GS Engineering & Construction Corporation and Subsidiaries

Consolidated Financial Statements December 31, 2021 and 2020

GS Engineering & Construction Corporation and Subsidiaries Index

December 31, 2021 and 2020

	Page(s)
Independent Auditor's Report ······	1 ~ 6
Consolidated Financial Statements	
Consolidated Statements of Financial Position · · · · · · · · · · · · · · · · · · ·	7
Consolidated Statements of Profit or Loss ·····	8
Consolidated Statements of Comprehensive Income ······	9
Consolidated Statements of Changes in Equity ·····	10
Consolidated Statements of Cash Flows ·····	11
Notes to the Consolidated Financial Statements · · · · · · · · · · · · · · · · · · ·	12 ~ 143



Independent Auditor's Report

(English Translation of a Report Originally Issued in Korean)

To the Board of Directors and Shareholders of GS Engineering & Construction Corporation

Opinion

We have audited the accompanying consolidated financial statements of GS Engineering & Construction Corporation and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated statements of financial position as at December 31, 2021 and 2020, and the consolidated statements of profit or loss, consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

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

Basis for Opinion

We conducted our audits in accordance with Korean Standards on Auditing. Our responsibilities under those standards are further described in the Auditor's *Responsibilities for the Audit of the Consolidated Financial Statements* section of our report. We are independent of the Group in accordance with the ethical requirements of the Republic of Korea that are relevant to our audit of the consolidated financial statements and we have fulfilled our other ethical responsibilities in accordance with the ethical requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Key Audit Matters

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.

A. Revenue recognition based on input method

Why it is determined to be a key audit matter

As explained in the Note 2 to the consolidated financial statements, the Group recognizes revenue over the construction periods for the construction services, which the Group creates or enhances an asset that the customer controls as the asset is created or enhanced, such as construction of a building on the customer's land. The Group measures progress towards completion (percentage-of-completion method) based on input method for construction services. Meanwhile, for housing contracts satisfying conditions under Korea Accounting Institute's Question and Answer, 2017-I-KQA015, the Group recognizes revenue over the period that controls are transferred and also measures progress towards completion based on input method for those services.

As explained in the Note 3 to the consolidated financial statements (Accounting Estimates and Assumptions), the measurement of total contract revenue is affected by the uncertainty of future events relating to project scope changes, claims and incentive payments and penalties, etc. arising from the course of construction. In addition, total contract costs are estimated based on future estimates of material costs, labor costs, construction period and others involving uncertain changes.

We considered the revenue recognition based input method is a key audit matter for certain contracts which are judged to have a significant impact on the consolidated financial statements due to significant uncertainty in the estimation of total contract revenue and total contract costs by management among the total construction contracts of the Group.

How our audit addressed the key audit matter

In respect of the above-mentioned material construction contracts, we performed the following audit procedures.

- · Appropriateness of revenue recognition based on input method
 - We obtained an understanding of the accounting policies regarding recognition of revenue for construction contract adopted by the Group.
 - We assessed the appropriateness of applying input method in case that it was used for revenue recognition.
 - We determined whether the revenue recognition for housing contract is in compliance with Korean IFRS.
- Appropriateness of total contract revenue
 - We obtained an understanding the internal control in relation to engagement or amendment of construction contracts and tested the effectiveness of design and operations of the key controls.
 - We tested the contract amount and material terms and conditions by inspecting construction contracts.
 - We inquired of management if there were any variations in project scope which affected total

- contract revenue and verified whether the contacts have been modified.
- We reviewed the reasonableness of the Group's review on possibilities of liquidated damages.
- Uncertainty of estimated total contract costs
 - We obtained an understanding the internal controls in relation to amendment or approval of contract costs and tested the effectiveness of design and operations of the key controls.
 - We examined if the total contract cost used for input method were finally approved by the appropriate approvers, and reconciled the total contract cost used for input method with total contract cost on accounting management system.
 - We evaluated the appropriateness of estimation by comparing accumulated incurred contract costs against the estimated total contract costs of construction sites that construction has been completed.
 - We examined whether there were any significant changes in total contract costs after at the end of reporting period.
 - We inquired for projects with significant changes in total contract costs and reviewed the reason for changes.
- · Accumulated incurred contract costs of construction site and accuracy of revenue calculation
 - We obtained an understanding the internal controls in relation to aggregated and approved cost incurred of construction sites and tested the effectiveness of design and operations of the key controls.
 - We tested the completeness and accuracy of the accumulated costs incurred of construction sites by reconciling the costs incurred with the amount recorded in general ledger.
 - We tested the occurrence of constructions costs and accuracy of corresponding construction sites by inspecting external support documents.
 - We performed independent recalculation of revenue based on percentage-of-completion method of construction sites.

B. Recoverability of financial assets and contract assets for contracts with impairment indicators

Why it is determined to be a key audit matter

As explained in the Note 6 (Trade and Other Receivables) and Note 7 (Construction Contracts) to the consolidated financial statements, the Group recognized \(\psi \) 425,860 million of allowance for doubtful accounts for receivables from construction contracts, receivables from apartment sales and contract assets as of December 31, 2021. Certain construction contracts involve the management's significant accounting estimates and judgments regarding the recoverability of financial assets including trade receivables and contract assets due to disagreement with the customer, deteriorating financial status of the customer, and the increase in unsold apartment sales. Therefore, we considered the recoverability of financial assets and contract assets for contracts with impairment indicators is a key audit matter.

How our audit addressed the key audit matter

In respect of the aforementioned recoverability of financial assets and contract assets for contracts with impairment indicators, we performed the following audit procedures.

- We obtained an understanding the internal controls in relation to contracts with impairment indicators and tested the effectiveness of design and operations of the key controls.
- We reviewed the reasons for the delayed invoicing for contract assets of contracts with impairment indicators and examined customers' financial status.
- We assessed the appropriateness of management's analysis on collectability of financial

assets and contract assets held by construction sites with impairment indicators.

Emphasis of Matter

Without modifying our opinion, we draw attention to Note 3 to the consolidated financial statements of the Group. Note 3 to the consolidated financial statements describes management's plans and action taken to resolve uncertainty relating to the impact of Coronavirus disease 2019 (COVID-19) on the Group's operating circumstances.

Other Matter

Auditing standards and their application in practice vary among countries. The procedures and practices used in the Republic of Korea to audit such consolidated financial statements may differ from those generally accepted and applied in other countries.

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

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

In preparing the consolidated financial statements, management is responsible for assessing the Group'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 Group or to cease operations.

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

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated 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 Korean Standards on Auditing 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 consolidated financial statements.

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

- Identify and assess the risks of material misstatement of the consolidated 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, but not for the purpose of expressing an opinion on the
 effectiveness of the entity's internal control.
- 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 Group'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 consolidated 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 Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements.
 We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

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

The engagement partner on the audit resulting in this independent auditor's report is Jeong-Hun Lee, Certified Public Accountant.

Seoul, Korea March 17, 2022

This report is effective as of March 17, 2022, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying consolidated financial statements and notes thereto. Accordingly, the readers of the audit report should understand that there is a possibility that the above audit report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

GS Engineering & Construction Corporation and its Subsidiaries

Consolidated Financial Statements
For the years ended December 31, 2021 and 2020

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

Byeong Yong Lim Chief Executive Officer GS Engineering & Construction Corporation

GS Engineering & Construction Corporation and Subsidiaries Consolidated Statements of Financial Position December 31, 2021 and 2020

(in millions of Korean won)	Notes	2021	2020
Assets			
Current assets			
Cash and cash equivalents	5,9,32,33	₩ 2,718,390	₩ 2,118,919
Trade and other receivables, net	6,9,30,32,33	2,200,132	1,957,065
Contract assets	7,32	960,337	1,023,757
Inventories	8	1,477,100	1,430,061
Short-term financial assets	5,9,11,32,33	395,042	257,870
Other current assets	8	444,112	464,238
Total current assets		8,195,113	7,251,910
Non-current assets			
Property, plant and equipment, net	13	1,543,377	1,426,773
Intangible assets, net	14	680,391	744,305
Investment properties	15	1,096,940	1,021,872
Right-of-use assets	16	295,725	411,820
Investments in associates	12	172,991	101,687
Long-term trade and other receivables, net	6,9,30,32,33	1,195,973	866,621
Long-term financial assets	5,9,30,32,33	600,464	616,806
Net defined benefit assets	19	45,704	=
Deferred income tax assets	28	949,180	962,406
Financial assets at fair value through profit or loss	9,10,33	250,735	249,466
Other non-current assets	8	157,134	117,012
Total non-current assets		6,988,614	6,518,768
Total assets		₩ 15,183,727	₩ 13,770,678
Liabilities		10,100,727	10,770,070
Current liabilities			
Trade and other payables	9,17,30,32,33	₩ 1,656,079	₩ 1,403,146
Short-term financial liabilities	9,11,16,18,32,33	1,218,056	1,193,472
Contract liabilities	7	2,595,922	
Income tax payable	28	130,621	196,998
Current provisions Other current liabilities	7,20	179,484	195,710
Total current liabilities	7,9,17,30,33	989,165 6,769,327	957,674 5,728,861
Total Current habilities		0,709,327	
Non-current liabilities			
Long-term trade and other payables	9,17,33	-	189,394
Long-term financial liabilities	9,15,16,18,32,33	2,951,954	2,957,979
Net defined benefit liabilities	19	9,263	17,772
Non-current provisions	20,32	375,259	353,727
Deferred income tax liabilities	28	136,782	155,825
Other non-current liabilities	9,17,33	68,418	-
Total non-current liabilities		3,541,676	3,729,700
Total liabilities		10,311,003	9,458,561
Equity			
Equity attributable to owners of the parent			
Share capital	1,22	427,907	403,541
Share premium	22	951,257	815,676
Other components of equity	22	(36,801	
Accumulated other comprehensive loss	11,22	(122,760	
Retained earnings	23	3,405,713	3,076,110
		4,625,316	4,141,220
Non-controlling interests		247,408	170,897
Total equity		4,872,724	
Total liabilities and equity		₩ 15,183,727	₩ 13,770,678

GS Engineering & Construction Corporation and Subsidiaries Consolidated Statements of Profit or Loss Years Ended December 31, 2021 and 2020

(in millions of Korean won)	Notes		2021		2020
Sales	4,7,30				
Construction operations		₩	7,384,311	₩	9,010,369
Housing construction and sales operations			789,278		435,913
Other operations			862,986		676,649
			9,036,575		10,122,931
Cost of sales	7,29,30				
Cost of construction operations			6,344,802		7,701,477
Cost of housing construction and sales operations			585,682		300,048
Cost of other operations			755,334		586,318
			7,685,818		8,587,843
Gross profit			1,350,757		1,535,088
Selling and administrative expenses	25,29		704,271		784,690
Operating profit	4		646,486		750,398
Other operating income	9,11,26		319,805		244,439
Other operating expenses	9,11,26		258,750		457,808
Share of loss of associates and joint ventures	12		5,124		(6,139)
Finance income	9,11,27,30		127,724		210,320
Finance costs	9,11,27,32		182,459		222,770
Profit before income tax	4		657,930		518,440
Income tax expenses	28		229,127		188,764
Profit for the year		₩	428,803	₩	329,676
Profit is attributable to:					
Equity holders of the parent		₩	408,477	₩	311,695
Non-controlling interests			20,326		17,981
Earnings per share attributable					
to the equity holders of the parent (in Korean won)	24				
Basic earnings per share		₩	4,834	₩	3,919
Diluted earnings per share			4,815		3,814

GS Engineering & Construction Corporation and Subsidiaries Consolidated Statements of Comprehensive Income Years Ended December 31, 2021 and 2020

(in millions of Korean won)	Notes		2021		2020
Profit for the year		₩	428,803	₩	329,676
Other comprehensive income (loss)					
Other comprehensive income (loss) to be reclassified to profit or loss in subsequent periods (net of tax):					
Loss on exchange differences on translations of foreign operations	22,28		(14,127)		(102,689)
Gain on valuation of derivative instruments	11,22,28		12,644		4,300
Share of other comprehensive income of associates and joint ventures	12,28		(104)		(1,916)
Other comprehensive income (loss) not to be reclassified to profit or loss in subsequent periods (net of tax): Remeasurements on net defined benefit liabilities	19.23.28		20,287		16,233
	.0,20,20				,
Other comprehensive income (loss) for the year			18,700		(84,072)
Total comprehensive income for the year		₩	447,503	₩	245,604
Total comprehensive income for the year is attributable to: Equity holders of the parent Non-controlling interests		₩	423,567 23,936	₩	256,893 (11,289)

(in millions of Korean won)	Notes	Share	capital		Share remium		Other mponents of equity	com	cumulated other prehensive ome (loss)		Retained earnings		Total		-controlling nterests		Total
As of January 1, 2020		₩ 4	00.489	₩	802.294	₩	(9,428)	₩	(46,036)	₩	2.827.363	₩	3.974.682	₩	168,346	₩	4.143.028
Total comprehensive income (loss)			,		, .		(-, -,		(-,,								, .,.
Profit for the year	23		-		-		-		-		311,695		311,695		17.981		329,676
Loss on exchange differences on translations of foreign operations	22,28		-		-		-		(76,664)		-		(76,664)		(26,025)		(102,689)
Gain on valuation of derivative instruments	11,22,28		-		-		-		7,225		-		7,225		(2,925)		4,300
Share of other comprehensive income of associates and joint ventures	12,28		-		-		-		(1,916)		-		(1,916)		-		(1,916)
Re-measurements on net defined benefit liabilities	19,23,28		-		-		-		-		16,553		16,553		(320)		16,233
Total comprehensive income (loss) for the year			-		-		-		(71,355)	=	328,248		256,893		(11,289)		245,604
Transactions with equity holders of the parant																	()
Interest payment in relation to the hybrid securities	23		-		-		-		-		(398)		(398)		-		(398)
Redemption of hybrid securities	22		-		-		(27,015)		-		-		(27,015)		-		(27,015)
Dividends to equity holders of the parent	23		-				-		-		(79,405)		(79,405)		(9,715)		(89,120)
Equity transaction within the consolidated group			-		15		-		-		(4)		11		952		963
Changes in consolidation							-		-		1,739		1,739		13,938		15,677
Conversion of convertible bond	18		3,052		13,333				-				16,385				16,385
Others			-		34	_	(273)			_	(1,433)		(1,672)		8,665		6,993
Total transactions with equity holders of the parant			3,052		13,382		(27,288)		-		(79,501)		(90,355)		13,840		(76,515)
As of December 31, 2020		₩ 4	03,541	₩	815,676	₩	(36,716)	₩	(117,391)	₩	3,076,110	₩	4,141,220	₩	170,897	₩	4,312,117
As of January 1, 2021		₩ 4	03.541	₩	815.676	₩	(36,716)	₩	(117,391)	₩	3.076.110	₩	4.141.220	₩	170.897	₩	4,312,117
Total comprehensive income (loss)			,		,		(,,		(,,		-,,		.,,		,		.,
Profit for the year	23		-		-		-		-		408,477		408,477		20,326		428,803
Gain on exchange differences on translations of foreign operations	22,28		-						(14,230)		_		(14,230)		103		(14,127)
Gain on valuation of derivative instruments	11,22,28		-						8,965		-		8,965		3,679		12,644
Share of other comprehensive income of associates and joint ventures	12.28		_		_				(104)				(104)				(104)
Re-measurements on net defined benefit liabilities	19,23,28		-				-		` -		20,459		20,459		(172)		20,287
Total comprehensive income (loss) for the year			-		-		-		(5,369)		428,936		423,567		23,936		447,503
Transactions with equity holders of the parant																	
Dividends to equity holders of the parent	23		-		-		-		-		(96,019)		(96,019)		(24,212)		(120,231)
Equity transaction within the consolidated group			-		10,581		-		-		-		10,581		76,218		86,799
Changes in consolidation			-		(720)		-		-		-		(720)		(1,681)		(2,401)
Conversion of convertible bond	18		24,366		125,743		-		-		-		150,109		-		150,109
Others			-	_	(23)	_	(85)		-	_	(3,314)		(3,422)		2,250		(1,172)
Total transactions with equity holders of the parant			24,366		135,581	_	(85)			_	(99,333)		60,529		52,575		113,104
As of December 31, 2021		₩ 4:	27,907	₩	951,257	₩	(36,801)	₩	(122,760)	₩	3,405,713	₩	4,625,316	₩	247,408	₩	4,872,724

GS Engineering & Construction Corporation and Subsidiaries Consolidated Statements of Cash Flows Years Ended December 31, 2021 and 2020

(in millions of Korean won)	Notes		2021		2020
Cash flows from operating activities					
Cash generated from operations	31	₩	1,445,417	₩	933,204
Interest received			49,834		42,896
Interest paid			(108,958)		(135,124)
Dividends received			3,626		600
Income tax paid			(282,450)		(287,697)
Net cash inflow from operating activities			1,107,469		553,879
Cash flows from investing activities					
Decrease in other receivables			80,363		422,737
Decrease in short-term financial assets			744,665		255,489
Decrease in long-term other receivables			393,115		409,351
Decrease in long-term financial assets			184,928		408,352
Disposal of financial assets at fair value through profit or loss			3,283		14,070
Disposal of investments in associates			218		210
Disposal of property, plant and equipment			4,796		30,136
Disposal of intangible assets			1,489		15,672
Disposal of investment properties			35		1,652
Disposal of assets and liabilities held for sale			96,101		-
Increase in other receivables			(64,078)		(359,020)
Increase in short-term financial assets			(908,331)		(246,291)
Increase in long-term other receivables			(586,833)		(404,105)
Increase in long-term financial assets			(244,960)		(330,330)
Acquisition of financial assets at fair value through profit or loss			(6,907)		(12,371)
Acquistition of investments in associates			(63,519)		(61,227)
Acquisition of property, plant and equipment			(134,919)		(127,651)
Acquisition of intangible assets			(23,492)		(18,388)
Acquisition of investment properties			(7,107)		(60,902)
Acquisition of subsidiaries			-		(206,370)
Changes in consolidation			(33)		-
Net cash outflow from investing activities			(531,186)		(268,986)
Cash flows from financing activities					
Increase in short-term financial liabilities			407,863		1,074,040
Increase in long-term financial liabilities			822,011		1,712,400
Increase in other non-current liabilities			15,235		4,719
Increase in non-controlling interests			84,605		7,443
Decrease in short-term financial liabilities			(738,850)		(1,885,403)
Decrease in other current liabilities			(2,510)		(8,471)
Decrease in long-term financial liabilities			(385,995)		(636,401)
Decrease in other non-current liabilities			(794)		(14,554)
Dividends paid			(120,567)		(89,167)
Redemption of hybrid securities			-		(27,426)
Interest payment in relation to the hybrid securities			-		(398)
Payment of stock issuance costs			(205)		(13)
Payment of principal portion of lease liabilities			(85,648)		(85,836)
Net cash inflow (outflow) from financing activities			(4,855)		50,933
Effects of exchange rate changes on cash and cash equivalents			28,043		(9,863)
Net increase in cash and cash equivalents			599,471		325,963
Cash and cash equivalents at the beginning of the year			2,118,919		1,792,956
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1. General Information

General information of GS Engineering & Construction Corporation (the "Company" or the "Parent Company") and its subsidiaries including Xi S&D Inc. (collectively referred to as the "Group") in accordance with Korean IFRS 1110 *Consolidated Financial Statement* are as follows.

1.1 Information of the Company

The Company was incorporated on December 19, 1969, under the laws of the Republic of Korea to engage in civil works and architectural construction, construction and sales of new houses, repairs and maintenance, overseas general construction and technology consultation. The Company acquired Lucky Foreign Construction Co., Ltd., LG Engineering Co., Ltd. and Baekyang Development Co., Ltd. on January 4, 1979, August 1, 1999 and October 1, 2000, respectively.

The Company listed its shares on the Korea Exchange on August 3, 1981, and changed its name from LG Engineering & Construction Co., Ltd. to GS Engineering & Construction Corporation on March 18, 2005. Also, in accordance with the *Monopoly Regulation and Fair Trade Act*, the Korea Fair Trade Commission has designated the Group as the related entities to GS Group and placed restrictions on mutual investments between the Group and the entities within GS Group.

As of December 31, 2021, the Company operates overseas branches and construction sites in several foreign countries, including the United Arab Emirates, Kuwait, Egypt, China and Singapore.

The Company's issued capital as of December 31, 2021 amounts to ₩ 427,907 million.

1.2 Summary of the Consolidated Subsidiaries

		tage of hip (%)			Principal business
Name of subsidiary	2021	2020	Location	Year end	activity
Xi S&D Inc. ²	49.81	61.17	Korea	12.31	Construction management
Xi - Estec Co., Ltd.	100.00	100.00	Korea	12.31	Construction service
GCS	100.00	100.00	Korea	12.31	Service
BSM Co., Ltd.	100.00	100.00	Korea	12.31	Processing
Zeit O&M Co., Ltd.	100.00	100.00	Korea	12.31	Service
GVESCO Corporation	100.00	100.00	Korea	12.31	Service
GVESCO Investment Management Corp. ¹ Gvesco Private Real Estate Fund	100.00	100.00	Korea	12.31	Service
No.1 (formerly, Pavilion Professional Investment Private Placement Real Estate Investment Trust No. 40)	99.84	99.84	Korea	12.31	Collective investment
Pohang Yeongliman Ocean Cable car Co., Ltd. ³	-	60.00	Korea	12.31	Service
GPC Corp.	100.00	100.00	Korea	12.31	Manufacture
GS ELEVATOR Co., Ltd. (formerly, Xi Mechanics Corp.)	100.00	100.00	Korea	12.31	Manufacture
K Eco Salmon Co., Ltd. (formerly, K Safe Salmon Co., Ltd.)	66.67	62.38	Korea	12.31	Fishery
XiGEIST	100.00	100.00	Korea	12.31	Manufacture
XiGEIST Architects ⁴	100.00	-	Korea	12.31	Service
Enerma Corp.	100.00	100.00	Korea	12.31	Manufacture
GLOBAL WATER SOLUTION CO., LTD. ^{4,6}	100.00	-	Korea	12.31	Holding Business
DC Bridge Corp. ⁴	100.00	-	Korea	12.31	Information and communication
Bucheon Media Complex Management Inc. ⁴	100.00	-	Korea	12.31	Real estate
GFS Co., Ltd. ⁴	74.40	-	Korea	12.31	Service
Sun-field Solar Power Co., Ltd. ⁴	91.00	-	Korea	12.31	Service
GS E&C Nanjing Co., Ltd.	100.00	100.00	China	12.31	Construction
Vietnam GS Industry One- Member LLC	100.00	100.00	Vietnam	12.31	Real estate
Vietnam GS Enterprise One Member LLC	100.00	100.00	Vietnam	12.31	Real estate
ZEITGEIST EDUCATION CO., LTD.	100.00	100.00	Vietnam	12.31	Service
GS E&C Delhi Pvt. Ltd.	100.00	100.00	India	3.31	Construction service
GS Engineering & Construction Mumbai Pvt. Ltd.	100.00	100.00	India	3.31	Construction service
PT. GSENC Development Indonesia	100.00	100.00	Indonesia	12.31	Construction service

	Percen owners	tage of ship (%)			Principal business
Name of subsidiary	2021	2020	Location	Year end	activity
GS E&C Development (Thailand) Co., Ltd. ⁴	100.00	-	Thailand		Real estate
GS Construction Arabia Co., Ltd.	100.00	100.00	Saudi Arabia	12.31	Construction
GS Real Estate Development Company	100.00	100.00	Saudi Arabia	12.31	Real estate
GS Construction Middle East L.L.C. ⁵	49.00	49.00	UAE	12.31	Construction
GS E&C Poland SP.ZO.O	100.00	100.00	Poland	12.31	Construction
Danwood S.A.	100.00	100.00	Poland	12.31	Construction
Danwood GmbH	100.00	100.00	Poland	12.31	Construction
GS Engineering & Construction Spain, S.L.	100.00	100.00	Spain	12.31	Construction
Chervona Gora EKO ³	100.00	100.00	Ukraine	12.31	Construction
GS E&C Ukraine, LLC	-	100.00	Ukraine	12.31	Construction
Elements (Europe) Limited	75.00	75.00	UK	12.31	Construction
GS Real Estate Development Company London LTD.	100.00	100.00	UK	12.31	Real estate
GS E&C Construction Canada Ltd.	100.00	100.00	Canada	12.31	Construction
GS E&C Panama S.A.	100.00	100.00	Panama	12.31	Lease
GS Village Lake LLC	100.00	100.00	USA	12.31	Real estate
GS Property Mountain View LLC	100.00	100.00	USA	12.31	Real estate
GS MIRAMAR 700 EC, LLC	90.00	90.00	USA	12.31	Real estate
777 WMF, LLC	100.00	100.00	USA	12.31	Real estate
GS MIRAMAR VILLAGE LAKES MANAGER, LLC	80.00	80.00	USA	12.31	Real estate
CDCF III FORTBAY MV, LLC	92.26	91.52	USA	12.31	Real estate
GS Redlands, LLC	100.00	100.00	USA	12.31	Real estate
700 EC PROPERTY, LLC	90.00	90.00	USA	12.31	Real estate
MOUNTAIN VIEW MEZZ, LLC	92.26	91.52	USA	12.31	Real estate
MOUNTAIN VIEW OWNER, LLC	92.26	91.52	USA	12.31	Real estate
GSFC FUND 1 LLC ⁴	100.00	-	USA	12.31	Collective investment
400 LOGUE OWNER, LLC ⁴ PALA-POWER GENERAL	100.00	-	USA	12.31	Real estate
CONSRUCTION SERVICE (PROPRIETARY) LIMITED	100.00	100.00	Botswana	12.31	Construction
GS Engineering & Construction Australia Pty Ltd.	100.00	100.00	Australia	12.31	Construction
The Trustee for GS NEL Trust ⁴	100.00	-	Australia	12.31	Construction
GS SPV PTY LTD. ⁴	100.00	-	Australia	12.31	Construction
ZEIT DEVELOPMENT POLAND LLC ⁴	100.00	-	Poland	12.31	Real estate

¹ Includes securities held by subsidiaries.

² Although the Parent Company owns less than 50% of the voting rights, the Parent Company is

considered to have control of the subsidiary because other shareholders are widely dispersed and the voting right ratio of the Company is significantly high compared to the attendance ratio at the previous shareholders' meetings and others.

⁶ GS Inima Environment S.A.U. and its subsidiaries were included in the consolidation due to contribution in kind with the Parent Company. Summarized information of its subsidiaries are as follows:

Name of subsidiary	Location	Principal business activity	Year end	Percentage of ownership (%)
GS Inima Environment S.A.U.	Spain	Construction	12.31	100.00
Aguas de Ensenada, S.A. de C.V.	Mexico	Construction	12.31	100.00
SOCIEDAD DE ECONOMIA MIXTA AGUAS DE SORIA S.L.	Spain	Construction	12.31	59.20
Inima Water Services, S.L.	Spain	Construction	12.31	100.00
GS Inima Water Management S.L.	Spain	Construction	12.31	100.00
GS Inima Gestion S.L.U.	Spain	Construction	12.31	100.00
GS Inima Inversiones S.L.U.	Spain	Construction	12.31	100.00
VALORINIMA S.L.	Spain	Construction	12.31	80.00
Ambient Servicos Ambientais de Ribeirao Preto, S.A.	Brazil	Construction	12.31	100.00
Aquaria Water LLC	USA	Construction	12.31	87.50
Araucaria Saneamento, S.A.	Brazil	Construction	12.31	51.00
CAEPA COMPANHIA DE AGUA E EGOSTO DE PARIBUNA S.A.	Brazil	Construction	12.31	95.00
CASINIMA - Empreitada Ponte da Baia, A.C.E.	Portugal	Construction	12.31	50.00
COMASA COMPANHIA AGUAS DE SANTA RITA S.A	Brazil	Construction	12.31	75.00
GS Inima Chile S.A.	Chile	Construction	12.31	100.00
INIMA-CVV S.A.	Chile	Construction	12.31	65.00
GS Inima Mexico, S.A. de C.V.	Mexico	Construction	12.31	100.00
GS Inima USA Construction Corporation	USA	Construction	12.31	100.00
GS Inima USA Corporation	USA	Construction	12.31	100.00
Sanel, Saneamento de Luis Antonio, S.A	Brazil	Construction	12.31	70.00
Promoaqua Desalacion de los Cabos, S.A. de C.V.	Mexico	Construction	12.31	100.00
Sanama Saneamento Alta Maceio S.A.	Brazil	Construction	12.31	60.00
SAMAR SOLUCOES AMBIENTAIS DE ARACATUBA S.A.	Brazil	Construction	12.31	100.00
GS Inima Brasil Ltda.	Brazil	Construction	12.31	100.00
GS Inima Industrial S.A.	Brazil	Construction	12.31	100.00
GS Inima Servicos de Saneamento Eireli	Brazil	Construction	12.31	100.00
Aquapolo Ambiental S.A.	Brazil	Construction	12.31	51.00
Jeceaba Ambiental S.A.	Brazil	Construction	12.31	84.50

³ Excluded from the consolidated subsidiaries for the year ended December 31, 2021.

⁴ Newly included in consolidation for the year ended December 31, 2021.

⁵ In accordance with a contractual arrangement with other shareholders, the Group is able to exercise control over the entity and has been included in the consolidation.

Name of subsidiary	Location	Principal business activity	Year end	Percentage of ownership (%)
Distribuidora de Aguas Triunfo S.A.	Brazil	Construction	12.31	100.00
Ouro Preto Servicos de Saneamento S.A Saneouro	Brazil	Construction	12.31	60.00
GS Inima Servicios Corporativos, S.A. de C.V.	Mexico	Construction	12.31	100.00
Saneamento do Vale do Paraiba, S.A.	Brazil	Construction	12.31	50.10
Servicos de Saneamento de Mogi Mirim, S.A.	Brazil	Construction	12.31	64.00
Shariket Miyeh Ras Djinet, Spa ¹	Algeria	Construction	12.31	25.49
Tecnicas y Gestion Medioambiental, S.A.	Spain	Construction	12.31	100.00
GS INIMA ENVIRONMENT COLOMBIA S.A.S	Columbia	Construction	12.31	100.00
Tractament Metropolita de Fangs, S.L.	Spain	Construction	12.31	50.40
GS Inima Middle East LLC	Oman	Construction	12.31	100.00
GS Inima Barka V Desalinization Company, SAOC	Oman	Construction	12.31	100.00
Capital Desalinization Company, SAOC	Oman	Construction	12.31	52.00

¹ In accordance with a contractual arrangement with other shareholders, the Group is able to exercise control over the entity and has been included in the consolidation.

1.3 Summarized Financial Information

(in millions of Korean won)						2021				
						Pro	ofit (loss)			
		Assets L		iabilities	s Equity			Sales	for	the year
Xi S&D Inc.	₩	541,086	₩	237,051	₩	304,035	₩	435,731	₩	36,537
Xi - Estec Co., Ltd.		1,088		476		612		5,031		147
GCS		19,695		6,592		13,103		58,910		763
BSM Co., Ltd.		4,877		2,421		2,456		16,501		1,364
Zeit O&M Co., Ltd.		20,154		16,218		3,936		59,088		(4,752)
GVESCO Corporation ¹		5,934		506		5,428		2,571		492
GPC Corp.		120,634		53,343		67,291		12,492		(262)
GS ELEVATOR Co., Ltd. (formerly, Xi Mechanics Corp.) Gvesco Private Real Estate Fund		7,341		776		6,565		151		(2,079)
No.1 (formerly, Pavilion Professional Investment Private Placement Real Estate										
Investment Trust No. 40) K Eco Salmon Co., Ltd. (formerly,		30,540		14		30,526		33		(52)
K Safe Salmon Co., Ltd.)		5,973		24		5,949		-		(10)
XiGEIST		11,336		1,163		10,173		-		(1,159)
Enerma Corp.		68,343		6,758		61,585		505		(99)
GLOBAL WATER SOLUTION										
CO., LTD.		414,886		88		414,798		-		(1,320)
DC Bridge Corp.		3,943		15		3,928		-		(72)
Bucheon Media Complex										
Management Inc.		547		192		355		990		256

(in millions of Korean won)			2021		
	Assets	Liabilities	Equity	Sales	Profit (loss) for the year
XiGEIST Architects	15	_	15	6	6
GFS Co., Ltd.	8,804	_	8,804	_	-
Pohang Yeongliman Ocean Cable	2,221		-,		
car Co., Ltd.	-	-	-	-	(115)
Sun-field Solar Power Co., Ltd.	1	_	1	-	-
GS E&C Nanjing Co., Ltd.	126,520	110,765	15,755	18,644	2,759
Vietnam GS Industry One-					
Member LLC	430,610	426,381	4,229	20,953	(17,456)
Vietnam GS Enterprise One					
Member LLC	442,469	504,988	(62,519)	-	306
GS E&C Delhi Pvt. Ltd.	7,124	8,540	(1,416)	4,045	(3,444)
GS Engineering & Construction	7.004	40.000	(0.000)	0.500	(0.070)
Mumbai Pvt. Ltd.	7,634	10,663	(3,029)	9,536	(6,070)
PT. GSENC Development Indonesia	23,838	1,469	22,369		(418)
ZEITGEIST EDUCATION CO.,	23,030	1,409	22,309	-	(410)
LTD.	348	_	348	_	(4)
GS E&C Development (Thailand)					(- /
Co., Ltd.	18,650	141	18,509	-	(450)
GS Construction Arabia Co., Ltd.	31,607	838,934	(807,327)	8,759	(33,808)
GS Construction Middle East					,
L.L.C.	6,946	31,249	(24,303)	5,820	(9,487)
GS Real Estate Development					
Company	9,122	9,407	(285)	-	(439)
GS E&C Poland SP.ZO.O1	524,532	277,770	246,762	384,432	14,330
GS Inima Environment S.A.U. ¹	1,175,978	603,308	572,670	316,519	29,252
GS Engineering & Construction	440 740	00.000	100 170	0.400	5 000
Spain, S.L.	148,710	20,232	128,478	6,132	5,633
Chervona Gora EKO	28,761	17,976	10,785	5,283	4,843
Elements (Europe) Limited	33,116	4,340	28,776	24,582	(2,036)
GS Real Estate Development	400	227	440		(0.40)
Company London LTD.	420	307	113	-	(612)
GS E&C Construction Canada Ltd.	_				1,314
GS E&C Panama S.A.	1 100	_	1 190	_	1,517
GS Village Lake LLC	1,189	2.400	1,189	-	(102)
	48,421	2,499	45,922	-	(103)
GS Property Mountain View LLC	24,418	6,748	17,670	275	(466)
GS MIRAMAR 700 EC, LLC ¹	47,354	31,527	15,827	4,351	940
777 WMF, LLC	23,938	-	23,938	-	(8)
GS MIRAMAR VILLAGE LAKES MANAGER, LLC	29,638		29,638		
CDCF III FORTBAY MV, LLC ¹		242.022		2 724	(20, 205)
	225,593	242,023	(16,430)	2,721	(36,305)
GS Redlands, LLC	6,346	- 	6,346	-	(17)
GSFC FUND 1 LLC	8,299	13	8,286	-	(13)
400 LOGUE OWNER, LLC	-	-	-	-	-
PALA-POWER GENERAL	00	7,	(40)		(40)
CONSRUCTION SERVICE	26	74	(48)	-	(10)

(in millions of Korean won)	2021				
	Assets	Liabilities	Equity	Sales	Profit (loss) for the year
(PROPRIETARY) LIMITED					
GS Engineering & Construction					
Australia Pty Ltd.	230,437	235,084	(4,647)	17,057	(465)
The Trustee for GS NEL Trust	296	105	191	269	191
GS SPV PTY LTD.	28	28	_	-	-
ZEIT DEVELOPMENT POLAND					
LLC	1	-	1	-	-

¹ Includes financial information of subsidiaries.

(in millions of Korean won)	2020									
,					Profit (loss	s)				
	4	Assets	L	iabilities		Equity		Sales	for the yea	ır
Xi S&D Inc.	₩	414,088	₩	251,574	₩	162,514	₩	356,212	₩ 20,88	80
Xi - Estec Co., Ltd.		815		350		465		4,253	4	44
GCS		24,196		5,852		18,344		58,408	1,20	03
BSM Co., Ltd.		3,651		1,427		2,224		12,679	1,18	87
Zeit O&M Co., Ltd.		17,498		13,109		4,389		60,990	(5,16	35)
GVESCO Corporation		5,278		492		4,786		1,289	•	57
Pohang Yeongliman Ocean Cable		,				ŕ		·		
car Co., Ltd.		6,225		2,008		4,217		-	(38	88)
GPC Corp.		50,256		4,538		45,718		-	(55	9)
Xi Mechanics Corp.		4,787		83		4,704		-	(29	6)
Pavilion Professional Investment										
Private Placement Real Estate									(0	
Investment Trust No. 40		8,814		14		8,800		1	,	3)
K Safe Salmon Co., Ltd.		2,547		-		2,547		-	•	8)
XIGEIST		3,449		-		3,449		-	(5	6)
Enerma Corp.		4,972		-		4,972		-	(2	(8)
GS E&C Nanjing Co., Ltd.		143,438		120,144		23,294		174,618	11,0	52
Vietnam GS Industry One-										
Member LLC		307,490		295,485		12,005		4,842	(11,77	(8)
Vietnam GS Enterprise One Member LLC		202 664		440.460		(EG 000)			(2.67	74\
GS E&C Delhi Pvt. Ltd.		383,661		440,469		(56,808)		7 040	(3,67	,
GS Engineering & Construction		14,654		17,239		(2,585)		7,312	(6,70	14)
Mumbai Pvt. Ltd.		14,306		17,312		(3,006)		8,875	(7,63	33)
GS E&C Thai Co., Ltd.		- 1,000				(0,000)		-	•	(5)
PT. GSENC Development									(0	,0,
Indonesia		22,460		1,227		21,233		-	(33	88)
ZEITGEIST EDUCATION CO.,									·	
LTD.		318		-		318		-		-
GS Construction Arabia Co., Ltd.		39,403		748,732		(709,329)		141,969	(58,63	89)
GS Construction Middle East										
L.L.C.		7,312		20,598		(13,286)		6,587	(5,83	80)

(in millions of Korean won)			2020		
	A4-	Liabilities	Ci4	Sales	Profit (loss)
	Assets	Liabilities	Equity	Sales	for the year
GS Real Estate Development					
Company	281	125	156	-	(432)
GS E&C Poland SP.ZO.O1	468,763	257,059	211,704	274,013	14,386
GS Inima Environment S.A.U.1	1,148,222	605,195	543,027	295,648	30,378
GS Engineering & Construction					
Spain, S.L.	136,573	40,199	96,374	1,421	(4,474)
Chervona Gora EKO	27,100	21,842	5,258	3,990	(1,893)
GS E&C Ukraine, LLC	-	-	-	-	-
Elements (Europe) Limited	32,327	3,389	28,938	22,192	4
GS Real Estate Development					
Company London LTD.	222	1	221	-	(1)
GS E&C Construction Canada					
Ltd.	111	1,338	(1,227)	-	1
GS E&C Panama S.A.	1,091	-	1,091	-	11
GS Village Lake LLC	38,271	2,202	36,069	-	(3,403)
GS Property Mountain View LLC	22,395	5,735	16,660	-	830
GS MIRAMAR 700 EC, LLC ¹	44,122	29,218	14,904	4,223	740
777 WMF, LLC	21,976	-	21,976	-	(2)
GS MIRAMAR VILLAGE LAKES					
MANAGER, LLC	27,200	-	27,200	-	-
CDCF III FORTBAY MV, LLC ¹	177,886	164,623	13,263	5,993	(6,779)
GS Redlands, LLC	5,840	-	5,840	-	(38)
PALA-POWER GENERAL CONSRUCTION					
SERVICE(PROPRIETARY)					
LIMITED	29	67	(38)	_	(6)
GS Engineering & Construction	20	0.	(00)		(3)
Australia Pty Ltd.	17,055	21,113	(4,058)	-	(1,942)

¹ Includes financial information of subsidiaries.

The summarized financial information of the subsidiaries is based on amounts before inter-company eliminations. If the significant accounting treatments of the subsidiaries are different from those of the Company, such differences are adjusted.

2. Basis of Preparation and a Summary of Significant Accounting Policies

2.1 Basis of Preparation

The Group maintains its accounting records in Korean won and prepares statutory financial statements in the Korean language (Hangul) in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS). The accompanying consolidated financial statements have been condensed, restructured and translated into English from the Korean language financial statements.

Certain information attached to the Korean language financial statements, but not required for a fair presentation of the Group's financial position, financial performance or cash flows, is not presented in the accompanying consolidated financial statements.

The consolidated financial statements of the Group have been prepared in accordance with Korean IFRS. These are the standards, subsequent amendments and related interpretations issued by the International Accounting Standards Board (IASB) that have been adopted by the Republic of Korea.

The consolidation 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 securities of financial assets, contingent consideration 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 consolidation financial statements are presented in Korean won (KRW) and all values are rounded to the nearest millions, except when otherwise indicated.

2.2 Basis of Consolidation

The consolidated financial statements comprise the financial statements of the Company and its subsidiaries as of December 31, 2021. Control is achieved when the Group is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. Specifically, the Group controls an investee if, and only if, the Group has:

- Power over the investee (i.e., existing rights that give it the current ability to direct the relevant activities of the investee)
- Exposure, or rights, to variable returns from its involvement with the investee, and
- The ability to use its power over the investee to affect its returns

When the Group has less than a majority of the voting or similar rights of an investee, the Group considers all relevant facts and circumstances in assessing whether it has power over an investee, including:

• The contractual arrangement with the other vote holders of the investee

- Rights arising from other contractual arrangements
- The Group's voting rights and potential voting rights

The Group re-assesses whether or not it controls an investee if facts and circumstances indicate that there are changes to one or more of the three elements of control. Consolidation of a subsidiary begins when the Group obtains control over the subsidiary and ceases when the Group loses control of the subsidiary. Assets, liabilities, income and expenses of a subsidiary acquired or disposed of during the year are included in the statement of profit or loss from the date the Group gains control until the date the Group ceases to control the subsidiary.

Profit or loss and each component of other comprehensive income (OCI) are attributed to the equity holders of the parent of the Group and to the non-controlling interests, even if this results in the non-controlling interests having a deficit balance. When necessary, adjustments are made to the financial statements of subsidiaries to bring their accounting policies into line with the Group's accounting policies. All intra-group assets and liabilities, equity, income, expenses and cash flows relating to transactions between members of the Group are eliminated in full on consolidation.

A change in the ownership interest of a subsidiary, without a loss of control, is accounted for as an equity transaction.

If the Group loses control over a subsidiary, it derecognizes the related assets (including goodwill), liabilities, non-controlling interest and other components of equity, while any resulting gain or loss is recognized in profit or loss. Any investment retained is recognized at fair value.

2.3 Summary of Significant Accounting Policies

2.3.1 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 Group 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.

When the Group 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. If the business combination is achieved in stages, any previously held equity interest is re-measured at its acquisition date fair value and any resulting gain or loss is recognized in profit or loss.

The consideration the acquirer transfers in exchange for the acquiree includes any asset or liability resulting from a contingent consideration arrangement. The acquirer shall recognize the acquisition-date fair value of contingent consideration as part of the consideration transferred in exchange for the acquiree. Contingent consideration classified as assets or liabilities within the scope of Korean IFRS

1109 shall be measured at fair value at each reporting date and changes in fair value shall be recognized in profit or loss, or other comprehensive income, in accordance with Korean IFRS 1109. Contingent consideration classified as equity shall not be remeasured and its subsequent settlement shall be accounted for within equity. Other contingent consideration that is not within the scope of Korean IFRS 1109 shall be measured in accordance with other appropriate standards.

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 Group 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 Group'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 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 cash-generating unit retained.

2.3.2 Investment in Associates and Joint Ventures

An associate is an entity over which the Group has significant influence. Significant influence is the power to participate in the financial and operating policy decisions of the investee, but is not control or joint control over those policies. A joint venture is a type of joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the joint venture. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require unanimous consent of the parties sharing control. The considerations made in determining significant influence or joint control are similar to those necessary to determine control over subsidiaries.

The Group's investments in its associate and joint venture are accounted for using the equity method. Under the equity method, the investment in an associate or a joint venture is initially recognized at cost. The carrying amount of the investment is adjusted to recognize changes in the Group's share of net assets of the associate or joint venture since the acquisition date. Goodwill relating to the associate or joint venture is included in the carrying amount of the investment and is neither amortized nor individually tested for impairment.

The statement of profit or loss reflects the Group's share of the results of operations of the associate or joint venture. Any change in OCI of those investees is presented as part of the Group's OCI. In

addition, when there has been a change recognized directly in the equity of the associate or joint venture, the Group recognizes its share of any changes, when applicable, in the statement of changes in equity. Unrealized gains and losses resulting from transactions between the Group and the associate or joint venture are eliminated to the extent of the interest in the associate or joint venture.

The aggregate of the Group's share of profit or loss of an associate and a joint venture is shown on the face of the statement of profit or loss outside operating profit and represents profit or loss after tax and non-controlling interests in the subsidiaries of the associate or joint venture.

The financial statements of the associate or joint venture are prepared for the same reporting period as the Company. When necessary, adjustments are made to bring the accounting policies in line with those of the Group.

After application of the equity method, the Group determines whether it is necessary to recognize an impairment loss on its investment in its associate or joint venture. The Group determines whether there is objective evidence that the investment in the associate or joint venture is impaired.

The Group calculates the amount of impairment as the difference between the recoverable amount of the associate or joint venture and its carrying value, then recognizes the loss as 'Share of profit of an associate and a joint venture' in the statement of profit or loss.

Upon loss of significant influence over the associate or joint control over the joint venture, the Group measures and recognizes any retained investment at its fair value. Any difference between the carrying amount of the associate or joint venture upon loss of significant influence or joint control and the fair value of the retained investment and proceeds from disposal is recognized in profit or loss.

2.3.3 Segment Reporting

Operating segments are reported in a manner consistent with the internal reporting provided to the chief operating decision-maker (Note 4). The chief operating decision-maker, who is responsible for allocating resources and assessing performance of the operating segments, has been identified as the board of directors who is responsible for the Group's strategic decisions.

2.3.4 Current versus Non-current Classification

The Group 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

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 Group classifies all other liabilities as non-current. However, deferred tax assets and liabilities are classified as non-current assets and liabilities.

2.3.5 Fair Value Measurement

The Group measures financial instruments such as derivatives at fair value at each balance sheet date. Fair values of financial instruments and fair value hierarchy are disclosed in Note 33.

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 Group.

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.

The Group 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.

All assets and liabilities for which fair value is measured or disclosed in the consolidated 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 consolidated financial statements on a recurring basis, the Group determines whether transfers have occurred between levels in the hierarchy by reassessing 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 Group 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.

2.3.6 Foreign Currency Translation

The Group's financial statements are presented in Korean won, which is also the Group's functional and reporting currency.

(1) Transactions and balances

Transactions in foreign currencies are initially recorded by the Group's entities 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 rates of exchange at the reporting date. Differences arising on settlement or translation of monetary items are recognized in profit or loss.

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 gain or loss on change in fair value of the item (i.e., translation differences on items whose fair value gain or loss is recognized in other comprehensive income or profit or loss is also recognized in other comprehensive income 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 Group 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 Group determines the transaction date for each payment or receipt of advance consideration.

(2) Translation to the presentation currency

The results and financial position of foreign operations that have a functional currency different from the presentation currency are translated into the presentation currency as follows:

- assets and liabilities for each statement of financial position presented are translated at the closing rate at the end of the reporting period,
- income and expenses for each statement of profit or loss are translated at average exchange rates,
- equity is translated at the historical exchange rate, and
- all resulting exchange differences are recognized in other comprehensive income.

(3) Translation in foreign operations

The assets and liabilities of foreign operations are translated into Korean won at the rate of exchange prevailing at the reporting date and their statements of income and their income statements are translated at exchange rates prevailing at the dates of the transactions. The exchange differences arising on translation of foreign operations are recognized in other comprehensive income (OCI). On disposal of a foreign operation, the component of OCI relating to that particular foreign operation is recognized in profit or loss.

2.3.7 Financial Instruments - Initial Recognition and Subsequent Measurement

- (1) Financial assets
- 1) Initial recognition and measurement

The Group classifies financial assets, 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 Group's business model for managing them. With the exception of trade receivables that do not contain a significant financing component or for which the Group has applied the practical expedient, the Group initially measures a financial asset at its fair value. And, in the case of a financial asset not at fair value through profit or loss, transaction costs are adjusted. Trade receivables that do not contain a significant financing component or for which the Group has applied the practical expedient are measured at the transaction price determined under Korean IFRS 1115.

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

Purchases or sales of financial assets that require delivery of assets within a time frame established by regulation or convention in the market place (regular way trades) are recognized on the trade date,

i.e., the date that the Group commits to purchase or sell the asset.

2) 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 derecognition (equity instruments)
- Financial assets at fair value through profit or loss
- (1) Financial assets at amortized cost (debt instruments)

The Group 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 rate (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 Financial assets at fair value through OCI (debt instruments)

The Group 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 income 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.

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

Upon initial recognition, the Group 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 Korean IFRS 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 income when the right of payment has been established, except when the Group 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.

(4) Financial assets at fair value through profit or loss

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

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

This category includes derivatives and equity instruments which the Group had not irrevocably elected to treat changes in fair value as other comprehensive income. Dividends on equity instruments are recognized in profit or loss when the right is determined.

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 consolidated derivative if: the economic characteristics and risks are not closely related to the host; a consolidated 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.

3) Derecognition

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

- The rights to receive cash flows from the asset have expired, or
- The Group 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 Group has transferred substantially all the risks and rewards of the asset, or (b) the Group has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the asset

When the Group 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 Group continues to recognize the transferred asset to the extent of its continuing involvement. In that case, the Group 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 Group 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 Group could be required to repay.

4) Impairment of financial assets

The Group has applied the new expected credit loss (ECL) model of Korean IFRS 1109 in two types. The expected credit loss model applied to each type of financial asset is as follows.

Trade receivables

For the purpose of measuring the expected credit losses of trade receivables under Korean IFRS 1109, the Group applies the practical expedient and uses the expected credit loss model for the lifetime for trade receivables subject to the expected credit loss model.

② Debt instruments other than trade receivables

For which there has not been a significant increase in credit risk since initial recognition, the Group uses expected credit loss model for the next 12 months. For which there has been a significant increase in credit risk since initial recognition, the Group uses expected credit loss model for the entire period.

(2) Financial liabilities

1) Initial recognition and measurement

Financial liabilities are classified, at initial recognition, as financial liabilities at fair value through profit or loss, loans and borrowings, 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, net of directly attributable transaction costs.

The Group's financial liabilities include trade and other payables, loans and borrowings including bank overdrafts, financial guarantee contracts and derivative financial instruments.

2) Subsequent measurement

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

- 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. The EIR amortization is included as finance costs in the statement of income.

- Financial guarantee contracts

Financial guarantee contracts issued by the Group are those contracts that require a payment to be made to reimburse the holder for a loss it incurs because the specified debtor fails to make a payment when due in accordance with the terms of a debt instrument. Financial guarantee contracts are recognized initially as a liability at fair value, deducted for transaction costs that are directly attributable to the issuance of the guarantee. Subsequently, the liability is measured at the higher of the best estimate of the expenditure required to settle the present obligation at the reporting date and the amount initially recognized less, where appropriate, the cumulative amount of income recognized in accordance with Korean IFRS 1115 Revenue from Contracts with Customers.

- Financial liabilities at fair value through profit or loss

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

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

Gains and losses arising from financial liabilities held for trading are recognized in profit or loss.

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

3) 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 income.

4) 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.

2.3.8 Derivative Financial Instruments and Hedge Accounting

In accordance with the transition rules, the financial statements have been prepared by applying the requirements of Korean IFRS 1039 to hedge accounting without applying the requirements of Korean IFRS 1109.

Derivatives are initially recognized at fair value on the date when a derivative contract is entered into and are subsequently re-measured at their fair value. Changes in the fair value of the derivatives that are not qualified for hedge accounting are recognized in the statements of profit or loss within 'other income (expenses)' or 'finance income (costs)' according to the nature of transactions.

The Group designates certain derivatives as:

 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

At the inception of a hedge relationship, the Group formally designates and documents the hedge relationship to which the Group 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 or transaction, the nature of the risk being hedged. The Group also documents its assessment, both at hedge inception and on an ongoing basis, of whether the derivatives that are used in hedging transactions are highly effective in offsetting changes in fair values or cash flows of hedged items.

The fair values of various derivative instruments used for hedging purposes are disclosed in Note 11. Movements on the hedging reserve in OCI are shown in Note 11. The full fair value of a hedging derivative is classified as a non-current asset or liability when the remaining maturity of the hedged item is longer than the Group's normal business cycle and as a current asset or liability when the remaining maturity of the hedged item is shorter than the Group's normal business cycle. Trading derivatives are classified as a non-current asset or liability when the remaining maturity of the hedged item is more than 12 months and as a current asset or liability when the remaining maturity of the hedged item is less than 12 months.

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

- Cash flow hedge: The effective portion of changes in the fair value of derivatives that is designated and qualified as cash flow hedges is recognized in other comprehensive income. The gain or loss relating to the ineffective portion is recognized immediately in the statements of profit or loss within other income (expenses). Amounts accumulated in equity are reclassified to income in the periods when the hedged item affects profit or loss (for example, when the forecast purchase that is hedged takes place).

When a hedging instrument expires or is sold, or when a hedge no longer meets the criteria for hedge accounting, any cumulative gain or loss existing in equity at that time remains in equity and is recognized when the forecast transaction is ultimately recognized in the statements of profit or loss. When a forecast transaction is no longer expected to occur, the cumulative gain or loss that was reported in equity is immediately transferred to the statements of profit or loss within other income (expenses).

2.3.9 Inventories

Inventories are stated at the lower of cost and net realizable value. Raw materials, goods and products, and supplies are determined using the gross average method. Other inventories are determined using the specific identification method.

2.3.10 Property, Plant and Equipment

All property, plant and equipment are stated at cost, net of accumulated depreciation and accumulated impairment losses, if any. Such cost includes the cost of replacing part of the property, 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 profit or loss as incurred.

Land is not depreciated but depreciation on other assets is calculated using the straight-line method to allocate the difference between their cost and their residual values over their estimated useful lives, as follows:

	Useful lives			
Buildings	3 - 50 years			
Structures	4 - 40			
Machinery	3 - 16			
Construction equipment	4 - 12			
Vehicles	4 - 10			
Tools	3 - 10			
Equipment	2 - 10			

The assets' residual values, useful lives and methods of depreciation are reviewed at each fiscal year end, and adjusted prospectively, if appropriate.

2.3.11 Leases

The Group 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) The Group as a lessee

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

1) Right-of-use assets

The Group 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 and subsequently measured using the cost model. In order to apply the cost model, accumulated depreciation and impairment losses are deducted from the cost of right-of-use assets 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 Group 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 section 2.3.15 Impairment of Non-Financial Assets.

2) Lease liabilities

At the commencement date of the lease, the Group 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 Group and payments of penalties for terminating the lease, if the lease term reflects the Group 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 Group 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 Group applies the short-term lease recognition exemption to its short-term leases of construction equipment and other equipment (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) The Group as a lessor

Leases in which the Group 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 income due to its operating nature. Initial direct costs incurred in negotiating and arranging an operating lease are added to the carrying amount of the leased asset and recognized over the lease term on the same basis as rental income. Contingent rents are recognized as revenue in the period in which they are earned.

If the Group is an intermediate lessor, the Group accounts for the head lease and the sublease as two separated contracts. The subleases are classified as finance lease or operating lease by reference to the right-of-use asset arising from the head lease, rather than by reference to the underlying asset.

2.3.12 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 asset. All other borrowing costs are expensed in the period in which they occur. Borrowing costs consist of interest and other costs that an entity incurs in connection with the borrowing of funds.

2.3.13 Intangible Assets

Amortization of intangible assets is calculated using the straight-line method over their estimated useful lives. Membership rights are regarded as intangible assets with indefinite useful life and not amortized because there is no foreseeable limit to the period over which the asset is expected to be utilized.

	Oseiui iives
Technical rights	10 years
Concession assets	30
Software	4 - 5
Others	5 - 48

Heaful lives

2.3.14 Investment Properties

Investment properties is held to earn rentals or for capital appreciation or both. Investment property is measured initially at its cost, including transaction costs incurred in acquiring the asset. After recognition as an asset, investment property is carried at cost less accumulated depreciation and impairment losses. Investment property, except for land, is depreciated using the straight-line method over their useful lives of 40 years.

2.3.15 Impairment of Non-financial Assets

The Group 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 Group 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. The 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. Impairment losses of continuing operations are recognized in the statement of income in expense categories consistent with the function of the impaired asset.

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 Group 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 income unless the asset is carried at a revalued amount, in which case, the reversal is treated as a revaluation increase.

Intangible assets with indefinite useful lives are tested for impairment annually as of December 31, either individually or at the CGU level.

2.3.16 Employee Benefits

(1) Post-employment benefits

The Group operates both defined contribution and defined benefit pension plans.

For defined contribution plans, the Group pays contribution to publicly or privately administered pension insurance plans on mandatory, contractual or voluntary basis. The contribution is recognized as employee benefit expense when they are due.

A defined benefit plan is a pension plan that is not a defined contribution plan. Generally, post-employment benefits are payable after the completion of employment, and the benefit amount depended on the employee's age, periods of service or salary levels. The liability recognized in the statement of financial position in respect of defined benefit pension plans is the present value of the defined benefit obligation at the end of the reporting period less the fair value of plan assets. The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid, and that have terms approximating to the terms of the related obligation. Remeasurement gains and losses arising from experience adjustments and changes in actuarial assumptions are recognized in the period in which they occur, directly in other comprehensive income. Remeasurement recognized in other comprehensive income is reflected immediately in retained earnings and will not be reclassified to profit or loss.

Changes in the present value of the defined benefit obligation resulting from plan amendments or curtailments are recognized immediately in profit or loss as past service costs.

(2) Other long-term employee benefits

The Parent Company provide long-term employee benefits that are entitled to employees with service period for ten years and above. The expected costs of these benefits are accrued over the period of employment using the same accounting methodology as used for defined benefit pension plans. The Group recognizes service cost, net interest on other long-term employee benefits and remeasurements as profit or loss for the year. These liabilities are valued annually by an independent qualified actuary.

2.3.17 Provisions

Provisions are recognized when the Group 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 Group expects some or all of a provision to be reimbursed, for example, under an insurance contract, the reimbursement is recognized as a consolidated asset, but only when the reimbursement is virtually certain. The expense relating to a provision is presented in the statement of income 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) Warranty provision

The Group provides warranties for general repairs of defects that existed at the time of sale, as required by law. Provisions related to these assurance-type warranties are recognized when the product is sold or the service is provided to the customer. Initial recognition is based on historical experience. The initial estimate of warranty-related costs is revised annually.

(2) Onerous contracts

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

An onerous contract is a contract under which the unavoidable costs (i.e., the costs that the Group cannot avoid because it has the contract) 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.

2.3.18 Current and Deferred Income Tax

(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 Group operates and generates taxable income.

Current income tax relating to items recognized directly in equity is recognized in equity and not in the statement of 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 at the reporting date. Deferred tax liabilities are recognized for all taxable temporary differences, except:

- Where the deferred tax liability arises from the initial recognition of goodwill
- 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, the 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:

- Where 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.

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 OCI or directly in equity. Deferred tax assets and deferred tax liabilities are offset, if a legally enforceable right exists to set off current tax assets against current income tax liabilities and the deferred taxes relate to the same taxable entity and the same taxation authority.

2.3.19 Revenue Recognition

(1) Identifying performance obligations

The Group identifies the consolidated performance obligations if; i) the customer can benefit from the good or service either on its own or together with other resources that are readily available to the customer; and ii) the entity's promise to transfer the good or service to the customer is separately identifiable from other promises in the contract.

(2) Performance obligation satisfied over time

Construction contracts for the Group include apartments, commercial facilities, factories, roads and bridges those are ordered by customers, and usually require about three to four years of construction.

In accordance with Korean IFRS 1115, the timing of revenue recognition may vary depending on whether each performance obligation is satisfied at a point in time or over a period of time.

Performance obligations satisfied over time shall meet any of the following criteria:

- The customer simultaneously receives and consumes the benefits provided by the entity's performance as the entity performs.
- The Group's performance creates or enhances an asset that the customer controls as the asset is created or enhanced.
- The Group's performance does not create an asset with an alternative use to the entity and the entity has an enforceable right to payment for performance completed to date.

The Group is obliged to provide construction and maintenance services to the customer during the contract period for a majority of its construction contract. Also, it is determined that the customer controls the asset as the Group creates or enhances its value. Therefore, the Group recognizes the transaction price allocated to the performance obligation by revenue over a contract period.

For housing contracts meeting conditions under Korea Accounting Institute's Question and Answer, 2017-I-KQA015, revenue of the number of residential units the Group built and sold is recognized using percentage of completion method and the accounting treatment is effective only under the Korean IFRS.

(3) Percentage-of-completion measurement using input method

In accordance with Korean IFRS 1115, revenue is recognized when the goods or services promised to the customer are transferred and the performance obligation is fulfilled or when the performance obligation is fulfilled over a period of time. The obligation to perform during the period is to measure the percentage-of-completion until the obligation is fulfilled and the revenue is recognized over the period. The method of measuring the percentage-of-completion includes the output method and the input method, and they are applied if the percentage-of-completion of the performance obligation can be reasonably measured. In most construction contracts, the Group applies percentage-of-completion measurement.

In accordance with Korean IFRS 1115, if the Group expects that the goods are not distinct at contract inception and the entity is expected to significantly control the goods or services before transferring to the customer, and that the costs of the goods transferred are significant in comparison to the total costs expected to be fully satisfied, and that the entity receives the goods from a third party and does not significantly engage in the design and production of those goods, then recognizing the cost of the goods used to fulfill the performance obligation as revenue demonstrates the entity's performance well.

The construction contracts in plant sector are contracts including the purchase and installation of special equipment, and most of the projects are carried out over a long period of time of 3 years or more. The Group carries out the accounting by considering total planning costs versus special equipment costs, whether the customer has significant control over the special equipment under consolidated contracts, and whether the Group is deeply involved in design and production of the special equipment.

(4) Incremental cost of obtaining a contract and cost to fulfil a contract

The Group capitalizes incremental costs of obtaining a contract or contract costs incurred directly related to contract and created resources used to fulfill a contract and expected to be recovered. If capitalization requirements are not met, it is accounted for as current expenses.

2.3.20 Approval of Issuance of the Financial Statements

The consolidated financial statements 2021 were approved for issue by the Board of Directors on February 8, 2022 and are subject to change with the approval of shareholders at their Annual General Meeting.

2.4 New and Amended Standards Adopted by the Group

The Group has applied the following standards and amendments for the first time for their annual reporting period commencing January 1, 2021.

2.4.1 Amendments to Korean IFRS 1116 Lease – Practical expedient for COVID-19 - Related Rent Concessions

As a practical expedient, a lessee may elect not to assess whether a rent concession occurring as a direct consequence of the COVID-19 pandemic is a lease modification. A lessee that makes this election shall account for any change in lease payments resulting from the rent concession the same way it would account for the change applying this Standard if the change were not a lease modification. The amendment does not have a significant impact on the consolidated financial statements.

2.4.2 Amendments to Korean IFRS 1109 Financial Instruments, Korean IFRS 1039 Financial Instruments: Recognition and Measurement, Korean IFRS 1107 Financial Instruments: Disclosure, Korean IFRS 1104 Insurance Contracts and Korean IFRS 1116 Lease – Interest Rate Benchmark Reform (Phase 2 amendments)

In relation to interest rate benchmark reform, the amendments provide exceptions including adjust effective interest rate instead of book amounts when interest rate benchmark of financial instruments at amortized costs is replaced, and apply hedge accounting without discontinuance although the interest rate benchmark is replaced in hedging relationship. The amendment does not have a significant impact on the consolidated financial statements.

2.5 New Standards and Interpretations Not Yet Adopted by the Group

The following new accounting standards and interpretations have been published that are not mandatory for December 31, 2021 reporting periods and have not been early adopted by the Group.

2.5.1 Amendments to Korean IFRS 1103 Business Combination – Reference to the Conceptual Framework

The amendments update a reference of definition of assets and liabilities to be recognized in a business combination in revised Conceptual Framework for Financial Reporting. However, the amendments add an exception for the recognition of liabilities and contingent liabilities within the scope of Korea IFRS 1037 *Provisions, Contingent Liabilities and Contingent Assets*, and Korean IFRS 2121 *Levies*. The amendments also clarify that contingent assets should not be recognized at the acquisition date. The amendments should be applied for annual periods beginning on or after January 1, 2022, and earlier application is permitted. The Group does not expect that these amendments have a significant impact on the financial statements.

2.5.2 Amendments to Korean IFRS 1016 Property, Plant and Equipment - Proceeds before intended use

The amendments prohibit an entity from deducting from the cost of an item of property, plant and equipment any proceeds from selling items produced while the entity is preparing the asset for its intended use. Instead, the entity will recognize the proceeds from selling such items, and the costs of producing those items, in profit or loss. The amendments should be applied for annual periods beginning on or after January 1, 2022, and earlier application is permitted. The Group does not expect that these amendments have a significant impact on the financial statements.

2.5.3 Amendments to Korean IFRS 1037 Provisions, Contingent Liabilities and Contingent Assets - Onerous Contracts: Cost of Fulfilling a Contract

The amendments clarify that the direct costs of fulfilling a contract include both the incremental costs of fulfilling the contract and an allocation of other costs directly related to fulfilling contracts when assessing whether the contract is onerous. The amendments should be applied for annual periods beginning on or after January 1, 2022, and earlier application is permitted. The Group does not expect that these amendments have a significant impact on the financial statements.

2.5.4 Amendments to Korean IFRS 1001 Presentation of Financial Statements - Classification of Liabilities as Current or Non-current

The amendments clarify that liabilities are classified as either current or non-current, depending on the substantive rights that exist at the end of the reporting period. Classification is unaffected by the likelihood that an entity will exercise right to defer settlement of the liability or the expectations of management. Also, the settlement of liability includes the transfer of the entity's own equity instruments, however, it would be excluded if an option to settle them by the entity's own equity instruments if compound financial instruments is met the definition of equity instruments and recognized separately from the liability. The amendments should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted. The Group is in review for the impact of these amendments on the financial statements.

2.5.5 Amendment to Korean IFRS 1116 Leases - Covid-19 - Related Rent Concessions beyond June 30, 2021

The application of the practical expedient, a lessee may elect not to assess whether a rent concession occurring as a direct consequence of the COVID-19 pandemic is a lease modification, is extended to lease payments originally due on or before June 30, 2022. The amendment should be applied for annual periods beginning on or after April 1, 2021, and earlier application is permitted. The Group does not expect that these amendments have a significant impact on the financial statements.

2.5.6 New Standard: Korean IFRS 1117 Insurance Contract

Korean IFRS 1117 *Insurance Contracts* replaces Korean IFRS 1104 *Insurance Contracts*. This Standard estimates future cash flows of an insurance contract and measures insurance liabilities using discount rates applied with assumptions and risks at the measurement date. The entity recognizes insurance revenue on an accrual basis including services (insurance coverage) provided to the policyholder by each annual period. In addition, investment components (Refunds due to termination/maturity) repaid to a policyholder even if an insured event does not occur, are excluded from insurance revenue, and insurance financial income or expense and the investment income or expense are presented separately to enable users of the information to understand the sources of income or expenses. This Standard should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted for entities that applied Korean IFRS 1109 Financial Instruments. The Group is in review for the impact of this new standard on the financial statements.

2.5.7 Korean IFRS 1001 Presentation of Financial Statements - Disclosure of Accounting Policies

The amendments to Korean IFRS 1001 define and require entities to disclose their material accounting policies. The IASB amended IFRS Practice Statement 2 *Disclosure of Accounting Policies* to provide guidance on how to apply the concept of materiality to accounting policy disclosures.

The amendments should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted. The Group is in review for the impact of these amendments on the financial statements.

2.5.8 Korean IFRS 1008 Accounting policies, changes in accounting estimates and errors - Definition of Accounting Estimates

The amendments define accounting estimates and clarify how to distinguish them from changes in accounting policies. The amendments should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted. The Group does not expect that these amendments have a significant impact on the financial statements.

2.5.9 Korean IFRS 1012 Income Taxes - Deferred Tax related to Assets and Liabilities arising from a Single Transaction

The amendments include an additional condition to the exemption to initial recognition of an asset or liability that a transaction does not give rise to equal taxable and deductible temporary differences at the time of the transaction. The amendments should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted. The Group does not expect that these amendments have a significant impact on the financial statements.

2.5.10 Annual improvements to Korean IFRS 2018-2020

Annual improvements of Korean IFRS 2018-2020 Cycle should be applied for annual periods beginning on or after January 1, 2022, and earlier application is permitted. The Group does not expect that these amendments have a significant impact on the financial statements.

- Korean IFRS 1101 First time Adoption of Korean International Financial Reporting Standards
 Subsidiaries that are first-time adopters
- Korean IFRS 1109 Financial Instruments Fees related to the 10% test for derecognition of financial liabilities
- · Korean IFRS 1116 Leases Lease incentives
- Korean IFRS 1041 Agriculture Measuring fair value

3. Accounting 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 discussed below. The Group 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 Group. Such changes are reflected in the assumptions when they occur.

3.1 Impairment of Non-financial Assets

The Group 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 as of December 31 either individually or at the CGU level, as appropriate, or when circumstances indicate that the carrying value may be impaired. Other non-financial assets are assessed for impairment when circumstances indicate that its asset may be impaired.

To calculate the value in use, the Group estimates the expected future cash inflows derived from CGUs and applies the appropriate discount rate to those future cash inflows.

3.2 Income Tax

The Group recorded, based on its best estimate, current taxes and deferred taxes that the Group will be liable in the future for the operating results as at the financial year end. However, the final tax outcome in the future may be different from the amounts that were initially recorded. Such differences will impact the current and deferred income tax assets and liabilities in the period in which such determination is made.

3.3 Defined Benefit Plans

The present value of the defined benefit pension plan 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 and mortality rates. 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.

In determining the appropriate discount rate, management considers the interest rates of corporate bonds in currencies consistent with the currencies of the post-employment benefit obligation with at least an 'AA' rating or above, as set by an internationally acknowledged rating agency. The mortality rate is based on publicly available mortality tables for the specific countries. Future salary increases and pension increases are based on expected future inflation rates for the respective countries.

Further details about pension obligations are disclosed in Note 19.

3.4 Revenue Recognition

Revenue for construction contracts is recognized on the basis of the percentage-of-completion method, under which revenue is recognized as work progress in the ratio of actual cost incurred to estimated total cost. A variation is an instruction by the customer for a change in the scope of the work to be performed under the contract. A variation may lead to an increase or a decrease in contract revenue. Examples of variations are changes in the specifications or design of the asset and changes in the duration of the contract.

Contract revenue is measured at the fair value of the initial amount of revenue agreed in the contract. The measurement of contract revenue is affected by a variety of uncertainties that depend on the outcome of future events such as delays caused by the contractor, claim, and incentive. The estimates often need to be revised as events occur and uncertainties are resolved. Therefore, the amount of contract revenue may increase or decrease from one period to the next. A variation is recognized in contract revenue when the following four circumstances are satisfied. It is probable that the customer will approve the variation and the amount of revenue arising from the variation. Negotiations have reached an advanced stage such that it is probable that the customer will accept the claim. The contract is sufficiently advanced that it is probable that the specified performance standards will be met, and the amount can be reasonably measured.

The total contract cost is measured at the end of each reporting period. However, the measurement of contract revenue is affected by various uncertainties that depend on the outcome of future events including project, geographic and economic characteristics. When the uncertainties that prevented the cost of the contract being estimated reliably no longer exist, expenses associated with the construction contract shall be recognized.

3.5 Fair Value of Financial Instruments

For the fair value of financial instruments that are not traded in an active market, the Group uses its judgment to select a variety of methods and make assumptions that are mainly based on market conditions existing at the end of each reporting period.

3.6 Impairment of Financial Assets and Contract Assets

The provision for impairment for financial assets is based on assumptions about risk of default and expected loss rates. The Group uses judgement in making these assumptions and selecting the inputs to the impairment calculation based on the Group's past history, existing market conditions as well as forward looking estimates at the end of each reporting period.

Also, the Group considered that financial assets and contract assets are impaired based on the estimated revenue and expenses of business in relation to certain construction contracts.

December 31, 2021 and 2020

3.7 Provisions

As of the end of the reporting period, the Group recognizes provisions for construction warranty, litigations, payment guarantees and others. These provisions are determined under the estimates based on past experience and forecasts of future events. However, future events may have a significant difference from past experiences and forecasts, and estimates based on these future events have uncertainty that may cause significant differences from actual values.

3.8 Lease

In determining the lease term, management considers all facts and circumstances that create an economic incentive to exercise an extension option, or not exercise a termination option. Extension options (or periods after termination options) are only included in the lease term if the lease is reasonably certain to be extended (or not terminated).

3.9 Impact of Coronavirus disease 2019 ("COVID-19")

During 2021, the spread of Coronavirus disease 2019 ("COVID-19") has a material impact on the global economy. It may have an impact to contract activity, construction performance, collection of existing receivables and others. Accordingly, it may have a negative impact on the financial position and financial performance of the Group. However, the impact cannot be reasonably estimated as at the end of the reporting period.

4. Segment information and Revenue from Contracts with Customers

(1) Details of the Group's reportable segments are as follows:

Operating segments Principal business activity Architectural & housing construction Office building, factory, apartment and others Overseas development and others Plant construction¹ Petroleum refining facility, waste water treatment plant, power plant, power control facility and others Infra works Others Resort and others

¹ In 2021, decentralized energy segment was integrated into plant construction segment. The comparative information was restated by reflecting these changes.

(2) Sales and operating profit (loss) for the years ended December 31, 2021 and 2020, are as follows:

(in millions of				20	21			
Korean won)	Architectural & housing construction	New business	Plant construction	Infra works	Others	Total	Consolidation adjustments	Consolidated total
Sales Inter-company	₩ 6,223,645	₩ 789,502	₩ 1,345,899	₩ 782,091	₩ 136,779	₩ 9,277,916	₩ (241,341)	₩ 9,036,575
sales	(132,468)	(12,181)	(46,221)	(1,827)	(48,644)	(241,341)	241,341	-
Net sales	6,091,177	777,321	1,299,678	780,264	88,135	9,036,575	-	9,036,575
Operating profit (loss) ¹ Profit (loss) before	1,033,144	16,991	(305,426)	(103,237)	5,014	646,486	-	646,486
income tax ¹	1,184,185	8,175	(337,667)	(197,959)	1,196	657,930	-	657,930

¹ Operating profit (loss) and profit (loss) before income tax are net of eliminating intercompany transactions.

(in millions of	2020														
Korean won)	ı	nitectural & nousing nstruction	b	New usiness	coı	Plant nstruction	Int	fra works		Others	Total		nsolidation justments	Co	nsolidated total
Sales Inter-company	₩	5,920,916	₩	615,097	₩	2,788,487	₩	890,269	₩	119,749	₩ 10,334,518	₩	(211,587)	₩	10,122,931
sales		(117,080)		(3,970)		(33,997)		(6,078)		(50,462)	(211,587)		211,587		-
Net sales		5,803,836		611,127		2,754,490		884,191		69,287	10,122,931		-		10,122,931
Operating profit (loss) ¹ Profit (loss)		1,107,992		44,598		(339,299)		(58,193)		(4,700)	750,398		-		750,398
before income tax ¹		1,238,970		(39,223)		(611,024)		(36,043)		(34,240)	518,440		-		518,440

¹ Operating profit (loss) and profit (loss) before income tax are net of eliminating intercompany transactions.

(3) Revenue of segments for the years ended December 31, 2021 and 2020, are as follows:

(in millions of						20	21					
Korean won)	ı	hitectural & housing nstruction	Nev	v business	со	Plant nstruction		fra works		Others		Total
Major product & service												
Construction contract as a constructor Construction contract as a	₩	5,170,457	₩	5,329	₩	1,181,789	₩	737,395	₩	-	₩	7,094,970
developer & constructor Engineering service and		789,278		-		-		-		-		789,278
others		92,300		318,037		111,145		42,507		-		563,989
Lease and others		39,142		453,955		6,744		362		32,192		532,395
Resort										55,943		55,943
	₩	6,091,177	₩	777,321	₩	1,299,678	₩	780,264	₩	88,135	₩	9,036,575
Timing of revenue recognition												
Recognition over time Recognition at a point in	₩	5,972,383	₩	322,928	₩	1,299,678	₩	780,264	₩	32,192	₩	8,407,445
time		118,794		454,393						55,943		629,130
	₩	6,091,177	₩	777,321	₩	1,299,678	₩	780,264	₩	88,135	₩	9,036,575
(in millions of	2020											
Korean won)	Arcl	hitectural &										
		housing				Plant						
	CO	nstruction	Nev	v business	СО	nstruction	In	fra works		Others		Total
Major product & service Construction contract as a												
constructor Construction contract as a	₩	5,239,105	₩	18,799	₩	2,598,144	₩	852,023	₩	-	₩	8,708,071
developer & constructor Engineering service and		435,913		-		-		-		-		435,913
others		93,624		280,968		151,189		31,309		-		557,090
Lease and others		35,194		311,360		5,157		859		25,254		377,824
Resort		-		-		-		-		44,033		44,033
	₩	5,803,836	₩	611,127	₩	2,754,490	₩	884,191	₩	69,287	₩	10,122,931
Timing of revenue recognition												
Recognition over time Recognition at a point in	₩	5,795,577	₩	611,127	₩	2,754,490	₩	884,191	₩	25,254	₩	10,070,639
time		8,259		_		-		_		44,033		52,292
	₩	5,803,836	₩	611,127	₩	2,754,490	₩	884,191	₩	69,287	₩	10,122,931

- (4) There are no customers, who contribute more than 10% of sales for the years ended December 31, 2021 and 2020.
- (5) Sales information by location for the years ended December 31, 2021 and 2020, are as follows:

(in millions of Korean won)										
		Korea	Mic	ddle East	3	outh-East Asia		Others		Total
Sales	₩	7,461,985	₩	258,297	₩	524,472	₩	1,033,162	₩	9,277,916
Inter-company sales		(206,759)		(13,272)		(17,455)		(3,855)		(241,341)
Net sales	₩	7,255,226	₩	245,025	₩	507,017	₩	1,029,307	₩	9,036,575
(in millions of Korean won)					_	2020 hina and outh-East				
		Korea	Mic	ddle East		Asia		Others		Total
Sales	₩	8,236,482	₩	626,113	₩	660,477	₩	811,446	₩	10,334,518
Inter-company sales		(213,515)		16,438		(12,629)		(1,881)		(211,587)
Net sales	₩	8,022,967	₩	642,551	₩	647,848	₩	809,565	₩	10,122,931

5. Cash and Cash Equivalents and Others

(1) Cash and cash equivalents and others as of December 31, 2021 and 2020, consist of:

(in millions of Korean w	on)		2021		2020
Cash and cash	Cash	₩	29,808	₩	4,578
equivalents	Deposits		2,688,582		2,114,341
			2,718,390		2,118,919
Short-term financial assets	Short-term financial instruments Current financial lease		290,403		197,641
	receivables and others		104,639		60,229
			395,042		257,870
Long-term financial assets	Long-term financial instruments Leasehold deposits		852		1,085
	provided and others		599,612		615,721
			600,464		616,806
		₩	3,713,896	₩	2,993,595

(2) Details of restricted financial instruments as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	Bank	2021	2020	Remarks
Cash and cash	Wells Fargo and others	₩ 271	₩ 298	Restricted cash and others
equivalents	Subtotal	271	298	
Short-term	Shinhan and others	1,432	11,056	Loan repayment accumulation
financial assets	Shinhan	5,104	4,831	Leasehold deposits
	Shinhan	6,850	6,850	Loans for employees' housing
	Shinhan and others	30,000	30,000	Supports interest for cooperative firm
	NH and others	1,218	958	Special provisions for construction warranty account
	SC	36,836	33,773	L/C issued for overseas sites
	Shinhan and others	-	1,669	Pledge of collateral for HUG
	Woori	2,000	-	Equipment deposits
	Banobras and others	670	1,181	Cash Restricted
	Subtotal	84,110	90,318	
Long-term	Shinhan and others	138	273	Leasehold deposits
financial assets	Shinhan and others	20	20	Deposit for overdraft
	Subtotal	158	293	
		₩ 84,539	₩ 90,909	

6. Trade and Other Receivables

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

(in millions of Korean won)			2021									
	,											
		Receivables		bad debts		Receivables, no						
Current assets												
Trade and other	Receivables from											
receivables	construction contracts Receivables from	₩	1,914,761	₩	(154,599)	₩	1,760,162					
	apartment sales		11,077		(1,176)		9,901					
	Notes receivable		43,075		(225)		42,850					
	Other trade receivables		60,486		(833)		59,653					
	Other receivables		489,663		(286,165)		203,498					
	Accrued revenue		81,515		(31,229)		50,286					
	Short-term loans		190,964		(117,280)		73,684					
	Deposits provided for											
	business		98		-		98					
		₩	2,791,639	₩	(591,507)	₩	2,200,132					
Non-current assets												
Long-term trade and	Long-term other											
other receivables	receivables	₩	159,871	₩	-	₩	159,871					
	Long-term loans		1,043,199		(178,175)		865,024					
	Deposits provided for											
	business		171,441		(363)		171,078					
		₩	1,374,511	₩	(178,538)	₩	1,195,973					

(in millions of Korean won)			2020									
	Allowance for											
	Red	ceivables	ba	d debts	Rece	ivables, net						
Receivables from												
construction contracts Receivables from	₩	1,508,677	₩	(216,024)	₩	1,292,653						
apartment sales		8,665		(1,129)		7,536						
Notes receivable		136,502		(802)		135,700						
Other trade receivables		27,264		(734)		26,530						
Other receivables		611,287		, ,		332,491						
Accrued revenue		75,066		, ,		44,891						
Short-term loans		202,741		,		117,264						
	₩	2,570,202	₩	(613,137)	₩	1,957,065						
Long-term other												
receivables	₩	59,400	₩	-	₩	59,400						
Long-term loans		956,813		(203,183)		753,630						
Deposits provided for business		53.790		(199)		53,591						
	₩		₩		₩	866,621						
	Receivables from construction contracts Receivables from apartment sales Notes receivable Other trade receivables Other receivables Accrued revenue Short-term loans Long-term other receivables Long-term loans Deposits provided for	Receivables from construction contracts Receivables from apartment sales Notes receivable Other trade receivables Other receivables Accrued revenue Short-term loans U Long-term other receivables Long-term loans Deposits provided for business	Receivables Receivables from construction contracts ₩ 1,508,677 Receivables from apartment sales 8,665 Notes receivable 136,502 Other trade receivables 27,264 Other receivables 611,287 Accrued revenue 75,066 Short-term loans 202,741 ₩ 2,570,202 Long-term other receivables ₩ 59,400 Long-term loans 956,813 Deposits provided for business 53,790	Receivables Allow Receivables from construction contracts W 1,508,677 W Receivables from apartment sales 8,665 W Notes receivable 136,502 C Other trade receivables 27,264 C Other receivables 611,287 C Accrued revenue 75,066 C Short-term loans 202,741 W W 2,570,202 W Long-term other receivables W 59,400 W Long-term loans 956,813 Deposits provided for business 53,790	Receivables Allowance for bad debts Receivables from construction contracts ₩ 1,508,677 ₩ (216,024) Receivables from apartment sales 8,665 (1,129) Notes receivable 136,502 (802) Other trade receivables 27,264 (734) Other receivables 611,287 (278,796) Accrued revenue 75,066 (30,175) Short-term loans 202,741 (85,477) ₩ 2,570,202 ₩ (613,137) Long-term other receivables ₩ 59,400 ₩ - Long-term loans 956,813 (203,183) Deposits provided for business 53,790 (199)	Receivables Allowance for bad debts Receivables Receivables from construction contracts ₩ 1,508,677 ₩ (216,024) ₩ Receivables from apartment sales 8,665 (1,129) W Notes receivable 136,502 (802) (802) Other trade receivables 27,264 (734) (734) Other receivables 611,287 (278,796) (30,175) Short-term loans 202,741 (85,477) W Long-term other receivables ₩ 59,400 ₩ (613,137) ₩ Long-term loans 956,813 (203,183) Deposits provided for business 53,790 (199)						

(2) Aging schedule on trade and other receivables are as follows:

(in millions of Korean won)	20	21	2020				
	Trade receivables ¹	Other receivables	Trade receivables ¹	Other receivables			
Receivables not impaired							
Up to 1 year	₩ 1,317,527	₩ 121,110	₩ 1,015,998	₩ 286,320			
1 to 2 years	178,121	3,638	141,795	38,123			
Over 2 years	366,355	79,683	269,623	98,835			
	1,862,003	204,431	1,427,416	423,278			
Individually impaired	167,396	557,810	253,692	465,816			
	₩ 2,029,399	₩ 762,241	₩ 1,681,108	₩ 889,094			
Allowance for bad debts	₩ (156,833)	₩ (434,674)	₩ (218,689)	₩ (394,448)			

¹ Includes receivables with deferred collection due to contract conditions (2021: ₩ 297,709 million, 2020: ₩ 290,584 million)

(3) Changes in allowance for bad debts as of December 31, 2021 and 2020, are as follows:

(in millions of Korean	2021									
,	,	-			Bad debt		Reversal /			
		Be	ginning	(expenses		write-off		Ending	
Trade and other receivables	Receivables from construction contracts	₩	216,024	₩	11,276	₩	(72,701)	₩	154,599	
	apartment sales		1,129		76		(29)		1,176	
	Notes receivable		802		-		(577)		225	
	Other receivables		278,796		21,707		(14,338)		286,165	
	Accrued revenue		30,175		5,083		(4,029)		31,229	
	Short-term loans		85,477		26,977		4,826		117,280	
	Other trade receivables		734		1,177		(1,078)		833	
		₩	613,137	₩	66,296	₩	(87,926)	₩	591,507	
Long-term trade and other receivables	Long-term loans Deposits provided for	₩	203,183	₩	7,763	₩	(32,771)	₩	178,175	
	business		199		341		(177)		363	
		₩	203,382	₩	8,104	₩	(32,948)	₩	178,538	
(in millions of Koroon	wan				20	20				
(in millions of Korean	worr)				20	20				
					Rad debt		Reversal /			
		Be	ginning		Bad debt expenses		Reversal / write-off		Ending	
		Be	ginning						Ending	
Trade and other receivables	Receivables from construction contracts Receivables from	Be	ginning 180,400	(₩	Ending 216,024	
	construction contracts		-	(expenses		write-off	₩	-	
	construction contracts Receivables from		180,400	(48,800		write-off (13,176)	₩	216,024	
	construction contracts Receivables from apartment sales		180,400	(48,800 28		write-off (13,176)	₩	216,024 1,129	
	construction contracts Receivables from apartment sales Notes receivable		180,400 1,741 -	(48,800 28 802		write-off (13,176) (640)	₩	216,024 1,129 802	
	construction contracts Receivables from apartment sales Notes receivable Other receivables		180,400 1,741 - 248,452	(48,800 28 802 45,034		write-off (13,176) (640) - (14,690)	₩	216,024 1,129 802 278,796	
	construction contracts Receivables from apartment sales Notes receivable Other receivables Accrued revenue		180,400 1,741 - 248,452 26,078	(48,800 28 802 45,034 4,557		(13,176) (640) - (14,690) (460)	₩	216,024 1,129 802 278,796 30,175	
	construction contracts Receivables from apartment sales Notes receivable Other receivables Accrued revenue Short-term loans		180,400 1,741 - 248,452 26,078 81,976	₩	48,800 28 802 45,034 4,557 3,641	₩	(13,176) (640) - (14,690) (460) (140)		216,024 1,129 802 278,796 30,175 85,477	
	construction contracts Receivables from apartment sales Notes receivable Other receivables Accrued revenue Short-term loans Other trade receivables Long-term loans	₩	180,400 1,741 - 248,452 26,078 81,976 462	₩	48,800 28 802 45,034 4,557 3,641 1,135	₩	(13,176) (640) - (14,690) (460) (140) (863)	₩	216,024 1,129 802 278,796 30,175 85,477 734	
receivables Long-term trade and	construction contracts Receivables from apartment sales Notes receivable Other receivables Accrued revenue Short-term loans Other trade receivables	₩	180,400 1,741 - 248,452 26,078 81,976 462 539,109	₩	48,800 28 802 45,034 4,557 3,641 1,135 103,997	₩	(13,176) (640) (14,690) (460) (140) (863) (29,969)	₩	216,024 1,129 802 278,796 30,175 85,477 734 613,137	

7. Construction Contracts

(1) Changes in the outstanding balances of construction contracts for the years ended December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	2021									
	Sales									
	Beginning	Increase	recognized	Ending						
A										
Architectural & housing										
construction	₩ 9,710,016	₩ 9,776,413	₩ 5,083,043	₩ 14,403,386						
New business	28,925	5,533	5,329	29,129						
Plant construction	1,254,908	737,628	1,191,992	800,544						
Infra works	2,673,279	2,902,367	728,510	4,847,136						
	13,667,128	13,421,941	7,008,874	20,080,195						
Housing construction and sales										
operations ¹	534,972	2,149,257	763,431	1,920,798						
	₩ 14,202,100	₩ 15,571,198	₩ 7,772,305	₩ 22,000,993						

¹ Apartment sales contracts of which the revenue is recognized at a point in time are excluded.

(in millions of Korean won)	2020							
						Sales		
	Beginning			Increase		cognized	Ending	
Architectural & housing								
construction	₩	9,189,474	₩	5,698,121	₩	5,177,579	₩	9,710,016
New business		10,230		33,375		14,680		28,925
Plant construction		3,236,767		664,532		2,646,391		1,254,908
Infra works		2,747,334		771,391		845,446		2,673,279
		15,183,805		7,167,419		8,684,096		13,667,128
Housing construction and sales								
operations ¹		890,425		65,505		420,958		534,972
	₩	16,074,230	₩	7,232,924	₩	9,105,054	₩	14,202,100

¹ Apartment sales contracts of which the revenue is recognized at a point in time are excluded.

The amounts above do not include the construction contracts which are before commencement.

(2) Details of construction contracts in progress as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	2021								
	Accumulated sales	Accumulated cost	Accumulated profit (loss)	Retention for receivables ¹					
Architectural & housing									
construction	₩ 37,135,459	₩ 31,388,044	₩ 5,747,415	₩ 9,229					
New business	858,444	809,221	49,223	-					
Plant construction	36,211,018	37,045,779	(834,761)	210,545					
Infra works	10,534,493	10,216,555	317,938	77,935					
	84,739,414	79,459,599	5,279,815	297,709					
Housing construction and sales									
operations¹	2,488,332	1,959,420	528,912						
	₩ 87,227,746	₩ 81,419,019	₩ 5,808,727	₩ 297,709					

¹ Included in trade receivables.

(in millions of Korean won)	2020								
	Accumulated sales	Accumulated cost	Accumulated profit (loss)	Retention for receivables ¹					
Architectural & housing									
construction	₩ 34,523,048	₩ 29,337,573	₩ 5,185,475	₩ 11,941					
New business	848,824	805,095	43,729	-					
Plant construction	39,807,432	40,056,797	(249,365)	203,582					
Infra works	10,381,441	10,005,189	376,252	75,061					
	85,560,745	80,204,654	5,356,091	290,584					
Housing construction and sales									
operations ¹	1,725,847	1,383,131	342,716						
	₩ 87,286,592	₩ 81,587,785	₩ 5,698,807	₩ 290,584					

¹ Included in trade receivables.

(3) Details of contract assets and liabilities (unbilled and overbilled amount) related to construction as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	2021					2020			
		ontract assets ¹		Contract abilities ²		Contract assets ¹		Contract abilities ²	
Architectural & housing construction	₩	316.301	₩	1,587,150	₩	326.308	₩	1,263,402	
	۷V	,	۷V		۷V	,	۷V		
New business		14,850		6,621		4,774		3,459	
Plant construction		235,991		186,204		333,223		264,998	
Infra works		381,718		229,309		358,420		114,727	
	₩	948,860	₩	2,009,284	₩	1,022,725	₩	1,646,586	

¹ As of December 31, 2021, allowance for bad debts which the Group recognized for contract assets in accordance with Korean IFRS 1109 amounts to ₩ 269,860 million (2020: ₩ 264,995 million).

As of December 31, 2021, the unbilled amount from housing construction and sales operations is $\mbox{$W$}$ 12,752 million (2020: $\mbox{$W$}$ 747 million) and overbilled amount from housing construction and sales operations is $\mbox{$W$}$ 284,632 million (2020: $\mbox{$W$}$ 59,597 million).

(4) As of December 31, 2021, the cost of fulfilling a contract which the Group has recognized as an asset is ₩ 90,794 million (2020: ₩ 103,096 million). In connection with construction contracts, the Group recognized cost directly related to the contract (or expected contract) and that creates or increases the value of the entity's resources to be used in fulfilling its future performance obligations and recoverable, as cost to fulfill a contract.

(5) Details of major joint construction contracts as of December 31, 2021, are as follows:

(in millions of Korean won)	Tot	al contract		Amounts tributable to	Equity interest attributable to	
		amount	the Group		the Group	Principal contractee
Karbala Refinery Project	₩	6,997,379	₩	2,624,017	37.5%	Hyundai E&C
Clean Fuels Project(MAA)		5,200,323		1,733,441	33.3%	JGC
P10-Project		1,878,696		958,135	51.0%	GS E&C
New Hanul Nuclear Power Plant #1,2 main facility construction Imun section 3 Housing		1,902,956		475,739	25.0%	Hyundai E&C
redevelopment and maintenance project		979,781		470,295	48.0%	HDC
Central park Xi Prugio		824,916		412,458	50.0%	GS E&C
P9-Project		797,892		406,925	51.0%	GS E&C
Suwon Central I-Park Xi		725,656		362,828	50.0%	HDC
Pyeongchon Xi I-Park		572,448		343,469	60.0%	GS E&C
Gaepo 8 complex		2,611,201		869,530	33.3%	Hyundai E&C

 $^{^2}$ Sales recognized for the year ended December 31, 2021, from the balance of contract liabilities as of December 31, 2020, amount to \forall 1,418,431 million.

(6) Provision for construction losses under the stage-of-completion method, changes in contract revenues and costs arising from accounting estimates changes and unbilled amount related to construction for the years ended December 31, 2021 and 2020, are as follows:

(in millions of								2021						
Korean won)	Con	vision for struction osses	c	anges in contract evenues	es	anges in stimated tract costs	fo ye ch	ofit (loss) r current ar due to anges in stimates	pro cha	spected fit due to anges in stimates		Total	t re	anges in unbilled amount elated to astruction
Architectural & housing construction Plant construction Infra works	₩	394 25,410 8	₩	634,737 397,547 139,917	₩	(876,129) 508,387 165,151	₩	780,837 (151,994) (78,860)	₩	730,029 41,154 53,626	₩	1,510,866 (110,840) (25,234)	₩	780,837 (151,994) (78,860)
	₩	25,812	₩	1,172,201	₩	(202,591)	₩	549,983	₩	824,809	₩	1,374,792	₩	549,983
(in millions of								2020						
Korean won)	Con	vision for struction osses	c	anges in contract evenues	es	anges in stimated tract costs	for ch	ofit (loss) prior year due to anges in stimates	pro cha	spected fit due to anges in stimates		Total	t re	nanges in unbilled amount elated to nstruction
Architectural & housing construction Plant construction Infra works	₩	761 15,592 226	₩	374,919 525,799 91,483	₩	(784,380) 707,590 92,783	₩	819,856 (233,424) (28,469)	₩	339,442 51,633 27,169	₩	1,159,298 (181,791) (1,300)	₩	819,856 (233,424) (28,469)
	₩	16.579	₩	992 201	₩	15 993	₩	557 963	₩	418 244	₩	976 207	₩	557 963

(7) Under the stage-of-completion method, the construction contracts of which the contract revenue exceeds 5% of the preceding year's total revenue for the years ended December 31, 2021 and 2020, are as follows:

(in millions of				2021							
Korean won)				-	Unbilled amo	unt related to	Receivables from construction contracts				
		Contract date	Contract due ¹	Progress rate	Amount	Accumulated impairment	Amount	Allowance for bad debts			
Architectural & housing	P10-Project Sinbanpo Section 4	2015-10-20	2022-03-31	99.69	₩ -	₩ -	₩ -	₩ -			
construction	reconstruction and maintenance Project	2021-10-28	2024-12-27	6.00	56,163	-	-	-			
	Gaepo Presidents Xi	2019-11-04	2023-02-28	48.91	-	-	24	-			
	Cheolsan Jugong 8,9 Complex Housing reconstruction and maintenance Project	2021-12-30	2025-02-28	2.27	19,912	-	-	-			
	Second Grand City Xi	2017-05-01	2020-10-31	100.00	-	-	-	-			
	Gwacheon Xi	2018-12-13	2021-11-12	93.29	-	-	92,892	531			
	North Suwon Xi Rexvia	2021-03-19	2024-03-31	5.36	-	-	4	-			
	Tapseok Central Xi	2018-11-01	2021-12-31	96.40	-	-	122,423	611			
	Brighten Imun section 3 Housing	2019-07-23	2023-04-22	33.34	9,013	-	120,062	638			
	redevelopment and maintenance project	2021-10-26	2025-07-25	2.67	12,576	-	-	-			
	Heukseok Riverpark Xi	2019-12-06	2023-02-28	41.60	15,838	-	10	-			
	Songdo Xi Crystal Ocean	2021-02-22	2024-06-14	15.79	-	-	1,252	19			
	Gaepo 8 complex	2018-03-14	2021-07-31	100.00	-	-	-	-			
	GP3	2017-07-07	2022-05-31	94.65	-	-	4,750	-			
Plant construction	Karbala Refinery Project	2014-04-22	2023-03-31	94.57	-	-	165,030	-			
	Clean Fuels Project(MAA)	2014-04-13	2021-12-31	100.00	8,631	-	4,841	-			
	MFC Project	2018-08-07	2022-05-31	96.46	-	-	148,688	742			
	Yeosu No.2 Complex Project	2018-12-04	2021-08-31	100.00	-	-	-	-			
	Bahrain LNGIT Project ¹	2015-12-02	2021-12-31	100.00	-	-	-	-			
	Anyang Cogeneration Power Plant No.2 Construction	2015-09-22	2021-12-31	100.00	429	-	18,291	91			
	New Hanul Nuclear Power Plant #1,2 main facility construction	2010-04-30	2023-03-31	98.86	9,101	-	-	-			
Infra works	Thomson-East Coast line Contract T301	2016-03-18	2024-07-29	68.86	101,227	-	48,240	-			
	ITTC Project	2020-05-11	2025-02-17	18.68	-	-	10,315	-			
	NSC N101	2018-12-26	2027-05-20	22.80	34,351	-	6,951	-			
	North East Link Project	2021-10-28	2028-10-27	0.32	8,706	-	-	-			

¹ The project's contractual or expected construction period.

(in millions of				2020)					
Korean won)						unt related to	ted to Receivables from construction contracts			
		Contract date	Contract due ¹	Progress rate	Amount	Accumulated impairment	Amount	Allowance for bad debts		
Architectural &	P10-Project	2015-10-20	2022-03-31	99.27	₩ -	₩ -	₩ 1,233	₩ 7		
housing construction	Gaepo Presidents Xi	2019-11-04	2023-02-28	16.85	-	-	-	-		
	Grand City Xi	2016-10-01	2020-02-18	100.00	-	-	-	-		
	Second Grand City Xi	2017-05-01	2020-10-31	98.68	-	-	1	-		
	Gwacheon Xi	2018-12-13	2021-11-12	60.51	-	-	15	-		
	Ng Teng Fong Hospital	2012-06-01	2015-10-30	100.00	8,934	-	-	-		
	Han River Metro Xi 2 Complex(Gyeonggi)	2017-05-15	2020-07-14	100.00	-	-	-	-		
	Marina South Parcel	2013-08-01	2018-05-30	100.00	31	-	11,966	-		
	Tapseok Central Xi	2018-11-01	2021-12-31	62.82	46,841	-	5	-		
	Gaepo 8 complex	2018-03-14	2021-07-31	50.98	-	-	-	-		
	GP3 (Architectural- construction)	2017-07-07	2021-06-30	94.98	-	-	25,850	-		
Plant construction	Karbala Refinery Project	2014-04-22	2022-02-16	88.56	-	-	167,074	-		
CONSTRUCTION	Ruwais Refinery Expansion Project PKG-2	2009-12-14	2016-11-15	100.00	-	-	3,967	-		
	ERC Refinery Project	2007-08-29	2020-02-29	100.00	41,875	-	166,081	-		
	RRW Unit Restoration	2017-06-29	2019-06-30	100.00	10,880	-	-	-		
	Clean Fuels Project(MAA)	2014-04-13	2021-06-30	98.15	10,978	-	5,892	-		
	NSRP Project	2013-07-22	2018-11-14	100.00	-	-	96	-		
	MFC Project	2018-08-07	2021-04-30	86.40	12	-	1,004	5		
	Rabigh II CP4	2012-06-25	2017-07-17	100.00	-	-	21,760	-		
	Takreer Inter Refinery Pipeline-2 Project	2010-09-16	2016-08-31	100.00	4	-	7,790	-		
	Rumaitha/Shanayel Facilities PhaseIII	2014-04-14	2018-06-28	100.00	2,144	-	5,064	-		
	Yeosu No.2 Complex Project	2018-12-04	2021-06-30	87.32	94,672	-	30,162	162		
	LPIC Project PKG 3	2015-12-17	2020-04-24	100.00	937	-	14,217	-		
	KNPC North LPG Tank Farm	2011-04-10	2019-08-28	100.00	44	-	1,474	-		
	KOC Wara Pressure Maintenance Project	2011-09-15	2020-12-31	100.00	70,490	70,490	1,465	-		
	Bahrain LNGIT Project	2015-12-02	2021-06-30	99.40	26,202	-	4,547	-		
	Star Project	2013-05-20	2019-12-19	100.00	-	-	36,583	-		
	PP-12 Combined Thermal Power Plant	2012-05-16	2020-11-17	100.00	90,589	90,589	-	-		
la francisco de	Anyang Cogeneration Power Plant No.2 Construction Thomson-East Coast line		2021-12-31	93.81	4,363	-	-	-		
Infra works	Contract T301	2016-03-18		61.51	149,028	-	43,076	-		
	Doha Link project		2019-06-20	100.00	-	-	5,924	-		
	Dohametro Qatar		2020-04-05	100.00	54,427	54,427	1,229	-		
	NSC N101		2026-11-30	8.96	-	-	899	-		
	ITTC Project	2020-05-11	2024-12-30	2.33	-	-	310	-		

¹ The project's contractual or expected construction period.

Of the construction contracts whose total contract revenue amounts to 5% or more of the previous fiscal year's sales, construction contracts before commencement which did not generate profits are excluded. Contracts of which revenue is recognized as the percentage of completion method due to construction warranty after delivery are included. On the other side, there are no construction contracts that are excluded from the disclosure due to related laws or contracts with the client.

8. Inventories and Other Assets

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

(in millions of Korean won)		2021		2020
Land for construction ¹	₩	399,159	₩	899,197
Goods and products		17,273		9,466
Raw materials		82,579		50,361
Finished shopping complex		1,025		-
Unfinished housing construction		888,664		424,837
Supplies		79,318		44,068
Incompletion construction		6,633		2,132
Semi-finished goods		686		-
Work-in-process		1,563		-
Goods in transit		200		
	₩	1,477,100	₩	1,430,061

¹ Land for construction amounting to ₩ 253,596 million (2020: ₩ 244,001 million) has been pledged as collateral for borrowings.

(2) Other current assets as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	2021			2020
Prepaid construction costs	₩	90,794	₩	103,096
Advance payments		211,827		258,741
Prepaid expenses		55,890		31,780
Purchase value added tax		59,671		48,333
Prepaid income taxes		25,930		22,287
	₩	444,112	₩	464,237

(3) Other non-current assets as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	2021			2020		
Long-term advance payments	₩	31,113	₩	18,495		
Long-term prepaid expenses		124,431		96,390		
Other non-current assets		1,590		2,127		
	₩	157,134	₩	117,012		

9. Categories of Financial Assets and Liabilities

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

2021									
Financial assets at fair value through profit or loss	Derivative financial instruments	Financial assets at amortized cost	Total						
₩ -	₩ -	₩ 2,718,390 2,200,132	2,200,132						
93,213	2,699	,	395,042 1,195,973						
8,883	2,527	589,054	600,464						
250,735			250,735						
₩ 352,831	₩ 5,226	₩ 7,002,679	₩ 7,360,736						
	20	20							
assets at fair value through profit or loss	Derivative financial instruments	Financial assets at amortized cost	Total						
₩ -	₩ -	₩ 2,118,919							
30,000	19,128	1,957,065	1,957,065 257,870						
-	-	866,621	866,621						
-	29	616,777	616,806						
249,466			249,466						
₩ 279,466	₩ 19,157	₩ 5,768,124	₩ 6,066,747						
	assets at fair value through profit or loss	Derivative financial instruments	See						

(2) Categories of financial liabilities as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)			2021											
	Financial liabilities at fair value through prof or loss		Derivative financial instruments	lia	ner financial abilities at ortized cost	Total								
Trade and other payables	₩	-	₩ -	₩	1,656,079	₩	1,656,079							
Short-term financial liabilities		-	5,362		1,212,694		1,218,056							
Other current liabilities ¹		-	-		546,689		546,689							
Long-term financial liabilities		-	3,310		2,948,644		2,951,954							
Other non-current liabilities		_			68,414		68,414							
	₩	_	₩ 8,672	₩	6,432,520	₩	6,441,192							

¹ Consists of accrued expenses, accrued dividends, current membership guarantee deposits and deposits received and, except for short-term employee benefits.

(in millions of Korean won)		20)20	
	Financial liabilities at fair value through profit or loss	Derivative financial instruments	Other financial liabilities at amortized cost	Total
Trade and other payables	₩ -	. \	₩ 1,403,146	₩ 1,403,146
Short-term financial liabilities	38,722	6,740	1,148,010	1,193,472
Other current liabilities ¹	-	-	463,657	463,657
Long-term trade and other				
payables	-	-	189,393	189,393
Long-term financial liabilities	-	2,270	2,955,709	2,957,979
Other non-current liabilities		<u> </u>	55,003	55,003
	₩ 38,722	9,010	₩ 6,214,918	₩ 6,262,650

¹ Consists of accrued expenses, accrued dividends, current membership guarantee deposits and deposits received and, except for short-term employee benefits.

(3) Net gains and losses on financial instruments by category for the years ended December 31, 2021 and 2020, are as follows:

(in millions of	2021											
Korean won)	Financial instruments at fair value through profit or loss	Derivative financial instruments	Financial instruments at amortized cost	Total								
Interest income ¹	₩ -	₩ -	₩ 50,991	₩ 50,991								
Interest expense ¹	-	-	(70,470)	(70,470)								
Gain on foreign currency translation Gain on foreign currency	-	-	73,717	73,717								
transaction	-	-	42,262	42,262								
Gain on derivatives valuation	26,216	787	, -	27,003								
Loss on derivatives												
transaction	(31,765)	(1,376)	-	(33,141)								
Dividend income	667	-	-	667								
Other finance income	1,179		21,173	22,352								
	₩ (3,703)	₩ (589)	₩ 117,673	₩ 113,381								

¹ Interest expenses for lease liabilities and interest income from subleases are excluded.

(in millions of	2020												
Korean won)	instrun fair v throug	incial nents at value h profit loss	fir	rivative nancial ruments	ins	Financial truments at ortized cost		Total					
Interest income ¹	₩	80	₩	-	₩	38,872	₩	38,952					
Interest expense ¹		-		-		(94,246)		(94,246)					
Loss on foreign currency													
translation		-		-		(71,837)		(71,837)					
Loss on foreign currency													
transaction		-		-		(21,484)		(21,484)					
Loss on derivatives													
valuation ¹		(28,384)		(8,953)		-		(37,337)					
Gain (loss) on derivatives													
transaction		(430)		61		-		(369)					
Dividend income		600		-		-		600					
Other finance loss		24,338		_		(212,272)		(187,934)					
	₩	(3,796)	₩	(8,892)	₩	(360,967)	₩	(373,655)					

¹ Interest expenses for lease liabilities and interest income from subleases are excluded.

10. Financial Assets at Fair Value through Profit or Loss

(1) Details of financial assets at fair value through profit or loss as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	:	2021		2020
Non-marketable equity securities	₩	250,735	₩	249,466

(2) Changes in financial assets at fair value through profit of loss for the years ended December 31, 2021 and 2020, are as follows:

(in millions of Korean won)		2021		2020
Beginning	₩	249,466	₩	239,868
Acquisition		6,907		12,057
Disposal		(3,283)		(18,635)
Valuation		2,349		32,514
Transfer		(4,789)		(17,653)
Changes in exchange rate		85		1,314
Changes in consolidation		-		1
Ending	₩	250,735	₩	249,466

(3) Details of non-marketable equity securities as of December 31, 2021, and 2020, are as follows:

(in millions of Korean won)	Number of	Equity interest		Acquisit	tion	cost	Book value ¹				
	shares	(%)		2021		2020		2021 2020			
Uijeongbu LRT Inc.	8,663,394	47.54	₩	45,226	₩	45,226	₩	-	₩	-	
Seoul-Munsan Highway Co., Ltd. Oksan Ochang Highway	9,667,840	36.40		48,339		48,339		42,248		42,248	
Corporation Daegu Green Energy Center	5,988,000	60.00		29,940		29,940		3,132		3,515	
Co., Ltd.	474,400	10.20		2,372		2,372		-		-	
Eun Pyung New Road Corp.	435,200	55.06		2,176		2,176		2,176		2,176	
Jeonju Sewage Pipe Co., Ltd.	207,060	7.90		1,035		1,035		-		-	
Nonsan Drain Co., Ltd.	91,868	11.90		459		459		459		459	
Masan Drain Co., Ltd.	220,890	8.14		1,104		1,104		383		503	
Youngduk & Bio Co., Ltd. The 2nd YoungDong Highway	34,870	4.22		174		174		174		174	
Co., Ltd.	1,437,483	2.69		7,187		7,187		511		511	
Gaya Railway Co., Ltd.	305,490	2.30		1,527		1,527		126		167	
S-Y highway Co., Ltd.	4,737,712	7.00		23,689		23,689		-		-	
Kangreung Sewage Pipe Co., Ltd. Eumseong Sewage Pipe Co.,	50,682	3.30		253		253		253		253	
Ltd.	67,210	6.30		336		336		336		336	
Mileseum Co., Ltd.	86,645	1.63		433		433		433		433	

(in millions of Korean won)	Number of	Equity interest	Acquisitio	on cost	Book value ¹			
	shares	(%)	2021	2020	2021	2020		
Seoul Northern Highway Co.,								
Ltd.	2,730,560	5.60	13,653	13,653	3,247	2,845		
Daejeon Sewage Pipe Co., Ltd.	108,456	4.00	830	830	830	830		
Gyungggi Railroad Cd., Ltd. Green Energy Development Co.,	495,000	2.45	2,475	2,475	-	-		
Ltd.	81,000	27.00	405	405	405	405		
Dangyul Co., Ltd.	128,228	11.29	641	641	641	641		
Wonju Green Co., Ltd.	805,425	24.46	4,027	1,132	445	242		
Gumi Green Water Co., Ltd.	335,412	18.90	1,677	1,677	1,432	1,257		
Ulsan green Co., Ltd.	701,368	19.74	3,507	3,507	3,064	3,533		
Seoul Tunnel Co., Ltd. Paju-Yangju Powerful Army Co.,	1,147,200	6.00	5,736	5,736	7,222	5,736		
Ltd.	89,289	8.00	447	447	-	-		
Evergreen Goyang Co., Ltd.	24,267	1.76	121	121	121	121		
The 2nd Outer Circular Highway Co., Ltd.	2,894,436	13.32	14,472	14,472	14,472	14,472		
Midan City Development Co., Ltd.	2,391,480	13.40	13,240	13,240	-	-		
Dream Hub Project Financial Investment	4,000,000	2.00	20,000	20,000	-	-		
Alpha Dome City Co., Ltd. (deferred shares)	13,175	0.48	66	66	-	-		
Alpharos Mixed-use Development Co., Ltd.	9,580	9.58	48	48	-	-		
Tropical Bintan Pte., Ltd.	625,000	12.50	2,444	2,444	-	-		
The Korea Economic Daily Asiad Country Club Co., Ltd. (Formerly, Busan Travel &	646	-	14	14	14	14		
Development Co., Ltd.) International Convention Center	80,000	2.67	400	400	-	-		
Jeju	100,000	0.25	500	500	500	500		
Public Development Co., Ltd.	276,259	17.09	2,669	2,669	3,327	2,496		
Construction Guarantee Cooperative ²	16,363	0.38	17,095	17,095	25,030	24,838		
Engineering Construction Financial Cooperative ²	13,700	0.98	6,612	6,612	9,969	9,387		
Electric Construction Financial Cooperative	600	0.01	98	98	98	98		
Information & Communication Financial Cooperative	440	0.03	61	61	61	61		
Fire Guarantee Cooperative	40	0.01	20	20	20	20		
Siheung Ecopia Co., Ltd.	30,530	3.51	153	153	153	153		
West Seoul Urban Expressway Inc	600,087	3.53	3,000	3,000	52,035	53,850		
Daejeongreen.	1,058,077	27.20	5,290	1,984	-	-		
Dong Yang Engineering and Construction Corp.	545	0.02	3	3	3	3		
Jinsung Construction Co., Ltd.	10,095	1.39	101	101	-	-		
Gyeonggnam Enterprise Ltd.	292	-	1	1	1	1		
Pyeongtaek EOS	328,200	6.00	1,641	1,641	1,732	1,641		
Ansan 4dong 90 block PFV Co., Ltd.	-	-	1,041	3,200	1,752	3,037		
Busan East-West highway Corp.	2,201,310	21.31	11,007	11,007	11,007	11,007		
KIAMCO Gyeonggi Railway	8,104,011,384	10.31	8,107	8,107	-	11,007		
and o of congginantay	0,104,011,304	10.31	0,107	0,107	-	-		

(in millions of Korean won)	Number of	Equity interest	Acquisi	tion cost	Book	k value ¹			
	shares	(%)	2021	2020	2021	2020			
Investment Private Investment Trust									
Gyongbuk Green Energy	286,552	8.40	1,433	1,433	1,538	1,515			
North Han-River Barraks	13,308	0.48	67	44	67	44			
Ssangyong E&C Co., Ltd.	1,743	-	9	9	9	9			
Pureun seobu environment	13,488	1.30	68	68	68	68			
Hwaseong Ecotec Co,.Ltd.	8,689	0.90	43	43	43	43			
Blue Core PFV Co., Ltd.	1,000,000	10.00	5,000	5,000	5,000	5,000			
Gunsan Green Energy Center Co., Ltd.	246,962	10.05	1,235	1,235	393	1,235			
GUMIMAKEUNMUL Co., Ltd.	116,721	12.15	584	584	584	584			
Donghae International Resources Terminal Co., Ltd. SAMBU CONSTRUCTION CO.,	138,000	10.00	690	690	690	690			
LTD.	23,444	0.02	20	14	55	14			
Angelswing Co,. Ltd.	5,291	4.53	1,500	1,500	1,402	1,431			
Chemico Advanced Materials Co., Ltd.	1,748,500	14.54	1,500	1,500	1,625	360			
Gangnam Metro Co., Ltd.	3,900	39.00	20	20	20	20			
DONGBU Corporation	5,048	0.02	72	-	74	-			
Korea Painting Artists Cooperative	10	5.21	10	10	10	10			
Others ³	-	-	64,762	63,209	53,097	50,480			
			₩ 381,824	₩ 377,169	₩ 250,735	₩ 249,466			

¹ The book value is the amount of net asset value or after fair value evaluation.

Certain equity securities held by the Group are pledged as collateral (Note 21).

Equity securities held by the Group with 20% or more of the voting power of the investee over which it does not have significant influence are classified as financial assets at fair value through profit of loss.

² The financial assets have been pledged as collateral in relation to its construction performance guarantee, etc.

 $^{^3}$ Non-marketable equity security held by a subsidiary. Of these, amounting to \forall 1,538 million has been pledged as collateral in connection with the construction payment guarantee.

11. Derivative Instruments

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

(in millions of								20	21							
Korean won)	· · · · · · · · · · · · · · · · · · ·												Ac	cumulated		
		Valu	ation		Gain or loss					other comprehensive loss ¹					s ¹	
	A	ssets	Lia	bilities		Gain		Loss		Net		Gain		Loss		Net
For sale	₩	10,340	₩	-	₩	26,216	₩	-	₩	26,216	₩	_	₩	_	₩	-
Hedging		5,226		8,672		23,332		22,545		787		49,671		42,250		7,421
	₩	15,566	₩	8,672	₩	49,548	₩	22,545	₩	27,003	₩	49,671	₩	42,250	₩	7,421

¹ Gain (loss) on valuation of derivatives are presented prior to income tax effects.

(in millions of								20	20							
Korean won)		Valu	ation	<u> </u>		Gain or loss						Accumulated other comprehensive loss ¹				ss¹
	Α	ssets	Lia	bilities		Gain		Loss		Net		Gain		Loss		Net
For sale	₩	-	₩	15,876	₩	-	₩	12,165	₩	(12,165)	₩	-	₩	-	₩	-
Option ^{2,3}		-		22,846		8,355		24,574		(16,219)		-		-		-
Hedging		19,156		9,010		26,937		35,890		(8,953)		61,602		67,114		(5,512)
	₩	19,156	₩	47,732	₩	35,292	₩	72,629	₩	(37,337)	₩	61,602	₩	67,114	₩	(5,512)

¹ Gain (loss) on valuation of derivatives are presented prior to income tax effects.

² In relation to investments in business recognized as financial assets as fair value through profit or loss, financial investors granted a right to sell the shares to the Group.

³ The conversion right in relation to foreign convertible bond was provided to the bond holder, and the fair value of the conversion right assessed by the external institution was accounted for as derivative liabilities.

12. Investments in Associates and Joint Ventures

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

(in millions of				2021			
Korean won)	Equity ownership (%)	Beginning	Increase (decrease)	Share of profit or loss	Share of other comprehensive income	Others	Ending
Major Development Co., Ltd. GS KOCREF New	45.00	₩ -	₩ -	₩ -	₩ -	₩ -	₩ -
Stay REIT Co., Ltd. Beopwon Industry Urban Development	25.24	-	-	-	-	-	-
Corp. HyangSan 2 Urban	20.00	-	-	-	-	-	-
Development Corp.	50.00	-	-	-	-	-	-
SoBaek Co., Ltd. Yeouido MBC Site	29.99	-	-	-	-	-	-
MXD PFV. Inc. ¹ Gwancheon	10.00	-	-	-	-	-	-
Sangsang PFV ¹ FGS East Asia Technical Resource	19.00	1,326	-	7,783	-	-	9,109
Management, Inc. Cadiz San Fernando,	25.00	31	-	(1)	-	1	31
A.I.E. Participes de	21.95	1,659	-	442	-	(341)	1,760
Biorreciclaje S.A.	33.33	8,166	-	1,155	-	16	9,337
Gestion de Participes de Biorreciclaje	33.33	-	-	-	-	-	-
Cheongju Hi Tech Valley	20.00	208	-	(166)	-	-	42
BKT Co., Ltd.	29.00	14,173	-	(713)	2	-	13,462
PT. CORE RESOURCE	49.00	-	-	-	-	-	-
Zero Tech Co., Ltd. ¹	19.00	-	-	-	-	-	-
Cheonan Techno Park Inc. Camp Stanton Co.,	20.00	164	-	(164)	-	-	-
Ltd. ¹	0.58	2	-	-	-	1	3
ORIGIN LATPHRAO CO., LTD. RENEW SOLAR ENERGY	49.00	6,525	1,209	(387)	-	(139)	7,208
(JHARKHAND THREE) PRIVATE LIMITED	49.00	10,286	14,692	1,189	(106)	776	26,837
Jincheon smart bokhap Industrial danji development	20.00			00			00
Inc PARK PILLAR R4	20.00	-	-	99	-	-	99
CO., LTD. GYEONGGIPYEON	49.00	9,073	-	(213)	-	(191)	8,669
GTAEK GLOBAL	25.00	1,291	2,695	466	-	(17)	4,435

(in millions of	2021						
Korean won)	Equity ownership (%)	Beginning	Increase (decrease)	Share of profit or loss	Share of other comprehensive income	Others	Ending
CO., LTD.							
GS Collective Fund I LLC ¹ CHEMICO ADVANCED MATERIALS CO.,	6.45	977	2,315	(212)	-	136	3,216
LTD. ^{1,2}	14.54	-	-	-	_	-	-
EPOCH PFV Co., LTD.	22.98	7,611	3,144	(528)	-	-	10,227
Jerotaekmuan Co., LTD. Bucheon Visual Culture Industrial Complex Development Co.,	30.00	-	4 500	- (4.402)	-	-	-
Ltd. ³	26.53	-	1,500	(1,492)	-	(8)	
Phu My Vinh³ GS Inima Fisia	30.00	-	15,262	238	-	899	16,399
(Barka) LLC³ Fisia GS Inima (Al	50.00	-	-	(216)	-	216	-
Ghubrah) LLC ³	50.00			83		(1)	82
		₩ 61,492	₩ 40,817	₩ 7,363	₩ (104)	₩ 1,348	₩ 110,916

¹ The corporation has categorized as associates due to the Group has significant influence with the seniority right of directors.

² Classified as financial assets at fair value through profit or loss in accordance with Korean IFRS 1109 as it is determined that the profits linked to the ownership interest in the associates through the financial instruments are not substantially accessible by investing in convertible preferred shares issued by investee over which the Group has significant influence (Note 10).

³ Newly acquired for the year ended December 31, 2021.

(in millions of	2020											
Korean won)	Equity ownership (%)	Beginning	Increase (decrease)	Share of profit or loss	Share of other comprehensive income	Others	Ending					
Major Development Co., Ltd.	45.00	₩ -	₩ -	₩ -	₩ -	₩ -	₩ -					
GS KOCREF New Stay REIT Co., Ltd.	25.24	-	-	-	-	-	-					
Hakun 7 Industry Complex Co., Ltd. ¹	-	15	-	(15)	-	-	-					
Beopwon Industry Urban Development Corp.	20.00	-	-	-	-	-	-					
HyangSan 2 Urban Development Corp.	50.00	1	-	(1)	-	-	-					
Tongjin Industry Complex CO., Ltd. ¹	-	10	(10)	-	-	-	-					
SoBaek Co., Ltd. Yeouido MBC Site	29.99	-	-	-	-	-	-					
MXD PFV. Inc. ² Gwancheon	10.00	631	-	(631)	-	-	-					
Sangsang PFV ² FGS East Asia Technical Resource	19.00	1,799	-	(473)	-	-	1,326					
Management, Inc.	25.00	30	-	1	-	-	31					
Cadiz San Fernando, A.I.E.	21.95	1,581	-	361	-	(283)	1,659					
Participes de Biorreciclaje S.A.	33.33	7,288	-	653	-	225	8,166					
Gestion de Participes de Biorreciclaje	33.33	-	-	-	-	-	-					
Cheongju Hi Tech Valley	20.00	60	-	148	-	-	208					
BKT Co., Ltd. PT. CORE	29.00	16,675	-	(2,503)	-	1	14,173					
RESOURCE	49.00	655	-	(649)	-	(6)	-					
Zero Tech Co., Ltd. ² Cheonan Techno	19.00	-	-	-	-	-	-					
Park Inc. Camp Stanton Co.,	20.00	365	-	(201)	-	-	164					
Ltd. ²	0.58	2	-	-	-	-	2					
ORIGIN LATPHRAO CO., LTD. ³ RENEW SOLAR ENERGY	49.00	-	7,102	(480)	-	(97)	6,525					
(JHARKHAND THREE) PRIVATE LIMITED ³ Jincheon smart	49.00	-	13,413	(378)	(1,726)	(1,023)	10,286					
bokhap Industrial danji development Inc. ³	20.00	_	100	(100)	_	_	-					
PARK PILLAR R4 CO., LTD. ³ GYEONGGIPYEON	49.00	-	10,611	(1,023)	-	(515)	9,073					
GTAEK GLOBAL CO., LTD. ³	30.00	-	1,305	(14)	-	-	1,291					

(in millions of				2020			
Korean won)	Equity ownership (%)	Beginning	Increase (decrease)	Share of profit or loss	Share of other comprehensive income	Others	Ending
GS Collective Fund I LLC ^{2,3} CHEMICO ADVANCED MATERIALS CO	6.45	-	1,201	(121)	-	(103)	977
LTD. ^{2,3,4} EPOCH PFV Co.,	14.54	-	-	-	-	-	-
LTD. ³ Jerotaekmuan Co.,	22.91	-	8,223	(612)	-	-	7,611
LTD. ³	30.00		2	(2)			
		₩ 29,112	₩ 41,947	₩ (6,040)	₩ (1,726)	₩ (1,801)	₩ 61,492

¹ Disposed of shares for the year ended December 31, 2020.

² The corporation has categorized as associates due to the Group has significant influence with the seniority right of directors.

³ Newly acquired for the year ended December 31, 2020.

⁴ Classified as financial assets at fair value through profit or loss in accordance with Korean IFRS 1109 as it is determined that the profits linked to the ownership interest in the associates through the financial instruments are not substantially accessible by investing in convertible preferred shares issued by investee over which the Group has significant influence (Note 10).

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

(in millions of		2021											
Korean won)	Equity												
	ownership (%)	Beginning	Increase	or loss	Others	Ending							
G&M Estate Co.,	50.00	W 500	JA 4	M	144	W 500							
Ltd. GS Korea for Project Management	50.00	₩ 502	₩ -	₩ 1	₩ -	₩ 503							
Company	49.00	18	-	-	2	20							
Hialeah Water, LLP	50.00	423	-	-	26	449							
PT. Daria Mulia Properti	50.00	20,933	_	98	1,544	22,575							
Lignana LLC	50.00	-	-	-	· -	· -							
Lignana LLP¹	95.00	17,522	19,798	(2,233)	12	35,099							
GS MINH HUNG SIKICO CO.,													
LTD. ¹	51.00	797	2,426	(105)	311	3,429							
		₩ 40,195	₩ 22,224	₩ (2,239)	₩ 1,895	₩ 62,075							

¹ Increase resulting in participation of additional share issuance.

(in millions of	2020												
Korean won)	Equity		Share of profit										
	ownership (%)	Beg	Beginning		ncrease		or loss		Others		Ending		
G&M Estate Co.,													
Ltd.	50.00	₩	489	₩	-	₩	13	₩	-	₩	502		
GS Korea for													
Project													
Management													
Company	49.00		21		-		(2)		(1)		18		
Hialeah Water, LLP	50.00		446		-		-		(23)		423		
PT. Daria Mulia													
Properti	50.00		22,327		-		144		(1,538)		20,933		
Lignana LLC¹	50.00		-		2		(3)		1		-		
Lignana LLP¹	95.00		-		17,761		(248)		9		17,522		
GS MINH HUNG SIKICO CO.,													
LTD. ¹	34.06		_		819		(5)		(17)		797		
		₩	23,283	₩	18,582	₩	(101)	₩	(1,569)	₩	40,195		

¹ Newly acquired for the year ended December 31, 2020.

(3) As of December 31, 2021 and 2020, the following entities with more than 20% of voting rights of the Group were judged to have no significant influence because the Group's ability to participate in business policies and decision making and the scope of discretion is considerably limited by the Private Investment Act and concession agreements.

	2021
	Percentage of ownership (%)
Uijeongbu LRT Inc.	47.54
Seoul-Munsan Highway Co., Ltd.	36.40
Oksan Ochang Highway Corporation	60.00
Eun Pyung New Road Corp.	55.06
Green Energy Development Co., Ltd.	27.00
WONJU GREEN CORP.	24.46
Daejeongreen	27.20
Busan East-West highway Corp.	21.31
Gangnam Metro Co., Ltd.	39.00
Shariket Tahlya Miyah Mostaganem, Spa	25.50
	2020
	Percentage of ownership (%)
Uijeongbu LRT Inc.	47.54
Seoul-Munsan Highway Co., Ltd.	36.40
Oksan Ochang Highway Corporation	60.00
Eun Pyung New Road Corp.	55.06
Green Energy Development Co., Ltd.	27.00
Busan East-West highway Corp.	32.13
Gangnam Metro Co., Ltd.	39.00
Shariket Tahlya Miyah Mostaganem, Spa	25.50

(4) Equity method of accounting has been suspended due to accumulated losses, and unrecognized losses in equity for the years ended December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	2021									
	Ве	ginning		Increase		Ending				
Major Development Co., Ltd.	₩	8,541	₩	(212)	₩	8,329				
GS KOCREF New Stay REIT Co., Ltd.		33,262		9,191		42,453				
Beopwon Industry Urban Development Corp.		1,268		992		2,260				
HyangSan 2 Urban Development		4		1		2				
Corp.		0.400		1		_				
SoBaek Co., Ltd.		9,109		3,891		13,000				
Yeouido MBC Site MXD PFV. Inc.		2,982		1,731		4,713				
Gestion de Participes de Biorreciclaje		11		-		11				
Zero Tech Co., Ltd.		67		14		81				
PT. CORE RESOURCE		140		327		467				
Lignana LLC		9		11		20				
Jincheon smart bokhap Industrial danji development Inc.		34		(34)		-				
Jerotaekmuan Co., LTD.		3		20		23				
Cheonan Techno Park Inc.		-		44		44				
Bucheon Visual Culture Industrial Complex Development Co. Ltd.		_		1,855		1,855				
•	₩	55,427	₩	17,831	₩	73,258				

(in millions of Korean won)		2020								
	Ве	eginning		Increase		Ending				
Major Development Co., Ltd.	₩	7,713	₩	828	₩	8,541				
GS KOCREF New Stay REIT Co., Ltd.		21,582		11,680		33,262				
Beopwon Industry Urban Development Corp.		983		285		1,268				
HyangSan 2 Urban Development Corp.		_		1		1				
SoBaek Co., Ltd.		5,446		3,663		9,109				
Yeouido MBC Site MXD PFV. Inc.		, -		2,982		2,982				
Gestion de Participes de Biorreciclaje		11		· -		11				
Zero Tech Co., Ltd.		48		19		67				
PT. CORE RESOURCE		_		140		140				
Lignana LLC		_		9		9				
Jincheon smart bokhap Industrial danji development Inc.		-		34		34				
Jerotaekmuan Co., Ltd.		_		3		3				
	₩	35,783	₩	19,644	₩	55,427				

(5) A summary of financial information on associates and joint ventures is as follows:

(in millions of		2021											
Korean won)	Asset			Liabilities		Net assets		Sales	Profit (loss) for the year				
Associates													
Major Development													
Co., Ltd.	₩	578	₩	23,104	₩	(22,526)	₩	-	₩	(164)			
GS KOCREF New Stay REIT Co., Ltd.		354,177		323,783		30,394		2,214		(8,786)			
Beopwon Industry Urban Development													
Corp.		87,365		93,970		(6,605)		24,481		(177)			
HyangSan 2 Urban													
Development Corp.		408		412		(4)		-		(1)			
SoBaek Co., Ltd.		242,116		285,455		(43,339)		-		(12,974)			
Yeouido MBC Site													
MXD PFV. Inc.		669,227		684,258		(15,031)		145,140		(17,329)			
Gwancheon Sangsang													
PFV		138,327		90,495		47,832		120,988		44,536			
FGS East Asia													
Technical Resource		857		731		126		380		(2)			
Management, Inc.		007		731		120		300		(2)			
Cadiz San Fernando, A.I.E.		12,062		6,047		6,015		5,764		2,014			
Participes de		12,002		0,047		0,015		3,704		2,014			
Biorreciclaje S.A.		7,410		3,472		3,938		-		-			

(in millions of	2021										
Korean won)	Asset	Liabilities	Net assets	Sales	Profit (loss) for the year						
Gestion de Participes											
de Biorreciclaje	94	375	(281)	-	-						
Cheongju Hi Tech											
Valley	3,443	3,773	(330)	-	(828)						
BKT Co., Ltd.	33,626	18,705	14,921	17,037	(1,160)						
PT. CORE	40.074	40.077	(222)	F 000	(4.004)						
RESOURCE	10,374	10,977	(603)	5,262	(1,684)						
Zero Tech Co., Ltd.	44	472	(428)	-	(77)						
Cheonan Techno Park Inc.	20,025	20,686	(661)	_	(1,039)						
Camp Stanton Co.,	20,023	20,000	(001)	<u>-</u>	(1,039)						
Ltd.	447	_	447	_	_						
ORIGIN LATPHRAO											
CO., LTD.	25,628	16,496	9,132	4	(728)						
RENEW SOLAR											
ENERGY											
(JHARKHAND THREE) PRIVATE											
LIMITED	239,800	204,176	35,624	10,808	3,111						
Jincheon smart bokhap	200,000	201,110	33,32 1	10,000	0,111						
Industrial danji											
development Inc.	1,874	1,386	488	-	(11)						
PARK PILLAR R4 CO.,											
LTD.	28,161	20,157	8,004	-	(434)						
GYEONGGIPYEONGT											
AEK GLOBAL CO., LTD.	28,298	10,557	17,741	20,900	1,873						
GS Collective Fund I	20,230	10,557	11,1-1	20,300	1,073						
LLC.	50,769	935	49,834	_	(3,289)						
CHEMICO	,		,		, ,						
ADVANCED											
MATERIALS CO.,											
LTD.	2,796	331	2,465	15	(428)						
EPOCH PFV Co., LTD.	73,664	30,041	43,623	-	(2,260)						
Jerotaekmuan Co.,	1,464	1 540	(76)		(67)						
LTD Bucheon Visual	1,404	1,540	(76)	-	(67)						
Culture Industrial											
Complex											
Development Co.,											
Ltd.	32,250	37,863	(5,613)	-	(10,588)						
Phu My Vinh	53,976	33,477	20,499	7,180	1,605						
GS Inima Fisia (Barka)	0.400	0.075	(500)	4.000	(400)						
LLC	3,469	3,975	(506)	4,806	(432)						
Fisia GS Inima (Al Ghubrah) LLC	4,137	4,205	(68)	4,679	165						
Joint ventures	4,137	4,203	(00)	4,079	103						
John Tontuies											

(in millions of			2021		
Korean won)	Asset	Liabilities	Net assets	Sales	Profit (loss) for the year
G&M Estate Co., Ltd. GS Korea for Project Management	1,175	169	1,006	838	3
Company	138	99	39	123	-
Hialeah Water, LLP	1,161	157	1,004	-	-
PT. Daria Mulia	04.700	0	04.740		101
Properti Lignana LLC	31,722 14	3	31,719	-	191
Lignana LLP	63,706	56 26,760	(42) 36,946	995	(22)
GS MINH HUNG	03,700	20,700	30,940	995	(2,309)
SIKICO CO., LTD.	6,768	21	6,747	-	(207)
(in millions of			2020		
Korean won)	Asset	Liabilities	Not consta	Sales	Profit (loss) for
	Asset	Liabilities	Net assets	Sales	the year
Associates					
Major Development Co., Ltd.	₩ 11,110	₩ 34,105	₩ (22,995)	₩ -	₩ (1,351)
GS KOCREF New Stay REIT Co., Ltd.	360,444	321,245	39,199	1,111	(10,169)
Beopwon Industry Urban Development	94.465	00.903	(C 420)		(4.425)
Corp. HyangSan 2 Urban	84,465	90,893	(6,428)	-	(1,425)
Development Corp.	393	396	(3)	-	(2)
SoBaek Co., Ltd.	231,764	262,129	(30,365)	-	(12,206)
Yeouido MBC Site MXD PFV. Inc.	653,258	650,982	2,276	57,506	(22,815)
Gwancheon Sangsang PFV	69,579	66,283	3,296	-	(2,491)
FGS East Asia Technical Resource	·	·			(' ,
Management, Inc. Cadiz San Fernando,	1,128	1,003	125	300	2
A.I.E.	11,744	4,186	7,558	6,055	1,651
Participes de Biorreciclaje S.A.	98,776	71,054	27,722	24,993	1,999
Gestion de Participes de Biorreciclaje	93	373	(280)	-	-
Cheongju Hi Tech Valley	1,528	1,028	500		(216)
BKT Co., Ltd.	34,961	17,659	17,302	21,350	(5,708)
PT. CORE	54,551	17,000	11,002	21,000	(0,700)
RESOURCE	5,095	5,855	(760)	1,953	(993)
Zero Tech Co., Ltd.	1,292	1,644	(352)	-	(101)

(in millions of	2020											
Korean won)					Profit (loss) for							
·	Asset	Liabilities	Net assets	Sales	the year							
Cheonan Techno Park												
Inc.	1,023	645	378	-	(1,008)							
Camp Stanton Co.,												
Ltd.	447	-	447	-	(53)							
ORIGIN LATPHRAO					<i>(</i>)							
CO., LTD.	21,075	13,455	7,620	-	(2,036)							
RENEW SOLAR ENERGY												
(JHARKHAND												
THREE) PRIVATE												
LIMITED	20,956	3,875	17,081	435	(772)							
Jincheon smart bokhap												
Industrial danji												
development Inc	35	210	(175)	-	(675)							
PARK PILLAR R4 CO.,	00.550	47.005	0.040		(0.000)							
LTD.	26,553	17,935	8,618	20	(3,398)							
GYEONGGIPYEONGT AEK GLOBAL CO.,												
LTD.	4,275	_	4,275	-	(48)							
GS Collective Fund I	.,		.,		(15)							
LLC	15,152	18	15,134	-	(1,876)							
CHEMICO												
ADVANCED												
MATERIALS CO.,	0.040	40	0.005		(004)							
LTD.	2,918	13	2,905	-	(201)							
EPOCH PFV Co., LTD.	62,000	30,729	31,271	-	(2,657)							
Jerotaekmuan Co., Ltd.	1,464	1,473	(9)	_	(13)							
Joint ventures	1,404	1,475	(5)	_	(10)							
G&M Estate Co., Ltd.	1,103	100	1,003	1,003	25							
GS Korea for Project	1,100	100	1,000	1,000	20							
Management												
Company	100	64	36	102	(3)							
Hialeah Water, LLP	1,258	257	1,001	-	-							
PT. Daria Mulia												
Properti	29,364	5	29,359	-	287							
Lignana LLC	5	26	(21)	-	(23)							
Lignana LLP	18,542	98	18,444	-	(260)							
GS MINH HUNG	2 2 2 2											
SIKICO CO., LTD.	2,353	12	2,341	-	(14)							

13. Property, Plant and Equipment

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

(in millions of Korean won)		2021						2020						
	A	cquisition cost		cumulated preciation	ľ	Net book value	A	cquisition cost		cumulated preciation	ı	Net book value		
Land	₩	791,418	₩	-	₩	791,418	₩	764,292	₩	-	₩	764,292		
Buildings		649,267		(167,093)		482,174		598,868		(155,917)		442,951		
Structures		160,395		(56,556)		103,839		146,910		(51,002)		95,908		
Machinery		95,810		(50,044)		45,766		70,413		(45,001)		25,412		
Construction equipment		39,596		(27,338)		12,258		42,233		(28,302)		13,931		
Vehicles		29,174		(21,552)		7,622		26,658		(20,735)		5,923		
Tools		42,047		(21,937)		20,110		32,318		(19,124)		13,194		
Equipment		123,011		(107,892)		15,119		131,180		(114,032)		17,148		
Construction-in-progress		65,071				65,071		48,015		-		48,015		
	₩	1,995,789	₩	(452,412)	₩	1,543,377	₩	1,860,887	₩	(434,113)	₩	1,426,774		

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

(in millions of		2021														
Korean won)	Ве	Beginning A		uisition	Dis	sposal	Dep	oreciation	Tr	ansfer		change ferences		nange in Isolidation		Ending
Land	₩	764,292	₩	4,453	₩	(116)	₩	-	₩	4,029	₩	18,915	₩	(155)	₩	791,418
Buildings		442,951		14,287		(1,353)		(17,568)		32,349		11,508		-		482,174
Structures		95,908		10,538		(40)		(5,474)		442		2,465		-		103,839
Machinery Construction		25,412		13,850		(41)		(6,419)		14,369		(1,405)		-		45,766
equipment		13,931		1,502		(1,044)		(3,189)		-		1,058		-		12,258
Vehicles		5,923		3,244		(31)		(1,924)		315		95		-		7,622
Tools		13,194		9,038		(411)		(5,597)		3,587		299		-		20,110
Equipment Construction- in-progress		17,148 48,015		4,342 74,160		(1,373)		(5,189)		27 (53,695)		164 3,035		- (6,444)		15,119 65,071
p. 391 000	₩	1,426,774	₩	135,414	₩	(4,409)	₩	(45,360)	₩	1,423	₩	36,134	₩	(6,599)	₩	1,543,377

(in millions of		2020														
Korean won)	Beginning		Acq	uisition	Disposal		De	preciation	Tr	ansfer		change ferences		nange in solidation		Ending
Land	₩	533,615	₩	31,111	₩	(399)	₩	-	₩	-	₩	(12,478)	₩	212,443	₩	764,292
Buildings		474,764		2,282		(25,372)		(16,638)		12,906		(35,679)		30,688		442,951
Structures		67,095		1,240		(199)		(3,882)		29,162		(116)		2,608		95,908
Machinery Construction		14,765		3,409		(1,055)		(5,414)		8,542		(2,874)		8,039		25,412
equipment		17,127		4,152		(2,300)		(4,172)		-		(876)		-		13,931
Vehicles		4,802		1,603		(410)		(1,854)		562		(126)		1,346		5,923
Tools		9,201		4,141		(746)		(3,729)		4,716		(1,333)		944		13,194
Equipment Construction- in-progress		19,690 34,973		4,440 74,884		(1,063)		(6,341) -	(46 (55,890)		(139) (6,538)		515 586		17,148 48,015
. •	₩	1,176,032	₩	127,262	₩	(31,544)	₩	(42,030)	₩	44	₩	(60,159)	₩	257,169	₩	1,426,774

(3) Details of allocation of depreciation for the years ended December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	2	2021		2020
Cost of sales Selling and administrative expenses (including	₩	37,294	₩	32,804
technology development costs)		8,066		9,225
Construction-in-progress		<u>-</u>		1
	₩	45,360	₩	42,030

⁽⁴⁾ There are no payables related to acquisition of property, plant and equipment at the end of the reporting period.

(5) Collateral pledged to financial institutions for borrowings as of December 31, 2021 and 2020, is as follows:

					2021			
(in millions of Korean won)		arrying mount	_	Secured amount	Related account	-	Related Imount	Secured party
Lang Buildings	₩	150,974 187,429	₩	322,789	Borrowings	₩	180,418	Bank Pekao S.A. and
Others		10,867						others

(in millions of Korean won)		arrying mount	_	ecured mount	2020 Related account		elated mount	Secured party		
Land	₩	102,185	₩	142.136	Porrowingo	₩	12 126	Banco Santander and		
Buildings		114,438	VV	142,130	Borrowings	VV	12,130	others		

14. Intangible Assets

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

(in millions of	2021									2020						
Korean won)	Acquisition		Ac	cumulated	Acc	umulated	N	let book	Ac	quisition	Acc	cumulated	Acc	umulated	N	let book
		cost	am	ortization	im	pairment		value		cost	ost amortization impairment			value		
Goodwill	₩	338.232	\ A/	_	₩	(11,567)	₩	326,665	₩	346.789	₩		₩		₩	346.789
Goodwiii	VV	330,232	vv	-	٧V	, ,	٧V	*	٧٧		٧٧	-	VV		vv	,
Memberships		48,570		-		(2,931)		45,639		48,913		-		(2,931)		45,982
Computer software		24,855		(13,736)		-		11,119		18,496		(10,396)		-		8,100
Concession assets		255,215		(52,596)		-		202,619		289,687		(52,794)		-		236,893
Technical rights		38,958		(37,659)		-		1,299		38,839		(33,660)		-		5,179
Trademark		78,840		-		-		78,840		78,816		-		-		78,816
Others		19,218		(5,008)				14,210		28,199		(5,653)		-		22,546
	₩	803,888	₩	(108,999)	₩	(14,498)	₩	680,391	₩	849,739	₩	(102,503)	₩	(2,931)	₩	744,305

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

(in millions of	2021													
Korean won)	Beginning		Acquisition			Disposal	An	nortization	Impairment					
Goodwill	₩	346,789	₩	_	₩	-	₩	-	₩	(11,567)				
Memberships		45,982		456		(872)		-		-				
Computer software Concession		8,100		5,696		(1)		(3,264)		-				
assets		236,893		10,969		-		(12,396)		-				
Technical rights		5,179		-		-		(3,926)		-				
Trademark		78,816		-		-		-		-				
Others		22,546		4,364		(775)		(12,779)		_				
	₩	744,305	₩	21,485	₩	(1,648)	₩	(32,365)	₩	(11,567)				

(in millions of	2021													
Korean won)	,	Transfer ¹		nge in Ilidation		xchange fferences	Ending							
Goodwill	₩	(11,159)	₩	(71)	₩	2,673	₩	326,665						
Memberships		-		-		73		45,639						
Computer software		554		-		34		11,119						
Concession assets		(36,650)		-		3,803		202,619						
Technical rights		-		-		46		1,299						
Trademark		-		-		24		78,840						
Others		522		-		332		14,210						
	₩	(46,733)	₩	(71)	₩	6,985	₩	680,391						

¹ Part of the intangible assets were transferred to non-current assets held for sale and disposed of for the year ended December 31, 2021.

(in millions of	2020												
Korean won)	Ве	ginning	Ad	cquisition		Disposal	An	nortization	-	Transfer			
Goodwill	₩	108,302	₩	-	₩	-	₩	-	₩	-			
Memberships		40,485		374		(35)		-		5,200			
Computer													
software		8,319		1,821		(39)		(2,573)		43			
Concession													
assets		321,145		10,210		(15,586)		(19,645)		-			
Technical rights		8,786		-		-		(3,906)		-			
Trademark		-		-		-		-		-			
Others		2,957		1,751		(28)		(12,071)		5,546			
	₩	489,994	₩	14,156	₩	(15,688)	₩	(38,195)	₩	10,789			

(in millions of	2020												
Korean won)		ange in solidation		change erences		Others		Ending					
Goodwill	₩	251,298	₩	(9,028)	₩	(3,783)	₩	346,789					
Memberships		-		(42)		-		45,982					
Computer software		908		(379)		-		8,100					
Concession assets		4,831		(64,062)		-		236,893					
Technical rights		-		299		-		5,179					
Trademark		78,816		-		-		78,816					
Others		25,207		(816)				22,546					
	₩	361,060	₩	(74,028)	₩	(3,783)	₩	744,305					

(3) Details of allocation of amortization for the years ended December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	2	2021		2020
Cost of sales Selling and administrative expenses (including	₩	13,824	₩	21,219
technology development costs)		18,541		16,976
	₩	32,365	₩	38,195

(4) Impairment tests for goodwill

Goodwill is monitored by the management at the operating segment level (CGU or group of CGU). The following is a summary of goodwill allocation for each operating segment:

(in millions of	2021												
Korean won)	'							Other					
	В	eginning		Increase	lm	npairment	ac	djustments		Ending			
Architectural construction	₩	1,132	₩	-	₩	(279)	₩	-	₩	853			
New business		345,525		(11,159)		(11,288)		2,673		325,751			
Plant construction		5		-		-		-		5			
Infra works		71		(71)		-		-		-			
Others		56		_		-				56			
	₩	346,789	₩	(11,230)	₩	(11,567)	₩	2,673	₩	326,665			

(in millions of	2020										
Korean won)					(Other		_			
	Beg	ginning	l	Increase	adju	stments		Ending			
Architectural construction	₩	1,132	₩	-	₩	-	₩	1,132			
New business		107,038		251,298		(12,811)		345,525			
Plant construction		5		-		- -		5			
Infra works		71		-		-		71			
Others		56		<u>-</u>		_		56			
	₩	108,302	₩	251,298	₩	(12,811)	₩	346,789			

Goodwill impairment reviews are undertaken annually. The recoverable amount of the CGU is calculated on a basis of the value in use Value in use is estimated by using the DCF Method, which discounts the estimated future cash flows at a market discount rate based on the 5 years business budgets and plans approved by the management. Cash flows after 5 years use the estimated long-term growth rate as explained below. This growth rate does not exceed the long-term average growth rate forecasts included in the related industry report.

The following table sets out the key assumptions (discount rate, perpetual rate and others used in the value-in-use calculations) for those CGUs that have significant goodwill allocated to them. Also, the recoverable amount is as follows in case where the impairment loss exists in CGUs.

(in millions of Korean won)	2021										
	Sales growth rate	Operating profit rate	Discount rate	Perpetual growth rate	Recoverable amount ¹						
GS Inima Environment											
S.A.U.	13.30%	14.7%~21.5%	10.50%	1.00%	N/A						
Danwood S.A.	11.90%	3.8%~8.0%	13.00%	1.00%	N/A						
Elements (Europe) Limited	52.30%	(-)0.8%~3.0%	15.60%	1.00%	8,751						
CDCF III Fortbay MV, LLC	-	18.6%~68.2%	16.40%	0.00%	N/A						
Xi S&D Inc (PM business)	(-)3.3%	0.8%~5.6%	11.90%	0.00%	4,426						

¹ Since there is no impairment loss incurred, it is presented as not applicable (N/A).

(in millions of Korean won)	2020									
	Sales growth rate	Operating profit rate	Discount rate	Perpetual growth rate	Recoverable amount ¹					
GS Inima Environment										
S.A.U.	8.40%	15.0%~26.9%	8.50%	1.00%	N/A					
Danwood S.A.	10.10%	6.1%~7.6%	9.70%	1.00%	N/A					
Elements (Europe) Limited	43.70%	1.4%~3.7%	10.20%	1.00%	N/A					
CDCF III Fortbay MV, LLC	26.80%	(-)501.7%~34.1%	12.30%	0.00%	N/A					

¹ Since there is no impairment loss incurred, it is presented as not applicable (N/A).

Management has determined the values assigned to each of the above key assumptions as follows:

Sales growth rate is the average growth rate for sales over the 5 years forecast period. It is based on past performance and sales mix, with adjustments made to reflect the expected future price. Discount rates reflect specific risks relating to the relevant segments and the countries in which they operate. Perpetual growth rate is the weighted average growth rate used to extrapolate cash flows beyond the budget period. The rates do not exceed the long-term average growth rate forecasts included in industry reports.

The impairment test suggests that the carrying amount of cash generating units does not exceed the recoverable amount.

If the discount rate used in the estimation of recoverable amounts for the CGU had been 1% higher than management's estimates, the Group would have had to recognize an additional impairment against goodwill of \forall 1,282 million.

If the perpetual growth rate used in the estimation of recoverable amounts for the CGU had been 1% lower than management's estimates, the Group would have had to recognize an additional impairment against goodwill of $\forall \forall$ 792 million.

(5) The Group has entered into LIB recycle technology transfer contract with GHP and another company and the amount of related purchase agreement is USD 3,700,000 (2020: USD 3,700,000).

(6) As at December 31, 2021, the Group has entered into elevator control panel technology transfer contract with G-Tech and in relation to this, the Group pays 1 % of sales from the elevator control panel as a technical fee.

15. Investment Properties

(1) Details of investment properties as of December 31, 2021 and 2020, are as follows:

(in millions of				20	21				2020							
Korean won)	Ad	cquisition		cumulated preciation		umulated pairment	N			Acquisition cost		umulated reciation				
Land	₩	744,412	₩	-	₩	(13,643)	₩	730,769	₩	742,527	₩	-	₩	(13,651)	₩	728,876
Buildings		304,194		(41,825)		(24,084)		238,285		299,392		(33,696)		(24,091)		241,605
Right-of-use assets		200,013		(60,345)		(11,782)		127,886		76,776		(19,379)		(6,006)		51,391
	₩	1,248,619	₩	(102,170)	₩	(49,509)	₩	1,096,940	₩	1,118,695	₩	(53,075)	₩	(43,748)	₩	1,021,872

Fair values of investment properties approximate their book values as of December 31, 2021 and 2020.

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

(in millions of							:	2021						
Korean won)	В	Beginning		Acquisition		Disposal	Depreciation Impairment		•	Transfer		Ending		
Land	₩	728,876	₩	2,121	₩	(32)	₩	_	₩	-	₩	(196)	₩	730,769
Buildings		241,605		4,986		-		(8,153)		-		(153)		238,285
Right-of-use assets		51,391						(7,945)		(5,775)		90,215		127,886
	₩	1,021,872	₩	7,107	₩	(32)	₩	(16,098)	₩	(5,775)	₩	89,866	₩	1,096,940
(in millions of							:	2020						
Korean won)	В	eginning	Acq	quisition	ı	Disposal	De	preciation	lmp	pairment	•	Transfer		Ending
Land	₩	673,087	₩	56,072	₩	(780)	₩	_	₩	-	₩	497	₩	728,876
Buildings		245,185		4,829		(774)		(7,981)		-		346		241,605
Right-of-use assets								_		(6,006)		57,397		51,391
	₩	918,272	744	60,901	₩	(1,554)	₩	(7,981)	۱۸/	(6,006)	144	58,240	₩	1,021,872

(3) Gain and loss on investment properties recognized in profit or loss for the years ended December 31, 2021 and 2020, are as follows:

(in millions of Korean won)		2021	2020		
Lease income	₩	28,425	₩	24,706	
Operating expenses		27,932		17,831	
	₩	493	₩	6,876	

(4) Collateral pledged to financial institutions for borrowings as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)		2021									
•		Carrying amount		ecured mount	Related account	Related amount		Secured party			
Land	₩	2,307	₩	3,139	Leasehold	₩	3,191	AIA Life Insurance			
Buildings		3,188	V V	3,133	deposits	V V	5,191	Co. Ltd. and others			
(in millions of Korean won)					2020						
		irrying nount		ecured mount	Related account		Related amount	Secured party			
Land Buildings	₩	205,261 205,308	₩	232,613	Long-term borrowings and others	₩	192,843	Woori and others			

(5) The future minimum lease payments expected to be received in relation to the above operating lease agreement for investment property as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)		2020		
Within one year	₩	35,653	₩	23,596
Between 1 and 2 years		32,798		17,030
Between 2 and 3 years		19,326		14,963
Between 3 and 4 years		13,521		6,967
Between 4 and 5 years		9,837		3,444
	₩	111,135	₩	66,000

The minimum lease payments incurred from sublease are included.

16. Leases

Set out below is information for leases when the Company is a lessee (intermediate lessor).

(1) The statement of financial position shows the following amounts relating to leases:

(in millions of Korean won)		2021	2020		
Right-of-use assets					
Land	₩	3,363	₩	2,356	
Buildings ¹		330,519		475,394	
Machinery		296		8	
Construction equipment		14,682		7,542	
Vehicles		4,094		4,224	
Tools		-		1	
Equipment		715		868	
Sublease ²		(57,944)		(78,573)	
	₩	295,725	₩	411,820	
Lease liabilities		_			
Current	₩	96,613	₩	88,621	
Non-current		420,875		479,911	
	₩	517,488	₩	568,532	

¹₩ 90,215 million was reclassified to investment properties for the year ended December 31, 2021.

 $^{^2}$ Additions to the right-of-use assets during the 2021 financial year were $\mbox{$W$}$ 35,484 million. In addition, as the sublease was recognized as finance lease in 2021, the amount of right-of-use assets deducted from book amount is $\mbox{$W$}$ 1,127 million.

(2) The statement of profit or loss shows the following amounts relating to leases:

(in millions of Korean won)		2021	2020		
Depreciation of right-of-use assets					
Land	₩	1,186	₩	2,354	
Buildings		40,340		47,658	
Machinery		551		47	
Construction equipment		15,166		19,207	
Vehicles		2,380		2,018	
Tools		-		4	
Equipment		404		440	
	₩	60,027	₩	71,728	
Interest expense relating to lease liabilities	₩	21,237	₩	20,955	
Expense relating to short-term leases		79,728		110,333	
Expense relating to leases of low-value assets that are not short-term leases		10,103		11,933	
Expense relating to variable lease payments not included in lease liabilities		11,515		11,511	
Interest income from sublease		2,553		2,916	

The total cash outflow for leases in 2021 was ₩ 208,231 million (2020: ₩ 240,568 million).

(3) Details of finance lease receivables as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)		2021	2020		
Finance lease receivables					
Current	₩	23,129	₩	21,026	
Non-current		35,230		56,658	
	₩	58,359	₩	77,684	
(in millions of Korean won)		2021		2020	
Lease payments					
Within one year	₩	23,508	₩	21,132	
Between 1 and 2 years		23,075		23,571	
Between 2 and 3 years		8,090		23,143	
Between 3 and 4 years		1,837		8,092	
Between 4 and 5 years		1,806		1,864	
Over 5 years		3,640		5,361	
		61,956		83,163	
Non-guaranteed residual values					
Gross investment in the lease		61,956		83,163	
Less: unrealized interest income		(3,597)		(5,479)	
Less: loss allowance for lease receivables		<u>-</u>			
Net investment in the lease	₩	58,359	₩	77,684	

17. Trade and Other Payables, Other Liabilities

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

(in millions of Korean won)		2021	2020		
Trade payables Other payables	₩	1,226,805 429.274	₩	1,124,774 278,372	
Other payables	₩	1,656,079	₩	1,403,146	

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

(in millions of Korean won)	2021		2020	
Advance from customers	₩	50,389	₩	182,050
Withholdings		230,725		152,443
Deposits received		126		663
Accrued expenses		486,470		388,077
Dividends payable		11		9
Unearned revenue		1,407		37,668
Value added tax withheld		43,872		19,062
Membership guarantee deposits		176,165		177,702
	₩	989,165	₩	957,674

(3) Details of long-term trade and other payables as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	2021		2020
Long-term other payables	₩	- ₩	189,393

(4) Details of other non-current liabilities as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	2	2021		2020
Long-term deposits received	₩	34,063	₩	34,121
Membership guarantee deposits		34,351		20,882
Long-term accrued revenue		4		
	₩	68,418	₩	55,003

18. Financial Liabilities

(1) Details of short-term financial liabilities as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	2021		2020	
Short-term borrowings	₩	269,308	₩	391,697
Current portion of long-term debts		701,247		605,015
Discount on debentures		(144)		(176)
Conversion right adjustments		-		(2,601)
Current lease liabilities		96,613		88,621
Derivative liabilities		5,362		45,462
Financial guarantee liabilities		4,970		28,925
Current portion of leasehold deposits received		140,700		36,529
	₩	1,218,056	₩	1,193,472

(2) Details of long-term financial liabilities as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	2021		2020	
Long-term borrowings	₩	1,722,107	₩	1,459,461
Debentures		674,372		788,027
Discount on debentures		(1,842)		(2,620)
Non-current lease liabilities		420,875		479,911
Derivative liabilities		3,310		2,270
Financial guarantee liabilities		85,752		59,787
Leasehold deposits received		47,380		171,143
	₩	2,951,954	₩	2,957,979

(3) Details of short-term borrowings as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	Creditor	Maturity	Annual interest rate (%)	2021	2020
Usance	Kookmin	2022-05-03	0.45~0.52	₩ 1,025	₩ 2,278
	Woori	2022-01-26	45	199	959
	KEB Hana	2022-02-28	0.30~0.65	11,902	2,708
	Bank of China	2022-03-30	106	8	-
	KDB	-	-	-	529
	Citibank Korea	-	-	-	1,425
General	Bank of				
borrowings in	Communications	-	-	-	16,320
foreign currency	Woori	2022-07-24	500	2,073	-
	Industrial & Commercial Bank of China	_	_	_	32,640
	China Everbright Bank	_	_	_	21,760
	HSBC	2022-11-18	1M Libor + 1.70	110,844	
	KEB Hana	2022-06-30	3M Libor + 1.60	6,728	
	United Overseas Bank	2022-02-08	3M Sibor + 2.00	5,263	
	Korea Exim	2022-06-17	3M SOFR + 1.70	35,565	
Subsidiaries	NH Bank	-	-		12,000
	KDB ³	2022-12-11	278%	5,000	•
	DB Madrid	-	_	-	39,747
	SC New York	-	-	_	163,200
	BNP Paribas and others		12M EURibor + 1.25		,
	1,2	2022-06-30	and others	73,231	64,368
	JSC Credit Agricole Bank	2022-07-09	6M EURibor + 3.25 3M EURibor +	17,470	21,372
	PKO Bank Polski S.A.	2022-06-30	1.50~3.00	-	12,391
				₩ 269,308	₩ 391,697

¹ Future cash flows from the Service Concession Arrangements are pledged as collateral (Note 34).

² Interests held by the subsidiaries are pledged as collateral.

³ Assets provided as collateral by subsidiaries are pledged.

(4) Details of long-term borrowings as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	Creditor	Maturity	Annual interest rate (%)	2021	2020
Long-term	Woori ¹	-	-	₩ _	₩ 127,435
borrowings in	Fairy Ilsan Co., Ltd. ²	2022-11-16	2.95	11,537	19,030
Korean won	YKGAEPO.Co., Ltd.3	_	-	-	100,000
	Korea Exim	2024-09-19	2.15	37,500	37,500
	HSBC	2023-05-10	1.85	100,000	100,000
Long-term	Korea Exim	-	-	-	12,925
borrowings in	Korea Exim	2023-07-05	6M Libor + 1.75	205,092	163,200
foreign currency	Korea Exim	2025-05-08	6M Libor + 2.24	40,307	36,992
	Korea Exim	2026-09-19	6M EURibor +		
	.,	2020 00 10	1.53	32,216	32,118
	Korea Exim	2027-03-10	6M EURibor + 1.66	150 242	149,883
	Korea Exim		6M EURibor +	150,342	149,003
	Norda Exim	2026-09-23	1.68	123,495	123,118
	Korea Exim	2027-08-24	6M EURibor +		
		2027-00-24	1.76	67,117	66,912
	Korea Exim	2025-01-16	1.81	28,804	26,683
	Korea Exim	2024-08-26	6M EURibor +	00.047	
	Industrial & Commercial		1.40	26,847	-
	Bank of China	2022-01-10	3M Libor + 1.85	59,275	54,400
	Industrial & Commercial Bank of China	2023-05-11	3M Libor + 1.82	35,565	_
	China Everbright Bank	2023-07-21	3M Libor + 1.81	23,710	-
	Bank of China	2022-02-17	3M Libor + 1.85	71,130	65,280
	Arab Bank, S'pore	2022-01-17	6M Libor + 1.60	59,275	54,400
	HSBC	2025-03-10	3M EURibor +		
	KEDII	2020 00 10	1.60	40,270	40,147
	KEB Hana	2023-08-24	3M EUR Libor + 2.42	28,592	28,504
Subsidiaries	Caixa and others ^{4,5,6,7}		TR + 8.50 and	20,392	20,304
		2041-08-15	others	913,518	663,886
				2,054,592	1,902,413
Less: current portion	on			(332,485)	(442,952)
				₩ 1,722,107	

¹ Part of the investment property held by the Group are pledged as collateral as at December 31, 2020 (Note 15).

 $^{^2}$ Land and buildings for the business are trusted and the preferred beneficiary right for future receivables is granted to the creditor with the limit of \forall 270.9 billion (2020: \forall 357.6 billion).

³ Future cash flows from the business are pledged as collateral and beneficiary right is provided with regard to it.

⁴ Future cash flows from the Service Concession Arrangements are pledged as collateral (Note 34).

(5) Details of debentures as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	Creditor	Maturity	Annual interest rate (%)	2021	2020
Bonds in Korean won with fixed interest rate	The 135th unsecured bond (private) The 136th unsecured	-	-	₩ -	₩ 20,000
	bond (public) The 137th unsecured	2022-07-12	2.0	300,000	300,000
	bond (public) The 139th unsecured	2023-06-11	2.7	100,000	100,000
	bond (public) ⁴	2024-04-16	1.8	200,000	-
Bonds in foreign	Convertible bonds ¹ The 133th - secured	-	-	-	54,500
currency	bond (variable rate) The 134th - unsecured	2022-04-26	3M Libor + 0.95	59,275	54,400
	bond (variable rate) The 138th - unsecured	2023-05-04	3M Libor + 1.85	59,275	54,400
	bond (variable rate)	2023-10-21	6M Libor + 1.80	201,535	184,960
Bonds of subsidiaries in	Convertible bonds ²	-	-	-	73,114
foreign currency	Bond	-	-	-	946
	Bond ³	2030-03-01	TR + 9.00	18,218	19,375
	Bond ³	2033-08-15	CDI + 2.67	32,208	33,566
	Bond	-	-	-	874
	Bond ³	2029-08-01	TR + 8.75	50,249	53,955
	Bond ^{3,5}	2041-05-15	IPCA + 6.69	22,373	
				1,043,133	950,090
Less: current portion	on			(368,617)	(159,286)
				674,516	790,804
Less: discount on o				(1,986)	(2,796)
Less: conversion ri	ght adjustments			-	(2,601)
				₩ 672,530	₩ 785,407

¹ During the year ended December 31, 2021, 2,210,231 ordinary shares were issued due to the exercise of conversion rights for the par value of \forall 54,500 million of unsecured convertible bonds issued on April 8, 2016. Meanwhile, 304,157 ordinary shares were issued due to the exercise of conversion rights for the par value of \forall 7,500 million during the year ended December 31, 2020.

⁵ Part of the lots held by the subsidiaries are pledged as collateral (Note 8).

⁶ Part of the property, plant and equipment held by the subsidiaries is pledged as collaterals (Note 13).

⁷ Investments held by the subsidiaries are pledged as collaterals.

² During the year ended December 31, 2021, 2,663,056 ordinary shares were issued due to the exercise of conversion rights for the par value of USD 67,200,000 of unsecured convertible bonds issued on July 7, 2016. Meanwhile, 306,242 ordinary shares were issued for the exercise of

December 31, 2021 and 2020

conversion rights for the par value of USD 8,000,000 during the year ended December 31, 2020.

The Company issued unregistered unsecured bonds on April 16, 2021 in accordance with a resolution of the Board of Directors' meeting. Details of the bonds are as follows:

The 139th unsecured bonds (public)

Aggregate principal amount of

the bonds

Annual interest rate 1.80%

Credit rating Korea Ratings A0 / KOREA INVESTORS SERVICE, Inc. A0 / NICE Investors'

Service A0

Repayment date April 16, 2024

The principal amount of the bonds shall be paid on April 16, 2024 in a lump

sum.

However, if the repayment date is a holiday for banks, it shall be repaid on the next business day, and the interest from the repayment date to the actual

repayment date shall not be calculated.

Repayment method If the principal or interest is not paid, the highest interest rate among the

interest rates on delinquent loans of commercial banks of which the

headquarter are located in Seoul shall be applied to the elapsed period from the next day from the payment date of the principal or interest to the actual payment date. However, if the highest interest rate is lower than the interest rate of "the bonds", the interest rate of the "the bonds" shall be applied.

GS Inima Brasil Ltda., a subsidiary, issued secured bonds on May 24, 2021. Details of the bonds are as follows:

Secured bonds

Aggregate principal amount of

the bonds

Nominal interest rate IPCA + 6.69% Yield to maturity 10.35%

Credit rating Moody's America Latina WR

Repayment date May 15, 2041

Repayment method

The principal amount of the bonds shall be repaid in installments, and interest is

paid every six months on May 15 and November 15 of each year.

³ Future cash flows from the Service Concession Arrangements are pledged as collaterals (Note 34).

⁴ Unsecured bonds (public)

⁵ Secured bonds (private)

19. Post-employment Benefits

(1) Defined contribution retirement pension

The Group operates a defined contribution pension plan under which the amount contributed by the Group is expensed. The amount recognized in the financial statement of profit or loss for the year ended December 31, 2021 is $\forall 3,706$ million (2020: $\forall 3,543$ million).

(2) Defined benefit retirement pension

The Group operates a defined benefit pension plan for its employees. In relation to this, actuarial gains and losses on the defined benefit obligation is calculated using the projected unit credit method.

1) The amounts recognized in the statements of financial position are as follows:

(in millions of Korean won)	2021		2020	
Present value of defined benefit obligations ¹	₩	440,734	₩	500,432
Fair value of plan assets		(477,176)		(482,660)
Net defined benefit liabilities ²	₩	(36,442)	₩	17,772

¹ The present value of the defined benefit obligation is calculated by deducting contributions to the National Pension Fund of $\forall 503$ million as of December 31, 2021 (2020: $\forall 575$ million).

2) Changes in the carrying amount of defined benefit liabilities for the years ended December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	2021			2020
Beginning balance	₩	500,432	₩	497,487
Current service cost		63,237		68,773
Interest expenses		7,697		8,483
Remeasurements:		(28,174)		(20,931)
Actuarial gain and loss from changes in demographic assumptions		(2)		159
Actuarial gain and loss from changes in financial assumptions		(15,968)		(8,966)
Actuarial gain and loss from experience adjustments		(12,204)		(12,124)
Exchange differences		172		(263)
Payments from plans:		(102,593)		(53,011)
Benefit payments		(102,593)		(53,011)
Liabilities transferred to a related party		(37)		(106)
Ending balance	₩	440,734	₩	500,432

² As of December 31, 2021, ₩ 45,704 million of plan assets exceeding the amount of the defined benefit obligation has been reclassified as net defined benefit assets.

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

(in millions of Korean won)	2021		2020	
Beginning balance	₩	482,660	₩	447,678
Interest income		7,935		8,093
Remeasurements:		(911)		902
Return on plan assets (excluding amounts included in interest income)		(911)		902
Contributions:		77,991		72,369
Employers		77,991		72,369
Payments from plans:		(90,524)		(46,267)
Benefit payments		(89,821)		(45,540)
Management fee		(703)		(727)
Assets transferred to a related party		25		(115)
Ending balance	₩	477,176	₩	482,660

4) Fair value of plan assets as of December 31, 2021 and 2020, consists of:

(in millions of Korean won)	2021			2020
Financial instruments/Insurance	₩	461,133	₩	467,188
Time deposits		13,121		9,073
Cash and cash equivalents		218		1,816
Others		2,704		4,583
	₩	477,176	₩	482,660

5) The amounts recognized in the statements of profit or loss for the years ended December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	2	2021		2020
Current service cost	₩	63,237	₩	68,773
Net interest		465		1,115
Ending balance ¹	₩	63,702	₩	69,888
¹ Represents total expenses for pension benefits:				_
Cost of sales	₩	45,844	₩	44,858
Selling and general administrative expenses		17,858		25,030
	₩	63,702	₩	69,888

6) The principal actuarial assumptions as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	2021	2020
Discount rate	2.48 ~ 3.42%	1.74 ~ 2.88%
Future salary increase (including inflation)	2.50 ~ 3.96%	2.50 ~ 3.43%

Mortality rates used as actuarial assumptions are based on post-2018 figures announced by the Insurance Development Institute.

7) A quantitative sensitivity analysis for significant assumptions as of December 31, 2021, is as shown below:

			Impact on defined	bene	efit obligation
Assumptions	Sensitivity level (%)		1% increase		1% decrease
Discount rate	1.00	₩	(20,039)	₩	22,272
Future salary increases	1.00		22,087		(20,260)

8) The effects of defined benefit pension plans on future cash flows are as follows:

The Group reviews the funding level on an annual basis and has a policy of eliminating deficit from the fund.

The expected maturity analysis of undiscounted pension benefits as of December 31, 2021 and 2020, is as follows:

(in millions of Korean won)		ss than year		tween years		etween 5 years		etween IO years	Total
Pension benefits									
December 31, 2021	₩	58,126	₩	73,015	₩	192,181	₩	188,259 ₩	511,581
December 31, 2020		68,464		82,085		199,580		223,419	573,548

The weighted average duration of the defined benefit obligation is 5.39~9.51 years.

(3) Other employee benefits

Employee benefits include paid absences recognized in respect of service rendered by employees in the current period and amount paid in respect of service rendered by employees with service period for certain years and above.

(in millions of Korean won)	2	2021		2020
Employee benefits	₩	37,143	₩	39,200

20. Provisions

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

(in millions of								2021						
Korean won)	Ве	ginning	Ac	lditions	R	eversal	U	tilization	E	Ending	C	Current	No	n-current
Provisions for construction loss Provisions for	₩	53,453	₩	33,229	₩	(3,494)	₩	1	₩	83,189	₩	83,189	₩	-
construction warranty		389,125		84,626		(4,226)		(54,070)		415,455		72,807		342,648
Provisions for others		106,859		47,982		(21,770)		(76,972)		56,099		23,488		32,611
	₩	549,437	₩	165,837	₩	(29,490)	₩	(131,041)	₩	554,743	₩	179,484	₩	375,259
(in millions of Korean won)	Be	ginning	Ac	Iditions	R	eversal		2020 tilization		Ending	C	Current	Noi	n-current
Korean won) Provisions for construction loss Provisions for	Be	58,395		41,759		(46,612)	U	tilization (89)		53,453		53,453		-
Korean won) Provisions for construction loss							U	tilization		J				n-current - 317,311
Korean won) Provisions for construction loss Provisions for		58,395		41,759		(46,612)	U	tilization (89)		53,453		53,453		-

21. Commitments and Contingencies

- (1) As of December 31, 2021, the Group has been provided with guarantees of $\mbox{$\mathbb{W}$}$ 16,275,635 million (2020: $\mbox{$\mathbb{W}$}$ 16,156,532 million) from the Construction Guarantee and its business partners in relation to its construction performance, sales of housing lots and construction warranties. As of December 31, 2021, the Group has been provided with guarantees of within the limit of $\mbox{$\mathbb{W}$}$ 4,564,753 million from the Korea Development Bank and others in relation to opening of letters of credit and bond issuance, and USANCE borrowing limit (effective limit) is $\mbox{$\mathbb{W}$}$ 32,830 million (2020: total limit of $\mbox{$\mathbb{W}$}$ 4,446,788 million, USANCE borrowing limit (effective limit) of $\mbox{$\mathbb{W}$}$ 30,365 million). Also, the Group has been provided with guarantees of $\mbox{$\mathbb{W}$}$ 2,267,450 million (2020: $\mbox{$\mathbb{W}$}$ 2,639,177 million) from the Korea Trade Insurance Corporation and others in relation to the performance of its overseas construction projects.
- (2) As of December 31, 2021, the Group has provided payment guarantees and equity securities of ₩ 89,018 million (2020: ₩ 133,715 million) in relation to its overseas construction projects and the Group has provided guarantees of ₩ 11,047,145 million (₩ 11,033,803 million after considering the Group's ownership) (2020: ₩ 7,985,724 million (₩ 7,890,990 million after considering the Group's ownership)) for apartment sales and others.
- (3) As of December 31, 2021, in relation to housing loans and temporary relocation costs of future tenants during the construction period, the Group has provided payment guarantees of ₩ 1,509,781 million (2020: ₩ 1,429,344 million) within the limit of ₩ 3,466,406 million (2020: ₩ 3,428,019 million) through agreements with financial institutions. Also, in relation to refurbishment projects such as redevelopment of an area, the Group has provided payment guarantees of ₩ 852,536 million (2020: ₩ 493,346 million) within the limit of ₩ 1,573,578 million (2020: ₩ 1,202,544 million) through agreements with refurbishment project cooperatives as of December 31, 2021. Additionally, in relation to refurbishment projects such as redevelopment of an area, the Group has provided commitments for compensation for damages in case of non-performance of constructions of ₩ 3,651,944 million (2020: ₩ 2,885,103 million) with the limit of ₩ 6,425,232 million (2020: ₩ 5,066,574 million) through agreements with guarantee institutions as of December 31, 2021.
- (4) As of December 31, 2021, for the Group's investees incorporated under the Act on Private Investment in Social Overhead Capital, the Group has provided payment guarantees of ₩ 681,485 million (2020: ₩ 651,837 million) within the limit of ₩ 2,932,275 million (2020: ₩ 2,832,664 million) provided together with its partners, and pledged investments with a carrying value of ₩ 304,988 million (2020: ₩ 374,796 million) as collateral as of December 31, 2021. Also, the Group and its partners have provided put options and other commitments of ₩ 265,592 million (₩ 62,072 million after considering the Group's ownership) (2020: ₩ 270,828 million (₩ 62,324 million after considering the Group's ownership)) to the financial investor and others. The Group has an agreement wherein the Group has a right to sell of shares held by SOC companies such as Busan East-West highway Corp. to financial investors.
- (5) As of December 31,2021, the Group has provided construction completion commitments of \forall 5,038,434 million (2020: \forall 3,668,845 million) for construction owners up to \forall 7,425,610 million (2020: \forall 4,889,410 million).

- (6) As of December 31, 2021, the Group has provided 23 blank checks and 34 notes amounting to \forall 226,111 million (2020: 23 blank checks and 36 notes amounting to \forall 471,961 million) in face value as collateral to guarantee its construction contracts.
- (7) As of December 31, 2021, the Group has entered into an interest-free loan agreement amounting to ₩ 7,644,654 million (₩ 5,832,032 million after considering the Group's ownership) (2020: ₩ 7,464,761 million (₩ 5,770,348 million after considering the Group's ownership)) in relation to the Group's refurbishment projects in progress. In addition, the Group has entered into an interest-bearing loan agreement amounting to ₩ 10,817,213 million (₩ 7,834,144 million after considering the Group's ownership) (2020: ₩ 10,704,496 million (₩ 7,704,146 million after considering the Group's ownership)) in relation to the refurbishment projects. There are 10 other interest-bearing loan agreements without limit. Meanwhile, the Group has entered into a loan agreement amounting to ₩ 44,968 million (2020: ₩ 26,104 million) in relation to outsourcing business.
- (8) The Group has contingent liabilities in respect of legal claims arising in the ordinary course of business. The Group is involved in 100 lawsuits with aggregated claims sued by the Group amounting to \forall 1,455,564 million after considering the Group's ownership with total amount of \forall 2,928,238 million (2020: 109 litigations amounting to \forall 872,011 million after considering the Group's ownership with total amount of \forall 1,449,527 million), and 196 lawsuits with aggregated claims against the Group amounting to \forall 590,510 million after considering the Group's ownership with total amount of \forall 1,448,345 million (2020: 144 litigations amounting to \forall 625,116 million after the Group's ownership with total amount of \forall 1,656,397 million) as the defendant. As of December 31, 2021, the outcome of these cases cannot be reasonably determined.
- (9) As of December 31, 2021, the Group provided payment guarantees of $\mbox{$\mathbb{W}$}$ 1,603,241 million (2020: $\mbox{$\mathbb{W}$}$ 1,351,200 million) within the guarantee limit of $\mbox{$\mathbb{W}$}$ 1,746,000 million (2020: $\mbox{$\mathbb{W}$}$ 1,571,250 million) through agreements with financial institutions for the borrowings of the developers of the construction projects. Details of guaranteed borrowings are ABCP and ABSTB amounting to $\mbox{$\mathbb{W}$}$ 1,280,900 million (2020: $\mbox{$\mathbb{W}$}$ 1,030,100 million) within the guarantee limit of $\mbox{$\mathbb{W}$}$ 1,326,620 million (2020: $\mbox{$\mathbb{W}$}$ 1,155,720 million) and other PF loans amounting to $\mbox{$\mathbb{W}$}$ 322,341 million (2020: $\mbox{$\mathbb{W}$}$ 321,100 million) within the guarantee limit of $\mbox{$\mathbb{W}$}$ 419,380 million (2020: $\mbox{$\mathbb{W}$}$ 415,530 million), respectively (excluding borrowings for intermediate payments, relocation expenses, completion guarantee, SOC and others).

Major guarantees for the developers' debts that the Group provided as of December 31, 2021, are as follows:

(in millions of Korean won)

Location	Creditor	b	Loan alance		aranteed mount	Details	Loan period	Туре
Seoul	Security	₩	260.000	₩	260.000	Debt guarantee	2021-11~2022-02	ABCP(ABSTB)
Gyeongsang province	Bank	V V	188,500	V V	145,000	Debt guarantee	2021-04~2022-04	Other loans
Gyeonggi province	Bank		162,630		125,100	Debt guarantee	2021-03~2022-03	Other loans
Gyeonggi province	Security		156,000		120,000	Debt guarantee	2021-03~2022-03	ABCP(ABSTB)
Chungcheong province	Security		106,500		106,500	Debt guarantee	2021-04~2022-04	ABCP(ABSTB)
Gangwon province	Security		96,000		96,000	Debt guarantee	2021-12~2022-06	ABCP(ABSTB)
Gyeongsang province	Security		90,400		90,400	Debt guarantee	2021-08~2022-08	ABCP(ABSTB)
Gyeonggi province	Security		88,200		88,200	Debt guarantee	2021-09~2022-09	ABCP(ABSTB)
Gyeonggi province	Security		77,000		77,000	Debt guarantee	2021-09~2022-09	ABCP(ABSTB)
Gyeonggi province	Security		72,800		72,800	Debt guarantee	2021-03~2022-03	ABCP(ABSTB)

- (10) The Group has entered into an operating lease contract for 20 years for the rental of Gran Seoul from Kocref Chungjin No.18 Entrust Management Real Estate Investment Group in 2014. The Group does not hold any purchase option to purchase the leased building upon maturity of the lease period in relation to the contracts above.
- (11) In relation to the commitments and contingencies above, the Group may be required to make accelerated repayments or provide additional guarantees for the borrowings, payment guarantees, and major lease agreements under the contract if the credit rating of unsecured bonds issued by the Group falls below a certain level. The major trigger provisions are maintaining debt to equity ratio below 300%, EBITDA/interest rate below 250%, non-guaranteed debenture rating of A-, and others. As of December 31, 2021, the credit rating of unsecured bonds is unlikely to be downgraded.
- (12) GS Inima Environment S.A.U., a subsidiary, borrowed funds from financial institutions in relation to the Service Concession Arrangements. Cash flows from the Service Concession Arrangements and equity securities are pledged as collateral for the repayments of the borrowings. In addition, the Group has an obligation to supplement the funds for certain borrowings' repayments.

22. Share Capital and Share Premium

(1) Details of share capital as of December 31, 2021 and 2020, are as follows

(in millions of Korean won)	2021	2020
Authorized shares	200,000,000 shares	200,000,000 shares
Par value per share	₩ 5,000	₩ 5,000
Outstanding shares ¹	85,581,490 shares	80,708,203 shares
Share capital	₩ 427,907 million	₩ 403,541 million

¹ During the year ended December 31, 2021, 4,873,287 ordinary shares were issued due to the exercise of conversion rights of convertible bonds.

(2) Details of share premium as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)		2021		2020
Gain on disposal of treasury stock	₩	2,384	₩	2,384
Additional paid-in capital		921,432		796,463
Gain on business combination		15,002		15,002
Other share premium		12,439		1,827
	₩	951,257	₩	815,676

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

(in millions of Korean won)		2021		2020
Treasury stock ¹	₩	(36,443)	₩	(36,443)
Others		(358)		(273)
	₩	(36,801)	₩	(36,716)

¹ To stabilize the Group's share price, the Group purchased 692,595 shares of own stock and recognized the acquisition in other components of equity as of December 31, 2021.

(4) Details of other comprehensive loss as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)		2021		2020
Gain (loss) on valuation of derivative instruments Loss on exchange differences on translations of foreign	₩	4,389	₩	(4,576)
operations		(126,224)		(111,995)
Share of other comprehensive income of associates		(925)		(821)
	₩	(122,760)	₩	(117,392)

23. Retained Earnings

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

(in millions of Korean won)		2021		2020
Legal reserves Appropriated retained earnings for business	₩	128,946	₩	99,856
stabilization		1,064,653		1,004,653
Other voluntary reserves		2,053,627		1,896,270
Remeasurements of the net defined benefit liability		(31,806)		(52,266)
Other consolidated retained earnings		76,072		76,773
Unappropriated retained earnings		114,221		50,824
	₩	3,405,713	₩	3,076,110

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

(in millions of Korean won)	2021		2020	
Beginning balance	₩	3,076,110	₩	2,827,363
Annual dividends		(96,019)		(79,405)
Profit attributable to equity holders of the Parent Company		408,477		311,695
Remeasurements of the net defined benefit liability		20,459		16,553
Others		(3,314)		(96)
Ending balance	₩	3,405,713	₩	3,076,110

(3) Dividends paid during the years ended December 31, 2021 and 2020, are as follows:

(in millions of Korean won, except per share)	2021		2020	
Type of shares	Ordinary shares		Ordinary shares	
Total number of shares issued	80,708,203 shares		80,097	7,804 shares
Number of shares	80,015,608 shares		79,405,209 shares	
Dividends per share	₩	1,200	₩	1,000
Total dividends	₩	96,019	₩	79,405

24. Earnings per Share

Basic and diluted earnings per share of equity holders of the Group for the years ended December 31, 2021 and 2020, are as follows:

(in Korean won and in shares)	2021	2020
Profit attributable to equity holders of the parent Company	₩ 408,476,608,483	₩ 311,297,494,898
Diluted effect: Profit related to convertible bonds ¹	27,008,250	
Profit related to hybrid securities ¹ Profit related to foreign currency convertible bonds ¹	245,921,651	298,257,750
Diluted profit for the year attributable to equity holders	₩ 408,749,538,384	₩ 312,879,192,069
Weighted average number of ordinary shares in issue ² Diluted effect:	84,508,007	79,433,384
Convertible bonds	131,832	2,395,454
Hybrid securities	-	194,905
Foreign currency convertible bonds	249,058	
	84,888,897	82,023,743
Basic earnings per share	₩ 4,834	₩ 3,919
Diluted earnings per share	4,815	3,814

¹ The amount is after deducting the income tax effect.

² Details of calculation of the weighted average number of ordinary shares outstanding for the years ended December 31, 2021 and 2020, are as follows:

(in shares)	2021		2020		
	Number of shares	Number of shares * number of days	Number of shares	Number of shares * number of days	
Beginning Conversion of convertible	80,708,203	29,458,494,095	80,097,804	29,315,796,264	
bonds	4,873,287	1,639,725,748	610,399	10,311,948	
Treasury stock	(692,595)	(252,797,175)	(692,595)	(253,489,770)	
		30,845,422,668		29,072,618,442	
Weighted average number of ordinary shares outstanding		84,508,007		79,433,384	

25. Selling and General Administrative Expenses

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

(in millions of Korean won)	2021			2020		
Salaries	₩	262,665	₩	264,200		
Pension benefits		124,048		25,029		
Employee welfare benefits		34,548		38,098		
Taxes and dues		24,759		22,204		
Commissions		144,682		114,677		
Rents		7,612		6,835		
Depreciation		7,967		9,129		
Amortization		18,506		16,947		
Depreciation of investment properties		-		15		
Depreciation of right-of-use assets		26,917		23,776		
Advertising		26,343		21,533		
Bad debt expenses		(35,701)		184,652		
Development		24,306		24,162		
Warranty		6,274		6,302		
Insurance premium		10,680		10,192		
Travel		3,585		3,572		
Others		17,080		13,367		
	₩	704,271	₩	784,690		

26. Other Operating Income and Expenses

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

(in millions of Korean won)		2021	2020		
Gain on disposal of property, plant and equipment	₩	1,458	₩	844	
Gain on disposal of intangible assets		117		1	
Gain on disposal of investment property		2		98	
Gain on changes in leases		50		168	
Gain on disposal of other assets		-		109	
Gain on foreign currency transactions		47,248		28,940	
Gain on foreign currency translation		149,314		10,183	
Reversal of allowance for bad debts		35,057		46,543	
Gain on valuation of derivatives		49,548		26,936	
Gain on derivatives transactions		2,150		33,095	
Gain on exchange differences on translations of foreign operations		1,790		10,728	
Dividend income		667		600	
Gain on valuation of financial assets at fair value through profit or loss		5,251		55,662	
Gain on disposal of financial assets at fair value through profit or loss		-		52	
Miscellaneous gain and others		27,153		30,479	
	₩	319,805	₩	244,438	

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

(in millions of Korean won)		2021	2020		
Loss on disposal of property, plant and equipment	₩	1,226	₩	2,225	
Loss on disposal of intangible assets		432		16	
Impairment loss on intangible assets		11,567		-	
Impairment loss on investment properties		5,775		6,006	
Loss on changes in leases		2,560		8,053	
Loss on disposal of other assets		10		374	
Loss on foreign currency transactions		9,347		35,675	
Loss on foreign currency translation		23,506		133,422	
Bad debt expense		75,619		120,040	
Loss on valuation of derivatives		22,545		48,981	
Loss on derivatives transactions		35,291		33,464	
Loss on disposal of assets held for sale ¹		4,678		-	
Loss on exchange differences on translations of foreign operations		2,917		18,968	
Loss on valuation of financial assets at fair value through profit or loss		8,674		23,049	
Loss on disposal of financial assets at fair value through profit or loss		-		91	
Miscellaneous loss and others		54,603		27,444	
	₩	258,750	₩	457,808	

¹ The Group disposed of assets of Jeceaba Ambiental S.A., a subsidiary, for the year ended December 31, 2021 (Note 35).

27. Finance Income and Costs

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

(in millions of Korean won)	2021			2020		
Interest income	₩	53,544	₩	41,868		
Gain on foreign currency transactions		20,966		34,863		
Gain on foreign currency translation		19,546		78,376		
Gain on valuation of financial assets at fair value through profit or loss		6,112		70		
Gain on disposal of financial assets at fair value through profit or loss		968		_		
Gain on valuation of derivatives		-		8,356		
Gain on disposal of investments in associates		523		202		
Reversal of financial guarantee liabilities		26,065		46,585		
	₩	127,724	₩	210,320		

(2) Finance costs for the years ended December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	2021			2020		
Interest expenses	₩	91,707	₩	115,201		
Financial guarantee expenses		-		297		
Loss on foreign currency transaction		16,605		49,612		
Loss on foreign currency translation		71,637		26,974		
Loss on valuation of financial assets at fair value through profit or loss Loss on disposal of financial assets at fair value		1,015		169		
through profit or loss		1,464		4,791		
Loss on disposal of long-term financial assets		31		-		
Loss on valuation of derivatives		-		23,648		
Loss on redemption of debentures		-		411		
Loss on disposal of investments in associates		_		1,667		
	₩	182,459	₩	222,770		

28. Income Tax

(1) Income tax expense for the years ended December 31, 2021 and 2020, consists of the following:

(in millions of Korean won)	2021			2020		
Current tax:						
Current tax on profits for the year	₩	271,432	₩	316,689		
Adjustments in respect of the prior year		(36,456)		(33,817)		
Total current tax		234,976		282,872		
Deferred tax:						
Origination and reversal of temporary differences		(5,818)		(113,725)		
Total income tax expense	₩	229,158	₩	169,147		
Income tax charged directly to equity ¹	₩	31	₩	(19,617)		
Income tax expense		229,127		188,764		

¹ Income tax credited (charged) directly to equity as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)		2021						2020								
	Be	fore tax	Tax (charge) credit		(charge)		(charge)		After tax		Before tax		Tax (charge) credit		After tax	
Share of other comprehensive																
income	₩	(104)	₩	-	₩	(104)	₩	(1,803)	₩	114	₩	(1,917)				
Gain or loss on valuation of																
derivatives		17,051		4,407		12,644		6,089		1,788		4,301				
Gain or loss on exchange differences on translations of																
foreign operations		(25,721)		(11,595)		(14,126)		(129,767)		(27,079)		(102,688)				
Remeasurements of net																
defined benefit pension plans		27,241		6,954		20,287		21,799		5,567		16,232				
Consideration for conversion																
rights		1,039		265		774		(26)		(7)		(19)				
	₩	19,506	₩	31	₩	19,475	₩	(103,708)	₩	(19,617)	₩	(84,091)				

(2) A reconciliation between profit before tax at the Korea statutory tax rate to income tax expense at the effective income tax rate of the Group as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)		2021	2020		
Profit before tax	₩	657,930	₩	518,440	
Tax calculated at domestic tax rates applicable to profits in the respective countries		167,772		132,202	
Tax effects of:					
Income not subject to tax		(4)		(1)	
Expenses not deductible for tax purposes		2,387		5,106	
Foreign income tax expense		4,405		23,159	
Others		54,567		28,298	
Adjustment in respect of prior years		61,355		56,562	
Income tax expense	₩	229,127	₩	188,764	

(3) The gross balances of deferred tax assets and liabilities as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)		2021	2020		
Deferred tax assets Deferred tax asset to be recovered after more than 12					
months	₩	741,454	₩	750,438	
Deferred tax asset to be recovered within 12 months		475,070		455,693	
		1,216,524		1,206,131	
Deferred tax liabilities					
Deferred tax liability to be recovered after more than					
12 months		280,957		277,797	
Deferred tax liability to be recovered within 12 months		123,169		121,754	
		404,126		399,551	
Deferred tax assets, net	₩	812,398	₩	806,580	

(4) The movements in deferred tax assets and liabilities for the years ended December 31, 2021 and 2020, without taking into consideration the offsetting of balances within the same tax jurisdiction, are as follows:

(in millions of Korean won)	2021									
		eginning palance	•			Equity	Change in consolidation		Ending balance	
Deferred tax liabilities										
Reserve for revaluation	₩	44,436	₩	-	₩	-	₩	-	₩	44,436
Deposits for severance benefits		114,467		(676)		(252)		-		113,539
Gain or loss on valuation of derivatives		15,689		2,637		(3,036)		-		15,290
Accrued interest on loans		9,839		2,447		-		-		12,286
Inventory construction interest Gain on exchange differences on		9,222	(1,002)		-		-		8,220
translations of foreign operations		36,722		-		(4,838)		-		31,884
Others		144,856	(1,203)		-		-		143,653
Consolidation adjustment		24,320		10,498		-				34,818
		399,551		12,701		(8,126)				404,126
Deferred tax assets										
Reversal of allowance for bad debts		268,807	(6,030)		-		-		262,777
Gain or loss on valuation of derivatives		22,060	(3,339)		(7,443)		-		11,278
Provisions		212,436	2	23,263		-		-		235,699
Allowance for pension benefits Share of profit or loss of associates		121,245	(4,769)		(7,206)		-		109,270
and joint ventures		29,800		1,075		-		-		30,875
Impairment loss on assets Loss on exchange differences on		93,212	•	12,375		-		-		105,587
translations of foreign operations		77,201		-		6,757		-		83,958
Others		70,738	(1	6,979)		(265)		-		53,494
Consolidation adjustment		310,632		12,954		_				323,586
		1,206,131		18,550		(8,157)				1,216,524
Deferred tax assets (liabilities), net	₩	806,580	₩	5,849	₩	(31)	₩		₩	812,398

(in millions of Korean won)	2020								
		eginning palance	Profit or loss	ofit or loss Equity		Change in consolidation		Ending balance	
Deferred tax liabilities									
Reserve for revaluation	₩	44,436	₩ .	- ₩	∀ -	₩	-	₩	44,436
Deposits for severance benefits		109,853	4,380)	234		-		114,467
Gain or loss on valuation of derivatives		1,498		-	14,191		-		15,689
Accrued interest on loans		8,857	982	2	-		-		9,839
Inventory construction interest Gain on exchange differences on		9,357	(135)	-		-		9,222
translations of foreign operations		58,591		-	(21,869)		-		36,722
Others		136,489	8,374	ļ	(7)		-		144,856
Consolidation adjustment		9,098	(8,476	<u> </u>	_	23,698		24,320	
		378,179	5,125	<u> </u>	(7,451)		23,698		399,551
Deferred tax assets									
Reversal of allowance for bad debts		238,666	30,141		-		-		268,807
Gain or loss on valuation of derivatives		7,665	1,992	2	12,403		-		22,060
Provisions		147,406	65,030)	-		-		212,436
Allowance for pension benefits Share of profit or loss of associates		122,467	4,111		(5,333)		-		121,245
and joint ventures		23,991	5,809)	-		-		29,800
Impairment loss on assets Loss on exchange differences on		71,965	21,247	7	-		-		93,212
translations of foreign operations		71,991		-	5,210		-		77,201
Others		81,001	(10,263))	-		-		70,738
Consolidation adjustment		329,540	(18,834)	(114)		40		310,632
		1,094,692	99,233	3	12,166		40		1,206,131
Deferred tax assets (liabilities), net	₩	716,513	₩ 94,108	3 ₩	∀ 19,617	₩	(23,658)	₩	806,580

(5) Details of unrecognized deductible (taxable) temporary differences as deferred tax assets (liabilities) as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	2021									
		e temporary s and others	Reason							
Foreign income tax expense	₩	4,493	Uncertainty of future taxable income and others							
(in millions of Korean won)			2021							
		e temporary s and others	Reason							
Foreign income tax expense	₩	5,934	Uncertainty of future taxable income and others							

29. Expenses Classified by Nature

Expenses classified by nature for the years ended December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	2021			2020
Labor cost	₩	1,159,004	₩	1,103,012
Materials		1,824,590		2,045,144
Outsourcing		3,346,459		3,937,478
Employee welfare benefits		121,662		136,193
Bad debt expense (reversal of)		(35,701)		184,652
Rents		50,767		70,687
Depreciation and amortization		77,725		80,225
Taxes and dues		155,681		114,513
Service fees		689,696		646,858
Others		1,459,390		963,533
Changes in inventories and others		(459,183)		90,238
1	₩	8,390,090	₩	9,372,533

¹ The total amounts include cost of sales, selling and general administrative expenses.

30. Related Party Transactions

(1) Related parties are as follows:

Relationship

Related parties

Associates1

GS KOCREF New Stay REIT Co., Ltd., Major Development Co., Ltd., FGS East Asia Technical Resource Management, Inc., SoBaek Co., Ltd., HyangSan 2 Urban Development Corp., Beopwon Industry Urban Development Corp., Yeouido MBC Site MXD PFV. Inc., PT. CORE RESOURCE, BKT Co., Ltd., Cheongju Hi Tech Valley, Gwancheon Sangsang PFV, Zero Tech Co., Ltd., Camp Stanton Co., Ltd., Cheonan Techno Park Inc., ORIGIN LATPHRAO CO., LTD., RENEW SOLAR ENERGY (JHARKHAND THREE) PRIVATE LIMITED, PARK PILLAR R4 CO., LTD., GYEONGGIPYEONGTAEK GLOBAL CO., LTD., Jincheon smart bokhap industrial danji development Co., LTD., GS Collective Fund I LLC, EPOCH PFV Co., LTD., CHEMICO ADVANCED MATERIALS CO., LTD., Jerotaekmuan Co., Ltd., Bucheon Visual Culture Industrial Complex Development Co. Ltd.3, PHU MY VINH3, PT. CORE RESOURCE INDONESIA, Cadiz San Fernando, A.I.E., Gestion de Participes de Biorreciclaje, Participes de Biorreciclaje S.A., GS Inima Fisia (Barka) LLC³, Fisia GS Inima (Al Ghubrah) LLC³

Joint ventures1

Others²

G&M Estate Co., Ltd., PT. Daria Mulia Properti, GS Korea for Project Management Company, GS MINH HUNG SIKICO CO., LTD., Hialeah Water, LLP, Lignana LLC, Lignana LLP GS Holdings, GS Retail Co., Ltd.5, GS Global Corp., Samyangtongsang Ltd., GS Energy Corporation, GS Power Co., Ltd., Boryeong LNG Terminal Co., Ltd., GS Park 24 Co., Ltd., Incheon Total Energy Co., GS-Caltex Corporation, Inno Polytech Corporation, GS Mbiz Co., Ltd., Sangji Shipping Co., Ltd., GS BIO Co., Ltd., GS EcoMetal Co., Ltd., Fresh Serve CO., Ltd., GS Netvision Co., Ltd., CVS net Co., Ltd., Parnas Hotel Co., Ltd., PNS Co., Ltd., GSNetworks Co., Ltd., GS Teleservices Co., Ltd., TenByTen Inc., GS EPS Co., Ltd., PLS Co., Ltd., GS ENTEC Corp., GS E&R Corp., Donghae green energy Co., Ltd., GS Windpower Co., Ltd., GS Donghae Electric Power Co., Ltd., GS Pocheon Green Energy Corp., Yeongyang Wind Power Corporation-2, Gumi green Energy Co., Ltd., Yeongdeok Windpower Corporation1 Co., Ltd., Samcheok Green Energy Park Co., Ltd., GS Sports Co., Ltd., Oksan Ochang Highway Corporation, Eun Pyeong New Road Corp., Busan East-West highway Corp, GUMIMAKEUNMUL, GS Neotek, Samyang INT'L Co., Ltd., Boheun Development Co., Ltd., Chemtech International Co., Ltd., Oksan Distribution, Seungsan Company Corporation, Gaseung Development Company, Happening People Inc., Central Motors Corp., Winasset Co., Ltd., Sam Joung Development Co., Ltd., Procare Co., Ltd., Kyung Won Construction Co., Ltd. Donghae International Resources Terminal Co., Ltd., K Global No.2 Private Real Estate Investment Limited Liability Company⁶, PANCOTEC LTD., GS Dangjin Solarfarm Co.Ltd., Hanul Love Co., Ltd., Gangnam Metro Co., Ltd., FRESHMEAT⁴, Seoul Munsan Expressway Co., Ltd.4, G-Energy Corp.4, Yeongdeok Windpower Corporation 2 Co., Ltd.4, GCONNECT4, Pohang Windpower Corporation Co., Ltd.4, Pohang Yeongliman Ocean

Cable car Co., Ltd.7

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

(in millions of							2021						
Korean won)		8	Sale	s and other	rs		Purchase and others						
	\$	Sales		Other income		Total	Purchase	•	Other expenses		Total	Changes in ownership	
Associates													
Major Development Co., Ltd. FGS East Asia Technical Resource Management, Inc.	₩	11	₩	204 49	₩	215 49		- 67	₩	- ₩ -	- 267	₩ -	
SoBaek Co., Ltd.		-		411		411		-		-	-	-	
Beopwon Industry Urban Development Corp. Yeouido MBC Site MXD PFV.		13,341		-		13,341		-		-	-	-	
Inc		111,520		-		111,520		-		-	-	-	
PT. CORE RESOURCE		-		275		275		-		-	-	-	
BKT Co., Ltd.		-		-		-	1,1	21		-	1,121	-	
Gwancheon Sangsang PFV		28,085		-		28,085		-		-	-	-	
Zero Tech Co., Ltd.		-		97		97		-		-	-	-	
ORIGIN LATPHRAO CO., LTD. RENEW SOLAR ENERGY (JHARKHAND THREE)		-		-		-		-		-	-	1,209	
PRIVATE LIMITED		-		709		709		-		-	-	14,692	
PARK PILLAR R4 CO., LTD. GYEONGGIPYEONGTAEK		9,773		-		9,773		-		-	-	2,695	
GLOBAL CO., LTD.		-		-		-		-		-	-	2,315	
GS Collective Fund I LLC		4,999		-		4,999		-		-	-	3,144	
EPOCH PFV Co., LTD.		-		67		67		-		-	-	-	

¹ Equity ownership information is disclosed in Note 12.

² Although the entity is not the related party of the Group in accordance with Korean IFRS 1024, the entity belongs to a large enterprise group in accordance with the Monopoly Regulation and Fair Trade Act. Electronic bills are provided to several entities to guarantee construction performance and others, and this is also included in Commitments and Contingencies (Note 21).

³ Newly acquired for the year ended December 31, 2021.

⁴ Newly included as other related parties of the Company for the year ended December 31, 2021.

⁵ During the year ended December 31, 2021, GS Home Shopping Inc. was merged into GS Retail Co., Ltd.

⁶ During the year ended December 31, 2021, the entity name was changed from Kclavis No.19 Professional Investment Type Private Real Estate Investment LLC to K Global No.2 Private Real Estate Investment Limited Liability Company.

⁷ Reclassified from a subsidiary to others.

(in millions of	2021									
Korean won)	Sa	ales and others		Pur						
-		Other			Other		Changes in			
	Sales	income	Total	Purchase	expenses	Total	ownership			
Jerotaekmuan Co., LTD	-	-	-	-	-	-	1,500			
Bucheon Visual Culture										
Industrial Complex Development Co. Ltd.							15,262			
PHU MY VINH	-	346	346	-	-	-	15,202			
GS Inima Fisia (Barka) LLC	-	340	340	4 E06	-	4 506	-			
Fisia GS Inima (Al Ghubrah)	-	-	-	4,586	-	4,586	-			
LLC	_	-	-	829	-	829	-			
Joint ventures										
G&M Estate Co., Ltd.	185	_	185	538	_	538	_			
GS MINH HUNG SIKICO CO.,										
LTD.	102	-	102	-	-	-	2,426			
Lignana LLP	-	-	-	-	-	-	19,772			
Others										
GS Holdings ¹	81	-	81	-	15,303	15,303	-			
GS Retail Co., Ltd.	771	-	771	2,341	88	2,429	-			
GS Global Corp.	131	-	131	-	-	-	-			
GS Home Shopping Inc.	330	-	330	-	-	-	-			
GS Energy Corporation	395	-	395	490	-	490	-			
GS Power Co., Ltd.	39,304	-	39,304	150	-	150	-			
Boryeong LNG Terminal Co.,										
Ltd.	78,995	-	78,995	-	-	-	-			
GS Park 24Co., Ltd.	1,380	-	1,380	-	-	-	-			
Incheon Total Energy Co.	-	-	-	826	-	826	-			
GS-Caltex Corporation	387,200	-	387,200	7,126	-	7,126	-			
GS Mbiz Co., Ltd.	-	-	-	1,963	-	1,963	-			
Parnas Hotel Co., Ltd.	6,799	-	6,799	38	-	38	-			
GS EPS Co., Ltd.	15,789	-	15,789	19	-	19	-			
GS ENTEC Corp.	1	-	1	1,110	-	1,110	-			
GS E&R Corp.	3,157	-	3,157	-	-	-	-			
GS Donghae Electric Power Co., Ltd.	10,772	_	10,772	57	_	57	-			
GS Pocheon Green Energy										
Corp.	(23,752)	-	(23,752)	3,000	-	3,000	-			
GS Sports Ltd.	803	-	803	5	6,273	6,278	-			
Oksan Ochang Highway	0.400		0.400							
Corporation	2,106	-	2,106	-	-	-	-			
Eun Pyeong New Road Corp.		11	11	-	-	-	-			
Busan East-West highway Corp	34,612	-	34,612	36	-	36	-			
GUMIMAKEUNMUL Co., Ltd.	15,845	-	15,845	-	-	-	-			

(in millions of	2021							
Korean won)	s	Sales and other	's	Pu	Purchase and others			
		Other			Other		Changes in	
	Sales	income	Total	Purchase	expenses	Total	ownership	
GS Neotek	133	-	133	4,550	209	4,759	-	
Samyang INT'L Co., Ltd.	-	-	-	10,613	-	10,613	-	
Seungsan Group Corporation	-	-	-	-	15	15	-	
Donghae International								
Resources Terminal Co., Ltd.	(6)	-	(6)	-	-	-	-	
Hanul Love Co., Ltd.	7	-	7	-	-	-	-	
Seoul Munsan Expressway Co., Ltd.	19,765	_	19,765	1,273	_	1,273		
Pohang Yeongliman Ocean	19,703	_	19,703	1,275	_	1,275	_	
Cable car Co., Ltd.		92	92				(3,000)	
	₩ 762,634	₩ 2,261	₩ 764,895	₩ 40,938	₩ 21,888	₩ 62,826	₩ 60,015	

¹ The amount includes the trademark agreement.

(in millions of				Ü				2020						
Korean won)		S	Sale	s and other	s			Pu	rchase and	oth	ners			
				Other					Other			_	Chang	es in
		Sales		income		Total	Pι	ırchase	expense	S		Total	owner	ship
Associates														
GS KOCREF New Stay REIT	₩	1,688	₩	-	₩	1,688	₩	-	₩	-	₩	-	₩	-
Major Development Co., Ltd.		16		-		16		-		-		-		-
FGS East Asia Technical Resource Management, Inc.		-		42		42		5		-		5		-
SoBaek Co., Ltd. Beopwon Industry Urban		-		413		413		-		-		-		-
Development Corp.		8,073		-		8,073		10		-		10		-
Yeouido MBC Site MXD PFV. Inc		40,847		194		41,041		144		-		144		-
PT. CORE RESOURCE		-		257		257		-		-		-		-
Gwancheon Sangsang PFV		348		594		942		-		-		-		-
Zero Tech Co., Ltd.		-		71		71		-		-		-		-
ORIGIN LATPHRAO CO., LTD. RENEW SOLAR ENERGY (JHARKHAND THREE) PRIVATE LIMITED		-		-		-		-		-		-		7,102 3,413
PARK PILLAR R4 CO., LTD.		_		_		_		_		_		_		10,611
GYEONGGIPYEONGTAEK GLOBAL CO., LTD. Jincheon smart bokhap industrial danji development		-		-		-		-		-		-		1,305
Co., LTD.		_		_		_		-		-		-		100
GS Collective Fund I LLC		-		-		-		-		-		-		1,201

(in millions of	2020									
Korean won)	Sa	les and others		Pur						
		Other			Other		Changes in			
	Sales	income	Total	Purchase	expenses	Total	ownership			
EPOCH PFV Co., LTD.	640	-	640	-	-	-	-			
CHEMICO ADVANCED MATERIALS CO., LTD.	-	-	-	-	-	-	1,500			
Jerotaekmuan Co., LTD.	-	9	9	-	-	-	2			
Tongjin Industry Complex CO., Ltd.	-	-	-	-	-	-	(10)			
Hakun 7 Industry Complex Co., Ltd.	-	-	-	-	_	-	(200)			
Joint ventures										
G&M Estate Co., Ltd. GS MINH HUNG SIKICO CO.,	247	-	247	689	-	689	-			
LTD.	-	-	-	-	-	-	819			
Others										
GS Holdings ¹	25	-	25	-	17,612	17,612	-			
GS Retail Co., Ltd.	383	-	383	1,278	115	1,393	-			
GS Global Corp.	40	-	40	3,896	-	3,896	-			
GS Home Shopping Inc.	669	-	669	-	-	-	-			
GS Energy Corporation	283	-	283	169	-	169	-			
GS Power Co., Ltd.	129,629	-	129,629	315	-	315	-			
Boryeong LNG Terminal Co., Ltd.	88,412	-	88,412	-	-	-	-			
GS Park 24Co., Ltd.	1,344	-	1,344	-	-	-	-			
GS-Caltex Corporation	889,255	-	889,255	11	-	11	-			
GS Mbiz Co., Ltd.	-	-	-	426	-	426	-			
Parnas Hotel Co., Ltd.	81,844	-	81,844	71	-	71	-			
GS EPS Co., Ltd.	76,174	-	76,174	11	-	11	-			
GS ENTEC Corp.	-	-	-	784	-	784	-			
GS E&R Corp.	2,953	-	2,953	-	-	-	-			
GS Donghae Electric Power Co., Ltd.	11,848	-	11,848	70	_	70	-			
GS Pocheon Green Energy										
Corp.	13,296	-	13,296	-	-	-	-			
GS Sports Ltd.	605	-	605	-	5,918	5,918	-			
Oksan Ochang Highway Corporation	3,574	-	3,574	-	-	-	-			
Eun Pyeong New Road Corp.	1	11	12	-	-	-	-			
Busan East-West highway Corp	20,985	-	20,985	-	-	-	-			
GUMIMAKEUNMUL Co., Ltd.	9,043	-	9,043	-	-	-	-			
GS Neotek	196	-	196	1,581	249	1,830	-			
Samyang INT'L Co., Ltd.	-	-	-	11,858	36	11,894	-			

(in millions of	2020								
Korean won)		Sales and other	's	Pu	rchase and oth	iers			
		Other			Other		Changes in		
	Sales	income	Total	Purchase	expenses	Total	ownership		
Seungsan Group Corporation	-	-	-	-	15	15	-		
Donghae International Resources Terminal Co., Ltd.	2,565	12	2,577	-	-	-	500		
Gangnam Metro Co., Ltd.							20		
	₩ 1,384,983	₩ 1,603	₩ 1,386,586	₩ 21,318	₩ 23,945	₩ 45,263	₩ 36,363		

¹ The amount includes the trademark agreement.

(3) Receivables and payables arising from related party transactions as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)				2021			
		Recei	vables			Payables	
	Trade receivables and contract assets	Other receivables	Loans	Total	Trade payables	Other payables and contract liabilities	Total
Associates							
Major Development Co., Ltd. FGS East Asia Technical	₩ -	₩ -	₩ 23,100	₩ 23,100	₩ -	₩ 56	₩ 56
Resource Management, Inc.	-	33	704	737	-	-	-
SoBaek Co., Ltd. HyangSan 2 Urban	-	1,446	6,856	8,302	-	-	-
Development Corp.	-	-	-	-	-	5	5
Beopwon Industry Urban Development Corp.	19,567	-	-	19,567	-	-	-
Yeouido MBC Site MXD PFV.							
Inc	136,837	-	-	136,837	-	-	-
PT. CORE RESOURCE	-	821	3,010	3,831	-	-	-
Gwancheon Sangsang PFV	-	-	-	-	-	16,353	16,353
Zero Tech Co., Ltd. RENEW SOLAR ENERGY (JHARKHAND THREE)	-	48	450	498	-	-	-
PRIVATE LIMITED GYEONGGIPYEONGTAEK	-	714	-	714	-	-	-
GLOBAL CO., LTD.	8,209	8,432	-	16,641	-	-	-
EPOCH PFV Co., LTD.	4,487	-	-	4,487	-	-	-
Jerotaekmuan Co., LTD.	-	77	1,463	1,540	-	-	-
Bucheon Visual Culture Industrial Complex Development Co., Ltd.	-	-	-	-	-	855	855

2021

(in millions of Korean wo

(III IIIIIIIOIIS OI NOIGAII WOII)	-			2021				
		Receiva	Payables					
	Trade receivables and contract assets	Other receivables	Loans	Total	Trade payables	Other payables and contract liabilities	Total	
Cadiz San Fernando, A.I.E.	316	-	-	316	-	-	-	
Gestion de Participes de Biorreciclaje	618	-	-	618	-	-	-	
Participes de Biorreciclaje S.A.	418	-	-	418	-	-	-	
GS Inima Fisia (Barka) LLC	-	-	-	-	1,115	-	1,115	
Fisia GS Inima (Al Ghubrah) LLC	-	-	-	-	302	-	302	
Joint ventures								
G&M Estate Co., Ltd. GS MINH HUNG SIKICO CO.,	-	32	-	32	-	62	62	
LTD.	-	43	-	43	-	-	-	
Hialeah Water, LLP	-	-	-	-	1,818	-	1,818	
Others								
GS Holdings	4	10	-	14	-	2,825	2,825	
GS Retail Co., Ltd.	60	163	-	223	419	5,884	6,303	
GS Global Corp.	-	-	-	-	-	674	674	
GS Energy Corporation	4	212	-	216	-	4,055	4,055	
GS Power Co., Ltd.	20,133	-	-	20,133	-	350	350	
Boryeong LNG Terminal Co., Ltd.	8,621	-	-	8,621	-	11,944	11,944	
GS Park 24Co., Ltd.	-	125	-	125	-	-	-	
GS-Caltex Corporation	148,991	-	-	148,991	-	66,711	66,711	
GS Mbiz Co., Ltd.	-	-	-	-	747	-	747	
Parnas Hotel Co., Ltd.	475	-	-	475	3	1,600	1,603	
GS Teleservices Co., Ltd.	-	-	-	-	-	345	345	
GS EPS Co., Ltd.	15,082	-	-	15,082	-	894	894	
GS ENTEC Corp.	-	-	-	-	3	-	3	
GS E&R Corp.	288	-	-	288	-	-	-	
GS Donghae Electric Power Co., Ltd.	4,397	-	-	4,397	-	-	-	
GS Pocheon Green Energy Corp.	302	-	_	302	-	-	-	
GS Sports Ltd.	41	-	-	41	-	704	704	
Oksan Ochang Highway Corporation	1,158	88	2,040	3,286	-	-	-	
Eun Pyeong New Road Corp.	1,950	95	163	2,208	-	-	-	
Busan East-West highway Corp	40,380	-	-	40,380	-	-	-	
GUMIMAKEUNMUL Co., Ltd.	7,056	25	-	7,081	-	-	-	

(in millions of Korean won)				2021			
		Recei	vables			Payables	
	Trade receivables and contract assets	Other receivables	Loans	Total	Trade payables	Other payables and contract liabilities	Total
GS Neotek	15	110	-	125	3,525	1,660	5,185
Samyang INT'L Co., Ltd.	-	-	-	-	2,992	146	3,138
Seungsan Group Corporation	-	3,149	-	3,149	-	303	303
Kyung Won Construction Co., Ltd.	-	-	-	-	-	114	114
Donghae International Resources Terminal Co., Ltd.	_	_	_	_	_	6	6
Seoul Munsan Expressway Co.,							
Ltd.	2,649	470	-	3,119	-	352	352
Pohang Yeongliman Ocean Cable car Co., Ltd.	-	8	2,000	2,008	-	-	-
	₩ 422,058	₩ 16,101	₩ 39,786	₩ 477,945	₩ 10,924	₩ 115,898	₩ 126,822
(in millions of Korean won)				2020			
	Trade	Recei	vables			Payables Other	
	receivables					payables	
	and contract	Other			Trade	and contract	
	assets	receivables	Loans	Total	payables	liabilities	Total
Associates							
FGS East Asia Technical Resource Management, Inc.	₩ -	₩ 35	₩ 959	₩ 994	₩ -	₩ -	₩ -
SoBaek Co., Ltd.	_	1,033	6,856	7,889	_	_	_
HyangSan 2 Urban		,	.,	,			
Development Corp.	-	-	-	-	-	5	5
Beopwon Industry Urban Development Corp.	11,408	_	-	11,408	-	-	-
Yeouido MBC Site MXD PFV. Inc	41,580	-	-	41,580	-	_	-
PT. CORE RESOURCE	-	505	2,763	3,268	-	_	_
Gwancheon Sangsang PFV	347	-	-	347	-	-	-
Gwancheon Sangsang PFV Zero Tech Co., Ltd.	347	- 95	- 1,550	347 1,645	-	-	-
	347		- 1,550 1,463		-	-	-
Zero Tech Co., Ltd.	347 - - 273	95 9		1,645	- - 1,085	-	- - 1,085
Zero Tech Co., Ltd. Jerotaekmuan Co., LTD.	-	95 9		1,645 1,472		- - -	- - 1,085
Zero Tech Co., Ltd. Jerotaekmuan Co., LTD. Cadiz San Fernando, A.I.E. Gestion de Participes de Biorreciclaje	- 273 80	95 9 -		1,645 1,472 273 80	1,085	- - - -	- - - 1,085
Zero Tech Co., Ltd. Jerotaekmuan Co., LTD. Cadiz San Fernando, A.I.E. Gestion de Participes de	- - 273	95 9 -		1,645 1,472 273	1,085	- - - -	- - 1,085 - -
Zero Tech Co., Ltd. Jerotaekmuan Co., LTD. Cadiz San Fernando, A.I.E. Gestion de Participes de Biorreciclaje	- 273 80	95 9 -		1,645 1,472 273 80	1,085	- - - -	- 1,085 - -

(in millions of Korean won)				2020			
		Receiva	ables		Payables		
	Trade receivables and contract assets	Other receivables	Loans	Total	Trade payables	Other payables and contract liabilities	Total
Others							
GS Holdings	4	-	-	4	-	2,824	2,824
GS Retail Co., Ltd.	-	98	-	98	348	4,152	4,500
GS Global Corp.	11	-	-	11	-	674	674
GS Home Shopping Inc.	59	-	-	59	-	1,911	1,911
GS Energy Corporation	5	169	-	174	-	4,061	4,061
GS Power Co., Ltd.	4,926	_	-	4,926	-	1,790	1,790
Boryeong LNG Terminal Co.,							
Ltd.	4,496	-	-	4,496	-	46,760	46,760
GS Park 24Co., Ltd.	-	117	-	117	-	-	-
GS-Caltex Corporation	2,281	-	-	2,281	-	7,864	7,864
GS Mbiz Co., Ltd.	-	-	-	-	311	-	311
Parnas Hotel Co., Ltd.	15,906	90	-	15,996	4	1,599	1,603
GS Teleservices Co., Ltd.	-	-	-	-	-	345	345
GS EPS Co., Ltd.	30,958	-	-	30,958	-	10,974	10,974
GS E&R Corp.	269	-	-	269	-	-	-
GS Donghae Electric Power Co., Ltd.	1,165	8	-	1,173	-	-	-
GS Pocheon Green Energy							
Corp.	40,548	-	-	40,548	-	-	-
GS Sports Ltd.	17	-	-	17	-	825	825
Oksan Ochang Highway Corporation	1,508	362	_	1,870	_	_	_
Eun Pyeong New Road Corp.	1,949	84	163	2,196	_	_	_
Busan East-West highway Corp	22,622	324	-	22,946	_	_	_
GUMIMAKEUNMUL Co., Ltd.	6,065	35	-	6,100	_	-	_
GS Neotek	20	_	-	20	118	1,674	1,792
Samyang INT'L Co., Ltd.	-	-	-	-	3,984	147	4,131
Seungsan Group Corporation	_	3,149	_	3,149	_	303	303
		-,		-,			

Allowance for bad debts of receivables from related parties as of December 31, 2021, is $\mbox{$W$}$ 32,481 million (2020: $\mbox{$W$}$ 43,941 million), and reversal of bad debt expense recognized during the year ended December 31, 2021, is $\mbox{$W$}$ 11,459 million (2020: bad debt expense $\mbox{$W$}$ 43,324 million).

13,754 ₩

33

5,850 ₩

209,123 ₩

33

6,190 ₩

189,179 ₩

114

86,082 ₩

114

91,932

Kyung Won Construction Co.,

Donghae International Resources Terminal Co., Ltd

Ltd.

(4) Changes in loans to related parties for the years ended December 31, 2021 and 2020, are as follows:

(in millions of						2021				
Korean won)	Annual interest rate (%)	Maturity date	Beginning	lı	ncrease	Transfer	Effects of changes in foreign exchange rates	Ending	Interest income	Equity transaction
Associates										
Major Development										
Co., Ltd. FGS East Asia	-	- 2022.01.17	₩ -	₩	23,700	₩ 600	₩ -	₩ 23,100	₩ 204	₩ -
Technical Resource		~								
Management, Inc.	4.6	2022.10.15	959		-	342	87	704	49	-
SoBaek Co., Ltd.	-	-	6,856		-	-	-	6,856	411	-
PT. CORE	8.00~12.									
RESOURCE	00	2022.12.31	2,763		-	-	247	3,010	275	-
Zero Tech Co., Ltd.	4.6	-	1,550		-	1,100	-	450	97	-
ORIGIN LATPHRAO CO., LTD.	_	_	_		_	_	_	_	_	1,209
RENEW SOLAR	_	_					_		_	1,200
ENERGY										
(JHARKHAND										
THREE) PRIVATE									700	44.000
LIMITED GYEONGGIPYEONG	-	-	-		-	-	-	-	709	14,692
TAEK GLOBAL CO.,										
LTD.	-	-	-		-	-	-	-	-	2,695
GS Collective Fund I										
LLC	-	-	-		-	-	-	-	-	2,315
Epoch PFV Co., Ltd.	-	-	-		-	-	-	-	-	3,144
Jerotaekmuan Co., LTD.	4.6	_	1,463		_	_	_	1,463	67	_
Bucheon Visual	4.0		1,400					1,400	O1	
Culture Industrial										
Complex										
Development Co.,										4 500
Ltd. PHU MY VINH	-	-	-		-	-	-	-	-	1,500
Joint ventures	-	-	-		-	-	-	-	-	15,262
GS MINH HUNG										
SIKICO CO., LTD.	-	-	_		-	-	_	-	-	2,426
Lignana LLP	-	-	_		-	-	_	-	-	19,772
Others										
Oksan Ochang										
Highway Corporation	4.6	2047.12.31	-		2,040	-	-	2,040	-	-
Eun Pyeong New Road Corp.	6.9	_	163		_	_	_	163	11	_
Pohang Yeongliman	0.9	-	103		-	-	-	100	11	-
Ocean Cable car										
Co., Ltd.	4.6	2029.08.09	2,000		-	-	-	2,000	70	(3,000)

(in millions of					2021				
Korean won)	Annual interest rate (%)	Maturity date	Beginning	Increase	Transfer	Effects of changes in foreign exchange rates	Ending	Interest income	Equity transaction
			₩ 15,754	₩ 25,740	₩ 2,042	₩ 334	₩ 39,786	₩ 1,893	₩ 60,015
(in millions of					2020				
Korean won)	Annual interest rate (%)	Maturity date	Beginning	Increase	Transfer	Effects of changes in foreign exchange rates	Ending	Interest income	Equity transaction
Associates									
FGS East Asia Technical Resource		2021.01.17~							
Management, Inc.	4.60	2021.10.17	₩ 871	₩ 286	₩ 131	₩ (67)	₩ 959	₩ 42	₩ -
SoBaek Co., Ltd.	6.00		6,856	200		(01)	6,856	413	_
PT. CORE		-		-	-	-			-
RESOURCE	8.00~12.00	2021.12.31	2,940	-	-	(177)	2,763	257	-
Gwancheon Sangsang PFV	-	_	_	50,000	50,000	_	_	594	-
Zero Tech Co., Ltd.	4.60	_	1,550	_	_	_	1,550	71	_
ORIGIN LATPHRAO	1.00		1,000				1,000		
CO., LTD. RENEW SOLAR ENERGY (JHARKHAND	-	-	-	-	-	-	-	-	7,102
THREE) PRIVATE LIMITED	-	-	-	-	-	-	-	-	13,413
PARK PILLAR R4									
CO., LTD. GYEONGGIPYEONG TAEK GLOBAL CO.,	-	-	-	-	-	-	-	-	10,611
LTD. Jincheon smart bokhap industrial danji development	-	-	-	-	-	-	-	-	1,305
Co., LTD. GS Collective Fund I	-	-	-	-	-	-	-	-	100
LLC								_	1,201
CHEMICO ADVANCED MATERIALS CO., LTD.	- -	-	_	_	_	_	_	_	1,500
Jerotaekmuan Co.,									.,000
LTD. Tongjin Industry	4.60	-	-	1,463	-	-	1,463	9	2
Complex CO., Ltd.	_	_	_	_	_	_	_	_	(10)
Hakun 7 Industry	_	_	_	_	_	_	_	_	(200)
r maddiy	-	-	-	-	-	-	-	-	(200)

(in millions of Korean won)	Annual interest rate (%)	Maturity date	Beginning	Increase	2020 Transfer	Effects of changes in foreign exchange rates	Ending	Interest income	Equity transaction
Complex Co., Ltd.									
Joint ventures GS MINH HUNG SIKICO CO., LTD.	_	_	-	-	-	_	_	_	819
Others Eun Pyeong New Road Corp.	6.90	-	163	_	_	_	163	11	_
Donghae International Resources Terminal									
Co., Ltd. Gangnam Metro Co.,	-	-	-	-	-	-	-	-	500
Ltd.	-	-							20
			₩ 12,380	₩ 51,749	₩ 50,131	₩ (244)	₩ 13,754	₩ 1,397	₩ 36,363

(5) Guarantees between related parties

Details of payment guarantees that the Company provides to the related parties as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won and in thousands of foreign currencies)

•	Туре	Beneficiary	Period	2	021	2020		
Associates								
Major Development Co., Ltd.	Payment guarantee	Bookook Securities Co., Ltd.	2020.05~2021.04	KRW	-	KRW	34,100	
SoBaek Co., Ltd.	Payment guarantee	SC Bank	2019.05~2021.04	KRW	-	KRW	115,000	
			2021.04~2022.04	KRW	145,000	KRW	-	
		BNK Securities	2019.08~2021.08	KRW	-	KRW	98,400	
			2021.08~2022.08	KRW	90,400	KRW	-	
Beopwon Industry Urban Development Corp.	Conditional debt acquisition	NH Bank and others	2019.07~2021.04	KRW	-	KRW	41,600	
		MG Community Credit Cooperatives and others	2021.04~2022.04	KRW	27,925	KRW	-	
Yeouido MBC Site MXD PFV. Inc.	Conditional debt acquisition	National Agricultural Cooperative Federation and others	2019.07~2024.01	KRW	480,942	KRW	505,580	
Bucheon Visual Culture Industrial Complex Development Co. Ltd. ¹	Payment guarantee	ACPG Bucheon Development Limited	2021.06~2024.06	USD	30,000	USD	-	
Others								
Oksan Ochang Highway Corporation	Payment guarantee	Meritz Fire & Marine Insurance CO., Ltd. and others	2015.10~2036.07	KRW	10,200	KRW	10,200	
Busan East-West highway Corp	Performance guarantee	Construction Guarantee Cooperative	2018.01~2023.12	KRW	24,757	KRW	24,757	
Seoul Munsan Expressway Co., Ltd ²	Payment guarantee	HANWHA GENERAL INSURANCE CO., LTD.	2018.02~2026.11	KRW	22,750	KRW	22,750	

¹ Newly acquired for the year ended December 31, 2021.

Meanwhile, the Group has provided joint guarantees of performing construction contracts within the limit of $\mbox{$W$}$ 277,330 million in relation to the guarantees of housing distribution to Yeouido MBC Site MXD PFV. Inc. The above amounts are included in contract amounts of contingencies and commitments (Note 21).

² Newly included as other related parties of the Company for the year ended December 31, 2021.

(6) Details of the assets pledged as collateral for the related parties as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	Туре	Beneficiary	2021	2020		
Associates RENEW SOLAR ENERGY (JHARKHAND THREE) PRIVATE LIMITED	Equity securities	COOPERATIEVE RABOBANK U.A., HONG KONG BRANCH and others	₩ 16,703	₩ -		
Others						
Oksan Ochang Highway	Equity securities	Meritz Fire & Marine Insurance Co., Ltd. and others	29,940	29,940		
Corporation	Electronic bill	Meritz Fire & Marine Insurance Co., Ltd. and others	17,000	17,000		
GUMIMAKEUNMUL Co., Ltd.	Equity securities	Mirae Asset green infrastructure special asset investment trust 2	584	584		
Busan East-West highway	Equity securities	KIAMCO Road Investment	11,007	11,007		
Corp	Blank checks ¹	Private Fund Special Asset Trust 12 and 3 others	-	-		
Seoul Munsan Expressway Co., Ltd. ²	Equity securities	HANWHA GENERAL INSURANCE CO., LTD. and others	48,339	48,339		

¹ Blank checks

(7) Compensation for key management personnel of the Parent Company as of December 31, 2021 and 2020, consists of the following:

(in millions of Korean won)	2	2020			
Salaries	₩	32,646	₩	36,231	
Severance benefits		4,816		4,640	
	₩	37,462	₩	40,871	

² Newly included as other related parties of the Group for the year ended December 31, 2021.

31. Cash Flows

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

(in millions of Korean won)	2021	2020				
Profit for the year	₩ 428,803	₩ 329,676				
Adjustments for:						
Income tax expenses	229,127	188,764				
Interest expenses	91,707	115,201				
Interest income	(53,544)	(41,868)				
Dividend income	(667)	(600)				
Depreciation	45,360	42,030				
Amortization	32,365	38,195				
Depreciation of investment property	16,098	7,981				
Depreciation of right-of-use assets	60,027	71,728				
Bad debt expense	92,580	320,251				
Reversal of allowance for bad debt	(87,719)	(62,102)				
Provision for severance benefits	63,702	69,888				
Loss (gain) on foreign currency translation	(73,717)	71,837				
Loss (gain) on disposal of property, plant and equipment	(232)	1,381				
Loss on disposal of intangible assets	315	15				
Impairment loss on intangible assets	11,567	-				
Gain on disposal of investment property	(2)	(98)				
Impairment loss on investment property	5,775	6,006				
Loss (gain) on valuation of derivatives	(27,003)	37,337				
Loss on derivatives transactions	33,141	369				
Financial guarantee expenses	-	297				
Reversal of financial guarantee liabilities	(26,065)	(46,585)				
Construction warranty expenses	84,626	146,121				
Reversal of provision for construction warranties	(4,226)	(6,712)				
Loss on disposal of other assets	10	265				
Loss on disposal of non-current assets and liabilities held for sale	4,678	-				
Gain on valuation of financial assets at fair value through profit or loss	(1,674)	(32,514)				
Loss on disposal of financial assets at fair value through profit or loss	496	4,830				
Loss on disposal of long-term financial assets	31	-				
Loss on redemption of debentures	-	411				
Loss on overseas operations translation	2,917	18,968				
Gain on overseas operations translation	(1,790)	(10,728)				

(in millions of Korean won)	2021	2020
Loss (gain) on disposal of investments in associates	(523)	1,465
Share of loss (profits) of associates and joint ventures	(5,124)	6,139
Loss on changes in leases	2,510	7,885
Others	886	3,951
	495,632	960,108
Changes in operating assets and liabilities		
Trade receivables	(437,095)	343,847
Other receivables	218,111	16,403
Contract assets	107,740	(98,434)
Inventories	17,336	74,123
Settlement of derivatives transactions	(5,633)	21,527
Other current assets	31,266	(30,960)
Other non-current assets	(10,599)	(9,023)
Trade payables	39,606	(221,175)
Other payables	(85,380)	(106,459)
Contract liabilities	592,373	(388,599)
Other current liabilities	189,202	201,514
Other current provision	(17,954)	13,041
Non-current provision	(9,081)	(6,403)
Other non-current liabilities	(28,918)	(61,797)
Payment of severance benefits	(91,702)	(79,912)
Others	11,710	(24,273)
	520,982	(356,580)
	₩ 1,445,417	₩ 933,204

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

(in millions of Korean won)		2021		2020
Reclassification to current portion of debentures	₩	363,621	₩	101,499
Reclassification of deposits for business to loans		171,190		229,629
Conversion of convertible bond		149,540		16,417
Reclassification to current portion of leasehold deposits received		104,444		36,529
Reclassification of right-of-use assets to investment properties		90,215		57,397
Reclassification to current portion of borrowings		56,954		760,360
Reclassification of long-term and short-term loans		57,265		15,503
Reclassification of plan assets to net defined benefit assets		45,704		-
Changes in lease liabilities		36,496		14,447
Reclassification to current portion of derivative assets		10,537		-
Changes in subleases		1,127		35,050
Reclassification of membership guarantee deposits		973		11,162

⁽³⁾ Details of changes in liabilities arising from financing activities for the years ended December 31, 2021 and 2020, are as follows:

(in millions of				2021			
Korean won)		Cash flows	lm				
	Beginning	from financing activities	Additional expenses	Current portion	Transfer	Exchange differences	Ending
Short-term borrowings	₩ 391,697	₩ (124,395)	₩ -	₩ 11,336	₩ (10,880)	₩ 1,550	₩ 269,308
Current portion of debentures	159,286	(32,514)	548	363,621	(127,269)	4,945	368,617
Current portion of long-term borrowing	442,952	(173,805)	-	45,618	10,880	6,840	332,485
Current financial guarantee liabilities	28,925	-	-	(23,955)	-	-	4,970
Current lease liabilities	88,621	(2,822)	165	8,007	2,561	81	96,613
Current portion of leasehold deposits received	36,529	(273)	-	104,444	-	-	140,700
Other current liabilities	177,702	(2,510)	-	973	-	-	176,165
Debentures	785,407	228,255	1,044	(363,621)	-	21,446	672,531
Long-term borrowings	1,459,461	226,667	-	(56,954)	-	92,933	1,722,107
Financial guarantee liabilities	59,787	-	(34,116)	23,955	36,126	-	85,752
Leasehold deposits received	171,143	(18,907)	-	(104,444)	-	(412)	47,380
Non-current lease liabilities	479,911	(82,826)	3,156	(8,007)	28,154	486	420,874

(in millions of											2021							
Korean won)						Ca	ash flows		Impa	act	on non-cas	sh	transactior	าร				
			В	Begir	nning		from nancing ctivities		dditional xpenses		urrent ortion	Tr	ansfer		cchange ference		I	Ending
Other non-current	liab	ilities			20,882		14,442		-		(973)		<u> </u>			<u>-</u> _		34,351
			₩	4,3	02,303	₩	31,312	₩	(29,203)	₩	<u> </u>	₩	(60,428)	₩	127,86	69	₩	4,371,853
(in millions of									;	2020)							
Korean won)				Ca	sh flows						on-cash trar	nsa	ctions					
				fii	from nancing		Additional		Current				Change in		Exchan	qe		
	В	eginnin	g	a	ctivities		expenses		portion		Transfer		onsolidation		differenc	_		Ending
Short-term borrowings	₩	450,8	93	₩	(180,077) †	₩ .	- +	∜ (70,265)	₩	10,454	₩	190,161	I †	∀ (9,4	169)	₩	391,697
Current portion of debentures Current portion of		231,1	63		(161,758)	2,797	7	101,499		(7,719)			-	(6,6	696)		159,286
long-term borrowing Current financial		179,3	90		(469,529)		-	760,360		(10,880)			-	(16,3	389)		442,952
guarantee liabilities Current lease			-			-		-	28,761		164		-	-		-		28,925
liabilities Current portion of		95,1	69		(4,058)	2	2	(4,282)		1,956		-	-	(1	166)		88,621
leasehold deposits received Other current			-			-		-	36,529		-		-	-		-		36,529
liabilities		177,1	46		(10,071)		-	11,162		-		-	-	(5	535)		177,702
Debentures		657,5	51		237,078	3	3,412	2	(101,499)		(8,669)		-	-	(2,4	166)		785,407
Long-term borrowings Financial		1,187,7	'50		833,34	1		-	(690,095)		-		114,512	2	13,	953		1,459,461
guarantee liabilities			-			-	(58,369))	(28,761)		146,917			-		-		59,787
Leasehold deposits received			-		(7,923)		-	(36,529)		215,191		218	3		186		171,143
Non-current lease liabilities		497,2	90		(81,778)	7,920)	4,282		49,379		3,763	3	(9	945)		479,911
Other non-current liabilities		241,9	68		5,267	7			(11,162)		(215,191)					_		20,882
	₩	3,718,3		₩	160,492		₩ (44,238)) †		₩		₩	308,654	1 ∤	∀ (22,5	527)	₩	

32. Financial Risk Management

The Group's activities are exposed to a variety of financial risks: market risk (including currency risk, fair value interest rate risk, cash flow interest rate risk and price risk), credit risk and liquidity risk. The Group supports to generate stable and continuous business performance and simultaneously focuses on improvement of cost competitiveness by improving financial structure and reducing financial cost.

The Group's overall risk management program focuses to minimize potential adverse effects on the Group's financial risk by monitoring periodical financial risk and rearranging the financial risk management policy.

- (1) Financial risk
- (a) Market risk
- i) Foreign exchange risk

The Group operates internationally and is exposed to foreign exchange risk arising from various currency exposures. The Group's principal monetary assets and liabilities denominated in currencies other than its functional currency as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won	2021											
and in thousands of foreign	Financia	al assets	Financial	liabilities								
currencies)	Foreign currency	Korean won equivalent	Foreign currency	Korean won equivalent								
USD	895,850	₩ 1,062,030	1,392,655	₩ 1,650,992								
EUR	10,122	13,588	418,958	562,384								
KWD	1,166	4,568	95	373								
JPY	50	1	895,102	9,222								
SGD	-	-	1	1								
(in millions of Korean won	2020											
and in thousands of foreign	Financia	al assets	Financial	liabilities								
and in thousands of foreign _ currencies)	Financia Foreign	l assets Korean won	Financial Foreign	liabilities Korean won								
				,								
	Foreign	Korean won	Foreign	Korean won								
currencies)	Foreign currency	Korean won equivalent	Foreign currency	Korean won equivalent								
currencies)	Foreign currency 780,247	Korean won equivalent ₩ 848,910	Foreign currency	Korean won equivalent ₩ 1,294,510								
currencies) USD EUR	Foreign currency 780,247 9,812	Korean won equivalent ₩ 848,910 13,131	Foreign currency 1,189,807 418,216	Korean won equivalent ₩ 1,294,510 559,674								

As of December 31, 2021 and 2020, if the Group's functional currency had weakened/ strengthened by 5% against foreign currencies with all other variables held constant, profit before income tax would have been affected as follows:

(in millions of Korean won)	2021					2020				
	W	eakened (5%)	St	trengthened (5%)	V	Veakened (5%)	St	rengthened (5%)		
USD	₩	(29,448)	₩	29,448	₩	(22,280)	₩	22,280		
EUR		(27,440)		27,440		(27,327)		27,327		
KWD		210		(210)		184		(184)		
JPY		(461)		461		(148)		148		

ii) Interest rate risk

The Group's interest rate risk arises from variable-rate borrowings, and related interest expense is exposed to interest rate risk. As of December 31, 2021, the financial liabilities that are exposed to interest rate risk are the variable-rate borrowings issued at variable rates amounting to $\mbox{$W$}$ 2,384,523 million (2020: $\mbox{$W$}$ 2,214,268 million).

As of December 31, 2021, and 2020, if interest rates had been fluctuated by 100bp with all other variables held constant, interest expenses would have been affected as follows:

(in millions of		20	21		2020					
Korean won)	100b	p increase	100b	p decrease	100bp	increase	100bp decrease			
Interest expenses	₩	23,596	₩	(23,596)	₩	16,526	₩	(16,526)		

(b) Credit risk

Credit risk occurs in the ordinary course of business and investment activities of the Group when the customers or counterparties could not comply with the obligations of the contract. To manage the credit risk, the Group evaluates the credit of customers periodically, considering past experience and other factors and sets individual credit limit considering the credit quality of customer.

Credit risk arises from cash equivalents, derivative financial instruments and deposits with banks and financial institutions, as well as credit risk to primary customers, including outstanding receivables and firm committed transactions.

The Group's credit risk is managed in accordance with the Group's credit policy with the purpose of minimizing possible loss through efficient credit risk management, support for rapid decision making and implementation of safety measures on the Group's accounts receivable. The Group appropriately evaluates and reflects the risks to the statement of financial position when a default is expected, as of December 31, 2021, for receivables with any signs of impairment or those for which recovery date has passed.

The allowance provision for the trade receivable as of December 31, 2021, is as follows

(in millions of Korean won)	Expected credit losses ratio (%)	Вс	ook value	Expected credit losses		
Receivable not past due	0.50%	₩	604,734	₩	3,018	
Less than 3 months	0.57%		204,397		1,152	
Between 4 ~ 12 months	1.37~5.33%		294,960		4,999	
Between 13 ~ 24 months	8.90~14.63%		40,294		1,620	
Between 25 ~ 36 months	18.20~37.90%		7,289		1,995	
Over 36 months	54.52%		3,523		1,921	
		₩	1,155,197	₩	14,705	

In addition, the Group has recognized for doubtful account on trade receivables of \forall 142,128 million by individual basis assessment as of December 31, 2021.

Details of maximum exposure to credit risk as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)		2021	2020		
Cash equivalents (excluding cash on hands)	₩	2,688,582	₩	2,114,341	
Trade and other receivables		2,200,132		1,957,065	
Contract assets		960,336		1,023,757	
Short-term financial assets		395,042		257,870	
Long-term financial assets		600,464		616,806	
Long-term trade and other receivables		1,195,973		866,621	
Financial guarantee contracts		8,463,029		6,291,409	

In addition to the above-mentioned financial guarantee contracts, the Group also has provided an intermediate payment loan guarantee agreement, a housing guarantee agreement, and a loan agreement. The maximum exposure to credit risk is the amount provided in the agreements (Note 21).

(c) Liquidity risk

The Group's liquidity risk arises when it does not have sufficient cash to fulfill payment obligations from financial liabilities or to meet operational needs.

The Group manages possible liquidity risk in advance through monitoring forecasts of the Group's liquidity requirements to ensure it has sufficient cash to meet operational needs.

Major commitments related to the credit limit of domestic financial institutions as of December 31, 2021 and 2020, are as follows:

(in millions of		20	21			2020			
Korean won)	Financial							Limited	
	institutions	í	amount		amount		amount		amount
Short-term and long-	Korea Exim								
term financial liabilities1	bank and others	₩	8,429,252	₩	5,863,050	₩	8,402,203	₩	6,222,095

¹ Include amounts related to comprehensive trading limit (letter of credit and foreign bond) and the Group's borrowings and exclude lease liabilities.

The table below summarizes the maturity profile of the Group's financial liabilities based on contractual undiscounted payments:

(in millions of		2021											
Korean won)					Residual maturity								
	В	ook value		Cash flow on contract		Less than 1 year		Between 1 year and 2 years		Between 2 years and 3 years		er 3 years	
Trade and other payables Short-term and long-term	₩	1,656,079	₩	1,658,477	₩	1,658,477	₩	-	₩	-	₩	-	
financial liabilities ¹ Financial guarantee		4,079,288		4,490,568		1,012,916		1,183,366		515,996		1,778,290	
liabilities ²		90,722		8,463,029		8,463,029		-		-			
	₩	5,826,089	₩	14,612,074	₩	11,134,422	₩	1,183,366	₩	515,996	₩	1,778,290	

¹ Includes interest expense.

² The cash flows on contract are the principal amount and commitment limits from the PF, redevelopment projects, SOC, overseas operations and others that are recognized as financial guarantee liabilities.

(in millions of			2020								
Korean won)			Residual maturity								
	Book value	Cash flow on contract	Less than 1 year and 2 year years	Between 2 years and 3 years O	ver 3 years						
Trade and other payables Short-term and long-term	₩ 1,592,53	9 ₩ 1,596,457	₩ 1,403,687 ₩ 192,770	₩ - ₩	-						
financial liabilities ¹ Financial guarantee	4,062,73	4,589,340	1,272,293 827,244	807,455	1,682,348						
liabilities ²	88,71	6,291,409	6,291,409	<u> </u>	<u>-</u>						
	₩ 5,743,99	W 12,477,206	₩ 8,967,389 ₩ 1,020,014	₩ 807,455 ₩	1,682,348						

¹ Includes interest expense.

(2) Capital risk management

The Group's capital management objectives are to safeguard the Group's ability to continue as a going concern in order to provide returns to shareholders and benefits to other stakeholders and to maintain an optimal capital structure to reduce the cost of capital.

Gearing ratios as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	2021			2020
Total liabilities (A)	₩	10,311,003	₩	9,458,562
Total equity (B)		4,872,724		4,312,116
Deposits (C)		2,688,582		2,114,341
Borrowings (D)		3,365,048		3,238,803
Debt-to-equity ratio (A/B)		212%		219%
Net borrowings ratio ((D-C)/B)		14%		26%

² The cash flows on contract is the principal amount from the PF, redevelopment projects, SOC, overseas operations and others that are recognized as financial guarantee liabilities.

33. Fair Value

For the year ended December 31, 2021, there are no significant changes in the business environment and economic environment that affect the fair value of financial assets and financial liabilities of the Group.

(1) Fair value of financial instruments by category

Carrying amount and fair value of financial instruments by category as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)		20		2020				
		ook value	Fair value		В	ook value	F	air value
Financial assets								
Cash and cash equivalents	₩	2,718,390	₩	2,718,390	₩	2,118,919	₩	2,118,919
Trade and other receivables		2,200,132		2,200,132		1,957,065		1,957,065
Short-term financial assets		395,042		395,042		257,870		257,870
Long-term trade and other								
receivables		1,195,973		1,195,973		866,621		866,621
Long-term financial assets		600,464		600,464		616,806		616,806
Financial assets at fair value								
through profit or loss		250,735		250,735		249,466		249,466
	₩	7,360,736	₩	7,360,736	₩	6,066,747	₩	6,066,747
Financial liabilities								
Trade and other payables	₩	1,656,079	₩	1,656,079	₩	1,403,146	₩	1,403,146
Short-term financial liabilities		1,218,056		1,218,083		1,193,472		1,193,472
Other current liabilities		546,689		546,689		463,657		463,657
Long-term trade and other								
payables		-		-		189,393		189,393
Long-term financial liabilities		2,951,954		2,950,403		2,957,979		2,962,010
Other non-current liabilities		68,414		68,414		55,003		55,003
	₩	6,441,192	₩	6,439,668	₩	6,262,650	₩	6,266,681

(2) Fair value hierarchy

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

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

- Disclosed market price of similar product or dealer price
- Fair value of derivatives is measured by discounting to present value using forward exchange rate as of December 31, 2021 and 2020.
- Cash flow discount method is used for others.
- (3) Fair value hierarchy classifications of the financial assets and financial liabilities that are measured at fair value

Fair value hierarchy classifications of the financial assets and financial liabilities that are measured at fair value or of which fair values are disclosed as of December 31, 2021 and 2020, are as follows:

(in millions of Korean won)	2021								
		Level 1		Level 2		Level 3	Total		
Financial assets									
Short-term financial assets	₩	- +	₩	61,756	₩	- ₩	61,756		
Derivative assets		-		15,566		-	15,566		
Financial assets at fair value through profit or loss		128		-		250,607	250,735		
Financial liabilities									
Derivative liabilities		-		8,672		-	8,672		

(in millions of Korean won)		2020								
	Level 1		Level 2	Level 3	Total					
Financial assets										
Derivative assets	₩	- ₩	19,128	₩ - ₩	19,128					
Financial assets at fair value										
through profit or loss		-	-	249,466	249,466					
Financial liabilities										
Derivative liabilities		-	24,885	22,846	47,731					

⁽⁴⁾ Transfers between levels of each fair value hierarchy

There are no transfers between levels of each fair value hierarchy for the year ended December 31, 2021.

(5) Valuation techniques and inputs used in the fair value measurements categorized within Level 2 and Level 3 of the fair value hierarchy as of December 31, 2021, are as follows:

(in millions of Korean won)				2021	
	Fair value	Valuation Fair value Level techniques		Inputs	Range of inputs (weighted average)
Financial assets at fair value through profit or loss					
Gyongbuk Green Energy	₩ 1,538	3	Discounted cash flow model	Discount rate	18.18%
Ulsan green Co., Ltd.	3,064	3	Dividend discount model	Discount rate	14.42%
Wonju Green Co., Ltd.	445	3	Discounted cash flow model	Discount rate	12.54%
Public Development Co., Ltd.	3,327	3	Discounted cash flow model	Discount rate	11.34%
Angelswing Co., Ltd.	1,402	3	Binomial model	Discount rate	13.33%
				Risk-free rate of return	2.26%
CHEMICO ADVANCED MATERIALS CO., LTD.	1,625	3	Binomial model	Discount rate	18.68%
				Risk-free rate of return	2.26%
Gaya Railway Co., Ltd.	126	3	Shareholders' discounted cash flow model	Discount rate	6.52%
Gumi Green Water Co., Ltd.	1,432	3	Discounted cash flow model	Discount rate	6.91%
Masan Drain Co., Ltd.	383	3	Dividend discount model	Discount rate	5.88%
Seoul Northern Highway Co., Ltd.	3,247	3	Dividend discount model	Discount rate	10.65%
Oksan Ochang Highway Corporation	3,132	3	Dividend discount model	Discount rate	11.30%

The 2 nd YoungDong Highway Co., Ltd.	512	3	SPA compliance assessment	-	-
West Seoul Urban Expressway Inc.	52,035	3	SPA compliance assessment	-	-
Pyeongtaek EOS	1,732	3	Discounted cash flow model	Discount rate	18.18%
Other equity securities	176,607	3	Precedent transactions analysis	-	-
Derivative assets					
Currency forward	15,566	2	Present value method	CD rate	0.66% ~ 1.27%
Derivative liabilities					
Currency forward	8,672	2	Present value method	CD rate	0.66% ~ 1.27%

⁽⁶⁾ Valuation processes for fair value measurements categorized as level 3

The Group performs the fair value measurements, including level 3 fair values, for major equity securities by using the estimate of external independent valuer who holds a certified professional qualification and performing internal review.

34. Service Concession Arrangements

GS Inima Environment S.A., a subsidiary of GLOBAL WATER SOLUTION CO., LTD., has constructed, operated and maintained Service Concession Arrangements through its subsidiaries and details of significant business information are as follows:

(in millions of Korean won)	Principal business activity	Countries	Start date	Expiry date	Amount	Classification
Aguas de Ensenada, S.A. de C.V.	Seawater desalinating plant and others/ DBOOT (design, construction, operation, possession and transfer at the end of project period) Sewage purifying	Mexico	2018.06	2036.05	₩ 54,938	Financial assets
Ambient Servicos Ambientais de Ribeirao Preto, S.A.	plant and others, DBOOT (design, construction, operation, possession and transfer at the end of project period)	Brazil	1995.09	2033.09	56,143	Financial assets
Samar Solucoes Ambientais de Aracatuba S.A.	Water and sewage processing plan and others / BOT (construction, operation and transfer at the end of the project period) Seawater desalinating	Brazil	2012.09	2042.01	50,455	Intangible assets
Shariket Miyeh Ras Djinet, Spa	plant and others/ DBOOT (design, construction, operation, possession and transfer at the end of project period)	Algeria	2012.02	2037.09	67,772	Financial assets
Distribuidora de Aguas Triunfo S.A.	Industrial waterworks in chemical complex and others / AOO (Operation through acquisition of shares)	Brazil	2014.03	2054.02	100,777	Intangible assets

35. Assets and Liabilities Held for Sale

The management of the Group decided to sell the assets of Jeceaba Ambiental S.A., a subsidiary, upon the request of VSB (Vallourec & Sumitomo Tubos Do Brasil Ltda), the customer, for the year ended December 31, 2021, and the sale was completed on September 15, 2021. The loss on the disposal of assets held for sale amounted to $\mbox{\em W}$ 4,678 million.

36. Events After the Reporting Period