payments that do not depend on an index or a rate are recognized as expenses (unless they are incurred to produce inventories) in the period in which the event or condition that triggers the payment occurs.

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

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

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

Current versus non-current classification
The Company presents assets and liabilities in the statement of financial position based on current/non-current classification.

An asset is current when it is:
- Expected to be realized or intended to be sold or consumed in the normal operating cycle
- Held primarily for the purpose of trading
- Expected to be realized within twelve months after the reporting period, or
- Cash or cash equivalent unless restricted from being exchanged or used to settle a liability for at least twelve months after the reporting period

2. Summary of significant accounting policies (cont'd)

All other assets are classified as non-current

A liability is current when:
- It is expected to be settled in the normal operating cycle
- It is held primarily for the purpose of trading
- It is due to be settled within twelve months after the reporting period, or
- There is no unconditional right to defer the settlement of the liability for at least twelve months after the reporting period.

The Company classifies all other liabilities as non-current.

Deferred tax assets (liabilities) are classified as non-current assets (liabilities).

Cash dividend

The Company recognizes a liability to pay a dividend when the distribution is authorized and the distribution is no longer at the discretion of the Company. A distribution is authorized when it is approved by the shareholders. A corresponding amount is recognized directly in equity.

Intangible assets

Intangible assets acquired separately are measured on initial recognition at cost. The cost of intangible assets acquired in a business combination is their fair value at the date of acquisition. Following initial recognition, intangible assets are carried at cost less any accumulated amortization and accumulated impairment losses. Internally generated intangibles, excluding capitalized development costs, are not capitalized and related expenditure is reflected in the statements of comprehensive income in the period in which the expenditure is incurred.

The useful lives of intangible assets are assessed as either finite or indefinite. Intangible assets with finite lives are amortized over the useful economic life and assessed for impairment whenever there is an indication that the intangible asset may be impaired. The amortization period and the amortization method for an intangible asset with a finite useful life are reviewed at least at the end of each reporting period. Changes in the expected useful life or the expected pattern of consumption of future economic benefits embodied in the asset are considered to the amortization period or method, as appropriate, and are treated as changes in accounting estimates. The amortization expense on intangible assets with finite lives is recognized in the statement of comprehensive income as the expense category that is consistent with the function of the intangible asset.

Intangible assets with indefinite useful lives are not amortized, but are tested for impairment annually, either individually or at the cash generating unit level. The assessment of indefinite life is reviewed annually to determine whether the indefinite life continues to be supportable. If not, the change in useful life from indefinite to finite is made on a prospective basis.

An intangible asset is derecognized when it is disposed of (i.e., the day the acquirer obtains control of the asset) or when future economic benefits are not expected from use or disposal. The Company shall reflect in profit or loss at the time of derecognition the difference between the net selling amount and the carrying amount of the intangible asset.

Research and development cost

The Company recognizes expenditure on research as an expense at the time of occurrence. However, in the case of development expenses related to individual projects, i) To use or sell intangible assets, the Company can present technical feasibility to complete the assets. ii) have the intention and ability to complete, use, or sell intangible assets. iii) sufficient resources are secured for this, iv) the Company can present how intangible assets can generate future economic benefits, v) Intangible asset-related expenditures incurred in the development stage are recorded as intangible assets only if they can be reliably measured.

2. Summary of significant accounting policies (cont'd)

Patent and licenses

The patents have been granted for a period of 10 years by the relevant government agency with the option of renewal at the end of this period.

Amortization of intangible assets is provided using the straight-line method over the estimated useful life of the assets as follows. There are no intangible assets internally generated.

Classification	Useful life
Industrial property rights	5-10 years
Software	5 years
Memberships	Not subject to amortization

Impairment of non-financial assets

The Company assesses at each reporting date, whether there is an indication that an asset may be impaired. If any indication exists, or when annual impairment testing for an asset is required, the Company estimates the asset's recoverable amount. An asset's recoverable amount is the higher of an asset's or cash-generating unit's (CGU) fair value less costs of disposal and its value in use. Recoverable amount is determined for an individual asset, unless the asset does not generate cash inflows that are largely independent of those from other assets or groups of assets. When the carrying amount of an asset or CGU exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount.

In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. In determining fair value less costs of disposal, recent market transactions are taken into account. If no such transactions can be identified, an appropriate valuation model is used. These calculations are corroborated by valuation multiples, quoted share prices for publicly traded companies or other available fair value indicators.

The Company bases its impairment calculation on detailed budgets and forecast calculations, which are prepared separately for each of the Company's CGUs to which the individual assets are allocated. These budgets and forecast calculations generally cover a period of five years. For longer periods, a long-term growth rate is calculated and applied to project future cash flows after the fifth year.

Impairment losses of continuing operations, including impairment on inventories, are recognized in the statement of comprehensive income in expense categories consistent with the function of the impaired asset, except for properties previously revalued with the revaluation taken to OCI. For such properties, the impairment is recognized in OCI up to the amount of any previous revaluation.

For assets excluding goodwill, an assessment is made at each reporting date to determine whether there is an indication that previously recognized impairment losses no longer exist or have decreased. If such indication exists, the Company estimates the asset's or CGU's recoverable amount. A previously recognized impairment loss is reversed only if there has been a change in the assumptions used to determine the asset's recoverable amount since the last impairment loss was recognized. The reversal is limited so that the carrying amount of the asset does not exceed its recoverable amount, nor exceed the carrying amount that would have been determined, net of depreciation, had no impairment loss been recognized for the asset in prior years. Such reversal is recognized in the statement of comprehensive income unless the asset is carried at a revalued amount, in which case, the reversal is treated as a revaluation increase.

2. Summary of significant accounting policies (cont'd)

The Intangible assets have specific characteristics for impairment testing:

Intangible assets with indefinite useful lives are tested for impairment annually as of December 31 at the CGU level, as appropriate, and when circumstances indicate that the carrying value may be impaired.

The Company assesses the areas where are climate related issues may have a significant impact, such as the introduction of legislation to regulate the greenhouse gas emissions which may increase the manufacturing costs. Such issues related to climate changes are included as the key assumptions if they have a material impact on the measurement of recoverable amount.

Provisions
Provisions are recognized when the Company has a present obligation (legal or constructive) as a result of a past event, it is probable that 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. When the Company expects some or all of a provision to be reimbursed, for example, under an insurance contract, the reimbursement is recognized as a separate asset, but only when the reimbursement is virtually certain. The expense relating to a provision is presented in the statement of profit or loss and other comprehensive loss net of any reimbursement.

If the effect of the time value of money is material, provisions are discounted using a current pre-tax rate that reflects, when appropriate, the risks specific to the liability. When discounting is used, the increase in the provision due to the passage of time is recognized as a finance cost.

1) Onerous contracts

If the Company has a contract that is onerous, the present obligation under the contract is recognized and measured as a provision. However, before a separate provision for an onerous contract is established, the Company recognizes any impairment loss that has occurred on assets dedicated to that contract.

An onerous contract is a contract under which the unavoidable costs of meeting the obligations under the contract exceed the economic benefits expected to be received under it. The unavoidable costs under a contract reflect the least net cost of exiting from the contract, which is the lower of the cost of fulfilling it and any compensation or penalties arising from failure to fulfil it.

Greenhouse gas emissions
The Company receives free emission rights as a result of emission trading schemes. The rights are received on an annual basis and, in return, the Company is required to remit rights equal to its actual emissions. The Company has adopted the net liability approach to the emission rights granted. Therefore, a provision is recognized only when actual emissions exceed the emission rights granted and still held. The emission costs are recognized as other operating costs. Where emission rights are purchased from other parties, they are recorded at cost, and treated as a reimbursement right, whereby they are matched to the emission liabilities and remeasured to fair value. The changes in fair value are recognized in the statement of profit or loss and other comprehensive income (loss).

Treasury shares
Own equity instruments that are reacquired (treasury shares) are recognized at cost and deducted from equity. No gain or loss is recognized in the statements of comprehensive income on the purchase, sale, issue or cancellation of the Company's own equity instruments. Any difference between the carrying amount and the consideration, if reissued, is recognized in share premium.

2. Summary of significant accounting policies (cont'd)

Share-based payments

Employees (including senior executives) of the Company receive remuneration in the form of share-based payments, whereby employees render services as consideration for equity instruments (equity-settled transactions).

The cost of equity-settled transactions is determined by the fair value at the date when the grant is made using an appropriate valuation model. That cost is recognized in employee benefits expense, together with a corresponding increase in equity (other capital reserves), over the period in which the service and, where applicable, the performance conditions are fulfilled (the vesting period). The cumulative expense recognized for equity-settled transactions at each reporting date until the vesting date reflects the extent to which the vesting period has expired and the Company's best estimate of the number of equity instruments that will ultimately vest. The expense or credit in the statement of profit or loss and other comprehensive income (loss) for a period represents the movement in cumulative expense recognized as of the beginning and end of that period.

Service and non-market performance conditions are not taken into account when determining the grant date fair value of awards, but the likelihood of the conditions being met is assessed as part of the Company's best estimate of the number of equity instruments that will ultimately vest. Market performance conditions are reflected within the grant date fair value. Any other conditions attached to an award, but without an associated

Service requirement, are considered to be non-vesting conditions. Non-vesting conditions are reflected in the fair value of an award and lead to an immediate expensing of an award unless there are also service and/or performance conditions.

No expense is recognized for awards that do not ultimately vest because non-market performance and/or service conditions have not been met. Where awards include a market or non-vesting condition, the transactions are treated as vested irrespective of whether the market or non-vesting condition is satisfied, provided that all other performance and/or service conditions are satisfied.

When the terms of an equity-settled award are modified, the minimum expense recognized is the grant date fair value of the unmodified award, provided the original terms of the award are met. An additional expense, measured as of the date of modification, is recognized for any modification that increases the total fair value of the share-based payment transaction, or is otherwise beneficial to the employee.

Where an award is cancelled by the entity or by the counterparty, any remaining element of the fair value of the award is expensed immediately through profit or loss.

The dilutive effect of outstanding options is reflected as additional share dilution in the computation of diluted earnings per share.

Business combinations and goodwill

Business combinations are accounted for using the acquisition method. The cost of an acquisition is measured as the aggregate of the consideration transferred, which is measured at acquisition date fair value, and the amount of any non-controlling interests in the acquiree. For each business combination, the Company elects whether to measure the non-controlling interests in the acquiree at fair value or at the proportionate share of the acquiree's identifiable net assets. Acquisition-related costs are expensed as incurred and included in administrative expenses.

2. Summary of significant accounting policies (cont'd)

The Company determines that a business has been acquired when the group of activities and assets acquired includes input variables and substantive processes which contribute significantly to its ability to create outputs. It is considered substantive if (1) the acquired process (or set of processes) is crucial for the ability to continue to create outputs, and the acquired input variables include an organized labor with skills, knowledge or experiences needed for carrying out the relevant process (or set of processes), or (2) if the acquired process is deemed to significantly contribute to its ability to continue to produce an output or considered unique or scarce, or for replacement, if any significant cost or effort is required, or if the ability to continue to produce outputs is delayed.

When the Company acquires a business, it assesses the financial assets and liabilities assumed for appropriate classification and designation in accordance with the contractual terms, economic circumstances and pertinent conditions as of the acquisition date. This includes the separation of embedded derivatives in host contracts by the acquiree.

Any contingent consideration to be transferred by the acquirer will be recognized at fair value at the acquisition date. Contingent consideration classified as equity is not remeasured and its subsequent settlement is accounted for within equity. Contingent consideration classified as an asset or liability that is a financial instrument and within the scope of KIFRS 1109 Financial Instruments, is measured at fair value with the changes in fair value recognized in the statement of profit or loss in accordance with KIFRS 1109. Other contingent consideration that is not within the scope of KIFRS 1109 is measured at fair value at each reporting date with changes in fair value recognized in profit or loss.

Goodwill is initially measured at cost, being the excess of the aggregate of the consideration transferred and the amount recognized for non-controlling interests, and any previous interest held over the net identifiable assets acquired and liabilities assumed. If the fair value of the net assets acquired is in excess of the aggregate consideration transferred, the Company re-assesses whether it has correctly identified all of the assets acquired and all of the liabilities assumed and reviews the procedures used to measure the amounts to be recognized at the acquisition date. If the re-assessment still results in an excess of the fair value of net assets acquired over the aggregate consideration transferred, then the gain is recognized in profit or loss.

After initial recognition, goodwill is measured at cost less any accumulated impairment losses. For the purpose of impairment testing, goodwill acquired in a business combination is, from the acquisition date, allocated to each of the Company's cash-generating units that are expected to benefit from the combination, irrespective of whether other assets or liabilities of the acquiree are assigned to those units.

Where goodwill has been allocated to a cash-generating unit (CGU) and part of the operation within that unit is disposed of, the goodwill associated with the disposed operation is included in the carrying amount of the operation when determining the gain or loss on disposal. Goodwill disposed in these circumstances is measured based on the relative values of the disposed operation and the portion of the CGU retained.

Non-current assets held for sale and discontinued operations

The Company classifies the non-current assets (or groups of assets for disposal) as held for sale if their book amount will be recovered primarily through the sale transaction or distribution rather than the continued use. The non-current assets and disposal groups classified as held for sale are measured at the fair value or the book amount, whichever is the lesser, after the deduction of the costs to sell. The costs to sell are the incremental costs (excluding the financial cost and the income tax expenses) directly reverted to the disposal of assets (or disposal group).

2. Summary of significant accounting policies (cont'd)

The condition for classification as held for sale is deemed to be satisfied if and when the sale is highly probable and the non-current asset (or disposal group) is available for immediate sale in its present condition. The measures required to complete the sale ought to demonstrate the fact that the sale is unlikely to be significantly altered or withdrawn, and the sale must be expected to be completed within 1 year of the asset being classified as held for sale.

Tangible and intangible assets classified as held for sale are neither depreciated nor amortized. Assets and liabilities classified as held for sale or for distribution are presented as separate current items in the statement of financial position.

The Company excludes the after-tax income from discontinued operations from the results of continuing operations, and present it as a single amount in the statement of income. Any additional matters related to the discontinued operations are disclosed under Note 36, and the amounts of discontinued operations are included unless otherwise provided under other notes to the financial statements.

3. Significant accounting judgments, estimates and assumptions

The preparation of the Company's financial statements requires management to make judgments, estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the accompanying disclosures, and the disclosure of contingent liabilities. Uncertainty about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of assets or liabilities affected in future periods.

(1) Significant accounting judgements

In the course of applying the Company's accounting policies, the management judgement that significantly influence on the amounts recognized in the financial statements are as follows:

Determining the lease term of contracts with renewal and termination options – Company as lessee

The Company determines the lease term as the non-cancellable term of the lease, together with any periods covered by an option to extend the lease if it is reasonably certain to be exercised, or any periods covered by an option to terminate the lease, if it is reasonably certain not to be exercised.

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

The Company included the renewal period as part of the lease term for leases of plant and machinery with shorter non-cancellable period. The Company typically exercises its option to renew for these leases because there will be a significant negative effect on production if a replacement asset is not readily available. The renewal periods for leases of plant and machinery with longer non-cancellable periods are not included as part of the lease term as these are not reasonably certain to be exercised. In addition, the renewal options for leases of motor vehicles are not included as part of the lease term because the Company typically leases motor vehicles for not more than five years and, hence, is not exercising any renewal options. Furthermore, the periods covered by termination options are included as part of the lease term only when they are reasonably certain not to be exercised.

3. Significant accounting judgments, estimates and assumptions (cont'd)

(2) Estimates and assumptions

The key assumptions concerning the future and other key sources of estimation uncertainty at the reporting date, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year, are described below. The Company based its assumptions and estimates on parameters available when the financial statements were prepared. Existing circumstances and assumptions about future developments, however, may change due to market changes or circumstances arising beyond the control of the Company. Such changes are reflected in the assumptions when they occur.

Impairment of non-financial assets

The Company assesses, at each reporting date, whether there is an indication that an asset may be impaired. Goodwill and intangible assets with indefinite useful lives are tested for impairment annually, or when circumstances indicate that the carrying value may be impaired. Other non-financial assets are tested for impairment when circumstances indicate that its carrying amount may not be recoverable. In determining a value in use, management estimates future cash flows to be derived from the asset or CGU, and applies the appropriate discount rate to those future cash flows.

Pension benefits

The present value of the pension obligation is determined using actuarial valuations. An actuarial valuation involves making various assumptions that may differ from actual developments in the future. These include the determination of the discount rate, future salary increases, mortality rates and future pension increases. Due to the complexities involved in the valuation and its long-term nature, a defined benefit obligation is highly sensitive to changes in these assumptions. All assumptions are reviewed at each reporting date.

Provision for expected credit losses of trade receivables and contract assets

The Company uses a provision matrix to calculate ECLs for trade receivables and contract assets. The provision rates are based on days past due for the groupings of various customer segments that have similar loss patterns (i.e., by geography, product type, customer type and rating, and coverage by letters of credit and other forms of credit insurance).

Deferred tax assets

Deferred tax assets are recognized for unused tax losses to the extent that it is probable that taxable profit will be available against which the losses can be utilized. Significant management judgment is required to determine the amount of deferred tax assets that can be recognized, based upon the likely timing and the level of future taxable profits together with future tax planning strategies. Further details on taxes are disclosed in Note 31.

Fair value of financial instruments

The fair value of financial instruments without an active market was calculated by applying valuation techniques including the discounted cash flow. When the observable market information is not available for the input factors used for such valuation techniques, the determination of fair value requires a considerable estimation. Such judgments include the consideration of input variables such as liquidity risk, credit risk and volatility. Changes in such factors may affect the fair value of financial instruments.

Share based payment

The Company measures the compensation cost of share based payment transaction based on the fair value of equity instrument at grant date and estimates the fair value by applying an appropriate valuation model considering the conditions for granting the equity instruments. In addition, the pricing factors that are most appropriate for the evaluation model, including the expected life of stock options, volatility, and dividend rate, shall be determined and assumptions are established about these factors.

3. Significant accounting judgments, estimates and assumptions (cont'd)

Lease - calculation the incremental borrowing rate

The Company cannot readily determine the interest rate implicit in the lease, therefore, it uses its incremental borrowing rate (IBR) to measure lease liabilities. The IBR is the rate of interest that the Company would have to pay to borrow over a similar term, and with a similar security, the funds necessary to obtain an asset of a similar value to the right-of-use asset in a similar economic environment. The IBR therefore reflects what the Company 'would have to pay', which requires estimation when no observable rates are available or when they need to be adjusted to reflect the terms and conditions of the lease. The Company estimates the IBR using observable inputs when available and is required to make certain entity-specific estimates.

Uncertainties of the impact of COVID-19

Various prevention and control measures, including movement restrictions, are implemented across the globe to block the spread of COVID-19, and as a result, the global economy is having a far-reaching impact. In addition, various types of the government's support policies are announced to respond to COVID-19. As a result of reviewing the impact on its financial statements due to the spread of COVID-19, the Company has determined that, given the spread of COVID-19, the future inventory low-cost method (refer to Note 7) and the fixed asset impairment assessment (refer to Note 12), etc., may be affected, and accordingly, has prepared the financial statements by reasonably estimating the impact of COVID-19 on the Company

However, significant uncertainties exist in estimating when COVID-19 will end and its impact on the Company.

4. New and amended standards and interpretations

(1) Application of new and amended standards

The Company applied the standards and amendments for the first time for the first fiscal year beginning on or after January 1, 2021. The Company has not applied early the standards, interpretations or the amendments which have been announced yet have not been enforced.

① Interest Rate Benchmark Reform – Phase 2: Amendments to KIFRS 1109, KIFRS 1039, KIFRS 1107, KIFRS 1104 and KIFRS 1116

The amendments provide temporary reliefs which address the financial reporting effects when an interbank offered rate (IBOR) is replaced with an alternative nearly risk-free interest rate (RFR). The amendments include the following practical expedients:

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

These amendments had no impact on the consolidated financial statements of the Company.

4. New and amended standards and interpretations(cont'd)

② Amendments to KIFRS 1116 Covid-19 Related Rent Concessions beyond 30 June 2021
In 2020, the IASB issued Covid-19-Related Rent Concessions - amendment to KIFRS 1116 Leases.
The amendments provide relief to lessees from applying KIFRS 1116 guidance on lease modification accounting for rent concessions arising as a direct consequence of the Covid-19 pandemic. As a practical expedient, a lessee may elect not to assess whether a Covid-19 related rent concession from a lessor is a lease modification. A lessee that makes this election accounts for any change in lease payments resulting from the Covid-19 related rent concession the same way it would account for the change under KIFRS 1116 if the change were not a lease modification.

The amendment was intended to apply until June 30, 2021, but as the impact of the COVID-19 pandemic is continuing, the IASB extended the period of application of the practical expedient to June 30, 2022. The amendment applies to annual reporting periods beginning on or after April 1, 2021. The Company has not received COVID-19-related rent concessions, but plans to apply the practical expedient if it becomes applicable within allowed period of application.

(2) Standards issued but not yet effective

The details of the enacted or amended standards and interpretations which have been enacted or announced as of the date of approval for issuance of the financial statements of the Company, yet which have not yet been applied since the date of enforcement has not yet arrived, are as follows.

① Reference to the Conceptual Framework – Amendments to KIFRS 1103
The amendments are intended to replace a reference to the Framework for the Preparation and Presentation of Financial Statements, issued in 1989, with a reference to the Conceptual Framework for Financial Reporting issued in March 2018 without significantly changing its requirements.
The Board also added an exception to the recognition principle of KIFRS 1103 to avoid the issue of potential 'day 2' gains or losses arising for liabilities and contingent liabilities that would be within the scope of KIFRS 1037 *Provisions, Contingent Liabilities, and Contingent Assets* or KIFRS 2121 *Levies*, if incurred separately. At the same time, the Board decided to clarify existing guidance in KIFRS 1103 for contingent assets that would not be affected by replacing the reference to the Framework for the Preparation and Presentation of Financial Statements. The amendments are effective for annual reporting periods beginning on or after January 1, 2022 and apply prospectively.

② Property, Plant and Equipment: Proceeds before Intended Use – Amendments to KIFRS 1016
The amendment prohibits entities deducting from the cost of an item of property, plant and equipment, any proceeds from selling items produced while bringing that asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Instead, an entity recognizes the proceeds from selling such items, and the costs of producing those items, in profit or loss.

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

③ Onerous Contracts – Costs of Fulfilling a Contract – Amendments to KIFRS 1037
The amendments specify which costs an entity needs to include when assessing whether a contract is onerous or loss-making. The amendments apply a "directly related cost approach". The costs that relate directly to a contract to provide goods or services include both incremental costs and an allocation of costs directly related to contract activities. General and administrative costs do not relate directly to a contract and are excluded unless they are explicitly chargeable to the counterparty under the contract. The amendments are effective for annual reporting periods beginning on or after January 1, 2022. The amendments are not expected to have a material impact on the Company.

4. New and amended standards and interpretations(cont'd)

④ Amendments to KIFRS 1001: Classification of Liabilities as Current or Non-current
The amendments to paragraphs 69 to 76 of KIFRS 1001 specify the requirements for classifying liabilities as current or non-current. The amendments clarify:
- What is meant by a right to defer settlement
- That a right to defer must exist at the end of the reporting period
- That classification is unaffected by the likelihood that an entity will exercise its deferral right
- That only if an embedded derivative in a convertible liability is itself an equity instrument would the terms of a liability not impact its classification

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

⑤ Disclosure of Accounting Policies - Amendments to KIFRS 1001
The amendments provide guidance and examples to help entities apply materiality judgements to accounting policy disclosures. The amendments aim to help entities provide accounting policy disclosures that are more useful by replacing the requirement for entities to disclose their 'significant' accounting policies with a requirement to disclose their 'material' accounting policies and adding guidance on how entities apply the concept of materiality in making decisions about accounting policy disclosures. The amendments to KIFRS 1001 are applicable for annual periods beginning on or after January 1, 2023 with earlier application permitted. The amendments are not expected to have a material impact on the Company.

⑥ Definition of Accounting Estimates - Amendments to KIFRS 1008
The amendments clarify the distinction between changes in accounting estimates and changes in accounting policies and the correction of errors. Also, they clarify how entities use measurement techniques and inputs to develop accounting estimates. The amendments are effective for annual reporting periods beginning on or after January 1, 2023 and apply to changes in accounting policies and changes in accounting estimates that occur on or after the start of that period. Earlier application is permitted as long as this fact is disclosed. The amendments are not expected to have a material impact on the Company

⑦ Amendments to KIFRS 1012 - Income Tax - Narrowing the scope of the initial recognition exception of deferred income taxes
The amendments narrowed the scope of the initial recognition exemption so that it no longer applies to transactions that, on initial recognition, give rise to equal taxable and deductible temporary difference, thus to resolve accounting diversity in the recognizing of deferred tax assets and liabilities. Paragraphs 15 and 24 (initial recognition exemption of deterred income taxes) of KIFRS 1012 were amended to include an additional condition (3) where a deferred tax asset and liability shall be recognized for a temporary difference that arises on initial recognition of an asset or liability in a single transaction if that transaction give rise to equal amounts of taxable and deductible temporary differences. The amendments are effective for annual reporting periods beginning on or after January 1, 2023 with earlier adoption permitted and apply prospectively. The amendments are not expected to have a material impact on the Company.

4. New and amended standards and interpretations(cont'd)

(3) Annual Improvements to KIFRS 2018-2020

① KIFRS 1101 First-time Adoption of International Financial Reporting Standards – Subsidiary as a first-time adopter

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

② KIFRS 1109 Financial Instruments – Fees in the '10 per cent' test for derecognition of financial liabilities

The amendment clarifies the fees that an entity includes when assessing whether the terms of a new or modified financial liability are substantially different from the terms of the original financial liability. These fees include only those paid or received between the borrower and the lender, including fees paid or received by either the borrower or lender on the other's behalf. An entity applies the amendment to financial liabilities that are modified or exchanged on or after the beginning of the annual reporting period in which the entity first applies the amendment. The amendment is effective for annual reporting periods beginning on or after January 1, 2022 with earlier adoption permitted. The Company will apply the amendments to financial liabilities that are modified or exchanged on or after the beginning of the annual reporting period in which the entity first applies the amendment.
The amendments are not expected to have a material impact on the Company.

5. Financial instruments

Financial assets

Financial assets as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

2021				
Classification	Financial assets at fair value through profit or loss	Financial assets at fair value through other comprehensive income	Financial assets at amortized cost	Total
Current assets:				
Short-term financial assets (* 1)	214,551,624	-	-	214,551,624
Trade and other receivables	1,825,609	-	347,771,505	349,597,114
Other current assets (* 2)	-	-	39,814	39,814
Subtotal	216,377,233	-	347,811,319	564,188,552
Non-current assets:				
Long-term financial assets	-	-	32,500	32,500
Long-term investment assets	32,081,459	2,500,032	-	34,581,491
Long-term Trade and other receivables	-	-	2,245,127	2,245,127
Other non-current assets (* 2)	368,001	-	537,972	905,973
Subtotal	32,449,460	2,500,032	2,815,599	37,765,091
Total	248,826,693	2,500,032	350,626,918	601,953,643

(* 1) Includes time deposits, withdrawals in financial institutions.
(* 2) Included are the short- and long-term security deposits and the derivative financial assets.

2020			
Classification	Financial assets at fair value through profit or loss	Financial assets at amortized cost	Total
Current assets:			
Short-term financial assets (* 1)	145,208,942	-	145,208,942
Trade and other receivables	159,003	201,441,470	201,600,473
Other current assets (* 2)	-	39,814	39,814
Subtotal	145,367,945	201,481,284	346,849,229
Non-current assets:			
Long-term financial assets	-	32,500	32,500
Long-term investment assets	24,492,063	-	24,492,063
Other non-current assets (* 2)	-	765,725	765,725
Subtotal	24,492,063	798,225	25,290,288
Total	169,860,008	202,279,509	372,139,517

(* 1) Includes time deposits, withdrawals in financial institutions.
(* 2) Included are long-term security deposits.

5. Financial instruments(cont'd)

Financial liabilities

Financial liabilities as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

2021			
Classification	Financial liabilities at fair value through profit or loss	Financial liabilities at amortized cost	Total
Current liabilities:			
Trade and other payables	469,458	333,696,888	334,166,346
Current portion of long-term liabilities	-	159,886,422	159,886,422
Current portion of lease liabilities (* 1)	-	615,347	615,347
Others(* 2)	-	1,105,875	1,105,875
Subtotal	469,458	495,304,532	495,773,990
Non-current liabilities:			
Bonds payable	-	220,560,772	220,560,772
Lease liabilities (* 1)	-	478,872	478,872
Others (* 2)	-	2,110,026	2,110,026
Subtotal	-	223,149,670	223,149,670
Total	469,458	718,454,202	718,923,660

(* 1) Lease liabilities correspond to liabilities recognized in accordance with KIFRS 1116.
(* 2) Included are the deposits received and the dividends payable.

2020			
Classification	Financial liabilities at fair value through profit or loss	Financial liabilities at amortized cost	Total
Current liabilities:			
Trade and other payables	3,836,514	187,009,823	190,846,337
Short-term borrowings	-	106,636,903	106,636,903
Current portion of long-term liabilities	-	85,953,004	85,953,004
Current portion of lease liabilities (* 1)	-	1,786,785	1,786,785
Other current liabilities (* 2)	-	2,948,452	2,948,452
Subtotal	3,836,514	384,334,967	388,171,481
Non-current liabilities:			
Bonds payables	-	380,007,551	380,007,551
Long-term borrowings	-	9,375,000	9,375,000
Lease liabilities (* 1)	-	5,433,745	5,433,745
Subtotal	-	394,816,296	394,816,296
Total	3,836,514	779,151,263	782,987,777

(* 1) Lease liabilities correspond to liabilities recognized in accordance with KIFRS 1116.
(* 2) Included are the deposits received and the dividends payable.

5. Financial instruments (cont'd)

Gains and losses by financial instrument

Gains and losses by financial instrument for the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

2021				
Classification (* 1)	Financial instruments at fair value through profit or loss	Financial assets at amortized cost	Financial liabilities at amortized cost	Total
Interest income (expense)	-	656,946	(7,312,589)	(6,655,643)
Gain on valuation of derivative instruments at FVPL	1,695,378	-	-	1,695,378
Gain on transaction of derivative instruments at FVPL	3,408,499	-	-	3,408,499
Dividend income	1,190,000	-	-	1,190,000
Gains or losses on foreign currency translation	-	(45,270)	(1,073,769)	(1,119,039)
Gain and loss on foreign currency transactions	-	7,070,013	(9,047,341)	(1,977,328)
Gains or losses on the valuation of derivatives	1,724,153	-	-	1,724,153
Gains or losses on the transaction of derivatives	5,133,705	-	-	5,133,705
Bad debt expense	-	208,425	-	208,425
Other bad debts expense	-	211,971	-	211,971
Total	13,151,735	8,102,085	(17,433,699)	3,820,121

(* 1) The profits and losses from discontinued operations are not included.

2020				
Classification (* 1)	Financial instruments at fair value through profit or loss	Financial assets at amortized cost	Financial liabilities at amortized cost	Total
Interest income (expense)	-	302,163	(14,916,722)	(14,614,559)
Loss on valuation of derivative instruments at FVPL	(1,175,053)	-	-	(1,175,053)
Gain on transaction of derivative instruments at FVPL	1,711,977	-	-	1,711,977
Dividend income	1,190,000	-	-	1,190,000
Gains or losses on foreign currency translation	-	(2,740,768)	6,229,996	3,489,228
Gain and loss on foreign currency transactions	-	(2,838,290)	1,730,699	(1,107,591)
Gains or losses on the valuation of derivatives	(3,677,511)	-	-	(3,677,511)
Gains or losses on the transaction of derivatives	608,655	-	-	608,655
Bad debt expenses	-	1,551,021	-	1,551,021
Other bad debt expenses	-	634,337	-	634,337
Total	(1,341,932)	(3,091,537)	(6,956,027)	(11,389,496)

(* 1) The profits and losses from discontinued operations are not included.

5. Financial instruments (cont'd)

Restricted deposits

The details of deposits restricted to use as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020	Details of the restriction
Non-current financial assets	32,500	32,500	Deposits for maintenance of checking accounts

6. Trade and other receivables

Trade and other receivables as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Current		
Trade Accounts and notes receivable	177,304,667	140,756,175
Less: allowance for doubtful accounts (AR)	(3,887,057)	(4,097,723)
Other receivables	174,479,349	64,903,518
Less: allowance for doubtful accounts (OR)	(292,989)	(210,763)
Short-term loans	3,750,000	4,050,000
Less: Allowance for doubtful accounts (OR)	(3,750,000)	(4,050,000)
Accrued revenue	167,535	90,263
Derivative financial assets	1,825,609	159,003
Subtotal	349,597,114	201,600,473
Non-current		
Long-term other receivables	2,245,127	-
Total	351,842,241	201,600,473

6. Trade and other receivables (cont'd)

Details of changes in allowance for doubtful accounts for Trade and other receivables for the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Beginning	8,358,486	13,251,486
Setting (Reversal) (* 1)	(326,252)	(2,113,644)
Write off	(95,709)	(2,673,108)
Business transfer (* 2),(* 4)	(6,405)	(106,242)
Split-off (* 3)	(74)	-
Contribution in kind (* 5)	-	(6)
End of period	7,930,046	8,358,486

(* 1) 94,144 thousand won of provision for bad debts incurred in the discontinued segment (prior year: reversal of provision for bad debts of 71,714 thousand won) was reclassified as profit or loss on discontinued operations.
(* 2) During the current period, the composite material business division and the PPS business division were sold to Toray Advanced Materials Korea Inc. and HDC POLYALL Co., Ltd., respectively.
(* 3) During the current period, SK Multi-Utility Co., Ltd. was established through a split-off.
(* 4) During the previous period, the bio-energy business division was sold to SK Eco Prime Co., Ltd.
(* 5) During the previous period, the reagent business division was invested in kind for SK Chemicals (Daejeong) Co., Ltd., a subsidiary.

As of December 31, 2021 and 2020, the aging analysis of Trade and other receivables are as follows (Korean won in thousands):

Classification	2021	2020
Not yet due	352,936,920	205,603,485
< 3months past due	2,888,471	1,307,721
3~6 months past due	72,009	77,573
> 6 months past due	3,874,887	2,970,180
Subtotal	359,772,287	209,958,959
Less: allowance for doubtful accounts	(7,930,046)	(8,358,486)
Deductions	351,842,241	201,600,473

If the transferred or discounted trade receivables do not meet the derecognition criteria of financial instruments, the Company continues to recognize the trade receivables and other receivables in the accounts as follows (Korean won in thousands):

Classification	2021	2020	Reason
Trade receivables (* 1)	-	31,636,903	Obligation to the right of recourse

(*1) The Company recognizes short-term borrowings in the amount corresponding to nominal amount of trade receivables transferred or discounted.

7. Inventories

Inventories as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

2021			
Classification	**Acquisition cost**	**Assessment allowance**	**Book amount**
Merchandise	18,157,202	(438,641)	17,718,561
Finished goods	75,224,261	(2,284,748)	72,939,513
Processed goods	28,668,559	(1,542,724)	27,125,835
Semi-finished goods	10,793,516	(72,169)	10,721,347
Work-in-process	6,970,816	-	6,970,816
Raw materials	32,215,546	(1,783)	32,213,763
Supplies	1,507,445	(68)	1,507,377
Materials-in-transit	7,030,432	-	7,030,432
Others	442,840	-	442,840
Total	181,010,617	(4,340,133)	176,670,484

2020			
Classification	**Acquisition cost**	**Assessment allowance**	**Book amount**
Merchandise	8,758,935	(167,385)	8,591,550
Finished goods	74,138,709	(13,221,544)	60,917,165
Processed goods	21,933,592	(1,908,652)	20,024,940
Semi-finished goods	6,982,879	(6,595)	6,976,284
Work-in-process	4,998,392	-	4,998,392
Raw materials	43,697,460	(361,584)	43,335,876
Supplies	2,033,136	(1,974)	2,031,162
Materials-in-transit	4,589,063	-	4,589,063
Others	553,251	-	553,251
Total	167,685,417	(15,667,734)	152,017,683

The reversal of inventory valuation losses recognized in relation to inventory assets during the current period was 5,516,450 thousand won (prior year: the reversal of inventory valuation losses was 14,191,021 thousand won), which was added or subtracted from cost of goods sold.

8. Other assets

Other assets as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Other current assets:		
Advance payments	4,637,369	819,593
Prepaid expenses	2,350,577	2,548,214
Deposits	39,814	39,814
Prepaid income tax	291,907	-
Other assets	45,025	3,485,797
Total	7,364,692	6,893,418
Other non-current assets:		
Derivatives	368,001	-
Long-term advance payments	537,972	765,725
Net defined benefit assets (* 1)	7,103,496	-
Other assets	850,050	850,049
Total	8,859,519	1,615,774

(* 1) These are the net defined benefit assets which resulted from the accumulation of the defined benefit plan in excess of liabilities. As of the end of the current period, there is no effect of restriction due to the maximum recognition of assets.

9. Non-current financial assets

Non-current financial assets as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Short-term financial assets:		
Financial assets at fair value through profit or loss (* 1)	214,551,624	145,208,942
Long-term financial assets:		
Deposits and installment savings	32,500	32,500

(* 1) Included are the money market financial instruments deposited with financial institutions.

10. Long-term investment assets

Long-term investment assets as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

2021					
Classification	**Jan 1**	**Acquisition**	**Disposal**	**Valuation**	**Dec 31**
Financial assets at fair value through profit or loss:					
Non-marketable securities					
Eastman Fiber Korea Co.,Ltd (EFKL) (* 1)	21,572,864	-	-	1,933,230	23,506,094
Incorporated association of Yongyeon industrial water management union of 4th manufacturing area	419,199	-	-	-	419,199
Standigm Co., Ltd. (* 2, 3)	-	3,000,007	-	-	3,000,007
Subtotal	21,992,063	3,000,007	-	1,933,230	26,925,300
Debt securities					
Korea Investment Bio Global Fund (* 4)	2,500,000	2,500,000	(25,000)	(789,474)	4,185,526
Sante Health Ventures IV, LP (* 2)	-	970,633	-	-	970,633
Subtotal	2,500,000	3,470,633	(25,000)	(789,474)	5,156,159
Financial assets at fair value through profit or loss					
Unmarketable equity securities					
J2H Biotech Co., Ltd. (* 2)	-	1,500,052	-	-	1,500,052
Oncobix Co., Ltd. (* 2)	-	999,980	-	-	999,980
Subtotal	-	2,500,032	-	-	2,500,032
Total	24,492,063	8,970,672	(25,000)	1,143,756	34,581,491

(*1) The Company held put options for preferred shares of Eastman Fiber Korea Co., Ltd., and granted Eastman Chemical Korea B.V., the largest shareholder, the same amount of call options, and reflected the valuation of investment assets in fair value.

(* 2) During the current period, the Company newly acquired redeemable convertible preferred stocks of Standigm Co., Ltd., common stocks of J2H Biotech Co., Ltd., common stocks of Oncobix Co., Ltd., and common stocks of Citi Cells Co., Ltd., and newly invested in Sante Health Ventures IV, LP.

(* 3) These are redeemable convertible preferred stocks (RCPS) with the right to convert to common stocks for 10 years from the date of completion of the transaction and the right to require redemption from the consolidated companies 3 years after the date of completion of the transaction.

(* 4) During the current period, the Company has made additional investments in the Korea Investment Bio Global Fund and partially recovered its investments.

10. Long-term investment assets(cont'd)

2020				
Classification	**Jan 1**	**Acquisition**	**Valuation**	**Dec 31**
Financial assets measured at fair value through profit or loss:				
Unmarketable equity securities				
Eastman Fiber Korea (Shares) (* 1)	22,956,859	-	(1,383,995)	21,572,864
Yongyeon Industrial District 4 Industrial Water Management Association	419,199	-	-	419,199
Subtotal	23,376,058	-	(1,383,995)	21,992,063
Debt securities				
Korea Investment Bio Global Fund	-	2,500,000	-	2,500,000
Total	23,376,058	2,500,000	(1,383,995)	24,492,063

(*1) The Company held put options for preferred shares of Eastman Fiber Korea Co., Ltd., and granted Eastman Chemical Korea B.V., the largest shareholder, the same amount of call options, and reflected the valuation of investment assets in fair value.

11. Investment in subsidiaries and affiliates or joint ventures

Investments in subsidiary changes during the current and prior years are as follows (Korean won in thousands):

2021				
Classification	**Jan 1**	**Increase (* 1, 2)**	**Decrease (* 3, 4, 5)**	**Dec 31**
Investment in Subsidiaries	248,206,168	169,150,054	(48,046,219)	369,310,003

(* 1) During the current period, a paid-in capital increase was executed for SK Environmental Materials (Yantai) Co., Ltd.
(* 2) During the current period, SK Multi-Utility was established through a split-off.
(* 3) During the current period, 7,650,000 shares of SK Bioscience Co., Ltd., which had been held, were disposed of. During the year, 50% of the shares of SK Chemicals Daejeong Co., Ltd., which had been held, were disposed of.
(* 4) The Company determined that it retains the control based on the fact that the Company's chief executive officer continues to serve the position of chief executive officer even after the shares were sold, and the chief executive officer has the decision-making rights in an impasse.
(* 5) During the current period, 100% of the shares of SK Chemicals (Qingdao) Co., Ltd. have been disposed of.

2020				
Classification	**Jan 1**	**Increase (* 1, 2, 3)**	**Decrease (* 4)**	**Dec 31**
Investment in Subsidiaries	224,280,418	23,925,750	-	248,206,168

(*1) During the current year, SK Chemicals Daejeong Co., Ltd. was established and invested at 3,000 thousand won and through in-kind investment, the Company acquired an additional shares of 12,278,042 thousand won.
(*2) During the current year, SK Chemicals (Yantai) Co., Ltd. Was established and invested at 11,271,784 thousand won.
(*3) During the current year, the Company invested 372,924 thousand won to SK Chemicals Malaysia.
(*4) During the current year, the Company lost control due to the sale of some of the shares held in its subsidiary, JSI Co., Ltd. and reclassified it from subsidiary to associate.

11. Investment in subsidiaries and affiliates or joint ventures(cont'd)

Investments in subsidiaries as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

Name of Company	Location	2021		2020	
		Equity interest (%)	Book amount	Equity interest (%)	Book amount
SK Chemicals (Qingdao) Co., Ltd. (* 1)	China	-	-	100.00	17,213,532
SK Chemicals (Suzhou) Co., Ltd. (* 2)	China	100.00	11,419,751	100.00	11,419,751
SK Environmental Materials (Yantai) Co., Ltd. (* 3)	China	100.00	20,410,185	100.00	11,271,784
SK Chemicals (Shanghai) Co., Ltd.	China	100.00	101,938	100.00	101,938
SK Bioscience Co., Ltd. (* 4)	Republic of Korea	68.43	168,971,884	98.04	193,664,050
SK Chemicals Daejeong Co., Ltd. (* 5, 6)	Republic of Korea	50.00	6,140,521	100.00	12,281,042
SK Multi-Utility Co., Ltd. (* 7)	Republic of Korea	100.00	160,011,654	-	-
SK Chemicals America	United States of America	100.00	1,448,304	100.00	1,448,304
SK Chemicals GmbH	Germany	100.00	432,843	100.00	432,843
SK Chemicals Malaysia	Malaysia	100.00	372,924	100.00	372,924
Total			369,310,004		248,206,168

(* 1) During the current period, 100% of the shares of SK Chemicals (Qingdao) Co., Ltd. have been disposed of.

(* 2) During the current period, we have executed a stock purchase and sales agreement to sell 100% of the shares of SK Chemicals (Suzhou) Co., Ltd. to Sumong Foods Co., Ltd. The closing date for the transaction will be in 2023.

(* 3) During the current period, a paid-in capital increase was executed for SK Environmental Materials (Yantai) Co., Ltd.

(* 4) During the current period, 7,650,000 shares of SK Bioscience Co., Ltd., which had been held, were disposed of.

(* 5) During the current period, 50% of the shares of SK Chemicals Daejeong Co., Ltd., which had been held, were disposed of.

(* 6) The Company has a put option for all of its interest in SK Chemicals Daejeong Co., Ltd.

(* 7) During the current period, SK Multi-Utility was established through a split-off.

11. Investment in subsidiaries and affiliates or joint ventures(cont'd)

Investment in subsidiaries and affiliates or joint ventures as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

2021			
Name of company	**Country of domicile**	**Equity ownership (%)**	**Book value**
Entis Co., Ltd.	Republic of Korea	50.00	4,891,868
ST Green Energy (* 1)	Singapore	50.00	584,160
JSI Co., Ltd.	Republic of Korea	40.00	-
HDC POLYALL Co., Ltd. (* 2, 3)	Republic of Korea	20.00	7,699,750
Total			13,175,778

(* 1) During the current period, a paid-in capital increase was executed for ST Green Energy.

(* 2) During the current period, the PPS Business Division was transferred to HDC POLYALL Co., Ltd., and the Company acquired a 20% interest-1 share from HDC POLYALL Co., Ltd. The Company is determined to have influence over HDC POLYALL Co., Ltd. based on the fact that the Company can appoint 20% of the directors.

(* 3) The Company has a put option for all of its interest in HDC POLYALL Co., Ltd.

2020			
Name of company	**Country of domicile**	**Equity ownership (%)**	**Book value**
Entis Co., Ltd.	Republic of Korea	50.00	4,891,868
ST Green Energy	Singapore	50.00	198,645
JSI Co., Ltd. (* 1)	Republic of Korea	40.00	-
Total			5,090,513

(*1) During the previous period, the Company lost control due to the sale of some of the shares held in its subsidiary JSI Co., Ltd. and reclassified it from subsidiary to an affiliate.

12. Property, plant and equipment

Changes in the book value of property, plant and equipment for the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

2021									
Classification	Jan 1	Acquisition	Disposal	Depreciation (* 1)	Impairment (* 1)	Business transfer (* 2)	Split-off	Others (* 4)	Dec 31
Land	190,755,296	-	-	-	-	(9,209,440)	(25,477,072)	(276,270)	155,792,514
Building	192,165,557	5,038,805	(636,626)	(6,294,596)	(9,271,731)	(939,244)	(6,979,667)	8,158,208	181,240,706
Structure	105,263,719	4,877,751	(212,859)	(3,253,258)	(3,105,329)	(75,485)	(39,979,287)	7,058,122	70,573,374
Machinery	308,854,993	26,301,519	(805,088)	(52,633,078)	(90,608,774)	(3,739,779)	(31,190,278)	36,428,146	192,607,661
Vehicles	261,433	-	(2)	(71,615)	-	(9)	(1)	-	189,806
Others	8,942,433	2,817,557	(350,548)	(3,766,572)	(435,328)	(196,466)	(323,232)	2,802,919	9,490,763
Construction in progress	71,262,384	45,420,854	(2,096,822)	-	-	(1,231,804)	(1,638,322)	(59,977,842)	51,738,448
Machineries in transit	890,482	3,224,631	-	-	-	-	-	(2,263,656)	1,851,457
Total	878,396,297	87,681,117	(4,101,945)	(66,019,119)	(103,421,162)	(15,392,227)	(105,587,859)	(8,070,373)	663,484,729

(* 1) Profits and losses classified as discontinued operations are included.
(* 2) During the current period, the composite material business division and the PPS business division were sold to Toray Advanced Materials Korea Inc. and HDC POLYALL Co., Ltd., respectively.
(* 3) During the current period, SK Multi-Utility Co., Ltd. was established through a split-off.
(* 4) Consisted of reclassification of construction-in-progress and reclassification to investment properties and intangible assets and acquisition of property, plant and equipment by the receipt of government subsidies.

2020									
Classification	Jan 1	Acquisition	Disposal	Depreciation (* 1)	Impairment	Business transfer (* 2)	Contribution in kind (* 3)	Others (* 4)	Dec 31
Land	202,207,077	-	-	-	-	(6,638,976)	(2,867,388)	(1,945,417)	190,755,296
Building	202,251,431	2,874,835	(1,683,166)	(6,361,295)	(3,929,393)	(2,912,128)	(1,390,968)	3,316,241	192,165,557
Structure	100,988,339	6,912,164	(477,421)	(3,010,858)	(1,316,058)	(4,487,363)	(501,516)	7,156,432	105,263,719
Machinery	385,317,443	19,995,864	(3,641,782)	(61,847,564)	(42,702,920)	(10,513,440)	(168,607)	22,415,999	308,854,993
Vehicles	333,643	-	(2)	(72,208)	-	-	-	-	261,433
Others	9,444,838	2,710,521	(1,052)	(3,404,508)	(96,219)	(192,010)	(119,500)	600,363	8,942,433
Construction in progress	65,783,877	45,159,465	(2,501,107)	-	-	(2,324,475)	(91,660)	(34,763,716)	71,262,384
Machineries in transit	3,259,753	2,654,501	-	-	-	-	-	(5,023,772)	890,482
Total	969,586,401	80,307,350	(8,304,530)	(74,696,433)	(48,044,590)	(27,068,392)	(5,139,639)	(8,243,870)	878,396,297

(*1) Profits and losses classified as discontinued operations are included.
(*2) During the current reporting period, the Company sold the bioenergy business to SK Eco Prime Co., Ltd.
(*3) During the current reporting period, the Company made in-kind investment of the reagent business division to SK Chemicals Daejeong Co., Ltd., the subsidiary.
(*4) Consisted of reclassification of construction-in-progress and reclassification to investment properties and intangible assets and acquisition of property, plant and equipment by the receipt of government subsidies.

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

Borrowing cost
Capitalized borrowing costs during the current year are 943,631 thousand won (2020: 1,341,009 thousand won). The capitalized interest rate used to calculate the capitalizable borrowing costs is 2.85 % (2020: 2.74%).

Insured assets
As of December 31, 2021, the Company carries comprehensive property insurance for property, plant and equipment for up to 2,093,904,057 thousand won (2020: 2,194,009,397 thousand won).

Impairment loss on PPS business.
The Company conducted impairment test on the PPS business with consideration of the accumulated net loss during the current year and the uncertainty of the business due to COVID-19.

Every year, the Company conducts impairment tests on property, plant and equipment and intangible assets and cash-generating units if there is an indication of impairment. If there is impairment on individual assets, impairment tests are conducted by evaluating the value in use of independent cash-generating units. Impairment test was conducted on accumulation of operating losses in the PPS business sector and uncertainty caused by COVID-19.

In principle, the Company defines the business sector as cash generating unit, when the Company concludes that the cash inflows from other business sectors are almost independent and classified as the lowest level of identifiable cash inflows. The recoverable amount of an independent cash-generating unit was calculated based on price in the market which is traded with third party other than special relationships.

As a result, 103,421 million won (2020: 48,445 million won) of impairment loss on tangible assets was recognized for some facilities and individual assets related to the PPS business sector as losses from discontinued operation.

13. Leases

Right-of-use assets
Changes in the book value of the right-of-use assets for the years ended December 31, 2021 and 2020 are as follows (Korean won in thousand):

2021						
Classification	Jan 1	Acquisition	Disposal	Depreciation (* 1)	Split-off (* 1)	Dec 31
Building	161,274	35,694	(16,042)	(78,253)	-	102,673
Structure	3,334,722	13,641	-	(108,005)	(3,240,358)	-
Machinery	2,942,525	2,221,498	(1,700,000)	(618,729)	(2,845,294)	-
Vehicles	992,230	917,801	(208,282)	(717,764)	(7,754)	976,231
Total	7,430,751	3,188,634	(1,924,324)	(1,522,751)	(6,093,406)	1,078,904

(* 1) It includes profits and losses classified as discontinued operations.
(* 2) During the current period, SK Multi-Utility Co., Ltd. was established through a split-off.

13. Leases (Cont'd)

2020							
Classification	**Jan 1**	**Acquisition**	**Disposal**	**Depreciation cost (* 1)**	**Business transfer (* 2)**	**Contribution in kind (* 3)**	**Dec 31**
Building	182,819	59,688	-	(81,233)	-	-	161,274
Structure	48,012,713	2,103,538	-	(822,795)	(45,958,734)	-	3,334,722
Machinery	3,714,536	-	-	(772,010)	-	-	2,942,526
Vehicles	1,722,074	605,700	(374,646)	(945,528)	(2,805)	(12,566)	992,229
Total	53,632,142	2,768,926	(374,646)	(2,621,566)	(45,961,539)	(12,566)	7,430,751

(*1) It includes profits and losses classified as discontinued operations.
(*2) During the current reporting period, the Company sold the bioenergy business to SK Eco Prime Co., Ltd.
(*3) During the current reporting period, the Company invested in kind in the reagent business division of SK Chemicals Co., Ltd to a subsidiary, SK Chemicals Daejeong Co., Ltd

Lease liabilities
Lease liabilities for the year ended December 31, 2021 and 2020 are as follows (Korean won in thousand):

Classification	**2021**		**2020**	
	Minimum lease payment	**Present value**	**Minimum lease payment**	**Present value**
Less than 1 year	621,544	615,347	1,834,344	1,786,785
2 years or less	415,579	403,824	1,512,762	1,396,619
5 years or less	78,478	75,047	2,486,573	1,976,129
More than 5 years	-	-	4,041,000	2,060,998
Total	1,115,601	1,094,218	9,874,679	7,220,531

Changes in the book value of the lease liabilities for the years ended December 31, 2021 and 2020 are as follows (Korean won in thousand):

Classification	**2021**	**2020**
As of January 1, 2020	7,220,531	53,851,216
Increase	3,188,634	2,768,926
Disposal	(2,352,489)	(396,142)
Interest expenses	276,560	1,021,015
Lease expense	(1,705,202)	(5,844,135)
Split-off (* 1)	(5,533,816)	-
Business transfer (* 2)	-	(44,166,800)
Investment in kind (* 3)	-	(13,549)
As of December 31, 2020	1,094,218	7,220,531

(* 1) During the current period, SK Multi-Utility Co., Ltd. was established through a split-off.
(* 2) During the previous period, the bio-energy business division was sold to SK Eco Prime Co., Ltd.
(* 3) During the previous period, the reagent business division was invested in kind for SK Chemicals Daejeong Co., Ltd., a subsidiary.

13. Leases (Cont'd)

Expenses recognized in the statement of profit or loss and other comprehensive income(loss) during the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Other operating expenses		
Short-term lease	639,932	396,871
Low-value asset lease	160,319	191,987
Variable lease payments	-	3,658,586
Depreciation and impairment		
Depreciation of right-of-use assets	1,522,751	2,621,566
Net financial cost		
Interest expense of lease liabilities	276,560	1,021,015

The Company had a total cash outflow of 2,505,453 thousand won for leases during the current reporting period (2020 : 10,091,579 thousand won).

The Company has several lease agreements, including extension and termination options. These options are negotiated by management to provide flexibility in managing the leased asset portfolio and to meet business needs. Management applies important judgement when deciding whether these extension and termination options are reasonably certain to be exercised.

The Company as a lessor
The Company entered into an operation lease agreement for an investment property portfolio consisting of a specific office and manufacturing building. The terms of these leases range from 5 to 20 years. All leases include a clause that allows rent to be raised on an annual basis, depending on current market conditions. The lessee shall also guarantee the residual value of the property. The rental income recognized during the reporting period is 2,948,303 thousand won (2020: 2,184,806 thousand won).

Under a non-cancellable operating lease as of December 31, 2021 and 2020, the future minimum rental receivables are as follows (Korean won in thousands):

Classification	2021	2020
Less than 1 year	3,760,575	2,428,588
More than 1 year and less than 5 years	3,010,397	2,163,165
More than 5 years	10,470,680	3,722,319
Total	17,241,652	8,314,072

14. Intangible assets

Changes in the book value of intangible assets for the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

2021								
Classification	Jan 1	Acquisition	Disposal	Amortization (* 1)	Business transfer(* 2)	Split-off	Reclassification (* 4)	Dec 31
Industrial property rights	6,272,314	112,457	(64,111)	(1,328,370)	(987,737)	-	1,477,517	5,482,070
Software	6,743,755	4,228,995	(754,848)	(3,501,052)	-	(72,658)	6,398,797	13,042,989
Memberships	5,799,179	1,257,326	-	-	-	-	-	7,056,505
Total	18,815,248	5,598,778	(818,959)	(4,829,422)	(987,737)	(72,658)	7,876,314	25,581,564

(* 1) It includes profits and losses classified as discontinued operations.
(* 2) During the current period, the composite material business division and the PPS business division were transferred to Toray Advanced Materials Korea Inc. and HDC POLYALL Co., Ltd., respectively.
(* 3) During the current period, SK Multi-Utility Co., Ltd. was established through a split-off.
(* 4) Includes effects of transfers from construction in progress.

2020								
Classification	Jan 1	Acquisition	Disposal	Amortization (* 1)	Business transfer (* 2)	Contribution in kind (* 3)	Reclassification (* 4)	Dec 31
Industrial property rights	3,868,886	43,278	(317,867)	(1,036,886)	(105,771)	-	3,820,674	6,272,314
Software	4,573,599	1,873,668	(90,050)	(1,848,586)	-	(65,626)	2,300,750	6,743,755
Memberships	9,166,908	-	(3,312,729)	(55,000)	-	-	-	5,799,179
Total	17,609,393	1,916,946	(3,720,646)	(2,940,472)	(105,771)	(65,626)	6,121,424	18,815,248

(*1) It includes profits and losses classified as discontinued operations.
(*2) During the current reporting period, the Company sold the bioenergy business to SK Eco Prime Co., Ltd.
(*3) During the current reporting period, the Company made in-kind investment of the reagent business division to SK Chemicals Daejeong Co., Ltd., the subsidiary.
(*4) Includes effects of transfers from construction in progress.

R&D expenses recognized in selling and administrative expenses during the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
R&D expenses recognized in selling and administrative expenses	38,635,498	33,500,626
Government subsidy, etc	-	(168,904)
Total	38,635,498	33,331,722

15. Investment properties

Changes in the book value of investment properties for the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

2021				
Classification	Jan 1	Depreciation	Transfer (* 1)	Dec 31
Land	16,521,136	-	276,270	16,797,406
Building	534,529	(37,448)	(82,210)	414,871
Total	17,055,665	(37,448)	194,060	17,212,277

(* 1) These are the replacements of investment properties and the tangible assets of buildings, due to the execution of lease agreements for some land to Entis Co., Ltd., and others.

2020				
Classification	Jan 1	Depreciation	Transfer (* 1)	Dec 31
Land	14,575,719	-	1,945,417	16,521,136
Building	528,347	(46,131)	52,313	534,529
Total	15,104,066	(46,131)	1,997,730	17,055,665

(*1) It has been reclassified from property, plant and equipment due to the lease agreement with SK D&D Co., Ltd.

Rental income from investment properties amounted to 2,948,303 thousand won for the year ended December 31, 2021 (2,184,806 thousand won for the year ended December 31, 2020), which includes the revenue from discontinued operations of 221,390 thousand won for the year ended December 31, 2021 (59,701 thousand won for the year ended December 31, 2020).

There was no significant difference between the fair value and the book value of investment properties.

16. Trade and other payables

Trade and other payables as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Trade payables	92,938,858	68,108,225
Other payable	201,457,693	85,569,039
Accrued expenses	39,300,337	33,332,559
Derivative financial liabilities	469,458	3,836,514
Total	334,166,346	190,846,337

17. Bonds payable and borrowings

Bonds payable and borrowings as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Short-term borrowings	-	106,636,903
Current portion of long-term liabilities		
Bonds payable	159,886,422	84,949,804
Financial debts	-	1,003,200
Subtotal	159,886,422	85,953,004
Bonds payable	220,560,772	380,007,551
Long-term borrowings	-	9,375,000
Total	380,447,194	581,972,458

Short-term borrowings as of December 31, 2021 and 2020 consist of the following (Korean won in thousands):

Financial institution	Details	Interest rate (%) at the end of the current period	2021	2020
Korea Development Bank	Commercial bank	-	-	75,000,000
Hana Bank, etc.	Trade receivable discounts	-	-	31,636,903
Total			-	106,636,903

Details of bonds payable as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	Maturity date	2021 annual interest rate (%)	2021	2020
9-1st	2021.04.30	-	-	75,000,000
9-2nd	2023.04.30	3.52	66,000,000	66,000,000
10-1st	2021.10.30	-	-	10,000,000
10-2nd	2022.10.30	3.10	20,000,000	20,000,000
11-1st	2022.01.28	2.37	70,000,000	70,000,000
11-2nd	2024.01.31	2.91	80,000,000	80,000,000
12-1st	2022.10.30	2.17	70,000,000	70,000,000
12-2nd	2024.10.30	2.77	75,000,000	75,000,000
Total			381,000,000	466,000,000
Less: discount on bonds payable			(552,806)	(1,042,645)
Less: current portion of bonds payable			(159,886,422)	(84,949,804)
			220,560,772	380,007,551

Financial debts as of December 31, 2021 and 2020 consist of the following (Korean won in thousands):

Financial institution	Details	Annual interest rate (%)	2021	2020
Korea Development Bank	Energy facilities loans	-	-	378,200
Shinhan Bank	Other facilities loans	-	-	10,000,000
Subtotal			-	10,378,200
Less: current portion			-	(1,003,200)
			-	9,375,000

18. Other current liabilities

Other current liabilities as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Other current liabilities		
Advances	311,863	5,411,083
Accrued income	210,833	183,333
Deposits received	3,427,303	2,988,191
Withholdings	1,102,999	2,947,568
Dividends payable	2,876	884
Total	5,055,874	11,531,059
Other non-current liabilities		
Long-term deposits received	2,110,026	-
Total	2,110,026	-

19. Emission and liabilities

Details of annual quantity of allocated emission rights as of December 31, 2021 and 2020 are as follows (units in KAU):

Classification	2021	2022	2023	2024	2025	Total
Free allocation on emission	530,173	530,173	530,173	525,208	525,208	2,640,935

Meanwhile, as of the end of the current period, there are no greenhouse gas emission rights provided as collateral.

19. Emission and liabilities(cont'd)

Changes in emission rights for the year ended December 31, 2021 are as follows (units in KAU and Korean won in thousands):

Classification	2021		2022		2023		2024		2025		Total	
	Quantity	Book value	Quantity	Book value	Quantity	Book value	Quantity	Book value	Quantity	Book value	Quantity	Book value
Allocated amount	317,208	-	287,386	-	287,386	-	284,664	-	284,664	-	1,461,307	-
Free allocation	530,173	-	530,173	-	530,173	-	525,208	-	525,208	-	2,640,935	-
Additionally allocated (* 1)	139,200	-	124,800	-	124,800	-	123,600	-	123,600	-	636,000	-
Allocation cancelled (* 1)	-	-	(367,587)	-	(367,587)	-	(364,144)	-	(364,144)	-	(1,463,462)	-
Changes due to spin-off and merger	(352,165)	-	-	-	-	-	-	-	-	-	(352,165)	-
Changes due to emission rights trading	1,300	45,025	-	-	-	-	-	-	-	-	1,300	45,025
Purchased	1,300	45,025	-	-	-	-	-	-	-	-	1,300	45,025
Sold	-	-	-	-	-	-	-	-	-	-	-	-
Carried over from previous year	38,220	-	-	-	-	-	-	-	-	-	38,220	-
Carried over to next period	-	-	-	-	-	-	-	-	-	-	-	-
End of period	356,728	45,025	287,386	-	287,386	-	284,664	-	284,664	-	1,500,827	45,025

(* 1) They are the estimates resulting from a split-off and the sale of business division and may differ from the amount confirmed subsequently.

Changes in the emission rights assets for the year ended December 31, 2021 are as follows (units in tons)

Classification	2021	
	Quantity	Amount
Beginning of period	-	-
Emission rights purchased	1,300	45,025
Emission rights sold	-	-
End of period	1,300	45,025

Changes in emission rights liabilities for the year ended December 31, 2021 are as follows (units in tons)

Classification	2021	
	Quantity	Amount
Beginning of period	-	-
Emissions cost	11,156	390,454
Split-off	(11,156)	(390,454)
End of period	-	-

The confirmed emission quantity of greenhouse gases in the prior reporting year was 497,684 tCO2 -eq. The estimated emission quantity of greenhouse gases for the current year is 332,469 tCO2-eq after deduction of 333,974 tCO2-eq, which was succeeded by SK Multi-Utility Co., Ltd., which was established via a split-off during the current period

20. Employee benefit liabilities

The Company operates defined benefit pension plans for its employees, and the present value of the pension obligation is determined using the projected unit credit method based on actuarial assumptions and on a discount basis by an independent actuary firm.

Changes in the carrying amount of employee benefit liabilities for the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Changes in the defined benefit liabilities (assets):		
Beginning	3,254,475	5,542,676
Retirement benefits paid	(7,224,525)	644,270
Provision during the period	11,271,394	11,396,737
Re-measurement gain	3,853,911	1,158,261
Contributions to defined benefit plans	(17,000,000)	(15,000,000)
Transfer to affiliates and transfer to other accounts	(1,258,751)	(487,469)
Ending (* 1)	(7,103,496)	3,254,475
Components in the statement of financial position:		
Present value of defined benefit obligation	100,722,597	105,422,819
Fair value of plan assets	(107,826,093)	(102,168,344)
Total (* 1)	(7,103,496)	3,254,475

(* 1) The net defined benefit assets were appropriated as other non-current assets.

Expenses incurred for the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Current service cost	11,203,678	11,285,412
Interest expenses	1,904,358	1,845,359
Expected return on plan assets	(1,836,642)	(1,734,034)
Total	11,271,394	11,396,737

20. Employee benefit liabilities(cont'd)

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

Classification	2021	2020
Beginning	105,422,819	104,093,402
Current service cost	11,203,678	11,285,412
Interest cost	1,904,358	1,845,359
Re-measurement gain	3,525,709	1,263,069
Retirement benefits paid	(11,107,939)	(7,097,233)
Transfer to affiliates	(4,115,078)	(2,495,916)
Business transfer (* 1, 3)	(1,826,878)	(2,942,709)
Split-off (* 2)	(4,284,072)	-
Contribution in kind (* 4)	-	(528,565)
Ending	100,722,597	105,422,819

(* 1) During the current period, the composite material business division and the PPS business division were transferred to Toray Advanced Materials Korea Inc. and HDC POLYALL Co., Ltd., respectively.
(* 2) During the current period, SK Multi-Utility Co., Ltd. was established through a split-off.
(* 3) During the current reporting period, the Company sold the bioenergy business to SK Eco Prime Co., Ltd.
(* 4) During the current reporting period, the Company invested in kind in the reagent business division of SK Chemicals Co., Ltd to a subsidiary, SK Chemicals Daejeong Co., Ltd.

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

Classification	2021	2020
Beginning	102,168,344	98,550,726
Expected return on plan assets	1,836,642	1,734,034
Re-measurement loss	(328,202)	104,808
Contribution	17,000,000	15,000,000
Transfer to affiliates	(2,856,327)	(2,008,447)
Retirement benefits paid	(3,883,416)	(7,741,503)
Business transfer (* 1, 3)	(1,826,878)	(2,942,709)
Split-off (* 2)	(4,284,070)	-
Contribution in kind (* 4)	-	(528,565)
Ending	107,826,093	102,168,344

(* 1) During the current period, the composite material business division and the PPS business division were transferred to Toray Advanced Materials Korea Inc. and HDC POLYALL Co., Ltd., respectively.
(* 2) During the current period, SK Multi-Utility Co., Ltd. was established through a split-off.
(* 3) During the current reporting period, the Company sold the bioenergy business to SK Eco Prime Co., Ltd.
(* 4) During the current reporting period, the Company invested in kind in the reagent business division of SK Chemicals Co., Ltd to a subsidiary, SK Chemicals Daejeong Co., Ltd.

20. Employee benefit liabilities(cont'd)

As of December 31, 2020, plan assets consist of time deposits and others.

The principal assumptions used in actuarial calculation as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Discount rate	2.51%	1.87%
Expected rate of return on plan assets	2.51%	1.87%
Future salary rate of increases	4.92%	4.42%

Details of re-measurement gains as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Demographic assumptions	-	3,709,073
Financial assumptions	1,424,566	(4,769,500)
Experience adjustments	2,101,143	2,323,496
Re-measurement loss of plan assets	328,202	(104,808)
Total	3,853,911	1,158,261

The following table demonstrates a sensitivity analysis on the effect of changes in the principal assumptions used in actuarial calculation on the percent value of defined benefit obligation as of December 31, 2021 and 2020 (Korean won in thousands):

2021				
Classification	Effect of changes in the discount rate		Effect of changes in future salaries	
	Increase by 1% point	Decrease by 1% point	Increase by 1% point	Decrease by 1% point
Defined benefit liabilities	(8,150,989)	9,471,648	9,430,476	(8,269,243)

2020				
Classification	Effect of changes in the discount rate		Effect of changes in future salaries	
	Increase by 1% point	Decrease by 1% point	Increase by 1% point	Decrease by 1% point
Defined benefit liabilities	(8,406,646)	9,773,480	9,745,815	(8,540,826)

21. Contract liability

Contract liabilities for the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Refund liabilities (* 1)	2,974,758	978,603
Payment on goods received in advance (* 2)	12,392,160	-
Other contract liabilities	108,513	-
Total	15,475,431	978,603

(*1) The Company account for contract liabilities for expected returns based on experience rate of return claims for products sold in the past. All assumptions applied to the calculation of contract liabilities above were calculated based on the current available information on returns expected to occur during the returnable period for products sold under the current product sales level and returnable conditions.
(* 2) The amounts received in advance from the customers related to the product production and relocation activities were recognized as the contract liabilities.

Changes in contract liabilities for the years ended December 31, 2021, 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Beginning	978,603	701,169
Increase	14,496,828	277,434
Ending	15,475,431	978,603

22. Provisions

Provisioning liabilities for the years ended December 31, 2021 are as follows (Korean won in thousands):

Classification	2021
Provisioning liabilities for contribution (* 1)	21,281,360
Provisioning liabilities for PFAD (* 2)	1,156,619
Total	22,437,979

(* 1) Since the possibility of paying a damages relief contribution in accordance with the Special Act on Remedy for Damage Caused by Humidifier Disinfectants has increased, the Company established provisions for contribution have been placed based on the best estimates possible.
(* 2) The Company has concluded a commitment promising to compensate SK Eco Prime Co., Ltd. if the gap between the price of PFAD and the prices of soybean oil and palm oil is widened more than a certain spread in relation to the transfer of the bio-energy business during the previous period, and accordingly, the the Company established provisions thereon.

23. Financial instruments risk management and derivative instruments asset

The Company is exposed to foreign currency risk for some of its sales and purchases in accordance with international transactions. To reduce this risk, the Company regularly monitors net exposure to key currencies ($, €, ￥) based on expected sales and purchases over the next 12 months. The Company enters into a foreign currency forward contract to avoid this exposure.

The Company has not designated the foreign currency forward contracts as a hedge for business purpose.. Consequently, changes in the fair value of all forward contracts are recognized in profit or loss.

Derivative financial instruments for the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	Details	2021	2020
Derivative instruments not designated as hedging instruments:			
Derivative instruments asset	Foreign exchange forward contracts	1,825,609	159,003
Derivative instruments liabilities	Foreign exchange forward contracts	469,458	3,836,514
Non-current assets in derivative financial instruments	Put Option	368,001	-

The Company entered into derivatives contracts with Hana Bank to hedge against the risk of fluctuations in foreign currency exchange rates. Details as of December 31, 2021, 2020 are presented as follows (Korean won in thousands):

2021			
Contracting party	Buy/Sell	Contract notional amount	Fair value
Hana Bank and others	Buy	153,129,963	880,980
	Sell	108,023,488	475,171
Total		261,153,451	1,356,151

2020			
Contracting party	Buy/Sell	Contract notional amount	Fair value
Hana Bank and others	Buy	79,457,417	(3,755,773)
	Sell	26,009,777	78,262
Total		105,467,194	(3,677,511)

As of December 31, 2021, the details of the non-current derivative financial instruments which are not designated hedging instruments by the Company are as follows (Korean won in thousand):

Classification	Type	Fair value
Non-current assets in derivative financial instruments (* 1)	Put option for SK Chemicals Daejeong Co., Ltd.'s common stocks	368,001

(* 1) Represents a put option allowing asset holders to sell SK Chemicals Daejeong Co., Ltd.'s investment in its subsidiaries to Daejeong Chemicals & Metals Co., Ltd.

The Company is exposed to certain risks in connection with their ongoing business operations. The main risks managed using derivatives are the foreign exchange risk and the interest rate risk. The Company's risk management strategies and risk management methods are described under Note 34 below.

24. Commitments and contingencies

Details of significant legal claim contingencies as of December 31, 2021 are as follows (Korean won in thousands):

Legal claim	Plaintiff	Defendant	Claim amount	Status
Claim for payment (* 1, 2)	Environmental Industry Research Institute	Company and 12 others	2,240,000	First trial
Claim for payment (* 1, 2)	National Health Insurance	Company and 12 others	6,970,000	First trial
Damage claims (* 2)	Chanho Kang and others	Company and 19 others	11,200,000	First trial
Damage claims (* 2)	Aekyung Co., ltd.	Company	710,000	First trial
Infringement of patent	Novartis Arge	Company	27,500,000	Second trial
Claim for cancellation, of correction order	The Company and others	Fair Trade Commission	113,000	Third trial

(* 1) As of the end of the reporting period, a portion of the Company's land has been seized in connection with the above lawsuit.
(* 2) Represents a civil lawsuit against humidifier disinfectant damage, in which the Company is a defendant. There are a number of other civil lawsuits in progress other than above case.

In addition to the above lawsuit, the Company has been indicted for violating the Special Act on the Protection of Humidifier Sterilization Damage for submitting a different opinion to the data submission request of the Ministry of Environment.

The Company is unable to reasonably estimate the ultimate outcome of such proceedings. Such uncertainty is not reflected on the Company's financial statements.

As of December 31, 2021, no assets were provided as collateral in connection with the borrowings from financial institutions.

Other commitments

The Company has other commitments as of December 31, 2021 as follows:

Counterparty to the agreement	Details of the agreement
Hana Bank and others	Facility loan and line of credit for up to KRW 75,000 million, USD 23.2 million Foreign currency bond and borrowing agreement
	Stand-by L/C and others amounting to USD 137.8 million, EUR 22 million
	Derivative instrument limit commitments for up to USD 41.5 million
Seoul Guarantee Insurance Company ,Ltd. and others	Performance guarantee for up to KRW 11,004 million

24. Commitments and contingencies(cont'd)

Under the paragraph 1 of the Article 530-9 of the *Commercial Act*, the Company and SK Discovery Co., Ltd., the surviving entity after spin-off, are jointly and severally responsible for the repayment of the liabilities incurred before December 1, 2017.

Under the paragraph 1 of the Article 530-9 of the Commercial Act, the Company is jointly and severally liable for repaying the existing liabilities of the Company and SK Bioscience Co., Ltd., the newly established company through the split-off which occurred on or before July 1, 2018, the date of split-off.

Corrective action by the Fair Trade Commission
The Fair Trade Commission (FTC) determined that the labeling of humidifier disinfectants before the Company was split violated the Act on Fair Labeling and Advertising. Therefore, the Fair Trade Commission took corrective action, fined, and filed charges against the Company. The Company and SK Discovery shall jointly take corrective actions and pay for the fine.

The Company purchased the Palm Fatty Acid Distillates (PFADs) from ST Green Energy, a joint venture of the company, and executed a contract with SK Eco Prime to supply PFADs. As part of the contract, a special agreement was executed to fix the weighted average spread between the PFADs and the soybean oil and palm oil, and the provisions for the expected losses were established.

As of December 31, 2021, the Company will proceed with the process of judgement of nullification as it has lost one promissory note of Shinhan Bank.

25. Related party disclosures

As of December 31, 2021, the Company's related parties are as follows, and there is no company that controls over or has significant influence on the Company.

Classification	Name of Company
A corporation with significant influence	SK Discovery Co., Ltd.
Subsidiaries	SK Bioscience Co., Ltd., SK Multi-Utility Co., Ltd., SK Chemicals Daejeong Co., Ltd., SK Environmental Materials (Yantai) Co., Ltd., SK Chemicals (Suzhou) Co., Ltd. (* 1), SK Chemicals (Shanghai) Co., Ltd., SK Chemicals America, SK Chemicals GmbH, SK Chemicals Malaysia
Affiliates or joint ventures	JSI Co., Ltd., Entis Co., Ltd., HDC POLYALL Co., Ltd. (* 2), ST Green Energy
Others	Subsidiaries and affiliates of SK Discovery Co., Ltd., affiliates of SK corporate group, etc. (* 4)

(* 1) During the current period, we have executed a stock purchase and sales agreement to sell 100% of the shares of SK Chemicals (Suzhou) Co., Ltd. to Sumong Foods Co., Ltd. The closing date for the transaction will be in 2023.
(* 2) During the current period, 20% of shares-1 share of HDC POLYALL Co., Ltd., were purchased for 7,700 million won and newly incorporated as an affiliate. Refer to Note 11 for important judgment concerning significant impact.
(* 3) During the current period, 100% of the shares of SK Chemicals (Qingdao) Co., Ltd. were disposed of and therefore SK Chemicals (Qingdao) Co., Ltd. was excluded from the related parties as of the end of the current period.
(* 4) The conglomerate affiliates that is also known as the Large-scale Business Group affiliates, designated by the Korea Fair Trade Commission are classified as related parties in accordance with the resolution of the Korean Securities and Futures Commission that those are related parties considering substance of the relationship as stipulated in paragraph 10 of KIFRS 1024.

25. Related party disclosures(cont'd)

Significant transactions with related parties for the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

2021					
Classification	Name of related parties	Sales (* 1)	Other income And sales of assets (* 1)	Purchase (* 1)	Other expenses and capital expenditures (* 1)
A corporation with significant influence	SK Discovery Co., Ltd.	63,636	110,508	-	1,056,606
Subsidiaries	SK Bioscience Co., Ltd.	2,814,848	1,524,604	-	226,950
	SK Multi-Utility Co., Ltd.	12,537	389	-	6,625,737
	SK Chemicals Daejeong Co., Ltd.	1,095,504	2,743,014	-	4,106
	SK Chemicals (Qingdao) Co., Ltd. (* 2)	15,636	5,214,889	2,644,995	-
	SK Chemicals (Suzhou) Co., Ltd.	18,329,881	75,352	124,222	-
	SK Chemicals (Shanghai) Co., Ltd.	2,645,977	40,634	-	2,878,172
	SK Chemicals America	66,750,356	393,409	-	21,173
	SK Chemicals GmbH	99,068,835	456,017	-	376,606
Affiliates or joint ventures	Entis Co., Ltd.	1,236,536	3,779,346	3,492,735	538
	JSI Co., Ltd.	64,060	109,716	93,510	-
	ST Green Energy	-	589,952	-	213,882,734
Othes	SK Gas Co., Ltd.	541,806	-	6,211,366	3,454,732
	SK Plasma Co., Ltd.	1,274,484	1,236,564	-	1,648
	SK Advanced Co., Ltd.	3,448,646	847,238	7,140,954	274,293
	Huvis Co., Ltd.	12,481,991	135	22,414,559	17,450
	SK Eco Plant Co., Ltd. (* 3, 4)	-	-	-	1,249,469
	SK Networks Co., Ltd.	8,666,193	-	11,202,280	437,929
	SK NETWORKS HONGKONG	-	-	24,191,033	-
	SKC Co., Ltd.	2,177,803	4,529	298,425	-
	SK Energy Co., Ltd.	14,661,175	-	265,271	1,284,145
	SK Geo Centric Co., Ltd. (* 5)	-	-	35,024,637	-
	SK Co., Ltd.	-	-	-	5,899,445
	SK Hynix Co., Ltd.	914,819	-	-	-
	Happynarae Co., Ltd.	-	-	2,081,802	8,694,783
	Others	6,000	-	389,640	7,189,580
Total		236,270,723	17,126,296	115,575,429	253,576,096

(* 1) It includes the transaction amount with related parties reclassified to profit and loss on discontinued operations.

(* 2) During the current period, 100% of the shares of SK Chemicals (Qingdao) Co., Ltd. were disposed of and therefore SK Chemicals (Qingdao) Co., Ltd. was excluded from the related parties as of the end of the current period.

(* 3) The corporate name was changed from SK Engineering & Construction Co., Ltd. to SK Eco Plant Co., Ltd. during the current period.

(* 4) The Company has acquired the tangible assets of 1,161,199,000 won from SK Eco Plant Co., Ltd. during the current period.

(* 5) The corporate name was changed from SK Global Chemical Co., Ltd. to SK Geo Centric Co., Ltd. during the current period.

25. Related party disclosures(cont'd)

2020						
Classification	Name of related parties	Sales (* 1)	Other income And sales of assets (* 1)	Purchase (* 1)	Other expenses and capital expenditures (* 1)
A corporation with significant influence	SK Discovery Co., Ltd.	63,636	70,500	-	247,397
Subsidiaries	SK Chemicals (Qingdao) Co., Ltd.	64,027	2,988,605	1,885,970	3,379
	SK Chemicals (Suzhou) Co., Ltd.	19,722,274	68,642	-	-
	SK Bioscience Co., Ltd.	4,988,022	1,947,974	-	218,133
	SK Chemicals Daejeong Co., Ltd.	26,548	13,097,545	-	-
	SK Chemicals (Shanghai) Co., Ltd.	160,526	-	-	2,103,540
	SK Chemicals America	54,905,618	6,598	-	82,197
	SK Chemicals GmbH	76,819,603	35,850	-	-
Joint ventures	Entis Co., Ltd.	1,126,016	2,107,965	1,011,341	716
	JSI Co., Ltd. (* 2)	84,000	115,842	131,289	-
	ST Green Energy	-	732,590	67,899,861	96,452,407
Others	SK Gas Co., Ltd.	260,450	-	5,477,198	419,492
	SK Plasma Co., Ltd.	1,275,079	737,815	-	1,476
	SK Advanced Co., Ltd.	3,800,806	641,550	6,801,326	266,933
	Huvis Co., Ltd.	6,528,398	-	13,208,780	37,202
	SK E&C Co., Ltd. (* 3)	-	-	-	11,062,810
	SK Networks Co., Ltd.	1,693,994	-	8,859,453	204,474
	SK NETWORKS HONGKONG	-	-	15,992,056	32,330
	SK Incheon Petrochem Co., Ltd.	2,943,128	-	-	-
	SKC Co., Ltd.	2,334,459	50,281	51,272	878
	SK Energy Co., Ltd.	54,046,317	-	28,453	1,068,214
	SK Petrochem Co., Ltd.	-	-	46,072,041	-
	SK Co., Ltd.	-	-	-	7,834,383
	SK Hynix Co., Ltd.	1,465,091	-	-	-
	Happynarae Co., Ltd.	-	-	1,745,068	8,212,652
	Others	189,333	197,525	180,201	6,083,089
Total		232,497,325	22,799,282	169,344,309	134,331,702

(* 1) It includes the transaction amount with related parties reclassified to profit and loss on discontinued operations.
(* 2) It includes transaction details before reclassification as an affiliate.
(* 3) The Company acquired 11,062,810 thousand won in tangible assets from SK Engineering & Construction Co., Ltd. during the current period.

25. Related party disclosures(cont'd)

Significant outstanding balances with related parties as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

2021						
Classification	Name of related parties	Receivables		Payables	
		Accounts receivables	Other receivables	Accounts payables	Other payables
A corporation with significant influence	SK Discovery Co., Ltd.	35,000	10,130	-	217,306
Subsidiaries	SK Bioscience Co., Ltd.	305,824	84,107	-	49
	SK Multi-Utility Co., Ltd.	13,790	1,265,829	-	7,266,116
	SK Chemicals Daejeong Co., Ltd.	231,552	3,357	-	-
	SK Environmental Materials (Yantai) Co., Ltd.	-	2,245,127	-	-
	SK Chemicals (Suzhou) Co., Ltd.	5,724,424	86,423	-	-
	SK Chemicals (Shanghai) Co., Ltd.	-	3,056	-	-
	SK Chemicals America	29,908,030	2,164	-	-
	SK Chemicals GmbH	45,271,199	57,983	-	-
Affiliates or joint ventures	Entis Co., Ltd.	113,963	508,511	240,062	-
	JSI Co., Ltd. (* 1)	15,488	3,750,000	-	-
	HDC POLYALL Co., Ltd.	-	1,161,028	-	-
	ST Green Energy	-	22,002	-	104,850,770
Others	SK Gas Co., Ltd.	25,488	-	880,110	-
	SK Plasma Co., Ltd.	87,777	5,476	-	-
	SK Advanced Co., Ltd.	-	42,327	486,469	-
	Huvis Co., Ltd.	-	-	3,423,392	-
	SK Eco Plant Co., Ltd. (* 2)	-	131,541	-	-
	SK Networks Co., Ltd.	-	-	1,393,244	26,800
	SK NETWORKS HONGKONG	-	968,739	13,714,225	325,133
	SKC Co., Ltd.	357,808	-	15,802	-
	SK Energy Co., Ltd.	-	-	-	36,294
	SK Geo Centric Co., Ltd. (* 3)	-	-	3,362,407	-
	SK Co., Ltd.	-	-	-	669,723
	SK Hynix Co., Ltd.	-	-	-	-
	Happynarae Co., Ltd.	-	-	167,714	838,642
	Others	-	-	138,996	570,569
Total		82,090,343	10,347,800	23,822,421	114,801,402

(* 1) The Company has recognized allowance for bad debts for the loan of 3,750 million won for JSI Co., Ltd. in full.
(* 2) The corporate name was changed from SK Engineering & Construction Co., Ltd. to SK Eco Plant Co., Ltd. during the current period.
(* 3) The corporate name was changed from SK Global Chemical Co., Ltd. to SK Geo Centric Co., Ltd. during the current period.

25. Related party disclosures(cont'd)

2020					
Classification	Name of related parties	Receivables		Payables	
		Accounts receivables	Other receivables	Accounts payables	Other payables
A corporation with significant influence	SK Discovery Co., Ltd.	35,000	-	-	198,443
Subsidiaries	SK Chemicals (Qingdao) Co., Ltd.	64,027	69,264	194,343	33,687
	SK Chemicals (Suzhou) Co., Ltd.	5,280,028	71,036	-	-
	SK Bioscience Co., Ltd.	323,982	25,215	-	-
	SK Chemicals Daejeong Co., Ltd.	29,203	1,421,320	-	300,408
	SK Chemicals (Shanghai) Co., Ltd.	160,526	-	-	-
	SK Chemicals America	18,515,922	5,549	-	-
	SK Chemicals GmbH	31,675,948	18,115	-	-
Affiliates or joint ventures	JSI Co., Ltd. (* 1)	60,544	4,050,000	31,833	-
	Entis Co., Ltd.	135,809	324,898	133,056	7,059
	ST Green Energy	-	11,750	-	76,971,937
Others	SK Gas Co., Ltd.	23,875	-	442,194	1,613
	SK Plasma Co., Ltd.	114,907	64,086	-	-
	SK Advanced Co., Ltd.	343,549	39,844	499,592	3,178,359
	Huvis Co., Ltd.	367,360	-	3,853,602	-
	SK Networks Co., Ltd.	-	-	662,953	-
	SK NETWORKS HONGKONG	-	275,451	8,728,819	-
	SKC Co., Ltd.	486,268	-	28,200	-
	SK Energy Co., Ltd.	1,502,422	-	-	86,759
	SK Petrochem Co., Ltd.	-	-	2,444,263	-
	SK Co., Ltd.	-	-	-	536,815
	SK Hynix Co., Ltd.	115,292	-	-	-
	Happynarae Co., Ltd.	-	-	132,361	906,884
	Others	-	-	-	573,449
Total		59,234,662	6,376,528	17,151,216	82,795,413

(*1) The Company has recognized provision for bad debts for the entire 4,050 million won of loans to JSI Co., Ltd.

25. Related party disclosures(cont'd)

Details of fund transactions with related parties during the current period are as follows (Korean won in thousands):

① Contribution

2021		
Classification	**Name of related parties**	**Contribution**
Subsidiaries	SK Environmental Materials (Yantai) Co., Ltd.	9,138,400
Affiliates and joint ventures	HDC POLYALL Co., Ltd.	7,699,750
	ST Green Energy	385,515

2020		
Classification	**Name of related parties**	**Contribution**
Subsidiaries	SK Chemicals Daejeong Co., Ltd.	12,281,042
	SK Environmental Materials (Yantai) Co., Ltd.	11,271,784
	SK Chemicals Malaysia	372,924

② Loans

2021				
Classification	**Related party**	**Jan 1**	**Amounts recovered**	**Dec 31**
SK Chemicals Co., Ltd.	JSI Co., Ltd. (* 1)	4,050,000	(300,000)	3,750,000

(* 1) The Company has established provision for bad debts for the entire 3,750 million won of loans to JSI Co., Ltd.

2020					
Classification	**Target companies**	**Jan 1 (*1)**	**Amount lent**	**Amount recovered**	**Dec 31**
SK Chemicals Co., Ltd.	JSI Co., Ltd. (* 1)	4,050,000	-	-	4,050,000
	SK Chemicals Daejeong Co., Ltd.	-	800,000	(800,000)	-

(*1) The Company has established provision for bad debts for the entire 4,050 million won of loans to JSI Co., Ltd.

25. Related party disclosures(cont'd)

Details of guarantees the Company provided to related parties as of December 31, 2021 and 2020 are as follows (US dollar, CNY, EUR):

2021				
Recipient companies	Amount of payment guaranteed		Details of the payment guarantee	Payment guarantor
	Currency	Amount		
ST Green Energy	USD	7,200,000	Trade facility	Hana Bank Singapore Branch
	USD	4,000,000		Development Bank of Singapore

2020				
Recipient companies	Amount of payment guaranteed		Details of the payment guarantee	Payment guarantor
	Currency	Amount		
ST Green Energy	USD	5,000,000	Trade facility	Hongkong & Shanghai Banking Corp.
	USD	4,000,000		Development Bank of Singapore
SK Chemicals America	USD	3,000,000	Borrowings	Shinhan Bank America

Compensation for key management personnel for the years ended December 31, 2021 and 2020 is as follows (Korean won in thousands):

Classification	2021	2020
Short-term benefits	2,859,392	2,209,564
Retirement benefits	371,836	414,502
Share-based compensation	93,252	295,435
Total	3,324,480	2,919,501

The Company's key management personnel includes registered directors and audit committee members of the Company.

26. Equity

Equity

Details of equity as of December 31, 2021 and 2020 are as follows (Korean won in thousands except par value per share):

Classification	Unit	2021		2020	
		Ordinary share	Preferred share	Ordinary share	Preferred share
Authorized shares	Shares	40,000,000	10,000,000	40,000,000	10,000,000
Par value	Korean won	5,000	5,000	5,000	5,000
Number of shares Issued	Shares	17,620,780	2,115,429	11,741,396	1,458,670
Issued capital	Korean won In thousands	88,103,900	10,577,145	58,706,980	7,293,350

(* 1) The Company increased its capital by 32,630,715 thousand won by executing a capital increase without consideration based on its capital surplus used as the financial resource.

Capital surplus

Details of capital surplus as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Paid-in capital in excess of par value(* 1)	235,917,593	268,290,410
Merger gain	32,942,217	32,942,217
Merger loss	(112,885,429)	(112,885,429)
Total	155,974,381	188,347,198

(* 1) During the current period, the Company executed a capital increase without consideration by using the capital surplus as the financial resource.

Other capital

Details of other capital adjustments as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Treasury stocks (* 1)	(8,921,443)	(5,753,700)
Stock options (* 2)	1,831,164	1,891,764
Other capital adjustments	(5,255,111)	(5,255,111)
Total	(12,345,390)	(9,117,047)

(* 1) The Company acquired the shares of the Company at the market price following the acquisition of fractional shares and the exercise of appraisal rights by the shareholders. As of December 31, 2021, the Company owns the treasury stocks of 30,857 common stocks and 148,133 preferred stocks, and the acquisition price of 8,921,443 thousand won was deducted from equity.

(* 2) There were no new stock options granted anew during the current period, and they were increased by 125,937 thousand won due to the recognition of share-based compensation cost for the current period and were decreased by 186,538 thousand won due to their exercises.

26. Equity(cont'd)

The Company has granted stock options to its key executives, and the details are as follows (Korean won):

Grant date	Number of shares to issue (* 1)	Exercise period (* 2)	Strike price (* 1)	Fair value of grant date (* 1)
2018.3.6	29,988	2020.3.7 - 2025.3.6	71,785	15,864
2018.3.26 (1st)	22,491	2021.3.27 - 2025.3.26	72,009	16,226
2018.3.26 (2nd)	44,984	2022.3.27 - 2025.3.26	77,724	13,717
2019.3.25 (1st)	22,491	2021.3.26 - 2026.3.25	47,749	9,184
2019.3.25 (2nd)	22,492	2022.3.26 - 2026.3.25	51,517	7,856

(* 1) Following the capital increase without consideration during the current period, the number of shares to be issued and the exercise price have been adjusted, and the fair value on the date of grant has been applied with adjustments.
(* 2) As of December 31, 2021, the weighted average remaining maturity of stock options not exercised is 3.54 years.

The fair value of the share option was calculated according to the binomial option pricing model. The variables applied to the model are as follows:

Classification	2018.3.6	2018.3.26 (1st)	2018.3.26 (2nd)	2019.3.25 (1st)	2019.3.25 (2nd)
Grant date stock price (* 1)	69,667	70,000	70,000	45,267	45,267
Strike price (* 1)	71,785	72,009	77,724	47,749	51,517
Expected variability	15.07%	15.75%	15.75%	18.37%	18.37%
Risk free rate	2.66%	2.57%	2.57%	1.92%	1.92%

(* 1) Following the capital increase without consideration during the current period, the number of shares to be issued and the exercise price have been adjusted, and the share price on the date of grant has been adjusted and entered.

Fluctuations of stock option of the current year are as follows (Korean won in thousands):

Grant date	Number of shares to issue			Valuation price			
	Beginning	Exercise (* 3)	Ending	Beginning	Increase	Exercise	Ending
2018.3.6 (* 1)	29,988	-	29,988	475,721	-	-	475,721
2018.3.26 (1st) (* 1)	22,491	-	22,491	364,940	-	-	364,940
2018.3.26 (2nd) (* 2)	44,984	-	44,984	582,779	34,281	-	617,060
2019.3.6 (* 2)	10,000	(10,000)	-	170,993	15,545	(186,538)	-
2019.3.25 (1st) (* 1)	22,491	-	22,491	189,353	17,214	-	206,567
2019.3.25 (2nd) (* 2)	22,492	-	22,492	107,978	58,897	-	166,875
Total	152,446	(10,000)	142,446	1,891,764	125,937	(186,538)	1,831,163

(* 1) Following the capital increase without consideration during the current period, the number of shares to be issued has been adjusted.
(* 2) This is the number of shares before adjustment following the capital increase without consideration.
(* 3) The weighted average market price as of the exercise date of the exercised stock option is 366,604 won.

26. Equity(cont'd)

Accumulated other comprehensive income

There is no change in accumulated other comprehensive income during the current reporting period.

Retained earnings

Details of retained earnings as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Legal reserve (* 1)	3,744,031	1,129,006
Unappropriated retained earnings	909,530,048	638,713,834
Total	913,274,079	639,842,840

(* 1) According to the provisions of the Commercial Act, the Company shall accumulate at least 10% of the dividends paid by money as reserves for profit at each settlement period until 50% of the capital is reached, which can only be used for compensation for deficits and capital transfer.

Statement of disposition of retained earnings

Details of the disposed deficits for the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Unappropriated retained earnings	909,530,048	638,713,834
Unappropriated retained earnings carried forward	609,948,559	423,849,171
Profit for the year	302,502,753	215,742,625
Re-measurement loss on defined benefit obligation	(2,921,264)	(877,962)
Disposition of retained earnings	(64,647,024)	(28,765,275)
Dividends	(58,770,022)	(26,150,250)
Legal reserves	(5,877,002)	(2,615,025)
Unappropriated retained earnings to be carried forward to next year	844,883,024	609,948,559

The expected date for disposal of the above retained earnings is March 28, 2022, the statement of disposition of retained earnings for 2020 is scheduled to be approved on March 31, 2021.

26. Equity(cont'd)

Dividends

Details of cash dividends proposed in accordance with the approval of the general meeting of shareholders for the year ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021		2020	
	Ordinary share	Preferred share	Ordinary share	Preferred share
Number of shares issued (Shares)	17,589,923	1,967,296	11,728,768	1,313,519
Par value	KRW 3,000	KRW 3,050	KRW 2,000	KRW 2,050
Dividend rate	60%	61%	40%	41%
Dividend	52,769,769	6,000,253	23,457,536	2,692,714

The Company paid 26,150,250 thousand won in dividends for the fiscal period ending December 31, 2020 during April 2021.

27. Operating segment information

The Company has two reportable segments, as described below, which represent the Company's strategic business units. The strategic business units offer different products and services, and are managed separately as they require different technology and marketing strategies. For each of the strategic business units, the Company's chief operating decision maker reviews internal management reports at least on a monthly basis.

The Company's reportable segments is as follows:

Business unit	Products (or services)
Green Chemicals Biz.	PET resin, DMT, information communication materials, highly functional PETG resin, polyester adhesive, and carbon fiber composite materials, etc.
Life Science Biz.	Pharmaceuticals, medical devices, etc.

Revenue and operating income of each reportable segment for the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

2021				
Classification	Green Chemicals Biz.	Life Science Biz.	Others	Total
Revenue	785,349,622	300,178,151	7,828,908	1,093,356,681
Operating income (loss)	68,920,324	44,696,882	(31,324,229)	82,292,977
Depreciation (* 1)	46,717,391	7,225,889	5,067,486	59,010,766

(*1) Includes depreciation expenses on property, plant and equipment and investment properties and right-of-use assets and amortization expenses on intangible assets.

27. Operating segment information(cont'd)

2020				
Classification	**Green Chemicals Biz.**	**Life Science Biz.**	**Others**	**Total**
Revenue	645,405,289	252,281,690	7,587,714	905,274,693
Operating income (loss)	59,195,259	40,419,215	(1,919,193)	97,695,281
Depreciation (* 1)	42,936,062	7,035,899	4,573,332	54,545,293

(*1) Includes depreciation expenses on property, plant and equipment and investment properties and right-of-use assets and amortization expenses on intangible assets.

Assets of each reportable segment as of December 31, 2021 and 2020 are as follows (Korean won in thousands). As the liabilities are not managed by segment, liabilities by segment are not shown.

2021				
Classification	**Green Chemicals Biz.**	**Life Science Biz.**	**Others**	**Total**
Total assets	909,116,095	198,483,893	879,549,930	1,987,149,918
Fixed assets (* 1)	508,579,358	80,732,706	118,045,410	707,357,474

(*1) Includes property, plant and equipment, intangible assets, right-of-use assets and investment properties.

2020				
Classification	**Green Chemicals Biz.**	**Life Science Biz.**	**Others**	**Total**
Total assets	1,045,638,247	175,114,810	523,831,759	1,744,584,816
Fixed assets (* 1)	722,364,936	82,453,052	116,879,973	921,697,961

(*1) Includes property, plant and equipment, intangible assets, right-of-use assets and investment properties.

28. Revenues from Contracts with customers

Revenue from contracts with customers during the current and prior terms is distinguished as follows (Korean won in thousands):

2021				
Classification	**Green Chemicals Biz**	**Life Science Biz.**	**Others**	**Total**
Types of goods or services:				
Sales in finished goods	687,720,132	198,375,604	-	886,095,736
Sales in Merchandises	9,807,462	96,811,046	-	106,618,508
Sales in Service	50,684,888	1,369,208	5,101,995	57,156,091
Sales in Others	37,137,140	3,622,293	2,726,913	43,486,346
Total	785,349,622	300,178,151	7,828,908	1,093,356,681
Geographical markets				
Korea	212,695,006	267,061,704	7,828,908	487,585,618
China	157,849,193	8,054,814	-	165,904,007
Japan	75,546,462	-	-	75,546,462
Asia (excluding China and Japan)	106,078,139	200,304	-	106,278,443
Americas	78,513,946	3,899,997	-	82,413,943
Europe	114,516,282	20,873,805	-	135,390,087
Others	40,150,594	87,527	-	40,238,121
Total	785,349,622	300,178,151	7,828,908	1,093,356,681
Timing of revenue recognition				
At a point of time	734,499,382	297,094,189	2,726,913	1,034,320,484
Over a period of time	50,850,240	3,083,962	5,101,995	59,036,197
Total	785,349,622	300,178,151	7,828,908	1,093,356,681

28. Revenues from Contracts with customers(cont'd)

2020				
Classification	Green Chemicals Biz	Life Science Biz.	Others	Total
Types of goods or services:				
Sales in finished goods	575,536,603	187,489,407	-	763,026,010
Sales in Merchandises	13,423,462	60,749,133	-	74,172,595
Sales in Service	21,358,338	1,163,261	5,449,341	27,970,940
Sales in Others	35,086,886	2,879,889	2,138,373	40,105,148
Total	645,405,289	252,281,690	7,587,714	905,274,693
Geographical markets				
Korea	199,522,044	216,639,234	7,587,714	423,748,992
China	118,604,674	7,525,501	-	126,130,175
Japan	63,365,311	-	-	63,365,311
Asia (excluding China and Japan)	70,243,763	389,631	-	70,633,394
Americas	67,755,584	78,572	-	67,834,156
Europe	90,400,578	27,602,155	-	118,002,733
Others	35,513,335	46,597	-	35,559,932
Total	645,405,289	252,281,690	7,587,714	905,274,693
Timing of revenue recognition				
At a point of time	624,046,951	251,118,429	2,138,373	877,303,753
Over a period of time	21,358,338	1,163,261	5,449,341	27,970,940
Total	645,405,289	252,281,690	7,587,714	905,274,693

There are no major customers who account for more than 10 % of sales during the years ended December 31, 2021 and 2020.

29. Operating income

Expenses charged to cost of sales and selling and administrative expenses for the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Changes in inventories	(40,750,406)	31,367,467
Raw materials used	456,557,331	292,667,839
Cost of merchandise sold	96,330,985	66,371,778
Depreciation and amortization (* 1)	59,010,766	54,545,293
Salaries and wages	173,585,182	160,304,109
Transport and storage of oil expenses	78,035,766	48,483,933
Rental fees and service fees	40,028,715	33,105,454
Marketing fees	15,497,409	13,047,939
Others	132,767,955	107,685,600
Total	1,011,063,703	807,579,412

(* 1) It is the sum of the depreciation cost of tangible assets, investment properties and right-of-use assets, and the amortization cost of intangible assets.

29. Operating income(cont'd)

Details of selling and administrative expenses for the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Salaries	58,591,415	55,435,924
Provision for pension benefits	9,574,776	6,237,141
Employee welfare benefits	11,881,604	8,229,712
Travel	3,777,570	3,324,736
Communication	479,561	477,163
Utilities	479,751	550,554
Taxes and dues	1,172,294	784,699
Rents	185,328	119,292
Stock Compensation	125,937	541,781
Depreciation	2,116,414	2,371,158
Repairs	369,719	376,720
Insurance	948,609	989,954
Entertainment	865,433	884,738
Office supplies	603,300	353,619
Vehicle maintenance	520,045	564,193
Training	2,053,197	2,338,988
Printing	106,168	107,591
Rental fees and service fees	17,343,910	11,993,960
Research	38,635,498	33,331,722
Advertising and marketing	14,572,334	12,334,529
Sales commissions	9,388,864	8,366,219
Promotions	139,791	115,206
Samples	780,470	585,179
Packaging	4,192,196	3,478,657
Bad debt expenses(reversal)	(208,425)	(1,551,021)
Conference	308,115	349,820
Amortization	2,985,966	1,928,437
Miscellaneous expenses	1,017	57,240
Total	181,990,857	154,677,911

30. Non-operation income and expense

Other income and expenses for the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Other income:		
Gains on disposal of tangible assets	533,777	2,319
Gains on disposal of right-of-use assets	428,165	21,497
Gains on disposal of intangible assets	19,495	-
Gain on disposal of investments in subsidiaries	467,495,829	39
Gain on disposal of Business Gain on disposal of Business	4,081,176	3,213,527
Other reversal of bad debt expense	211,971	634,337
Miscellaneous income	16,022,089	7,390,001
Total	488,792,502	11,261,720
Other expenses:		
Losses on disposal of inventories Loss on disposal of inventories	-	76,975
Losses on disposal of fixed assets	1,859,717	4,526,809
Losses on discard of fixed assets	1,198,619	-
Losses on disposal of intangible assets	102,675	570,115
Losses on disposal of investments in subsidiaries	213,632	-
Donations	1,879,329	3,528,897
Miscellaneous expenses	36,108,720	12,529,128
Total	41,362,692	21,231,924

30. Non-operation income and expense(cont'd)

Details of finance income and costs for the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Financial income:		
Interest income	656,946	302,163
Gain on transaction of financial instruments at FVPL	2,484,854	208,942
Gain on valuation of financial instruments at FVPL	3,408,499	1,711,977
Dividend income	8,952,750	5,873,600
Gain on foreign currency transactions	16,092,870	20,844,188
Gain on foreign currency translation	795,905	6,424,567
Gain on valuation of derivatives	2,193,610	159,003
Gain on settlement of derivatives	8,812,505	5,017,284
Total	43,397,939	40,541,724
Financial cost:		
Interest expenses	7,312,589	14,916,722
Losses on foreign currency transactions	18,070,198	21,951,780
Losses on foreign exchange translation	1,914,944	2,935,339
Loss on valuation of financial instruments at FVPL	789,476	1,383,994
Loss on valuation of derivatives	469,457	3,836,514
Loss on settlement of derivatives	3,678,800	4,408,629
Total	32,235,464	49,432,978

31. Income tax

The major components of income tax expense (benefit) for the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Current income tax	105,146,313	77,229,026
Adjustments of prior income tax recognized in the current year	(2,076,149)	(1,954,832)
Changes in deferred income taxes arising from temporary differences	(139,063)	5,700,453
Income tax reflected directly to equity	932,646	280,299
Income tax	103,863,747	81,254,946
Income tax from continuing operation	136,417,287	28,087,245
Income tax from discontinued operation	(32,553,540)	53,167,701

31. Income tax(cont'd)

Details of income tax reflected directly to equity during the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Income tax expenses reflected directly to equity:		
Re-measurement loss on defined benefit obligation	932,646	280,299
Total	932,646	280,299

A reconciliation of income tax expense applicable to profit before income taxes at the Korea statutory tax rate to income tax expense at the effective tax rate during the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Profit (Loss) before income tax from continuing operation	540,885,263	78,833,823
Profit (Loss) before income tax from discontinued operation	(134,518,762)	218,163,748
Profit (Loss) before income tax	406,366,501	296,997,571
Tax at the statutory income tax rate (*1)	101,388,788	71,411,412
Adjustments:		
Non-taxable revenue	(867,243)	(1,169,222)
Non-deductible expenses for tax purposes	849,303	630,263
Deferred tax effect from tax credit carried forward	(3,191,131)	(3,625,283)
Effect of unrecognized deferred tax in temporary differences	6,006,687	15,510,028
Adjustments of prior income tax recognized in the current year	(2,076,149)	(1,954,833)
Others	1,753,492	452,581
Income tax expense (benefit)	103,863,747	81,254,946
Income tax from continuing operation	136,417,287	28,087,245
Income tax from discontinued operation	(32,553,540)	53,167,701
Effective income tax rate	25.56%	27.36%

(*1) The Company is subject to corporate income taxes (including local income tax : 10% of Income tax), at the aggregate rate of 10% on taxable income up to 200,000 thousand won, 20% on taxable income from 200,000 thousand won to 20,000,000 thousand won, 22% on taxable income from 20,000,000 thousand won to 300,000,000 thousand won and 25% on taxable income in excess of 300,000,000 thousand won.

31. Income tax(cont'd)

Details of changes in deferred income tax assets and liabilities for the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

2021				
Classification	Jan. 1	Recognized in profit or loss	Recognized directly in equity	Dec. 31
Government subsidies	3,451,248	(904,985)	-	2,546,263
Interest receivables	(72,408)	(79,531)	-	(151,939)
Accrued expenses	6,227,341	(68,779)	-	6,158,562
Inventory	3,791,592	(2,741,279)	-	1,050,313
Tangible assets	(14,115,769)	2,098,074	-	(12,017,695)
Intangible assets	532,812	-	-	532,812
Securities	634,743	(55,159)	-	579,584
Right-of-use assets	(330,594)	69,500	-	(261,094)
Capital Lease Obligation	345,686	(80,885)	-	264,801
Temporary depreciation provision	(3,154,481)	(2,987,038)	-	(6,141,519)
Derivatives	-	(89,056)	-	(89,056)
Retirement allowance	-	(932,646)	932,646	-
Allowance for doubtful accounts	2,335,647	(606,894)	-	1,728,753
Provisions	-	5,429,991	-	5,429,991
Contract liabilities	236,822	485,107	-	721,929
Stock options	457,807	(14,665)	-	443,142
Tax credits carried forward	71,327	(42,382)	-	28,945
Others	651,366	(272,956)	-	378,410
Total	1,063,139	(793,583)	932,646	1,202,202

31. Income tax(cont'd)

2020				
Classification	**Beginning of period**	**Reflected in the net profit or loss**	**Directly reflected in equity**	**End of period**
Government subsidies	3,343,662	107,586	-	3,451,248
Interest receivables	(34,428)	(37,980)	-	(72,408)
Accrued expenses	5,453,233	774,108	-	6,227,341
Inventory	7,242,879	(3,451,287)	-	3,791,592
Tangible assets	(13,838,072)	(277,697)	-	(14,115,769)
Intangible assets	532,812	-	-	532,812
Securities	265,350	369,393	-	634,743
Right-of-use assets	(11,244,824)	10,914,230	-	(330,594)
Capital Lease Obligation	11,399,223	(11,053,537)	-	345,686
Temporary depreciation reserve	(2,731,218)	(423,263)	-	(3,154,481)
Retirement allowance	-	(280,299)	280,299	-
Allowance for doubtful accounts	3,234,885	(899,238)	-	2,335,647
Contract liabilities	169,683	67,139	-	236,822
Stock options	410,215	47,592	-	457,807
Contributions carried forward	2,003,778	(2,003,778)	-	-
Tax credits carried forward	-	71,327	-	71,327
Others	556,414	94,952	-	651,366
Total	6,763,592	(5,980,752)	280,299	1,063,139

Significant management judgment is required to determine the amount of deferred tax assets that can be recognized, based upon the likely timing and the level of future taxable profits, overall economic condition, and industrial outlook. The Company reviews these factors on a regular basis. Deferred tax assets are recognized for deductible temporary differences as of December 31, 2021 as it is probable that taxable profit will be available against which the temporary differences can be utilized.

The tax effect of the amount of deductible temporary differences for which no deferred tax asset is recognized in the statement of financial position is 54,689,781 thousand won (2020 : 48,683,094 thousand won).

32. Earnings per share

The Company's basic earnings per share for the years ended December 31, 2021 and 2020 are computed as follows (Korean won in thousands, except per share amounts):

Classification	2021	2020
Profit for the year	302,502,753	215,742,625
Less: Preferred stock dividend	(6,008,027)	(2,792,565)
Less: Additional dividend attributable to preferred shares	(24,526,874)	(19,717,719)
Profit attributable to ordinary shares	271,967,852	193,232,341
Profit attributable to ordinary shares from continuing operation	363,640,612	45,451,752
Profit(loss) attributable to ordinary shares from discontinued operation	(91,672,760)	147,780,589
Profit attributable to preferred shares	30,534,901	22,510,284
Profit attributable to preferred shares from continuing operation	40,827,362	5,294,827
Loss attributable to preferred shares from discontinued operation	(10,292,461)	17,215,457
Weighted average number of ordinary shares outstanding	17,601,765	17,593,634
Weighted average number of preferred shares outstanding	1,969,845	2,043,340
Basic earnings per ordinary share (Korean won)	15,451	10,983
Profit on Basic earnings per ordinary share from continuing operation	20,659	2,583
Profit(loss) on Basic earnings per ordinary share from discontinued operation	(5,208)	8,400
Basic earnings per preferred share (Korean won) (*1)	15,501	11,016
Profit on Basic earnings per preferred share from continuing operation	20,726	2,591
Profit(loss) on Basic earnings per preferred share from discontinued operation	(5,225)	8,425
Diluted earnings per common share	15,356	10,928
Diluted earnings per common share on continuing operations	20,531	2,580
Diluted earnings per common share on discontinued operations	-	8,363

(*1) The preferred shares were issued under the Commercial Law which was amended in 1997, and the preferred shareholders do not have a priority over ordinary shareholders but have the same rights as the ordinary shareholders when dividend or capital is distributed.

32. Earnings per share(cont'd)

Diluted earnings per share is equal to basic earnings per share as there are no dilutive potential shares for the year ended December 31, 2021 and 2020.

2021					
Classification	Initial date	Closing date	Period	Number of shares	Average number of ordinary shares outstanding during the period
Beginning Issued shares	2021.1.1	2021.12.31	365	17,593,152	17,593,152
Exercise of stock option	2021.4.2	2021.12.31	274	15,000	11,260
Acquisition of treasury stocks	2021.11.9	2021.12.31	53	(18,229)	(2,647)
Weighted average number of common shares outstanding				17,589,923	17,601,765

2020					
Classification	Initial date	Closing date	Period	Number of shares	Average number of ordinary shares outstanding during the period
Beginning Issued shares	2020.1.1	2020.12.31	366	17,612,094	17,612,094
Beginning Treasury stocks	2020.1.1	2020.12.31	366	(17,520)	(17,520)
Acquisition of treasury stocks	2020.5.4	2020.12.31	242	(1,422)	(940)
Weighted average number of common shares outstanding				17,593,152	17,593,634

Details of the calculation of the weighted average number of preferred shares in the current and prior years of the Company are as follows:

2021					
Classification	Initial date	Closing date	Period	Number of shares	Weighted average number of ordinary shares outstanding during the period
January 1	2021.1.1	2021.12.31	365	1,970,278	1,970,278
Acquisition of treasury stocks	2021.11.9	2021.12.31	53	(2,982)	(433)
Number of weighted average preferred shares outstanding				1,967,296	1,969,845

2020					
Classification	Initial date	Date of settlement	Number of days	Number of shares	Weighted average number of preferred shares outstanding
January 1	2020.1.1	2020.12.31	366	2,188,005	2,188,005
Acquisition of treasury stocks	2020.1.1	2020.12.31	366	(2,076)	(2,076)
Acquisition of treasury stocks	2020.5.4	2020.12.31	242	(215,651)	(142,589)
Number of weighted average preferred shares outstanding				1,970,278	2,043,340

32. Earnings per share(cont'd)

Diluted earnings per share

The diluted earnings per share were calculated by applying the number of weighted average common shares outstanding adjusted under the assumption that all dilutive potential common shares will be converted into common shares. The dilutive potential common shares held by the Company include stock options. The number of stocks resulting from stock options is calculated by calculating the number of stocks to be acquired at fair value based on the monetary value of the exercise of the right added to the stock options, and by comparing this number of stocks with the number of stocks to be issued if the stock options are assumed to have been exercised.

Classification	2021	2020
Net income for common shares	363,640,612	45,451,751
Adjustments: stock options	80,629	115,539
Net income for common shares for calculation of diluted earnings per share	363,721,241	45,567,290
Weighted average number of common shares outstanding	17,601,765	17,593,634
Adjustments: stock options	114,250	64,877
Weighted average number of common shares outstanding for calculation of diluted earnings per share	17,716,015	17,658,511
Diluted earnings per share (KRW/share)	20,531	2,580

33. Statement of Cash Flows

Adjustments to cash flows generated from the operating activities for the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Depreciation (*1)	67,579,318	77,364,130
Loss on disposal of inventories	-	76,976
Amortization	4,829,422	2,940,471
Provision for severance and retirement benefits	11,271,394	11,396,737
Gains on disposal of right of use assets	(428,165)	(21,497)
Gains on disposal of fixed assets	(533,780)	(3,166)
Loss on disposal of fixed assets	1,860,736	9,129,110
Losses on discard of fixed assets	1,198,619	-
Impairment losses on tangible assets	103,421,162	48,044,590
Gains on disposal of intangible assets	(19,495)	-
Losses on disposal of intangible assets	102,675	570,115
Interest income	(656,946)	(302,163)
Dividend income	(8,952,750)	(5,873,600)
Gain on transaction of financial instruments at FVPL	(3,408,499)	(1,711,977)
Gain on valuation of financial instruments at FVPL	(2,484,854)	(208,942)
Loss on valuation of financial instruments at FVPL	789,476	1,383,994
Gains on disposal of investments in subsidiaries	(467,495,829)	(39)
Losses on disposal of investments in subsidiaries	213,632	-
Gain on valuation of derivatives	(2,193,610)	(159,003)
Loss on valuation of derivatives	469,458	3,836,514
Interest expenses	11,609,244	21,306,266
Income tax expense	103,863,747	81,254,946
Share-based payments	125,937	561,603
Reversal of losses on valuation of inventories	(5,516,450)	(14,191,022)
Bad debt expense (Reversal)	(119,030)	(1,479,242)
Other bad debts expense (Reversal)	(207,222)	(634,402)
Gains on foreign currency translation	(795,905)	(6,424,567)
Losses on foreign currency translation	1,914,944	2,935,339
Transfer of contract liabilities	-	277,436
Gain from Business transfer	(4,347,143)	(322,407,830)
Others	718,426	-
Total	(187,191,488)	(92,339,223)

(*1) Includes Depreciation expense of property, plant and equipment and investment properties and right-of-use assets

33. Statement of Cash Flows(cont'd)

Details of changes in assets and liabilities from the operating activities for the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Accounts and notes receivable	(47,291,575)	(26,690,606)
Other receivables	(109,920,796)	(61,289,603)
Inventories	(52,979,670)	48,482,453
Other current assets	(3,882,716)	1,129,060
Other non-current assets	-	(228,923)
Long term receivables	-	883,548
Accounts and notes payable	33,046,606	27,415,267
Other payables	117,997,334	53,356,160
Other current liabilities	(6,346,666)	2,761,716
Contributions for plan asset paid	(17,000,000)	(15,000,000)
Affiliates transferred in/out	-	(487,469)
Payment of severance and retirement benefits	(125,594)	3,521
Transaction settlement of derivatives	(3,677,511)	(1,055,856)
Provisions	22,437,979	-
Contract liabilities	14,496,828	-
Total	(53,245,781)	29,279,268

Significant non-cash transactions for the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Transfer of construction-in-progress into other account	62,241,499	39,787,486
Transfer of property, plant and equipment to investment properties	276,270	2,008,755
Replacement of tangible assets for investment real estate properties	82,210	-
Acquisition of accounts payable for construction in progress	2,828,518	(524,963)
Current portion for long-term liabilities	161,068,010	99,573,040
Recognition of right-of-use assets and lease liabilities	3,188,634	2,768,926
Trade and other receivables written-off	95,709	2,673,108
Deposits received for sale of SK Chemicals (Suzhou) Co., Ltd.	2,110,026	-
Changes in accounts payable for retirement benefits	8,357,682	(151,848)
Accounts payable for investment in affiliates	385,515	-

33. Statement of Cash Flows(cont'd)

Changes in liabilities arising from financing activities for the years ended December 31, 2021 and 2020 are as follows (Korean won in thousands):

2021					
Classification	Jan. 1	Cash flows in financing activities	Split-off (* 1)	Others (* 2)	Dec. 31
Short-term borrowings	106,636,903	(106,636,903)	-	-	-
Current portion of long-term borrowings	1,003,200	(1,003,200)	-	-	-
Long-term borrowings	9,375,000	(9,375,000)	-	-	-
Current portion of bonds payable	84,949,804	(85,000,000)	-	159,936,618	159,886,422
Bonds	380,007,551	-	-	(159,446,779)	220,560,772
Current portion of lease liabilities	1,786,785	(1,428,642)	(810,805)	1,068,009	615,347
Lease liabilities	5,433,745	-	(4,723,010)	(231,864)	478,871
Total	589,192,988	(203,443,745)	(5,533,815)	1,325,984	381,541,412

(* 1) During the current period, SK Multi-Utility Co., Ltd. was established through a split-off.

(* 2) Others include the effect of reclassification of non-current portion of interest-bearing loans and borrowings, current portion of lease liabilities and installment purchase contracts due to the lapse of time and the effect of accrued interest on interest bearing loans and borrowings. The Company classifies interest paid as cash flows from operating activities.

2020							
Classification	Jan. 1	Cash flows in financing activities	Foreign currency translation	Business transfer (* 1)	Contribution in kind (*2)	Others (* 3)	Dec. 31
Short-term borrowings	190,139,271	(81,478,170)	(2,024,198)	-	-	-	106,636,903
Current portion of long-term borrowings	95,651,400	(104,401,400)	-	-	-	9,753,200	1,003,200
Long-term borrowings	49,753,200	(30,625,000)	-	-	-	(9,753,200)	9,375,000
Current portion of bonds (net amount)	145,920,582	(146,000,000)	-	-	-	85,029,222	84,949,804
Bonds (net amount)	464,407,698	-	-	-	-	(84,400,147)	380,007,551
Current portion of lease liabilities	10,519,842	(4,823,119)	-	(8,724,390)	(5,388)	4,819,840	1,786,785
Lease liabilities	43,331,374	-	-	(35,442,411)	(8,161)	(2,447,057)	5,433,745
Total	999,723,367	(367,327,689)	(2,024,198)	(44,166,801)	(13,549)	3,001,858	589,192,988

(*1) During the current period, the Company sold the bioenergy business to SK Eco Prime Co., Ltd.

(*2) During the current reporting period, the Company made in-kind investment of the reagent business division to SK Chemicals Daejeong Co., Ltd., the subsidiary.

(*3) It includes account reclassification effect of bonds and long-term borrowings, transfer of current portion over time of debts under lease liabilities and installment purchase contracts, and unpaid interest on interest-bearing loans. The Company classified interest payments as cash flows from operating activities.

34. Financial risk management objectives and policies

The Companies' major financial liabilities, excluding derivatives, consist of trade and other payables, borrowings and bonds. The main purpose of these financial liabilities is to raise funds for the operation of the Company. The Company's major financial assets include trade receivables and cash and short-term deposits directly derived from operating activities. The Company also has investments in debt and equity instruments and trade derivatives.

The Company is exposed to market risk, credit risk, and liquidity risk. The Company's senior management supervises the management of such risks. All derivative activities for the purpose of risk management are carried out by a team of professionals equipped with the appropriate skills, experiences, and oversight. It is the policy of the Company to avoid conducting any trading of derivatives for speculative purposes.

Market risk

Market risk is the risk where the fair value or future cash flows of financial instruments will fluctuate due to changes in the market prices. Market risk consists of three types of risk, which are interest rate risk, foreign exchange risk, and other price risk. The financial instruments affected by the market risk include borrowings and bonds, deposits, debt and equity investments and derivatives.

The following sensitivity analysis is related to the statement of financial position as of December 31, 2021 and 2020.

The sensitivity analysis has been prepared based on the designation of a hedging interest rate while the net amount of liabilities, fixed interest rate of liabilities and derivatives, variable interest rate and the ratio of foreign currency financial instruments were all constant as of December 31, 2021.

This analysis excludes the effect of movements of the market variables on the book values of retirement pensions and other post-retirement liabilities and provisions.

The following assumptions are required when calculating for the sensitivity analysis :

- The sensitivity of the relevant income statement is the effect of an assumed change in each market risk. This is based on the financial assets and financial liabilities held at the end of the current and previous periods, including the effect of hedge accounting.

(1) Interest rate risk

The Company's exposure to the risk of changes in market interest rates relates primarily to the Company's borrowings with floating interest rates. The Company measures its interest rate risk by the fluctuation of interest rate of 1% point of floating rate borrowings. The above fluctuation ratio reflects the management's assessment of the reasonably possible interest rate fluctuation risk.

Details of borrowings with floating rates as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Short-term borrowings	-	75,000,000
Long-term borrowings	-	10,378,200
Total	-	85,378,200

34. Financial risk management objectives and policies(cont'd)

With all other variables held constant, the effect of changes of interest rate on profit before tax is as follows (Korean won in thousands):

Classification	2021		2020	
	Increase by 1% point	Increase by 1% point	Increase by 1% point	Increase by 1% point
Short-term borrowings	-	-	(750,000)	750,000
Long-term borrowings	-	-	(103,782)	103,782
Total	-	-	(853,782)	853,782

(2) Foreign currency risk

Foreign exchange risk is one which the fair value or future cash flows will fluctuate due to the foreign exchange fluctuations. The Company's exposure to foreign exchange risk is primarily related to its operating activities (where sales or expenses are denominated in foreign currencies) and financing in foreign currencies. The Company regularly measures the foreign exchange risk of the changes in the KRW exchange rate internally, and in particular, executes and manages currency swap contracts to hedge the risk of exchange rate fluctuations such as foreign currency bonds.

The Company's exposure to the risk of changes in foreign exchange rates relates primarily to the Company's operations in other countries. The book values of monetary assets and liabilities which are not presented in functional currency as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021		2020	
	Assets	Liabilities	Assets	Liabilities
USD	79,737,732	148,494,232	50,320,485	81,255,790
CNY	23,888,008	986,456	7,184,382	891,791
EUR	54,314,167	1,597,976	35,959,950	20,202,025
GBP	297,848	-	1,562	-
JPY	4,911,900	16,436	1,776,607	48,882
Total	163,149,655	151,095,099	95,242,986	102,398,488

The Company manages its foreign currency risk periodically. The impact on the Company's profit before income tax due to 5% change in foreign exchange rate is as follows (Korean won in thousands):

Classification	2021		2020	
	5% increase	5% decrease	5% increase	5% decrease
USD	(3,437,825)	3,437,825	(1,546,765)	1,546,765
CNY	1,145,078	(1,145,078)	314,630	(314,630)
EUR	2,635,810	(2,635,810)	787,896	(787,896)
GBP	14,892	(14,892)	78	(78)
JPY	244,773	(244,773)	86,386	(86,386)
Total	602,728	(602,728)	(357,775)	357,775

34. Financial risk management objectives and policies(cont'd)

The Company measures the exchange risk of fluctuations in won on a regular basis, and effectively manages the exchange risk through currency exchange, which has a limited impact on profit or loss.

(3) Other price risk

Other price risk is the risk that the fair value or the future cash flows of a financial instrument will fluctuate because of changes in market prices. Since the Company has no traded equity instruments, there is no effect on profit or loss due to other price fluctuation risks as of December 31, 2021. Furthermore, the Company is not significantly exposed to the risk of price fluctuations of specific instruments.

Credit risk

Credit risk is the risk that a counterparty will not meet its obligations under a financial instrument or customer contract, leading to a financial loss of the Company.

(1) Trade receivables and other receivables

Customer credit risk is managed by each business unit subject to the Company's established policy, procedures and control relating to customer credit risk management. Credit quality of the customer is assessed based on an extensive credit rating scorecard and individual credit limits are defined in accordance with this assessment. Outstanding customer receivables are regularly monitored and any shipments to major customers are generally covered by letters of credit or other forms of credit insurance. The Company evaluates the impairment of trade receivables and other receivables at every reporting date. The maximum exposure to credit risk at the reporting date is the book value of financial assets (see Note 5).

(2) Other assets

Credit risks associated with the Company's other assets which consist of cash, short-term deposits and short-term and long-term loans arise from the default by the counterparties. Maximum exposure to credit risks will be the book value of the related other assets. The Company deposits its surplus funds with Woori Bank and other financial institutions whose credit ratings are high. Accordingly, credit risk related to financial institutions is considered low.

Liquidity risk

Liquidity risk refers to the risk that the Company may default on the contractual obligations that become due.

The Company maintains a short-term and long-term capital management plans to monitor its risk to a shortage of funds. The objective is to maintain continuity between budgeted cash outflows with actual outflows, and uses a liquidity planning tool to match the maturity profile for its financial liabilities and assets.

34. Financial risk management objectives and policies(cont'd)

The maturity profile of financial liabilities based on contractual undiscounted payments as of December 31, 2021 and 2020 is as follows (Korean won in thousands):

2021					
Classification	Within 1 year	1 to 2 years	2 to 5 years	Over 5 years	Total
Trade and other accounts payable	334,166,346	-	-	-	334,166,346
Current portion of long-term liabilities	160,000,000	-	-	-	160,000,000
Current portion of lease liabilities	621,544	-	-	-	621,544
Other current liabilities (* 1)	1,102,999	-	-	-	1,102,999
Bonds payable	-	66,000,000	155,000,000	-	221,000,000
Lease liabilities	-	415,579	78,478	-	494,057
Other non-current liabilities (* 1)	-	2,110,026	-	-	2,110,026
Total	495,890,889	68,525,605	155,078,478	-	719,494,972

(*1) Deposits Received.

2020					
Classification	Within 1 year	1 to 2 years	2 to 5 years	Over 5 years	Total
Trade and other accounts payable	190,846,337	-	-	-	190,846,337
Short-term borrowings	106,636,903	-	-	-	106,636,903
Current portion of long-term liabilities	86,003,200	-	-	-	86,003,200
Current portion of lease liabilities	1,834,344	-	-	-	1,834,344
Other current liabilities (* 1)	2,947,568	-	-	-	2,947,568
Bonds payable	-	160,000,000	221,000,000	-	381,000,000
Long-term borrowings	-	1,875,000	7,500,000	-	9,375,000
Lease liabilities	-	1,512,762	2,486,573	4,041,000	8,040,335
Total	388,268,352	163,387,762	230,986,573	4,041,000	786,683,687

(* 1) These are deposits taken.

Capital management

The primary objective of the Company's capital management is to ensure that the Company continues as a going concern and minimizes the cost of raging capital in order to support its business and maximize shareholder value.

The Company manages its capital structure and makes adjustments to it in light of changes in economic conditions. To maintain the sound capital structure, the Company may adjust the dividend payment to shareholders, reduce share capital, or issue new shares. No changes were made in the objectives, policies or processes for managing capital for the year ended December 31, 2021.

34. Financial risk management objectives and policies(cont'd)

Details of the Company's debt-to-equity ratio as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Total liabilities	831,565,803	859,511,495
(Adjustments: cash and cash equivalents)	(102,201,909)	(36,666,182)
Adjusted liabilities	729,363,894	822,845,313
Shareholder's equity	1,155,584,115	885,073,321
Debt-to-equity ratio	63.12%	92.97%

35. Fair value

The Company uses the following hierarchy for determining and disclosure of the fair value of financial instruments by valuation technique:

Level 1: Quoted (unadjusted) prices in active markets for identical assets or liabilities
Level 2: Other techniques for which all inputs which have a significant effect on the recorded fair value are observable, either directly or indirectly
Level 3: Techniques which use inputs that have a significant effect on the recorded fair value, and those inputs are not based on observable market data

The level of fair value measurements as of December 31, 2021 and 2020 are as follow (Korean won in thousands):

2021				
Classification	Level 1	Level 2	Level 3 (Note 2)	Total
Financial assets				
Short-term financial assets	-	214,551,624	-	214,551,624
Trade and other receivables (* 1)	-	1,825,609	-	1,825,609
Long-term investment assets	-	-	34,581,491	34,581,491
Other non-current assets		-	368,001	368,001
Total	-	216,377,233	34,949,492	251,326,725
Financial liabilities				
Trade and other payables (* 1)	-	469,458	-	469,458
Total	-	469,458	-	469,458

(*1) The Company has not disclosed the fair value of financial instruments as their carrying values are reasonable approximate of the fair value.
(* 2) Unless otherwise specified, level 3 instruments consist of unlisted stocks and others, cost of which can be an appropriate estimate of their fair value (refer to Note 35-3).

35. Fair value(cont'd)

2020				
Classification	**Level 1**	**Level 2**	**Level 3 (* 2)**	**Total**
Financial assets				
Short-term financial assets	-	145,208,942	-	145,208,942
Trade and other receivables (* 1)	-	159,003	-	159,003
Long-term investment assets	-	-	24,492,063	24,492,063
Total	-	145,367,945	24,492,063	169,860,008
Financial liabilities				
Trade and other payables (* 1)	-	3,836,514	-	3,836,514
Total	-	3,836,514	-	3,836,514

(* 1) The Company has not disclosed the fair value of financial instruments as their carrying values are reasonable approximate of the fair value.
(* 2) Unless otherwise specified, level 3 instruments consist of unlisted stocks and others, cost of which can be an appropriate estimate of their fair value (refer to Note 35-3).

Valuation method

The valuation method used to measure the fair value of Level 3 for December 31, 2021 and 2020 are as follows.

2021					
Categories of financial instruments	**Type**	**Fair value**	**Level**	**Valuation techniques**	**Input variables**
Derivatives assets	Put Option for SK Chemicals Daejeong Co., Ltd.	368,001	Level 3	Discounted cash flow method	Liquidation cash flow, weighted average cost of capital
Long-term investment assets	Eastman Fiber Korea Co., Ltd.'s preferred stocks	23,506,094	Level 3	Expected price considering the value of call options and put options	Exchange rate

2020					
Categories of financial instruments	**Type**	**Fair value**	**Level**	**Valuation techniques**	**Input variables**
Long-term investment assets	Eastman Fiber Korea Co., Ltd.'s preferred stocks	21,572,864	Level 3	Expected price considering the value of call options and put options	Exchange rate

36. Business transfer and discontinued business.

The Company sold the bio-energy business division to SK Eco Prime Co., Ltd. for the purpose of reorganizing the portfolio and securing investment resources for future growth engines in line with the resolution of the board of directors on February 5, 2020. Furthermore, in line with the resolution of the board of directors on October 27, 2021, the Company sold the PPS business division to HDC POLYALL Co., Ltd., and aforementioned two cases of business transferred were classified as discontinued operations. Meanwhile, the statements of comprehensive income for the year ended December 31, 2020, presented for comparative purpose, have been restated to demonstrate the discontinued operations separated from the continuing operations.

The Details of the net profit from discontinued business of PPS in the comprehensive income statement as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Sales	32,439,088	15,858,921
Cost of goods sold	(49,582,985)	(53,765,526)
Gross profit	(17,143,897)	(37,906,605)
Selling and Administrative expense	(9,783,508)	(11,389,485)
Operating profit	(26,927,405)	(49,296,090)
Other income	310,183	142,847
Other expenses	(103,870,851)	(52,647,069)
Financial cost	(4,296,656)	(5,310,925)
Income tax expenses	32,617,904	25,920,919
Net profit from discontinued operation	(102,166,825)	(81,190,317)
Profit before tax on disposal of discontinued operation	265,968	-
Related income tax expenses	(64,364)	-
Profit on disposal of discontinued operation	201,602	-
Net profit from discontinued business	(101,965,221)	(81,190,317)

The net cashflow from discontinued operation of PPS as of December 31, 2021 and 2020 is as follows (Korean won in thousands):

Classification	2021	2020
Cash flows from operating activities	15,760,818	6,901,604
Cash flows from investment activities	37,904,391	(1,224,844)
Cash flows from financing activities	-	-
Net cash flows	53,665,209	5,676,760

36. Business transfer and discontinued business(cont'd)

The Details of the net profit from discontinued business of Bio energy in the comprehensive income statement as of December 31, 2021 and 2020 are as follows (Korean won in thousands):

Classification	2021	2020
Sales	-	161,714,128
Cost of goods sold	-	(138,905,635)
Gross profit	-	22,808,493
Selling and Administrative expense	-	(7,179,203)
Operating profit	-	15,629,290
Other income	-	158,082
Other expenses	-	(8,628,073)
Financial cost	-	(1,078,618)
Income tax expenses	-	(1,672,187)
Net profit from discontinued operation	-	4,408,494
Profit before tax on disposal of discontinued operation	-	319,194,304
Related income tax expenses	-	(77,416,434)
Profit on disposal of discontinued operation	-	241,777,870
Net profit from discontinued business	-	246,186,364

The net cashflow from discontinued operation of Bio energy as of December 31, 2021 and 2020 is as follows (Korean won in thousands):

Classification	2021	2020
Cash flows from operating activities	-	4,504,108
Cash flows from investment activities	-	374,396,501
Cash flows from financing activities	-	(3,103,373)
Net cash flows	-	375,797,236

The Company sold its operations related to composite materials in their entirety to Toray Advanced Materials Korea Inc. during the current period. The calculation details of the profit from sales of the business division are as follows. (Korean won in thousands):

Classification	Consideration for transfer (* 1)	Transferred business			Profit from sales of business division
		Assets	Liabilities	Net assets	
Composite materials business division	33,711,343	34,228,663	4,598,496	29,630,167	4,081,176

(* 1) The incidental expenses incurred during the transfer are included.
(* 2) This is the reclassification of other comprehensive income.

37. Spilt-off

In line with the split-off plan approved by the extraordinary meeting of shareholders on October 25, 2021, the Company has executed the division as follows on December 1, 2021, the date of split-off (December 2 being the date of split-off registration).

Classification	Name of Company	Details of major business
Surviving company	SK Chemicals Co., Ltd.	All business divisions excluding the businesses subject to division
Divided and newly established company	SK Multi-Utility Co., Ltd.	Utility supply division

General information related to division

① Explanation of the division method

As provided under Articles 530-2 through 530-2 of the Commercial Act, the utility supply business division was divided in the manner of a split-off where the company to be divided acquires the total number of issued shares of the company to be established.

② The assets transferred to the divided and newly established company and their values

The details of the assets and liabilities transferred to the divided and newly established company via division for the current period are as follows (Korean won in thousands):

Classification	SK Multi-Utility Co., Ltd. (divided and newly established company)
Assets	
Current assets	66,052,315
Cash and cash equivalents	57,000,000
Trade and other receivables	4,318,349
Inventories	1,360,246
Other current assets	3,373,720
Non-current assets	111,753,923
Tangible assets	105,587,859
Right-of-use assets	6,093,406
Intangible assets	72,658
Total Assets	177,806,238
Liabilities	
Current liabilities	13,071,574
Trade and other payables	11,870,315
Lease liabilities	810,805
Other current liabilities	390,454
Non-current liabilities	4,723,010
Lease liabilities	4,723,010
Total Liabilities	17,794,584
Consideration for transfer	160,011,654

37. Spilt-off(cont'd)

The values of the assets and liabilities transferred to the divided and newly established company via division are consistent with the list of succession targets attached to the spin-off plan approved by the regular meeting of shareholders dated October 25, 2021, yet the changes made in the assets incurred for the relevant business division which is transferred following the division were added or subtracted until the date of spin-off.

38. Events after the reporting period that do not require adjustments

In March 2022, the Company received a mediation proposal from the 'Mediation Committee for Damage Recovery of Humidifier Disinfectants.' The Company is reviewing the mediation proposal, and nothing has been confirmed to date.