

POSCO International Corporation and its subsidiaries

Consolidated financial statements
for the years ended December 31, 2020 and 2019
with the independent auditor's report

POSCO International Corporation
and its subsidiaries

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Independent auditor's report

The Shareholders and Board of Directors POSCO International Corporation

Opinion

We have audited the accompanying consolidated financial statements of POSCO International Corporation (the "Company") and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated statements of financial position as of December 31, 2020 and 2019, and the 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 consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2020 and 2019, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with Korean International Financial Reporting Standards ("KIFRS").

Basis for opinion

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

Key audit matters

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

Impairment test on investments in subsidiaries: Amara Hotel Project in Myanmar

The Group opened Lotte Hotel Yangon in Yangon, Myanmar (the "Hotel") in September 2017 and is in normal operation as of December 31, 2020. However, as the Hotel continued to incur operating losses and stagnant financial performance due to the outbreak of COVID-19, the Group concluded that indicators of impairment existed for the Hotel. We identified the impairment as a significant risk as the amount of the investment is significant, the value-in-use estimates are complex, and involves subjective judgment.

The major audit procedures we have performed in this regard are as follows:

- Inquired with management regarding the local market and business status, future business plans, etc.
- Evaluated the competency and objectivity of external experts by assessing their work experience and qualifications.
- Evaluated whether the assumptions applied to the impairment test were reasonable by communicating with external experts and personnel of the Company.
- Involved our auditor's expert to examine the inputs applied to the valuation model and methodology used to measure recoverable amounts in the external valuation report.

Impairment test on investments in associates: Ambatovy Nickel Project

The Group decided to participate in the Ambatovy Nickel Project in 2006 and invested in the shares of Madagascar's local special purpose corporation through the Korea Ambatovy Consortium. The Ambatovy mine began commercial production in 2012, but has incurred a large operating loss due to the decline in the nickel market price decreased due to oversupply. As a result, the Group conducted impairment test as of December 31, 2020 by utilizing external valuation experts. We identified the impairment as a significant risk as the amount of the investment is significant, the value-in-use estimates are complex, and it potentially involves subjective judgments.

The major audit procedures we have conducted in this regard are as follows:

- Evaluated the competency and objectivity of the external experts by observing their work experience and qualifications.
- Evaluated whether the assumptions applied to the impairment test were reasonable by communicating with external experts and personnel of the Company.
- Involved the auditor's experts to examine the business plans, inputs applied to the valuation model and methodology used to measure recoverable amounts in the external valuation report.
- Evaluated the investment contracts and the appropriateness of accounting for impairment.

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

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with KIFRS, and for such internal control as management determines is necessary to enable the preparation of the 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, or has no realistic alternative but to do so.

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

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

- Identify and assess the risks of material 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 Group'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 Yongwoo Lee.

Ernst & Young Han Young

March 5, 2021

This audit report is effective as of March 5, 2021 the independent auditor's report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the auditor's report date of the independent auditor's report to the time this report is used. Such events and circumstances could significantly affect the accompanying consolidated financial statements and may result in modifications to this report.

POSCO International Corporation and its subsidiaries

Consolidated financial statements
for the years ended December 31, 2020 and 2019

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

Joo, Si-Bo
Chief Executive Officer
POSCO International Corporation

POSCO International Corporation and its subsidiaries
Consolidated statements of financial position
for the years ended December 31, 2020, and 2019

	Notes	Korean won in millions		U.S. dollar in thousands (Note 2)
		2020	2019	2020
Assets				
Current assets				
Cash and cash equivalents	4,30,31	₩ 679,304	₩ 236,089	\$ 624,360
Trade and other receivables, net	5,30,31	2,894,352	3,437,125	2,660,250
Other current financial assets	6,30,31	18,708	22,892	17,195
Derivative financial assets	19,30,31	113,411	42,074	104,238
Other current assets, net	7	129,394	182,281	118,928
Inventories, net	8	929,406	1,111,860	854,234
		₩ 4,764,575	₩ 5,032,321	\$ 4,379,205
Non-current assets				
Trade and other receivables, net	5,30,31	₩ 230,798	₩ 441,665	\$ 212,131
Other non-current financial assets	6,30,31	29,539	33,506	27,150
Investments in associates and a joint venture	9	342,796	367,794	315,070
Property, plant and equipment, net	10	1,325,419	1,380,435	1,218,216
Right-of-use assets, net	11	91,593	75,273	84,185
Intangible assets, net	12	1,129,385	1,249,795	1,038,038
Investment properties, net	13	147,594	152,168	135,656
Net defined benefit assets	17	-	9	-
Other non-current assets	7	65	183	60
Deferred tax assets	28	264,796	221,083	243,379
Current tax assets		1,479	5,183	1,359
		₩ 3,563,464	₩ 3,927,094	\$ 3,275,244
Total assets		₩ 8,328,039	₩ 8,959,415	\$ 7,654,449
Liabilities and equity				
Current liabilities				
Trade and other payables	14,30,31	₩ 1,774,107	₩ 2,091,526	\$ 1,630,613
Borrowings	15,30,31	796,038	1,024,701	731,653
Current portion of bonds	15,30,31	417,042	130,042	383,311
Derivative financial liabilities	19,30,31	90,254	33,203	82,954
Current provision	18	13,083	19,705	12,025
Other current liabilities	16	213,755	253,450	196,466
Current tax liabilities		93,084	8,613	85,555
		₩ 3,397,363	₩ 3,561,240	\$ 3,122,577
Non-current liabilities				
Trade and other payables	14,30,31	₩ 176,541	₩ 223,349	\$ 162,262
Borrowings	15,30,31	379,347	734,573	348,665
Bonds	15,30,31	1,107,420	1,243,688	1,017,849
Other non-current liabilities	16	704	32,556	647
Net defined benefit liabilities	17	11,254	9,342	10,344
Provisions	18,19	72,308	84,463	66,460
Deferred tax liabilities	28	22,228	22,143	20,430
		₩ 1,769,802	₩ 2,350,114	\$ 1,626,657
Total liabilities		₩ 5,167,165	₩ 5,911,354	\$ 4,749,234
Equity				
Issued capital	20	₩ 616,876	₩ 616,876	\$ 566,982
Capital surplus	20	558,027	557,760	512,891
Other components of equity	20	(8)	(8)	(8)
Accumulated other comprehensive income (loss)	6,21	(25,032)	15,595	(23,007)
Retained earnings	22	2,008,233	1,857,506	1,845,802
Equity attributable to owners of the parent		₩ 3,158,096	₩ 3,047,729	\$ 2,902,662
Non-controlling interests		2,778	332	2,553
Total equity		₩ 3,160,874	₩ 3,048,061	\$ 2,905,215
Total liabilities and equity		₩ 8,328,039	₩ 8,959,415	\$ 7,654,449

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

POSCO International Corporation and its subsidiaries
Consolidated statements of comprehensive income
for the years ended December 31, 2020, and 2019

	Notes	Korean won in millions		U.S. dollar in thousands (Note 2)
		2020	2019	2020
Sales	3	₩ 21,472,386	₩ 24,422,575	\$ 19,735,649
Cost of sales	23	(20,547,321)	(23,297,981)	(18,885,406)
Gross profit		₩ 925,065	₩ 1,124,594	\$ 850,243
Selling and administrative expenses	23,24	(450,587)	(519,276)	(414,142)
Operating profit		₩ 474,478	₩ 605,318	\$ 436,101
Share of profit in equity accounted investments	9	58,989	84,133	54,218
Share of loss in equity accounted investments	9	(40,191)	(29,030)	(36,940)
Finance income	25	1,176,349	797,316	1,081,203
Finance costs	25	(1,260,552)	(922,522)	(1,158,596)
Other income	26	17,593	48,094	16,170
Other expenses	26	(99,497)	(253,331)	(91,449)
Profit for the year before tax	3	₩ 327,169	₩ 329,978	\$ 300,707
Income tax expenses	28	(97,645)	(127,580)	(89,747)
Profit for the year		₩ 229,524	₩ 202,398	\$ 210,960
Other comprehensive income (loss):				
<i>Other comprehensive income (loss) to be reclassified to profit or loss in subsequent periods:</i>				
Equity adjustments in equity method	21,28	₩ (7,799)	₩ 9,371	\$ (7,168)
Net loss on equity adjustments in equity method	21,28	(1,534)	(947)	(1,410)
Exchange difference on translation of foreign operations	21	(22,772)	18,352	(20,930)
Loss on valuation of derivatives	21	(84)	-	(77)
<i>Other comprehensive income (loss) not to be reclassified to profit or loss in subsequent periods:</i>				
Net loss on valuation of equity instruments at FVOCI	6,21,28	₩ (6,042)	₩ (398)	\$ (5,553)
Equity adjustments in equity method	21,28	(3,225)	2,202	(2,964)
Re-measurement loss on defined benefit liabilities	17,28	(551)	(7,268)	(507)
Exchange differences on translation of foreign operations	21	1,338	493	1,229
Other comprehensive income (loss) for the year, net of tax		₩ (40,669)	₩ 21,805	\$ (37,380)
Total comprehensive income for the year, net of tax		₩ 188,855	₩ 224,203	\$ 173,580
Profit for the year attributable to:				
Owners of the parent		₩ 238,557	₩ 209,404	\$ 219,262
Non-controlling interests		(9,033)	(7,006)	(8,302)
Total comprehensive income attributable to:				
Owners of the parent		₩ 196,462	₩ 230,716	\$ 180,572
Non-controlling interests		(7,607)	(6,513)	(6,992)
Earnings per share (Korean won and U.S. dollar):				
Basic	29	₩ 1,934	₩ 1,697	\$ 1.78
Diluted	29	₩ 1,934	₩ 1,697	\$ 1.78

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

POSCO International corporation and its subsidiaries
Consolidated statements of changes in equity
for the years ended December 31, 2020, and 2021

	Korean won in millions							U.S. dollar in thousands (Note 2)	
	Equity attributable to owners of the parent								
	Issued capital	Capital surplus	Other components of equity	Accumulated other comprehensive income (loss)	Retained earnings	Sub-total	Non-controlling interests		Total
As of January 1, 2019	₩ 616,876	₩ 553,976	₩ (8)	₩ (15,867)	₩ 1,732,277	₩ 2,887,254	₩ 2,284	₩ 2,889,538	\$ 2,655,826
Profit for the year	-	-	-	-	209,404	209,404	(7,006)	202,398	186,028
Net loss on valuation of equity instruments at FVOCI	-	-	-	(398)	-	(398)	-	(398)	(366)
Equity adjustments in equity method	-	-	-	10,626	-	10,626	-	10,626	9,766
Exchange differences on translation of foreign operations	-	-	-	18,352	-	18,352	493	18,845	17,321
Re-measurement net (loss) on defined benefit liabilities	-	-	-	-	(7,268)	(7,268)	-	(7,268)	(6,680)
Total comprehensive income	₩ -	₩ -	₩ -	₩ 28,580	₩ 202,136	₩ 230,716	₩ (6,513)	₩ 224,203	\$ 206,069
Dividends (DPS: ₩600)	-	-	-	-	(74,025)	(74,025)	-	(74,025)	(68,038)
Dividends of subsidiaries	-	-	-	-	-	-	(220)	(220)	(202)
Capital increase of subsidiaries	-	3,784	-	-	-	3,784	1,263	5,047	4,639
Changes in consolidated scope	-	-	-	-	-	-	3,518	3,518	3,233
Reclassification arising from disposal of equity instruments at FVOCI	-	-	-	2,882	(2,882)	-	-	-	-
As of December 31, 2019	₩ 616,876	₩ 557,760	₩ (8)	₩ 15,595	₩ 1,857,506	₩ 3,047,729	₩ 332	₩ 3,048,061	\$ 2,801,527
As of January 1, 2020	₩ 616,876	₩ 557,760	₩ (8)	₩ 15,595	₩ 1,857,506	₩ 3,047,729	₩ 332	₩ 3,048,061	\$ 2,801,527
Profit for the year	-	-	-	-	238,557	238,557	(9,033)	229,524	210,959
Net loss on valuation of equity instruments at FVOCI	-	-	-	(6,042)	-	(6,042)	-	(6,042)	(5,553)
Equity adjustments in equity method	-	-	-	(12,557)	-	(12,557)	-	(12,557)	(11,541)
Exchange differences on translation of foreign operations	-	-	-	(22,772)	-	(22,772)	1,338	(21,434)	(19,700)
Re-measurement net (loss) on defined benefit liabilities	-	-	-	-	(639)	(639)	88	(551)	(507)
Loss on valuation of derivatives	-	-	-	(84)	-	(84)	-	(84)	(77)
Total comprehensive income	₩ -	₩ -	₩ -	₩ (41,455)	₩ 237,918	₩ 196,463	₩ (7,607)	₩ 188,856	\$ 173,581
Dividends (DPS: ₩700)	-	-	-	-	(86,363)	(86,363)	-	(86,363)	(79,378)
Capital increase of subsidiaries	-	-	-	-	-	-	13,598	13,598	12,498
Acquisition of shares in subsidiaries	-	267	-	-	-	267	(3,545)	(3,278)	(3,013)
Reclassification arising from disposal of equity instruments at FVOCI	-	-	-	828	(828)	-	-	-	-
As of December 31, 2020	₩ 616,876	₩ 558,027	₩ (8)	₩ (25,032)	₩ 2,008,233	₩ 3,158,096	₩ 2,778	₩ 3,160,874	\$ 2,905,215

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

POSCO International corporation and its subsidiaries
Consolidated statements of cash flows
for the years ended December 31, 2020, and 2019

	Korean won in millions		U.S. dollar in thousands (Note 2)	
	2020	2019	2020	
Operating activities				
Profit for the year	₩ 229,524	₩ 202,398	\$ 210,960	
Reconciliation of profit for the year to net cash flows provided by operating activities:				
Depreciation of property, plant and equipment	83,768	80,059	76,993	
Amortization of intangible assets	209,616	186,818	192,662	
Depreciation of right-of-use assets	35,092	16,513	32,254	
Depreciation of investment properties	4,263	2,899	3,918	
Retirement benefits	17,674	19,820	16,244	
Bad debt expenses	700	22,950	643	
Interest expenses	98,489	141,244	90,523	
Share of loss in equity accounted investments	40,191	29,030	36,940	
Loss on disposal of investments in associates	54	4,776	50	
Impairment loss on investments in associates	29,168	22,599	26,809	
Loss on repayment of borrowings	-	2,237	-	
Loss on disposal of property, plant and equipment	450	324	414	
Impairment loss on property, plant and equipment	80	1,384	74	
Reversal of impairment loss on property, plant and equipment	-	(221)	-	
Loss on disposal of intangible assets	41	68	38	
Impairment loss on intangible assets	8,926	127,814	8,204	
Reversal of impairment loss on intangible assets	-	(26)	-	
Loss(gain) on valuation of financial instruments at FVPL	(3)	11	(3)	
Loss on foreign currency translation	134,929	85,543	124,016	
Loss(gain) on valuation of fair value of biological assets	1,693	(7,424)	1,556	
Loss on settlement of derivatives	348,945	212,280	320,722	
Loss on valuation of derivatives	147,171	55,838	135,267	
Loss on valuation of inventories	1,126	4,007	1,035	
Income tax expense	97,645	127,580	89,747	
Contingent losses	847	8,495	778	
Loss on valuation of trade receivables	216	3,505	199	
Loss on valuation of trade payables	-	603	-	
Other bad debt expenses	50,882	51,833	46,766	
Loss on disposal on financial assets at FVPL	13	-	12	
Financial guarantee expense	1,253	2,104	1,152	
Reversal of other allowance for doubtful accounts	(314)	(2,340)	(289)	
Gain on valuation of trade receivables	(3,474)	(388)	(3,193)	
Gain on valuation of trade payables	(544)	-	(500)	
Increase in provision for restoration	500	4,891	460	
Interest income	(36,784)	(40,715)	(33,809)	
Share of profit of equity accounted investments	(58,989)	(84,133)	(54,218)	
Gain on disposal of investments in associates	(1,016)	(2,572)	(934)	
Dividends income	(230)	(196)	(211)	
Gain on foreign currency translation	(132,095)	(78,344)	(121,411)	
Gain on settlement of derivatives	(302,178)	(183,057)	(277,737)	
Gain on valuation of derivatives	(196,466)	(86,302)	(180,575)	
Gain on disposal of property, plant and equipment	(916)	(21,573)	(842)	
Gain on disposal of intangible assets	-	(877)	-	
Reversal of provisions	(1,177)	(1,600)	(1,082)	
Gains on disposal of financial instruments measured at FVPL	-	-	-	
Reversal of loss on valuation of inventories	(3,552)	(260)	(3,265)	
Financial guarantee income	-	(76)	-	
	₩ 575,994	₩ 705,121	\$ 529,407	

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POSCO International corporation and its subsidiaries
Consolidated statements of cash flows (cont'd)
for the years ended December 31, 2020, and 2019

	Korean won in millions		U.S. dollar in thousands	
	2020	2019	2020	
Changes in operating assets and liabilities:				
Trade receivables	₩ 557,615	₩ 839,808	\$ 512,514	
Other current receivables	(85,568)	(18,353)	(78,647)	
Other current assets	48,039	(19,169)	44,153	
Inventories	182,108	214,929	167,379	
Derivative financial assets	(11,841)	1,464	(10,883)	
Other non-current receivables	911	1,647	837	
Other non-current assets	187	3,769	172	
Trade payables	(304,167)	(115,266)	(279,565)	
Other current payables	17,040	51,066	15,662	
Other current liabilities	(37,283)	(31,313)	(34,267)	
Other non-current payables	855	(3,412)	786	
Other non-current liabilities	3,710	1,143	3,410	
Retirement benefits paid	(756)	(1,177)	(695)	
Increase in plan assets	(19,900)	(22,700)	(18,290)	
Increase (decrease) in provisions	(8,689)	15,321	(7,986)	
	₩ 342,261	₩ 917,757	\$ 314,580	
Interest received	28,999	29,383	26,653	
Dividends received	65,874	38,289	60,546	
Interest paid	(77,123)	(125,583)	(70,885)	
Income tax paid	(46,920)	(158,397)	(43,125)	
Net cash flows provided by operating activities	₩ 1,118,609	₩ 1,608,968	\$ 1,028,137	
Investing activities				
Cash inflows from financing activities				
Decrease in short-term financial instruments	₩ 2,141	₩ -	\$ 1,968	
Decrease in long-term financial instruments	65	-	60	
Disposal of investments in associates	3,385	11,768	3,111	
Disposal of financial liabilities at amortized cost	928	-	853	
Disposal of equity securities at FVPL	4,247	4,200	3,903	
Disposal of equity securities at FVOCI	-	3,509	-	
Collection of investments at FVPL	-	470	-	
Disposal of other securities at FVPL	-	21	-	
Decrease in guarantee deposits	-	34	-	
Decrease in long-term guarantee deposits	166	3,621	153	
Proceeds from disposal of property, plant and equipment	3,067	3,538	2,819	
Proceeds from disposal of intangible assets	1,157	1,542	1,063	
Decrease in current portion of long-term loans	54,242	49,328	49,855	
Decrease in finance lease receivables	61,567	56,889	56,587	
Cash outflows from investing activities				
Increase in short-term financial instruments	-	(7,588)	-	
Acquisition of investments in associates	(7,863)	(185)	(7,227)	
Acquisition of equity instruments at FVOCI	(5,102)	(454)	(4,689)	
Payments of leasehold deposits received	(1,851)	-	(1,701)	
Increase in long-term other receivables	(9,425)	(8,496)	(8,663)	
Increase in short-term loans	(1,382)	(593)	(1,270)	
Increase in long-term loans	(2,823)	(8,368)	(2,595)	
Acquisition of property, plant and equipment	(73,248)	(83,966)	(67,324)	
Acquisition of intangible assets	(138,808)	(99,124)	(127,581)	
Acquisition of investment properties	-	(331)	-	
Decrease in net cash flows from business combination	-	(37,869)	-	
Decrease in net cash flows from changes in consolidation scope	-	(410)	-	
Net cash flows used in investing activities	₩ (109,537)	₩ (112,464)	\$ (100,678)	

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POSCO International corporation and its subsidiaries
Consolidated statements of cash flows (cont'd)
for the years ended December 31, 2020, and 2019

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Financing activities			
Cash inflows from financing activities			
Increase in long-term borrowings	₩ 10,373	₩ 399,254	\$ 9,534
Issuance of bonds	298,995	593,935	274,811
Paid-in capital increase of subsidiaries	13,598	5,047	12,498
Cash outflows from financing activities			
Repayment of short-term borrowings	(361,048)	(1,439,831)	(331,846)
Repayment of current portion of long-term borrowings	(204,326)	(329,322)	(187,800)
Redemption of current Portion of bonds	(130,000)	(545,972)	(119,485)
Payment of lease liabilities	(94,920)	(70,759)	(87,243)
Dividends paid	(86,362)	(74,245)	(79,377)
Acquisition of subsidiaries' shares	(3,278)	-	(3,013)
Net cash flows used in financing activities	₩ (556,968)	₩ (1,461,893)	\$ (511,921)
Net increase in cash and cash equivalents	₩ 452,104	₩ 34,611	\$ 415,539
Cash and cash equivalents at January 1	236,089	201,468	216,993
Net foreign exchange difference	(8,889)	10	(8,170)
Cash and cash equivalents at December 31	₩ 679,304	₩ 236,089	\$ 624,360

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

1. Corporate information

1.1 The parent company

POSCO International Corporation (the “Company”) was incorporated on December 27, 2000 as a result of a spin-off of the trading segment of Daewoo Corporation.

The Company and its subsidiaries (collectively, the “Group”) engages in various business activities, such as providing international trade, export agency services, intermediary trading, manufacturing, distribution, natural resource development and lease services. The primary products sold by the Company include various industrial grade steel, metals, chemicals, auto parts, machinery, ships, plants, electronics, special materials, grain and petroleum.

The Company has listed its shares on the Korea Exchange since March 23, 2001. The Company’s issued capital as of December 31, 2020 amounts to ₩616,876 million. POSCO, the Company’s largest shareholder, owns 62.91% equity interest in the Company.

1.2 Consolidated subsidiaries

Subsidiaries	Business	Number of shares	Country of domicile	Equity ownership(%)	
				2020	2019
POSCO INTERNATIONAL AMERICA CORP.	Trading	555,000	USA	100	100
POSCO INTERNATIONAL DEUTSCHLAND GmbH	Trading	-	Germany	100	100
POSCO INTERNATIONAL JAPAN CORP.	Trading	9,600	Japan	100	100
POSCO INTERNATIONAL SINGAPORE PTE. LTD.	Trading	3,500,000	Singapore	100	100
POSCO INTERNATIONAL ITALIA S.R.L.	Trading	-	Italy	100	100
POSCO INTERNATIONAL CHINA CO., LTD.	Trading	-	China	100	100
POSCO INTERNATIONAL MYANMAR CO., LTD.	Trading	493,240	Myanmar	100	100
POSCO INTERNATIONAL MEXICO S.A. de C.V.	Trading	53,078	Mexico	100	100
POSCO INTERNATIONAL MALAYSIA SDN BHD	Trading	6,091,002	Malaysia	100	100
POSCO INTERNATIONAL SHANGHAI CO., LTD.	Trading	-	China	100	100
POSCO DAEWOO SHANGHAI WAIGAOQIAO CO., LTD.	Trading	-	China	100	100
POSCO INTERNATIONAL INDIA PVT., LTD.	Trading	8,940,000	India	100	100
POSCO INTERNATIONAL VIETNAM CO., LTD.	Trading	-	Vietnam	100	100
POSCO INTERNATIONAL (THAILAND) CO., LTD. (*1)	Trading	-	Thailand	100	-
POSCO INTERNATIONAL INDONESIA (*1)	Trading	111,672	Indonesia	99	-
POSCO INTERNATIONAL UKRAINE LLC.	Trading	-	Ukraine	100	100
POSCO SOUTH EAST ASIA PTE. LTD.	Trading	1,020,000	Singapore	100	100
POSCO SPS (*4)	Steel manufacturing	1,000,000	Korea	100	-
POSCO INTERNATIONAL TEXTILE LLC.	Cotton	-	Uzbekistan	100	100
POSCO INTERNATIONAL AUSTRALIA HOLDINGS PTY. LTD. (*3)	Energy	119,676,667	Australia	100	100
PI AAPC CORP. (*5)	Steel manufacturing	5,000	USA	100	100
PT. BIO INTI AGRINDO	Energy	496,340	Indonesia	85	85
BRASIL SAOPAULO STEEL PROCESSING CENTER	Steel manufacturing	-	Brazil	51	51
POSCO INTERNATIONAL POWER(PNGPOM) LTD.	Service	16,791,045	Papua New Guinea	100	100
POSCO INTERNATIONAL POWER (PNGLAE) LTD.	Service	36,239,782	Papua New Guinea	100	100
POHANG SRDC CO., LTD.	Steel manufacturing	909,979	Korea	51	51
GOLDEN LACE POSCO INTERNATIONAL CO., LTD.	Grain crop/ Wholesales	60,000	Myanmar	60	60
POSCO INTERNATIONAL GLOBAL DEVELOPMENT PTE. LTD. (*5)	Hotel	44,379,098	Singapore	75	55
POSCO INTERNATIONAL AMARA CO., LTD.	Hotel	680,000	Myanmar	85	85
LA SRDC (*2)	Steel manufacturing	135,000	USA	-	86
POSCO TMC INDIA PVT. LTD.	Steel manufacturing	876,041	India	74	74
GRAIN TERMINAL HOLDING PTE. LTD. (*6)	Grain	75	Singapore	75	75
MYKOLAIV MILLING WORKS PJSC.	Grain	-	Ukraine	100	100
YUZHNAVYA STEVEDORING COMPANY LIMITED LLC.	Grain	-	Ukraine	100	100

1.2 Consolidated subsidiaries (cont'd)

(*1) The investees were newly established during the year ended December 31, 2020.

(*2) The investees were liquidated during the year ended December 31, 2020.

(*3) POSCO International Australia Holdings Pty. Ltd. is the holding company that has 100% ownership interests in POSCO Daewoo International Investment Pty. Ltd. and POSCO International Australia Pty. Ltd.

(*4) The investee was newly established as a split-off during the year ended December 31, 2020.

(*5) The investee, previously DAEWOO GLOBAL DEVELOPMENT PTE. LTD., has changed its name to POSCO INTERNATIONAL GLOBAL DEVELOPMENT PTE. LTD. during the year ended December 31, 2020.

(*6) Grain Terminal Holdings Pty. Ltd. is the holding company that has 100% ownership interests in Mykolaiiv Milling Works PJSC. and Yuzhnaya Stevedoring Company Limited LLC.

1.3 Summarized financial information of the subsidiaries

Summarized financial information of the subsidiaries for the year ended December 31, 2020 is as follows (Korean won in millions):

Subsidiaries	Assets	Liabilities	Equity	Sales	Net income(loss)
POSCO INTERNATIONAL AMERICA CORP.	312,286	241,556	70,730	1,224,752	5,592
POSCO INTERNATIONAL DEUTSCHLAND GmbH	203,112	199,085	4,027	466,391	(6,994)
POSCO INTERNATIONAL JAPAN CORP.	158,083	153,844	4,239	663,297	(109)
POSCO INTERNATIONAL SINGAPORE PTE. LTD.	379,777	374,228	5,549	2,886,275	1,516
POSCO INTERNATIONAL ITALIA S.R.L.	131,484	122,135	9,349	515,133	(358)
POSCO INTERNATIONAL CHINA CO., LTD.	47,311	31,453	15,858	218,521	38
POSCO INTERNATIONAL MYANMAR CO., LTD.	2,361	461	1,900	7,189	(354)
POSCO INTERNATIONAL MEXICO S.A. de C.V.	94,223	87,502	6,721	254,294	(2,332)
POSCO INTERNATIONAL MALAYSIA SDN BHD	58,015	55,497	2,518	246,135	(577)
POSCO DAEWOO SHANGHAI WAIGAOQIAO CO., LTD.	559	1,286	(727)	5,327	182
POSCO INTERNATIONAL SHANGHAI CO., LTD.	38,850	31,078	7,772	181,736	(1,046)
POSCO INTERNATIONAL INDIA PVT., LTD.	21,866	20,575	1,291	212,579	(3,436)
POSCO INTERNATIONAL VIETNAM CO., LTD.	26,248	23,480	2,768	221,603	118
POSCO SOUTH EAST ASIA PTE. LTD.	7,107	11,981	(4,874)	-	(671)
POSCO INTERNATIONAL UKRAINE LLC.	9,425	8,185	1,240	36,893	(58)
POSCO INTERNATIONAL (THAILAND) CO., LTD.	21,809	16,124	5,685	70,170	205
POSCO INTERNATIONAL INDONESIA	13,387	4,783	8,604	49,241	158
POSCO SPS	680,006	118,357	561,649	673,694	8,389
POSCO INTERNATIONAL TEXTILE LLC.	89,023	20,027	68,996	129,652	4,892
POSCO INTERNATIONAL AUSTRALIA HOLDINGS PTY. LTD.	115,885	18,067	97,818	24,754	(8,227)
PT. BIO INTI AGRINDO	280,514	232,748	47,766	86,549	8,970
BRASIL SAOPAULO STEEL PROCESSING CENTER	2,957	24,807	(21,850)	-	(4,169)
POSCO INTERNATIONAL POWER(PNGPOM) LTD.	4,192	3,841	351	-	357
POSCO INTERNATIONAL POWER (PNGLAE) LTD.	69,083	46,181	22,902	46,173	7,437
POHANG SRDC CO., LTD.	14,806	5,472	9,334	2,555	(186)
GOLDEN LACE POSCO INTERNATIONAL CO., LTD.	28,322	20,772	7,550	30,519	(1,438)
POSCO INTERNATIONAL GLOBAL DEVELOPMENT PTE. LTD.	282,332	235,268	47,064	313	(16,859)
POSCO TMC INDIA PVT. LTD.	13,676	11,522	2,154	27,434	(99)
GRAIN TERMINAL HOLDING PTE. LTD.	60,826	39,392	21,434	-	(5)

The financial information of PI AAPC Corp. is not presented as it is not material to the Group's consolidated financial statements.

2. Basis of preparation and summary of significant accounting policies

2.1 Basis of preparation

The Company and its subsidiaries (collectively referred to as, the “Group”) prepares statutory financial statements in accordance with Korean International Financial Reporting Standards (“KIFRS”) enacted by the *Act on External Audit of Stock Companies, etc.*

The consolidated financial statements have been prepared on a historical cost basis, except for derivative financial instruments, debt and equity instruments that have been measured at fair value. The carrying values of assets and liabilities that are designated as hedged items in fair value is not recorded at amortized cost but recorded reflecting changes in the fair values attributable to the risks that are being hedged. The consolidated financial statements are presented in Korean won (KRW), and the financial statements are presented in Korean won in thousands while all of notes in Korean won in millions, except when otherwise indicated.

2.1.1 Financial statements translation

The accompanying consolidated financial statements are expressed in Korean won and, solely for the convenience of the readers, have been translated into United States dollars at the rate of ₩1,088 to US\$1, the basic exchange rate in the Seoul Money Brokerage Service for cable transfers, on December 31, 2020. Such translation should not be construed as a representation that the Korean won amounts can actually be converted into United States dollars at the exchange rate used for the purposes of such translation.

2.1.2 Basis of consolidation

The consolidated financial statements comprise the financial statements of the Group and its subsidiaries as of December 31 of each financial year. 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
- The ability to use its power over the investee to affect its returns

When the Group has less than a majority of the voting 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 between with the other vote holders
- 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 comprehensive income 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.

2.1.2 Basis of consolidation (cont'd)

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 resultant gain or loss is recognized in profit or loss. Any remaining investment in the previous subsidiary is recognized at fair value.

2.2 Summary of significant accounting policies

2.2.1 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, measured at acquisition date fair value and the amount of any non-controlling interest in the acquiree. For each business combination, the acquirer measures the non-controlling interest in the acquiree at fair value or a proportionate share of the non-controlling interest in the acquiree's identifiable net assets. Acquisition-related costs are expensed when incurred.

The Group classifies or designates identifiable assets acquired and liabilities assumed at the acquisition date based on the terms and conditions of the acquisition, economic conditions, the acquirer's operating or accounting policies and other related conditions. This classification includes the separation of embedded derivatives from the acquiree's main contract.

If the acquirer has provided the acquiree with contingent consideration, the consideration is measured at its acquisition-date fair value and included in the consideration transferred and subsequent changes in the fair value of the contingent consideration classified as an asset or liability are recognized in profit or loss or other comprehensive income in accordance with KIFRS 1109. In addition, contingent consideration classified as equity is not remeasured but is accounted for within equity at the time of settlement. If the contingent consideration does not fall within the scope of KIFRS 1109, it is measured in accordance with the appropriate KIFRS.

Goodwill is measured in 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 acquisition 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 synergy effect of combination, irrespective of whether other assets or liabilities of the acquiree are assigned to those units.

When disposing of a business within a cash-generating unit to which goodwill is allocated, the goodwill related to the business to be disposed of is included in the carrying values of the business when determining the profit or loss on disposal, and is measured based on the relative value of the part that exists and the part that is disposed within the cash-generating unit.

2.2.2 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.

2.2.2 Investment in associates and joint ventures (cont'd)

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 arrangement. 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 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. The goodwill associated with the associate or joint venture is included in the carrying values of the investment and does not carry out amortization or separate impairment testing.

The statement of comprehensive income reflects the Group's share of the operating results 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 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 in non-operating profit or loss in the consolidated statements of comprehensive income after deducting tax effects and non-controlling interests in the subsidiaries of the associate and the joint venture.

The financial statements of the associate or joint venture are prepared for the same reporting period as the Group. 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. At each reporting date, the Group determines whether there is objective evidence that the investment in the associate or joint venture is impaired. If there is such evidence, 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 other expenses in the statement of comprehensive income.

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.

2.2.3 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 short-term 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.

2.2.3 Current versus non-current classification (cont'd)

A liability is current when:

- It is expected to be settled in the normal operating cycle
- It is held primarily for the purpose of short-term 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.

Deferred tax assets and liabilities are classified as non-current assets and liabilities.

2.2.4 Fair value measurement

The Group measures financial instruments such as derivatives at fair value as of the reporting date. 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.

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

The 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 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:

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

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

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.

2.2.4 Fair value measurement (cont'd)

Fair value related disclosures for financial instruments and non-financial assets that are measured at fair value or where fair values are disclosed, are summarized in the following notes:

	Notes
Disclosure for valuation methods, significant estimates and assumptions	2, 6 and 30
Quantitative disclosures of fair value measurement hierarchy	30
Investment properties	13
Financial instruments (including those carried at amortized cost)	6 and 30

2.2.5 Revenue from contracts with customers

Revenue from contracts with customers is recognized when control of the goods or services are transferred to the customer at an amount that reflects the consideration to which the Group expects to be entitled in exchange for those goods or services.

2.2.5.1 Trade

(1) Classification and implementation of performance obligations

Performance obligations are identified in certain contracts with respect to (1) the sale of goods, and (2) transport services identified as a separate performance obligation. The Group recognizes the transaction price allocated to these performance obligations as revenue upon completion of each performance obligation by applying the expected cost plus margin approach.

For the transactions of custom-made equipment, if the Group has no alternative use for assets created by fulfilling obligations and the Group has the enforceable right for the payment for the portion completed up to date, the revenue is recognized by the percentage-of-completion method.

The Group provides guarantees for goods and services that are defective at the time of sale in accordance with the requirements of the law. Assurance type guarantees are accounted for in accordance with KIFRS 1037, *Provisions, Contingent Liabilities and Contingent Assets*. Guarantees for types of services that are classified as separate performance obligations are not recognized.

(2) Variable consideration

If the consideration in a contract includes a variable amount, the Group estimates the amount of consideration to which it will be entitled in exchange for transferring the goods to the customer. The variable consideration is estimated at contract inception and is included in the transaction price only to the extent that it is highly probable that a significant revenue reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is resolved.

In the case of a contract in which a right of return exists, for goods that are expected to be returned, instead of revenue, the Group recognizes it as a refund liability. A right of goods returned and corresponding adjustment to cost of sales are also recognized. If the Group receives short-term advances from its customers, the practical expedient is used, and the Group does not adjust the promised amount of consideration for the effects of a significant financing component if it expects, at contract inception, that the period between the transfer of the promised good or service to the customer and when the customer pays for that good or service will be one year or less.

(3) Judgment on principal versus agent

The Group controls each good or service prior to providing the goods or services to the customer, taking into account the main responsibilities and obligation of fulfilling the commitments in the trade transaction with the customer, and right to determine prices. Therefore, the Group has generally concluded that it is the principal in its revenue arrangements, except for the agency services, in which sales commission is recognized as revenue.

2.2.5.2 Resource development sector

Product distribution contracts in some of the contracts of the resource development transaction are not subject to the standard as the counterparties to the contract are not the "customers" as defined in KIFRS 1115. Revenue from gas sales is recognized when the control of goods is transferred.

2.2.5.3 Others

In addition to the above, the Group has manufacturing sectors, in which the revenue is recognized when the controls of goods or services are transferred.

2.2.6 Cash and cash equivalents

Cash and cash equivalents in the statement of financial position comprise cash at banks and on hand and short-term deposits with a maturity of three months or less.

Cash and cash equivalents in the statement of cash flows consist of the balance after deducting the overdraft amount from those cash and cash equivalents.

2.2.7 Financial instruments

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

2.2.7.1 Financial assets

(1) Initial recognition and measurement

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

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

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

The 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.

2.2.7.1 Financial assets (cont'd)

(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

Financial assets at amortized cost (debt instruments)

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.

The Group's financial assets measured at amortized cost include cash and cash equivalents, trade receivables and other financial assets.

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 profit or loss and computed in the same manner as for financial assets measured at amortized cost. The remaining fair value changes are recognized in OCI. Upon derecognition, the cumulative fair value change recognized in OCI is recycled to profit or loss.

The Group's debt instruments at fair value through OCI are included under other non-current financial assets.

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 KIFRS 1032 *Financial Instruments: Presentation* and are not held for trading.

Gains and losses on these financial assets are never recycled to profit or loss. Dividends are recognized as other income in the statement of profit or loss when the right of payment has been established, except when the 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.

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

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 upon initial recognition designated at fair value through profit or loss or required at fair value. 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

2.2.7.1 Financial assets (cont'd)

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 profit or loss.

Derivatives and the listed equity investments that were not elected to classify to financial assets at fair value through OCI are included in this category. Dividends on the listed equity investments are recognized as profit or loss when the right is confirmed.

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

Disclosures related to impairment of financial assets are provided below:

- Disclosures for significant assumptions
- Debt instruments at fair value through OCI
- Trade receivables, including contract assets

2.2.7.1 Financial assets (cont'd)

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

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

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

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

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

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

2.2.7.2 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, payables, or as derivatives designated as hedging instruments in an effective hedge, as appropriate.

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

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

(2) Subsequent measurement

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

2.2.7.2 Financial assets (cont'd)

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 KIFRS 1109. Separated embedded derivatives are also classified as held for trading unless they are designated as effective hedging instruments.

Gains or losses on liabilities held for trading are recognized in the statement of profit or loss.

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

Loans and borrowings

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

Amortized cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the EIR. This category generally applies to interest-bearing loans and borrowings.

(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 profit or loss.

2.2.7.3 Offsetting of financial instruments

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

2.2.7.4 Derivative financial instruments and hedge accounting

(1) Initial recognition and subsequent measurement

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

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

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

2.2.7.4 Derivative financial instruments and hedge accounting (cont'd)

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

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

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

(2) Fair value hedges

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

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

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

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

(3) Cash flow hedges

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

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

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

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

2.2.7.4 Derivative financial instruments and hedge accounting (cont'd)

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

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

2.2.8 Inventories

Inventories are valued at the lower of cost and net realizable value. Acquisition costs for each inventory include purchase cost, conversion cost and other costs attributable to bringing the inventory to the location and condition. The unit cost of inventories is determined by the first-in-first-out method (individual method for materials-in-transit) and the weighted average method (finished goods and work-in-process).

2.2.9 Non-current assets held for sale and discontinued operations

The Group classifies non-current assets and disposal groups classified as held for sale or for distribution to equity holders of the parent if their carrying amounts will be recovered principally through a sale or distribution rather than through continuing use. Such non-current assets and disposal groups classified as held for sale or as held for distribution are measured at the lower of their carrying amount and fair value less costs to sell or to distribute. Costs to sell are the incremental costs directly attributable to the sales, excluding the finance costs and income tax expense.

The criteria for held for sale classification is regarded as met only when the sale is highly probable and the asset or disposal group is available for immediate sale in its present condition. Actions required to complete the sale should indicate that it is unlikely that significant changes to the sale will be made or that the sale will be withdrawn. The sale should be expected to be completed within one year from the date of the classification.

Property, plant and equipment and intangible assets are not depreciated or amortized once classified as held for sale or as held for distribution.

Assets and liabilities classified as held for sale or for distribution are presented separately as current items in the statement of financial position.

A disposal group qualifies as discontinued operation if it is:

- Represents a separate major line of business or geographical area of operations, or
- Is part of a single coordinated plan to dispose of a separate major line of business or geographical area of operations, or
- Is a subsidiary acquired exclusively with a view to resale

Discontinued operations are excluded from the results of continuing operations and are presented as a single amount as profit or loss after tax from discontinued operations in the statement of comprehensive income.

2.2.10 Property, plant and equipment

Property, plant and equipment is stated at cost, net of accumulated depreciation and/or accumulated impairment losses, if any. These costs include alternative costs that meet the asset recognition criteria and borrowing costs for long-term construction projects. If a major part of an item of property, plant and equipment needs to be replaced periodically, the Group recognizes that part as an individual asset and depreciates it over its useful life. In addition, if an asset meets the recognition criteria, such as comprehensive inspection costs, it is included in the carrying amount of the property, plant and equipment, and all repair and maintenance costs are reflected in profit or loss when incurred. The present value of the expenditure is included in the acquisition cost of the property, plant and equipment if the estimated cost of removing, dismantling, or restoring the property to its original state after the economic use is terminated meets the recognition criteria of the provisions.

Land among property, plant and equipment is not depreciated, and property, plant and equipment other than land is estimated by individual assets and then depreciated using a straight-line method over the useful life.

	Useful life (years)
Buildings	40 ~ 50
Structures	8 ~ 30
Machinery	4 ~ 25
Others	4 ~ 5

Property, plant and equipment is derecognized on disposal (i.e., the date the acquirer obtains control of the asset) or when future economic benefits are not expected through use or disposal. The gain or loss arising from the removal of property, plant and equipment is determined by the difference between the net selling amount and the carrying amount and is recognized in profit or loss when the asset is derecognized.

The depreciation method, residual value, and useful life of property, plant and equipment are reviewed at the end of each fiscal year and are accounted for as a change in accounting estimates if appropriate.

2.2.11 Investment properties

Investment property is measured at the acquisition cost added to the related transaction cost and includes alternative costs that meet the asset recognition criteria when incurred. However, the costs incurred in daily management activities are recognized as expenses when incurred. Subsequent to initial recognition, investment properties are stated at cost, net of accumulated depreciation and/or accumulated impairment losses.

The Group derecognizes the investment property from its financial statements when it is expected that it will no longer be able to obtain future economic benefits through disposal (i.e., the date the acquirer obtains control of the asset) or use, and the resulting difference between the net disposal amount and the carrying amount is reflected in profit or loss at the time of derecognition. The amount of consideration to be included in the gain or loss arising from the derecognition of investment property is determined in accordance with the requirements in KIFRS 1115 for determining the transaction price.

In addition, only if the purpose of use of the asset has been changed, it is replaced by another account or investment property in another account.

2.2.12 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.

2.2.12.1 Group as a lessee

The Group applies 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 the right-of-use asset at the inception of the lease (i.e., when the underlying asset is available). The right-of-use assets are measured at cost and the cost model is applied for subsequent measurement. To apply the cost model, the accumulated depreciation and accumulated impairment losses are deducted, 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.

Right-of-use assets are also subject to impairment and are described in the accounting policy for impairment of non-financial assets in Note 2-2-16.

(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.

The Group's lease liabilities are included in the interest-bearing borrowings.

(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 machinery and 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 supplies 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.

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

2.2.13 Intangible assets

Intangible assets acquired separately are measured on initial recognition at cost. The cost of intangible assets acquired in a business combination is their fair value at the date of acquisition. Following initial recognition, intangible assets are carried at cost less any accumulated amortization and accumulated impairment losses. Internally generated intangible assets, excluding development costs, are reflected in profit or loss in the period in which the expenditure is incurred.

Intangible assets are divided into intangible assets with finite useful lives and intangible assets with indefinite useful lives, and intangible assets with finite useful lives are amortized over the relevant useful life and are considered for impairment if an indication of impairment is identified. In addition, the useful life and amortization method is reviewed at least at the end of each fiscal year and is accounted for as a change in accounting estimates if changes are needed due to changes in the expected period of use or changes in the expected pattern of consumption of economic benefits. The amortization cost of an intangible asset is reflected in profit or loss as an expense cost item consistent with the function of intangible asset.

On the other hand, intangible assets with indefinite useful lives are not amortized but are carrying out impairment testing individually or in the cash-generating unit each year. In addition, whether it is appropriate to apply indefinite useful lives to such intangible assets is reviewed each year and, if not, those are changed to finite useful lives in a forward-looking manner.

An intangible asset is derecognized when it is disposed of (i.e., when the acquirer obtains control of the asset) or when no future economic benefits are expected from use or disposal. The Group shall reflect the profit or loss due to the difference between the net selling amount and the carrying amount when the intangible asset is derecognized in profit or loss at the time of derecognition.

2.2.14 Exploration and evaluation assets, development assets, and mining rights

The Group engages in the development of natural resources either by entering into contracts for sharing the extracted natural resources or by acquiring interests in the related projects. Expenditures related to natural resources are recognized as exploration and evaluation assets, development assets or mining rights. The nature of these intangible assets is as follows:

2.2.14.1 Exploration and evaluation assets

Exploration and evaluation assets consist of expenditures for topographical and geophysical studies and drilling and appraisal of oil fields. These assets are reclassified into development assets when the reserves are proven successful.

2.2.14.2 Development assets

Development assets consist of expenditures for fields, construction of production facilities, and others. These development assets are reclassified as mining rights at the inception of the commercial production.

2.2.14.3 Mining rights

Mining rights (production fields) consist of expenditure for improving productivity, oil reservoir management for prediction of oil output and production optimization, and increasing the return rate from crude oil. Mining rights are amortized using the unit of production method.

2.2.15 Biological assets

Consumable biological assets are measured at fair value less costs to sell. The fair value of consumable biological assets is measured by taking into account the expected fruit yield during the evaluation period based on the purchase price of the crop disclosed by the state, and the change in fair value is recognized as sales for the year. Cash flows over the life cycle of consumable biological assets are determined by taking into account the estimated production of agricultural crops and the published prices and estimated cultivation costs of the region in the main market for the crop. For bearer biological assets, it is measured at acquisition cost less accumulated depreciation and accumulated impairment losses.

2.2.16 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 an annual impairment test of the asset is required, the Group estimates the recoverable amount of the asset. The recoverable amount of an asset is the larger of the net fair value of the asset or cash-generating unit, and is determined by individual assets, but is determined by the cash-generating unit to which the individual asset belongs if the cash inflows are not generated almost independently of those of other assets or groups of assets. If the carrying amount of the asset exceeds the recoverable amount, the asset is deemed impaired and the carrying amount of the asset is reduced to recoverable amount.

The value of use is assessed as the present value of the estimate of the expected future cash flows of the asset discounted at a pre-tax discount rate that reflects the time value of the currency and the market's assessment of the risk of the asset. Net fair value takes into consideration the latest transaction price. If no such transaction is identified, the decision is made using the appropriate evaluation model. These calculations use valuation multiples, market prices of listed shares, or other fair value indicators.

Impairment losses are reflected in profit or loss as a cost item consistent with the function of the impaired asset. However, if there is previously recognized revaluation surplus as an asset subject to the revaluation model, the impairment loss is offset with the revaluation surplus with the limit of the previous revaluation amount.

For assets other than goodwill, the Group assesses whether there are any indications at each reporting date that the impairment loss on previously recognized assets no longer exists or has decreased, and estimates recoverable amount if there are any such indications.

Impairment losses on assets other than previously recognized goodwill increase the carrying amount of the asset to the amount recoverable with the limit of amortized carrying amount of the asset that does not recognize the impairment losses, only if there is a change in the estimate used to determine the recoverable amount of the asset since the date of recognition of the impairment loss, and those reversal of Impairment Losses is reflected in profit or loss. However, in the case of assets subject to the revaluation model, the amount of the reversal is treated as an increase in the revaluation surplus.

2.2.17 Foreign currency translation

The Group's consolidated financial statements are presented in Korean won, which is also the parent company's functional currency. Each entity in the Group determines its own functional currency and items included in the financial statements of each entity are measured using that functional currency.

The Group uses the direct consolidation method and reclassifies gains and losses reflecting the amount according to use of the direct consolidation method to profit or loss when disposing of overseas operations.

2.2.17.1 Transactions and balances

In the preparation of financial statements of each entity in the Group, transactions made in currencies other than functional currencies are recorded by applying the exchange rate at the transaction date.

Monetary foreign currency assets and liabilities are translated to the functional currency exchange rate as of each reporting date.

The resulting translation differences are reflected in profit or loss. However, the translation differences arising from items for net investment hedges in overseas operations are directly reflected in equity by the time of disposal of the net investment and reflected in profit or loss at the time of disposal. The related tax effects are also treated as capital items.

On the other hand, non-monetary items denominated in foreign currency measured at historical cost are recognized by applying the exchange rate on the date of initial transaction and non-monetary items denominated in foreign currency at fair value are recognized by applying the exchange rate on the date of fair value measurement. Any gain or loss arising from the translation of non-monetary items is recognized in OCI or profit or loss in the same way as recognition item of gain or loss due to changes in the fair value of the item.

The transaction date for determining the exchange rate to be applied to the initial recognition of related assets, expenses, and revenues (or portions thereof) is the date on which the Group first recognizes a non-monetary asset or non-monetary liability by prepayment or advance receipt of the consideration. In the event of multiple prepayments or advance receipts, the Group shall determine the date of the transaction due to prepayment or advance receipt of the consideration respectively.

Any foreign exchange differences arising from monetary items that are part of the Group's net investment in overseas operations are recognized in OCI and reclassified from equity to profit or loss at the time of disposal of the net investment.

2.2.17.2 Translation of foreign operations

The assets and liabilities of the foreign operations are translated to KRW by applying the average exchange rate for the year and the statement of comprehensive income items are translated to KRW, and the foreign exchange difference arising from such translation is recognized as a separate item of capital. On the other hand, the cumulative foreign exchange differences recognized in such capital are reflected in profit or loss at the time of disposal of the foreign operations.

The fair value adjustment for the carrying amount of goodwill, assets and liabilities arising from the acquisition of overseas operations is considered assets and liabilities of overseas operations and translated to a closing exchange rate.

2.2.18 Borrowing costs

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

2.2.19 Government grants

Government grants are recognized where there is reasonable assurance that the grant will be received and all attached conditions will be complied with. Income-related grant is recognized as revenue according to systematic standards over the period necessary to respond to the related costs to be compensated with the grant, and asset-related grant is recognized as deferred income and the same amount is recognized as revenue each year for the useful life of the related assets.

When a non-monetary asset is received as a grant, the Group records the asset and grant as nominal amount and recognizes them as revenue in the income statement at a fixed amount over the estimated useful life of the related asset. The benefits of lower interest rates are recognized as additional government grant when loans with lower interest rates or similar support are provided.

2.2.20 Pension benefits

The Group operates a defined benefit pension plan, which requires contributions to be made.

The cost of providing benefits under the defined benefit plan is determined using the projected unit credit method. Re-measurements, comprising of changes in actuarial gains and losses, the effect of the asset ceiling excluding net interest and the return on plan assets excluding net interest, are recognized immediately through OCI in the period in which they occur. Re-measurements are not reclassified to profit or loss in subsequent periods.

Past service costs are recognized in profit or loss on the earlier of:

- The date of the plan amendment or curtailment, and
- The date that the Group recognizes restructuring-related costs

Net interest is calculated by applying the discount rate to the net defined benefit liability or asset. The Group recognizes the net interest on the service cost and net defined benefit liability as selling and administrative expenses in profit or loss:

2.2.21 Corporate taxes

2.2.21.1 Current tax

Current tax liabilities (assets) for the current and past periods are measured at the amount expected to be paid to or recovered from the tax authorities using the tax rates (and tax laws) that have been enacted or substantively enacted at the reporting date.

Current tax on items directly reflected in equity is reflected in equity and not in the income statement. The management periodically evaluates the recoverability of tax refunds in relation to the interpretation of the relevant tax code regulations and sets provisions if necessary.

2.2.21.2 Deferred tax

Deferred tax assets and liabilities are recognized for all temporary differences, which is the difference between the carrying amount and the tax base for the purpose of financial reporting of assets and liabilities.

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

- When deferred tax liability arises from the initial recognition of goodwill
- When 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

2.2.21.2 Deferred tax (cont'd)

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

- When deferred tax assets 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, when temporary differences are improbable to reverse in the foreseeable future or taxable profit against which the temporary differences can be utilized is improbable to be available.

The carrying amount of deferred tax assets is reviewed at then 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.

Tax benefits acquired as part of a business combination, but not satisfying the criteria for separate recognition at that date, would be recognized subsequently if the results of new information on the facts and circumstances existing at the acquisition date are recognized during the measurement period. The recognized deferred tax benefit is applied to reduce the carrying amount of goodwill related to the acquisition and, if the carrying amount of goodwill is zero, the remaining deferred tax benefit is recognized in profit or loss.

Deferred tax assets and deferred tax liabilities are offset; if the Group has a legally enforceable right to set off current tax assets against current tax liabilities; or if the taxable entity is the same; or if the taxable entity is different, but current tax liabilities and assets are intended to be settled net or a significant amount of deferred tax liabilities is settled or assets and liabilities are intended to be settled for each future accounting period in which the deferred tax assets are recovered, and the deferred tax assets and the deferred tax liabilities are related to the same taxation authority.

2.2.22 Provisions and contingent liabilities

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.

The amount of reimbursement is recognized and accounted for as a separate asset only when some or all of the expenditure required to settle the provision is expected to be paid by a third party and it is almost certain that Group will be reimbursed if it fulfills its obligations. Expenses recognized in the consolidated statement of comprehensive income related to provisions are offset against the amount recognized in relation to the third party's reimbursement.

If the time value of money is important, provisions are discounted at the current pre-tax rate reflecting the specific risk of debt. When a provision is valued at its present value, an increase in the carrying amount over the period is recognized as a finance cost.

2.2.22 Provisions and contingent liabilities (cont'd)

(1) Provisions related to post-processing (restoration)

A provision related to post-processing is recognized as the acquisition cost of assets related to resource development, if the project is obliged to be restored at the end of the project. Post-processing costs are calculated as the present value of the expected cost to fulfill the obligation using future expected cash flows, and the future expected cash flows are measured at a pre-tax rate that reflects the inherent risks of the relevant post-processing. The estimated cost of post-processing is reviewed and adjusted at each reporting date, and changes in the estimated cost or the discount rate to be applied are either added to or deducted from the cost of the asset.

(2) Onerous contract

If the Group has entered into an onerous contract, the related present obligation is recognized and measured as a provision. Before recognizing a provision for an onerous contract, an impairment loss arising from the asset used to fulfill the onerous contract is recognized first.

An onerous contract is a contract in which the non-avoidable cost of fulfilling the contractual obligations exceeds the economic benefits expected to be received in that contract. The non-avoidable cost is the minimum net cost existing in the contract, which is the lower of the costs required to fulfill the contract and the compensation or penalty to be paid when the contract is not fulfilled.

2.3 Significant accounting judgments, estimates and assumptions

The preparation of the Group's financial statements requires management to make judgments, estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the disclosure of contingent liabilities, as of the reporting date. However, uncertainty about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of the asset or liability affected in future periods.

Other disclosures relating to the Group's exposure to risks and uncertainties are disclosed in Capital management (Note 31-1) and financial risk management (Note 31-2).

2.3.1 Accounting judgments

In the course of applying the accounting policies of the Group, the management's decisions that had the most significant impact on the amounts recognized in the financial statements are as follows;

2.3.1.1 Calculation of the lease term for contracts with options for extension and termination - accounting as a lessee

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

The Group has lease agreements that include the option for extension and termination. The Group applies judgement when assessing whether it is probable whether it will exercise the option to extend or terminate a lease. In other words, it considers all relevant facts and circumstances that create an economic incentive not to exercise the option for extension or exercise the option for termination. After the commencement date, the Group reassesses the lease term if there is a significant event or change in circumstances that is within its control and affects its ability to exercise or not to exercise the option to renew or to terminate (for example, significant lease improvements or significant customer customization of the leased asset).

2.3.1.1 Calculation of the lease term for contracts with options for extension and termination - accounting as a lessee (cont'd)

The Group includes the renewal period as part of the lease term for the lease of facilities and machinery with a short non-cancellable period (e.g., 3 to 5 years). If alternative assets are not readily available, it has a significant negative effect on production. Therefore, the Group typically exercises the option to extend the lease. The extended term for a lease of facilities and machinery with a longer non-cancellable term (e.g., 10 to 15 years) is not part of the lease term because it is probable that the option for extension will not be exercised. In addition, the Group generally leases vehicles and transportation equipment for less than 5 years and does not exercise the option for extension, so the option for extension for leases of vehicles and transportation equipment is not included as part of the lease term. Furthermore, the term during which the termination option is applied is included as part of the lease term only if it is probable that it will not be exercised.

2.3.2 Accounting estimates and changes

Other key sources of uncertainty in important assumptions and estimates for the future as of the end of the reporting period that pose significant risks that could lead to significant adjustments to the carrying amounts of assets and liabilities within the following fiscal year are. Assumptions and estimates are based on available variables at the time of preparation of financial statement. Assumptions on present and future conditions may change due to changes in the market or any conditions out of the control of the Group. When such changes occur, they are reflected in the assumption.

2.3.2.1 Impairment of non-financial assets

The Group assesses at each reporting date whether there is any indication that non-financial assets may be impaired. For goodwill and indefinite-lived intangibles, an impairment test is performed annually or if there is any indication of impairment. For other non-financial assets, an impairment test is performed when there is any indication that the carrying amount will not be recoverable. To calculate the value in use, the management shall estimate the expected future cash flows from the asset or the cash-generating unit and select an appropriate discount rate to calculate the present value of the expected cash flows.

2.3.2.2 Provision for expected credit losses of trade receivables and contract assets

The Group uses a provision matrix to calculate expected credit losses (ECL) for trade receivables and contract assets. The provision setting rate is based on the number of overdue days for a bundle of different customer segments (e.g., regional location, product type, customer type and credit rating, collateral or transaction credit insurance) with similar loss patterns.

The provision matrix is based on the Group's historical observed default rates. The Group will calibrate the matrix to adjust the historical credit loss experience with forward-looking information. For instance, if forecast economic conditions (i.e., gross domestic product) are expected to deteriorate in the future which can lead to an increased number of defaults in the manufacturing sector, the historical default rates are adjusted. At every reporting date, the historical observed default rates are updated and changes in the forward-looking estimates are analyzed.

The assessment of the correlation between historical observed default rates, forecast economic conditions and ECLs is a significant estimate. The amount of ECLs is sensitive to changes in circumstances and of forecast economic conditions. The Group's historical credit loss experience and forecast of economic conditions is not representative of customer's actual default in the future.

2.3.2.3 Pension benefits

The cost and present value of the defined benefit obligation is determined using actuarial valuations. An actuarial valuation involves making various assumptions. It includes the determination of the discount rate, future salary growth rate, mortality rate and future pension increase rate. Due to the complexity of the valuation, the underlying assumptions 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.

2.3.2.4 Fair value of financial instruments

Where the fair value of financial assets and financial liabilities recorded in the statement of financial position cannot be derived from active markets, they are determined using valuation techniques including the discounted cash flow (DCF) model. The inputs to these models are taken from observable markets where possible, but where this is not feasible, a degree of judgment is required in establishing fair values. The judgments include considerations of inputs such as liquidity risk, credit risk and volatility. Changes in assumptions about these factors could affect the reported fair value of financial instruments.

2.3.2.5 Provisions for restoration

The Group accounts for the provisions for restoration related to resource development. This provision was calculated by applying the cost of removal and discount rates of resource development facilities based on management assumptions and estimates.

2.3.2.6 Lease - Calculation of the incremental borrowing interest rate

The Group cannot readily determine the implicit interest rate of the lease, so it uses the incremental borrowing rate to measure the lease liability. The incremental borrowing interest rate is the interest rate that the Group would have to pay to borrow the funds required to acquire assets of similar value to those of right-of-use assets with similar collateral over a similar period of time in a similar economic environment. Thus, the incremental borrowing interest rate reflects the items that “would have to pay”, which requires estimation when there is no observable rate available (for subsidiaries that do not enter into financing transactions) or when the incremental borrowing interest rate must be adjusted to reflect the lease conditions (for example, if the lease is not in a functional currency of the subsidiary).

The Group shall, if possible, estimate the incremental borrowing interest rate using observable inputs (such as market interest rates) when available and make certain entity-specific estimates (such as the subsidiary’s stand-alone credit rating).

2.4. New and amended standards and interpretations

The Group applied for the first-time certain standards and amendments, which are effective for annual periods beginning on or after January 1, 2020.

2.4.1 Amendments to KIFRS 1103 *Business Combinations* – Definition of a Business

The amendment to KIFRS 1103 *Business Combinations* clarifies that to be considered a business, an integrated set of activities and assets must include, at a minimum, an input and a substantive process that, together, significantly contribute to the ability to create output. Furthermore, it clarifies that a business can exist without including all of the inputs and processes needed to create outputs. These amendments had no impact on the consolidated financial statements of the Group, but may impact future periods should the Group enter into any business combinations.

2.4.2 Amendments to KIFRS 1107 *Financial Instruments: Disclosure*, KIFRS 1109 *Financial Instruments* and KIFRS 1039 *Financial Instruments: Recognition and Measurement* – Interest Rate Benchmark Reform

The amendments to KIFRS 1109 and KIFRS 1039 provide a number of reliefs, which apply to all hedging relationships that are directly affected by interest rate benchmark reform. A hedging relationship is affected if the reform gives rise to uncertainty about the timing and/or amount of benchmark-based cash flows of the hedged item or the hedging instrument. These amendments have no impact on the consolidated financial statements of the Group as it does not have any interest rate hedge relationships.

2.4.3 Amendments to KIFRS 1001 *Presentation of Financial Statements* and KIFRS 1008 *Accounting policies, changes in accounting estimates and errors* – Definition of Material

The amendments provide a new definition of material that states, “information is material if omitting, misstating or obscuring it could reasonably be expected to influence decisions that the primary users of general purpose financial statements make on the basis of those financial statements, which provide financial information about a specific reporting entity.”

The amendments clarify that materiality will depend on the nature or magnitude of information, either individually or in combination with other information, in the context of the financial statements. A misstatement of information is material if it could reasonably be expected to influence decisions made by the primary users. These amendments had no impact on the consolidated financial statements of, nor is there expected to be any future impact to the Group.

2.4.4 Amendments to KIFRS 1116 *Leases* – Practical expedient for COVID-19 - Related Rent Exemption, Concessions, Suspension (rent concession)

The amendments provide relief to lessees from applying KIFRS 1116 guidance on lease modification accounting for rent concessions arising as a direct consequence of the COVID-19 pandemic. As a practical expedient, a lessee may elect not to assess whether a COVID-19 related rent concession from a lessor is a lease modification. A lessee that makes this election accounts for any change in lease payments resulting from the COVID-19 related rent concession the same way it would account for the change under KIFRS 1116 if the change were not a lease modification. The amendment applies to annual reporting periods beginning on or after June 1, 2020. Earlier application is permitted. This amendment had no impact on the consolidated financial statements of the Group.

2.4.5 Conceptual Framework for Financial Reporting (2018)

The Conceptual Framework is not a standard, and none of the concepts contained therein override the concepts or requirements in any standard. The purpose of the Conceptual Framework is to assist the KASB in developing standards, to help preparers develop consistent accounting policies where there is no applicable standard in place and to assist all parties to understand and interpret the standards.

The revised Conceptual Framework includes some new concepts, updated definitions and recognition criteria for assets and liabilities and clarifies some important concepts. These amendments had no impact on the consolidated financial statements of the Group.

2.5 Standards issued but not yet effective

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

Amendments to KIFRS 1001 *Presentation of Financial Statements* - Classification of Liabilities as Current or Non-current

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

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

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

Amendments to KIFRS 1103 *Business Combinations* – Reference to the Conceptual Framework

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

Amendments to KIFRS 1016 *Property, Plant and Equipment* - Proceeds before intended use

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

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

Amendments to KIFRS 1037 *Provisions, Contingent Liabilities and Contingent Assets* - Onerous Contracts: Cost of Fulfilling a Contract

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

2.5 Standards issued but not yet effective, (cont'd)

Annual improvements to KIFRS 2018-2020

KIFRS 1101 *First time Adoption of Korean International Financial Reporting Standards* – Subsidiaries that are first-time adopters

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

KIFRS 1109 *Financial Instruments* – Fees related to the 10% test for derecognition of financial liabilities

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

KIFRS 1041 *Agriculture* – Taxation in fair value measurements

The amendment removes the requirement in paragraph 22 of KIFRS 1041 that entities exclude cash flows for taxation when measuring the fair value of assets within the scope of KIFRS 1041. An entity applies the amendment prospectively to fair value measurements on or after the beginning of the first annual reporting period beginning on or after January 1, 2022 with earlier adoption permitted. The amendments are not expected to have a material impact on the Group.

2.6 Approval of consolidated financial statements

The consolidated financial statements of the Group were approved at the Group's general shareholders' meeting to be held on March 15, 2021.

3. Segment information

3.1 Operating segment

For management purposes, the Group has three reportable operating segments (trading, energy and others). Accounting policies of each segment are the same as those of the Group mentioned in Note 2.

3.1.1 The financial performance of each segment for the years ended December 31, 2020 and 2019 is as follows:

	Korean won in millions					U.S. dollar in Thousands
	2020					2020
	Trading	Energy	Others	Consolidation adjustment	Total	Total
Sales	₩ 25,338,972	₩ 1,412,474	₩ 791,682	₩ -	₩ 27,543,128	\$ 25,315,375
Inter-segment sales	(5,984,850)	-	(85,892)	-	(6,070,742)	(5,579,726)
Net sales	19,354,122	1,412,474	705,790	-	21,472,386	19,735,649
Profit (loss) for the year before tax	80,668	215,685	(32,775)	63,591	327,169	300,707

	Korean won in millions					U.S. dollar in Thousands
	2019					2020
	Trading	Energy	Others	Consolidation adjustment	Total	Total
Sales	₩ 28,839,011	₩ 1,945,950	₩ 114,969	₩ -	₩ 30,899,930	\$ 28,400,671
Inter-segment sales	(6,448,259)	-	(29,096)	-	(6,477,355)	(5,953,451)
Net sales	22,390,752	1,945,950	85,873	-	24,422,575	20,608,984
Profit (loss) for the year before tax	(30,899)	320,381	(28,420)	68,916	329,978	303,289

3.1.2 The financial positions of each segment as of December 31, 2020 and 2019 are as follows:

	Korean won in millions					U.S. dollar in Thousands
	2020					2020
	Trading	Energy	Others	Consolidation adjustment	Total	Total
Total assets	₩ 6,647,365	₩ 2,302,904	₩ 1,705,195	₩ (2,593,700)	₩ 8,061,764	\$ 7,409,710
Total liabilities	3,833,654	578,417	890,250	(1,774,930)	3,527,391	3,242,087

	Korean won in millions					U.S. dollar in Thousands
	2019					2020
	Trading	Energy	Others	Consolidation adjustment	Total	Total
Total assets	₩ 6,970,903	₩ 2,693,249	₩ 988,955	₩ (1,919,958)	₩ 8,733,149	\$ 8,026,791
Total liabilities	4,655,705	786,894	754,552	(1,690,283)	4,506,868	4,142,342

3.1.3 Adjustments and eliminations

Current taxes, deferred taxes and certain financial assets and financial liabilities are not allocated to individual segments as they are accounted for at the Group level.

3.1.3.1 The reconciliation of assets as of December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Segment operating assets	₩ 8,061,764	₩ 8,733,149	\$ 7,409,711
Current tax assets	1,479	5,183	1,359
Deferred tax assets	264,796	221,083	243,379
Total assets	₩ 8,328,039	₩ 8,959,415	\$ 7,654,449

3.1.3.2 The reconciliation of liabilities as of December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Segment operating liabilities	₩ 3,527,391	₩ 4,506,868	\$ 3,242,087
Current tax liabilities	93,084	8,613	85,555
Deferred tax liabilities	22,228	22,143	20,430
Current portion of bonds	417,042	130,042	383,311
Non-current bonds	1,107,420	1,243,688	1,017,849
Total liabilities	₩ 5,167,165	₩ 5,911,354	\$ 4,749,232

3.2 Revenue from the contract with customers

Details of classification of sales, excluding rental revenue, from investment properties of ₩7,673 million (₩7,163 million in 2019) for the years ended December 31, 2020 and 2019 are as follows:

3.2.1 Sales categorization based on the geographical locations

Korean won in millions			
2020			
	Total sales	Inter-segment sales	Net sales
Domestic	₩ 3,667,952	₩ (747,632)	₩ 2,920,320
Asia (excluding China)	12,994,392	(3,155,699)	9,838,693
China	3,420,504	(257,413)	3,163,091
North America	2,435,284	(877,394)	1,557,890
Europe	3,156,598	(902,731)	2,253,867
Others	1,860,725	(129,873)	1,730,852
Total sales	₩ 27,535,455	₩ (6,070,742)	₩ 21,464,713
U.S. dollar in thousands	\$ 25,308,323	\$ (5,579,726)	\$ 19,728,597

Korean won in millions			
2019			
	Total sales	Inter-segment sales	Net sales
Domestic	₩ 4,526,088	₩ (483,744)	₩ 4,042,344
Asia (excluding China)	13,208,998	(3,198,339)	10,010,659
China	3,621,901	(441,854)	3,180,047
North America	2,812,560	(1,036,983)	1,775,577
Europe	3,196,321	(142,744)	3,053,577
Others	3,526,899	(1,173,691)	2,353,208
Total sales	₩ 30,892,767	₩ (6,477,355)	₩ 24,415,412
U.S. dollar in thousands	\$ 28,394,087	\$ (5,953,451)	\$ 22,440,636

3.2.2 Sales categorization based on the major product and services

	Korean won in millions	U.S. dollar in thousands
	2020	2020
Steal	₩ 14,748,750	\$ 13,555,836
Energy	1,412,474	1,298,230
Agro & Industrial materials	10,361,310	9,523,263
Others	1,012,921	930,994
Total sales	₩ 27,535,455	\$ 25,308,323
Inter-segment sales	(6,070,742)	(5,579,726)
Total	₩ 21,464,713	\$ 19,728,597

	Korean won in millions	U.S. dollar in thousands
	2019	2019
Steal	₩ 16,473,113	\$ 15,140,729
Energy	1,945,950	1,788,557
Agro & Industrial materials	11,512,621	10,581,453
Others	961,083	883,348
Total sales	₩ 30,892,767	\$ 28,394,087
Inter-segment sales	(6,477,355)	(5,953,451)
Total	₩ 24,415,412	\$ 22,440,636

The Group restructured its organization in 2020, and the operating segment of 2019, presented for comparative purposes, was restated based on the modified restructured organization.

3.2.3 Sales categorization based on occurrence

	Korean won in millions	U.S. dollar in thousands
	2020	2020
Cross-trade	₩ 17,537,520	\$ 16,119,044
Export	6,825,012	6,272,989
Domestic	3,172,923	2,916,290
Total sales	₩ 27,535,455	\$ 25,308,323
Inter-segment sales	(6,070,742)	(5,579,726)
Net sales	₩ 21,464,713	\$ 19,728,597

	Korean won in millions	U.S. dollar in thousands
	2019	2019
Cross-trade	₩ 18,826,905	\$ 17,304,141
Export	8,210,225	7,546,163
Domestic	3,855,637	3,543,784
Total sales	₩ 30,892,767	\$ 28,394,088
Inter-segment sales	(6,477,355)	(5,953,451)
Net sales	₩ 24,415,412	\$ 22,440,637

3.3 Contract balance

Details of contract assets and liabilities arising from contracts with customers for the year ended December 31, 2020 are as follows:

		Korean won in millions				U.S. dollar in thousands
		2020				2020
		Beginning balance	Increase	Decrease	Ending balance	Ending balance
Contract assets	Due from customers	₩ 137,932	₩ 24,665	₩ (113,011)	₩ 49,586	\$ 45,575
Contract liabilities	Advances received	169,077	1,902,766	(1,947,716)	124,127	114,087
	Unearned revenues	54,436	3,128	(9,342)	48,222	44,322

4. Cash and cash equivalents

The Group's cash and cash equivalents are equivalent to the amount per the consolidated statements of financial position and cash flows. Cash and cash equivalents as of December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Cash	₩ 2,840	₩ 1,818	\$ 2,610
Savings account and checking account	640,047	194,948	588,278
Other cash equivalents	36,417	39,323	33,472
Total	₩ 679,304	₩ 236,089	\$ 624,360

5. Trade and other receivables

5.1 Trade and other receivables as of December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Current			
Trade receivables	₩ 2,617,683	₩ 3,260,640	\$ 2,405,959
Allowance for doubtful accounts	(23,690)	(29,419)	(21,774)
Other receivables	183,654	102,783	168,800
Allowance for doubtful accounts	(3,154)	(3,068)	(2,899)
Accrued income	78	728	72
Short-term guarantee deposits	2,271	3,591	2,087
Short-term loans	1,787	1,492	1,642
Current portion of finance lease receivables	68,199	48,744	62,683
Current portion of long-term loans	47,524	51,634	43,680
	₩ 2,894,352	₩ 3,437,125	\$ 2,660,250
Non-current			
Long-term trade receivables	14,977	23,162	13,766
Allowance for doubtful accounts	(4,880)	(10,264)	(4,485)
Long-term loans	80,996	193,588	74,445
Allowance for doubtful accounts	(25,889)	(55)	(23,795)
Long-term other receivables (*1)	119,568	126,623	109,897
Allowance for doubtful accounts	(71,266)	(51,546)	(65,502)
Long-term finance lease receivables	128,366	179,315	117,983
Allowance for doubtful accounts	(25,413)	(27,043)	(23,358)
Long-term guarantee	14,339	7,885	13,179
	₩ 230,798	₩ 441,665	\$ 212,130
	₩ 3,125,150	₩ 3,878,790	\$ 2,872,380

(*1) The Group has recognized a long-term other receivable of ₩19,303 million (\$17,742 thousand) that was remitted by Kerman Motor Company but cannot be withdrawn because of United States' restriction on Iran as long-term other receivables.

5.2 Changes in allowance for doubtful accounts related to trade receivables for the years ended December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Beginning balance	₩ 39,683	₩ 80,944	\$ 36,473
Bad debt expenses	700	22,950	643
Write-off	(9,412)	(66,523)	(8,651)
Foreign exchange translation loss(profit)	(4,328)	(412)	(3,978)
Others	1,927	2,724	1,771
Ending balance	₩ 28,570	₩ 39,683	\$ 26,258

5.3 Financial assets transferred but not derecognized

As of December 31, 2020, the Group has continued to recognize the book value of trade receivables of ₩118,543 million (\$108,955 thousand) (₩187,562 million (\$172,391 thousand) in 2019) that was disposed of by the Group but was not derecognized. The cash proceeds received from factoring of such receivables are accounted for as short-term borrowings.

The Group factored the above trade receivables to financial institutions with recourse and, accordingly, the Group retains the risk of ownership arising from credit risk, such as default by the debtors. The fair values of the above receivables transferred and the related borrowings are not significantly different from their book values.

6. Other financial assets

6.1 Other current financial assets as of December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Deposits in financial institutions	₩ 18,708	₩ 22,892	\$ 17,195

6.2 Other non-current financial assets as of December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Financial assets at amortized cost	₩ -	₩ 869	\$ -
Financial assets at FVOCI	24,066	31,852	22,119
Financial assets at FVPL (long-term investment)	647	632	595
Financial assets at FVPL (other securities)	17	73	16
Deposits in financial institutions	10	80	9
Total	₩ 24,740	₩ 33,506	\$ 22,739

6.2.1 Financial instruments at fair value

Details of financial instruments measured at fair value as of December 31, 2020 and 2019 are as follows:

	Number of shares	Equity ownership (%)	Korean won in million				U.S. Dollar
			Acquisition cost	Fair value or net asset value	2020		in thousand
					2019	2020	2020
				book value	book value	book value	
FVOCI securities							
Marketable securities							
Maruichi Steel Tube Ltd.	120,000	0.14	₩ 2,933	₩ 2,895	₩ 2,895	₩ 3,931	\$ 2,661
Non-marketable securities							
Daewoo Songdo development	285	-	₩ 26	₩ -	₩ -	₩ -	\$ -
Zyle Daewoo Motor Sales Corp.	401	-	3	2	2	2	2
DW Development Co., Ltd. - Engineering & Construction (Common Share)	70	-	1	1	1	1	1
DW Development Co., Ltd. - Engineering & Construction (Preferred Share)	70	-	1	1	1	1	1
N.I. CO., LTD.	-	50.00	3,099	-	-	-	-
The Korea Economic Daily	178,881	0.96	1,952	974	974	974	895
Central Corporation	100,474	9.67	1,859	-	-	-	-
Hanmi ADM Co., Ltd.	10,000	12.70	1,000	1,000	1,000	1,000	919
Miju Steel Mfg Co., Ltd. (*1)	-	-	-	-	-	-	-
DAEWOO Display Corp. (*1)	-	-	-	-	-	-	-
Shin Pyung Steel Co., Ltd. (*1)	-	-	-	-	-	-	-
S&S M Tech Co., Ltd. (*3)	-	-	-	-	-	1,000	-
S&S INC (*3)	8,149	0.17	113	113	113	-	104
KG Power (M) Sdn. Bhd. (*1)	-	-	-	-	-	-	-
Discover Mixtech Manufacturing	3,679,880	2.20	4,053	-	-	-	-
Korea Minerals Co., Ltd. (*1)	-	-	-	-	-	-	-
POSCO Humans Co., Ltd.	88,000	3.29	454	454	454	454	417
Innovated Technology Inc (*2)	111,111	10.00	5,000	5,000	5,000	-	4,596
Dowon SF	607	1.26	-	-	-	-	-
Postech	43,877	0.24	-	-	-	-	-
Hangang Steel	1,232	1.97	-	-	-	-	-
CJ PHILIPPINES, INC.	109,200	10.00	349	349	349	349	321
DONGJIN VIETNAM Co., Ltd	20,000	10.00	803	803	803	803	738
POSCO ASSAN TST STEEL INDUSTRY A.S.	24,096,526	10.00	15,460	11,951	11,951	18,101	10,984
DAEWOO EL SALVADOR S.A. DE C.V.	31,262	88.00	3,021	-	-	-	-
TES MI s.r.o.	750	3.00	523	523	523	523	481
K. K. KOREA KAMCHATKA CO., LTD.	328	10.00	-	-	-	-	-
KNOC INAM LTD.	10	10.00	-	-	-	-	-
			₩ 37,717	₩ 21,171	₩ 21,171	₩ 23,208	\$ 19,459
PVPL (other securities)							
Korea Investment Private Placement KEXIM Carbon Credit Special Asset Fund No.1	-	2.13	₩ 182	₩ 17	₩ 17	₩ 73	\$ 16
PVPL (other securities)							
POSCO Agricultural Products Export Fund	-	10.00	₩ 530	₩ 530	₩ 530	₩ 530	\$ 487
Korea Dic & Mold Industry Cooperative	-	-	1	1	1	1	1
Korea Speciality Contractor Financial Cooperative	-	-	116	116	116	101	107
			₩ 647	₩ 647	₩ 647	₩ 632	\$ 595
			₩ 41,479	₩ 24,730	₩ 24,730	₩ 27,844	\$ 22,731

(*1) The Group disposed the shares for the year ended December 31, 2020.

(*2) The Group newly invested the shares for the year ended December 31, 2020.

(*3) S&S M Tech Co., Ltd. was merged with S&S INC Co., Ltd. for the year ended December 31, 2020.

6.2.1 Financial instruments at fair value (cont'd)

Among the financial assets at fair value through other comprehensive income mentioned above, Maruichi Steel Tube Ltd., a listed stock, was valued at the closing stock price as of the end of December 31, 2020 and the investment in POSCO ASSAN TST STEEL INDUSTRY A.S. was stated at fair value by using the discounted cash flow method under the income approach as of December 31, 2020. The resulting unrealized losses arising from fair value adjustments amounted to ₩6,042 million (\$5,553 thousand) were recorded in accumulated other comprehensive income, which is net of deferred tax effect of ₩2,037 million (\$1,872 thousand) and includes the addition of the effect of changes in average tax rate of ₩6 million (\$5 thousand).

In addition, the Group has assessed using the base price as of December 31, 2020, its investment in Korea Investment Private Placement KEXIM Carbon Credit Special Asset Fund No.1 classified as financial assets at FVPL, and as a result, recognized a valuation gain of ₩3 million (\$3 thousand) in profit or loss during the year ended December 31, 2020.

Due to the disposal of investments in Miju Steel Mfg Co., Ltd., DAEWOO Display Corp., Shin Pyung Steel Co., Ltd., KG Power (M) Sdn. Bhd. and Korea Minerals Co., Ltd. investments classified as financial assets at FVOCI, the Group has transferred an accumulated valuation gain of ₩828 million (\$761 thousand) to retained earnings as of December 31, 2020.

6.3 Restricted deposits

As of December 31, 2020, the Group has deposits of ₩3,023 million (\$2,788 thousand) (₩5,899 million (\$5,422 thousand in 2019)) with financial institutions that are restricted in use due to financial arrangements, provision of collateral and others.

7. Other assets

Other current and non-current assets as of December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Other current assets			
Advanced payments	₩ 58,292	₩ 103,863	\$ 53,577
Allowance for doubtful accounts	(2,560)	(2,087)	(2,353)
Prepaid expenses	56,056	60,734	51,522
Allowance for doubtful accounts	(1,869)	(2,570)	(1,718)
Others (*1)	19,475	22,341	17,900
	₩ 129,394	₩ 182,281	\$ 118,928
Other non-current assets			
Long-term prepaid expenses	₩ 65	₩ 183	\$ 60
	₩ 129,459	₩ 182,464	\$ 118,988

(*1) Consumable biological assets are included. Consumable biological assets are measured at fair value less costs to sell, and changes in fair value are recognized in profit or loss. Cash flows over the life cycle of biological assets are determined by taking into account the estimated production, market prices and estimated cultivation costs of agricultural crops.

	Korean won in millions			U.S. dollar in thousands
	2019	Decrease	2020	2020
Fair value less costs to sell of consumable biological assets	₩ 13,678	₩ (1,635)	₩ 12,043	\$ 11,069

8. Inventories

Inventories as of December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Merchandise	₩ 495,770	₩ 677,729	\$ 455,671
Valuation allowance	(2,772)	(5,100)	(2,548)
Finished goods	34,386	43,565	31,605
Valuation allowance	(3,359)	(4,424)	(3,087)
Semi-finished goods and Work-in-process	30,403	33,201	27,944
Valuation allowance	(1,083)	(781)	(995)
Raw materials	103,982	99,892	95,572
Valuation allowance	(1,113)	(592)	(1,023)
Materials-in-transit	260,656	261,941	239,574
Valuation allowance	-	-	-
Others	12,741	6,633	11,710
Valuation allowance	(205)	(205)	(188)
	₩ 929,406	₩ 1,111,859	\$ 854,235

The Group recognized a loss on valuation of inventories of ₩1,126 million (\$1,035 thousand) and ₩4,007 million (\$3,683 thousand) in cost of sales for the years ended December 31, 2020 and 2019, respectively. A reversal of valuation allowance for inventories valuation recognized for the years ended December 31, 2020 and 2019 amounted to ₩3,552 million (\$3,265 thousand) and ₩260 million (\$239 thousand), respectively.

9. Investments in associates and a joint venture

9.1 Investments in associates and a joint venture as of December 31, 2020 and 2019 are as follows:

	Nationality	Number of shares	Equity owner-ship (%)	Korean won in millions						U.S. dollar in thousand
				2020			2019			2020
				Acquisition cost	Net asset value	Book value	Book value	Book value	Book value	
Shanghai Lansheng Daewoo Corp	China	-	49.0	₩ 5,312	₩ 1,075	₩ -	₩ -	\$ -		
Shanghai Waigaoqiao Free Trade Zone Lansheng Daewoo Int'l Trading Co., Ltd.	China	-	49.0	161	1,578	1,578	1,695	1,450		
KOREA LNG LTD.	Bermuda	2,400	20.0	-	42,228	42,222	46,557	38,807		
GENERAL MEDICINES CO., LTD.	Sudan	9,702	33.0	736	5,145	5,187	3,142	4,767		
POSCO IJPC DMSA/AMSA (*1)	Indonesia	11,693,706	21.7	13,475	9,925	10,055	3,723	9,242		
(*2) (*5) POSCO MEXICO PROCESSING CENTER HOLDING, LLC	Madagascar	15,425,190	4.3	334,354	112,338	31,075	12,189	28,562		
(*1) POSCO-ESDC LTD.	Mexico	-	19.6	14,004	14,963	15,429	15,432	14,181		
LTD.	Slovenia	-	20.0	757	1,718	1,642	1,570	1,509		
KG Power(M) SDN. BHD (*3)	Malaysia	3,000,000	-	1,062	-	-	-	-		
GLOBAL KOMSCO DAEWOO LLC SOUTH-EAST ASIA GAS PIPELINE COMPANY LTD	Uzbekistan	-	35.0	4,445	5,345	5,331	5,248	4,900		
Blue Ocean Recovery PEF No.1	Hongkong	50,082	25.0	132,907	199,343	199,341	225,933	183,218		
SPH Co., Ltd. PT. BATUTUA TEMBAGA RAYA	Korea	333	27.5	33,300	-	-	-	-		
Indonesia	100,000	50.0	500	5,112	500	500	460			
YULCHON MEXICO S.A. DE C.V. (*1)	Indonesia	128,285	22.0	14,785	463	-	14,717	-		
Mexico	18,267,000	6.2	1,349	626	993	811	913			
HyunSon Engineering & Construction (*1)	Korea	333	27.5	33,300	-	-	-	-		
Algerie	2,369	4.9	281	176	167	164	153			
Quro Co. (*1) (*4)	Korea	1,215,863	0.5	882	592	669	195	615		
Inco tech Inc. (*1)	Korea	350,000	10.0	350	(341)	-	196	-		
KWANIKA COPPER CORP.	Canada	8,406,500	34.0	7,359	7,147	1,236	7,677	1,136		
Hunchun POSCO HYUNDAI International Logistics (*1)	China	-	10.0	10,732	8,342	7,517	7,656	6,909		
POSCO-MALAYSIA SDN.BHD. (*1)	Malaysia	24,128,000	13.6	7,905	(1,841)	3,897	3,343	3,582		
POSCO-ITPC S.p.A (*1)	Italy	-	10.0	781	1,044	1,132	1,215	1,040		
TK-Chemical (*1) Daewoo-hanil Co., Ltd. (*3)	Korea	4,550,000	5.0	8,428	13,510	14,350	15,361	13,189		
Korea	-	-	-	-	-	-	-	-		
SHINPOONG DAEWOO PHARMA CO., LTD. (*1)	Vietnam	-	3.4	343	458	474	470	436		
				₩ 594,208	₩ 428,946	₩ 342,795	₩ 367,794	\$ 315,069		
Less: Government grants (*2)				(10,986)	-	-	-	-		
				₩ 583,222	₩ 428,946	₩ 342,795	₩ 367,794	\$ 315,069		

9.1 Investments in associates and a joint venture as of December 31, 2020 and 2019 are as follows: (cont'd)

(*1) These securities are classified as investments in associates even though the Group's equity ownership is below 20%, as the Group is able to exercise significant influence over the investee.

(*2) It is the difference between the nominal amount and the fair value of borrowings related to the acquisition of interests in DMSA/AMSA

(*3) The investees were liquidated, or investments in investees were disposed of for the year ended December 31, 2020.

(*4) IT engineering was merged with Quro Co. for the year ended December 31, 2020.

(*5) In order to defer repayment of borrowings, investors under joint agreements are providing funding arrangements. However, the Group is proceeding with arbitration because the resolution to provide replenishment is invalid, and the Group's obligation to replenish funds has been suspended and may vary depending on the outcome of the arbitration. In order to comply with the capital/liability ratio (25%/75%) of Article 10 of the Madagascar Large-scale Mining Act (LGIM), the Group converted its loans of ₩60,278 million (\$55,402 thousand) to equity during the year ended December 31, 2020.

9.2 Details of the carrying amount and recoverable amounts of investments in associates, which the Group recognized an impairment loss for the year ended December 31, 2020 are as follows:

	2020			U.S. dollar in thousands
	Korean won in millions			
	Book value before the impairment	Recoverable amount	Impairment loss	
DMSA/AMSA (*1)	₩ 32,620	₩ 31,075	₩ (1,545)	\$ 28,562
Blue Ocean Recovery PEF No.1 (*2)	12,788	-	(12,788)	-
PT. BATUTUA TEMBAGA RAYA (*2)	8,450	-	(8,450)	-
KWANIKA COPPER CORP. (*2)	7,621	1,236	(6,385)	1,136
	<u>₩ 61,479</u>	<u>₩ 32,311</u>	<u>₩ (29,168)</u>	<u>\$ 29,698</u>

(*1) As sales declined from the second quarter due to local shutdowns due to COVID-19 during the year ended December 31, 2020, the Group conducted impairment tests on investments in DMSA/AMSA using external experts as there were indicators of impairment. The recoverable amount of the investments was determined based on the calculation of the value in use, and the value in use was calculated as the present value obtained by applying a discount rate of 14.11% to the expected future cash flows from the date of the impairment test, and an impairment loss was recognized.

(*2) The investment is under consideration for sale as of December 31, 2020. An impairment loss was recognized for the amount less than the book value by estimating the recoverable amount resulting from the sale.

9.3 Changes in the carrying amount of investments in associates and a joint venture for the years ended December 31, 2020 and 2019 are as follows: (Korean won in millions)

	2020							Ending balance
	Beginning balance	Acquisition and transfer	Disposal	Share of the associate's profit (loss)	Impairment	Dividends	Others	
Shanghai Lansheng Daewoo Corp	₩ -	₩ -	₩ -	₩ -	₩ -	₩ -	₩ -	₩ -
Shanghai Waigaoqiao Free Trade Zone Lansheng Daewoo Int'l Trading Co., Ltd.	1,695	-	-	(159)	-	-	42	1,578
KOREA LNG LTD.	46,557	-	-	7,674	-	(7,755)	(4,254)	42,222
GENERAL MEDICINES CO., LTD.	3,142	-	-	3,312	-	(252)	(1,015)	5,187
POSCO IJPC	3,723	7,522	-	(115)	-	-	(1,075)	10,055
DMSA/AMSA	12,189	60,278	-	(31,788)	(1,545)	-	(8,059)	31,075
POSCO MEXICO PROCESSING CENTER HOLDING, LLC	15,432	-	-	1,014	-	-	(1,017)	15,429
POSCO-ESDC LTD.	1,570	-	-	76	-	(57)	53	1,642
KG Power(M) SDN. BHD	-	-	-	-	-	-	-	-
GLOBAL KOMSCO DAEWOO LLC SOUTH-EAST ASIA GAS PIPELINE COMPANY LTD	5,248	-	-	436	-	-	(353)	5,331
Blue Ocean Recovery PEF No. 1	225,933	-	(2,992)	45,940	-	(56,760)	(12,780)	199,341
SPH Co., Ltd.	500	-	-	-	(12,788)	-	12,788	500
PT. BATUTUA TEMBAGA RAYA YULCHON MEXICO S.A. DE C.V.	14,717	-	-	(6,498)	(8,450)	-	231	-
HyunSon Engineering & Construction	811	300	-	(34)	-	-	(84)	993
Quro Co.	164	-	-	33	-	-	(30)	167
Inco tech Inc (*1)	195	923	(41)	(29)	-	-	(379)	669
KWANIKA COPPER CORP.	196	-	-	(196)	-	-	-	-
Hunchun POSCO HYUNDAI International Logistics	7,677	-	-	3	(6,385)	-	(59)	1,236
POSCO-MALAYSIA SDN.BHD.	7,656	-	-	(206)	-	-	67	7,517
POSCO-ITPC S.p.A	3,343	-	-	467	-	-	87	3,897
TK-Chemical Daewoo-hanil Co., Ltd.	1,215	-	-	(124)	-	-	41	1,132
SHINPOONG DAEWOO PHARMA CO., LTD.	15,361	-	-	(1,040)	-	-	29	14,350
	470	-	-	32	-	-	(28)	474
	<u>₩ 367,794</u>	<u>₩ 69,023</u>	<u>₩ (3,033)</u>	<u>₩ 18,798</u>	<u>₩ (29,168)</u>	<u>₩ (64,824)</u>	<u>₩ (15,795)</u>	<u>₩ 342,795</u>
U.S. dollar in thousand	<u>\$ 338,046</u>	<u>\$ 63,440</u>	<u>\$ (2,788)</u>	<u>\$ 17,278</u>	<u>\$ (26,809)</u>	<u>\$ (59,581)</u>	<u>\$ (14,517)</u>	<u>\$ 315,069</u>

(*1) As of December 31, 2020, the cumulative unrecognized loss due to the discontinuing the application of equity method was ₩341 million (\$313 thousand).

9.3 Changes in the carrying amount of investments in associates and a joint venture for the years ended December 31, 2020 and 2019 are as follows: (Korean won in millions) (cont'd)

	2019							
	Beginning balance	Acquisition and transfer	Disposal	Share of the associate's profit (loss)	Impairment	Dividends	Others	Ending balance
Shanghai Lansheng Daewoo Corp	₩ 1,393	₩ -	₩ -	₩ -	₩ (1,446)	₩ -	₩ 53	₩ -
Shanghai Waigaoqiao Free Trade Zone Lansheng Daewoo Int'l Trading Co., Ltd.	1,690	-	-	-	-	-	5	1,695
KOREA LNG LTD.	43,554	-	-	13,501	-	(13,404)	2,906	46,557
GENERAL MEDICINES CO., LTD.	1,516	-	-	1,593	-	(114)	147	3,142
POSCO IJPC	3,065	-	-	543	-	-	115	3,723
DMSA/AMSA	26,709	23,682	-	(20,175)	(20,240)	-	2,213	12,189
POSCO MEXICO PROCESSING CENTER HOLDING, LLC	15,419	-	-	(568)	-	-	581	15,432
POSCO-ESDC LTD.	1,588	-	-	110	-	(75)	(53)	1,570
KG Power(M) SDN. BHD	-	-	-	-	-	-	-	-
GLOBAL KOMSCO DAEWOO LLC	3,177	-	-	1,965	-	-	106	5,248
SOUTH-EAST ASIA GAS PIPELINE COMPANY LTD	179,459	-	-	63,749	-	(24,267)	6,992	225,933
Blue Ocean Recovery PEF No. 1	-	-	-	-	-	-	-	-
VNS-DAEWOO Co., Ltd.	1,526	-	(1,526)	-	-	-	-	-
SPH Co., Ltd.	500	-	-	-	-	-	-	500
PT. BATUTUA TEMBAGA RAYA	20,479	-	-	(6,209)	-	-	447	14,717
YULCHON MEXICO S.A. DE C.V.	952	-	-	(209)	-	-	68	811
HyunSon Engineering & Construction	148	-	-	12	-	-	4	164
POSCO SINGAPORE LNG TRADING PTE LTD.	710	-	(553)	(69)	-	-	(88)	-
IT engineering	585	-	-	(391)	-	-	1	195
Inco tech Inc.	242	-	-	(46)	-	-	-	196
Sebang Steel	524	-	(535)	11	-	-	-	-
KWANIKA COPPER CORP.	6,963	185	-	(10)	-	-	539	7,677
Hunchun POSCO HYUNDAI International Logistics	8,569	-	-	(161)	(913)	-	161	7,656
POSCO-MALAYSIA SDN.BHD.	4,506	-	-	(1,108)	-	-	(55)	3,343
POSCO-ITPC S.p.A	1,362	-	-	(83)	-	-	(64)	1,215
TK-Chemical Daewoo-hanil Co., Ltd.	22,322	-	(10,281)	2,557	-	-	763	15,361
SHINPOONG DAEWOO PHARMA CO., LTD.	396	-	-	60	-	-	14	470
Erae Automotive Systems Mexico	342	-	(372)	30	-	-	-	-
	₩ 347,696	₩ 23,867	₩ (13,267)	₩ 55,102	₩ (22,599)	₩ (37,860)	₩ 14,855	₩ 367,794
U.S. dollar in thousand	\$ 319,574	\$ 21,937	\$ (12,194)	\$ 50,645	\$ (20,771)	\$ (34,798)	\$ 13,653	\$ 338,046

9.4 Unrealized gains and losses reflected in gain or loss on investments in associates for the years ended December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
POSCO-Malaysia	₩ 90	₩ 20	\$ 83
POSCO-ITPC	131	(43)	120
GENERAL MEDECINES CO., LTD.	27	11	25
GLOBAL KOMSCO DAEWOO LLC	23	2	21
POSCO IJPC	75	54	69
POSCO MEXICO PROCESSING CENTER HOLDING, LLC	1,079	114	992
DMSA/AMSA	28	(12)	26
PT. BATUTUA TEMBAGA RAYA	120	30	110
	₩ 1,573	₩ 176	\$ 1,446

9.5 The summarized financial information of associates as of and for the year ended December 31, 2020 is as follows:

Subsidiaries	2020			
	Korean won in millions			Net income(loss)
	Assets	Liabilities	Sales	
Shanghai Lansheng Daewoo Corp	3,935	1,741	-	(1,941)
Shanghai Waigaoqiao Free Trade Zone Lansheng Daewoo Int'l Trading Co., Ltd.	43,305	40,085	-	(324)
KOREA LNG LTD.	211,497	352	40,086	38,370
GENERAL MEDICINES CO., LTD.	26,079	10,488	52,104	9,954
POSCO IJPC	107,795	62,046	116,732	(879)
DMSA/AMSA	4,924,371	2,294,881	204,820	(772,396)
POSCO MEXICO PROCESSING CENTER HOLDING, LLC	344,621	268,419	503,688	(331)
POSCO-ESDC LTD.	9,901	1,312	18,260	381
GLOBAL KOMSCO DAEWOO LLC	42,464	27,194	24,506	1,180
SOUTH-EAST ASIA GAS PIPELINE COMPANY LTD	1,515,828	719,745	458,806	183,465
Blue Ocean Recovery PEF No. 1	116,411	86,033	428,128	(85,199)
SPH Co., Ltd.	62,142	51,918	-	(3,648)
PT. BATUTUA TEMBAGA RAYA	389,973	387,870	36,587	(29,714)
YULCHON MEXICO S.A. DE C.V.	35,158	25,129	15,116	(549)
HyunSon Engineering & Construction	53,403	49,800	20,399	665
Quro Co.	271,744	161,176	116,653	313
Inco tech Inc.	42,412	45,821	-	(5,575)
KWANIKA COPPER CORP.	21,043	43	-	13
Hunchun POSCO HYUNDAI International Logistics	94,966	11,545	3,524	(2,062)
POSCO-MALAYSIA SDN.BHD.	51,842	65,347	94,912	2,767
POSCO-ITPC S.p.A	69,313	58,874	71,515	(2,550)
TK-Chemical	680,340	410,445	449,968	(20,785)
SHINPOONG DAEWOO PHARMA CO., LTD.	13,858	457	9,826	944

10. Property, plant and equipment

10.1 Property, plant and equipment as of December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Acquisition cost	₩ 1,954,149	₩ 1,973,527	\$ 1,796,093
Accumulated depreciation	(594,481)	(556,390)	(546,398)
Accumulated impairment loss	(34,086)	(36,463)	(31,329)
Government grants	(163)	(239)	(150)
Book value	₩ 1,325,419	₩ 1,380,435	\$ 1,218,216

10.2 Changes in the carrying amount of property, plant and equipment for the years ended December 31, 2020 and 2019 are as follows:

10.2.1 Changes in the acquisition cost

	2020					
	Korean won in millions					
	Beginning balance	Business combination	Acquisition	Disposal	Transfer and others	Ending balance
Land	₩ 148,555	₩ -	₩ 2,473	₩ -	₩ 887	₩ 151,915
Buildings	585,998	-	4,263	(71)	(10,894)	579,296
Machinery	797,973	-	7,709	(12,063)	(16,994)	776,625
Others	196,720	-	13,287	(5,960)	(8,541)	195,506
Construction-in-progress	105,463	-	45,574	(941)	(70,449)	79,647
Bearer plants	138,818	-	116	(172)	32,398	171,160
	₩ 1,973,527	₩ -	₩ 73,422	₩ (19,207)	₩ (73,593)	₩ 1,954,149
U.S. dollar in thousands	\$ 1,813,903	\$ -	\$ 67,483	\$ (17,653)	\$ (67,641)	\$ 1,796,093

	2019					
	Korean won in millions					
	Beginning balance	Business combination	Acquisition	Disposal	Transfer and others	Ending balance
Land	₩ 147,869	₩ -	₩ 631	₩ -	₩ 55	₩ 148,555
Buildings	553,841	22,303	7,755	(6,376)	8,475	585,998
Machinery	814,151	1,245	14,335	(68,624)	36,866	797,973
Others	186,490	6,021	15,078	(10,564)	(305)	196,720
Construction-in-progress	119,160	17,286	47,878	(95)	(78,766)	105,463
Bearer plants	88,773	-	-	-	50,045	138,818
	₩ 1,910,284	₩ 46,855	₩ 85,677	₩ (85,659)	₩ 16,370	₩ 1,973,527
U.S. dollar in thousands	\$ 1,755,776	\$ 43,065	\$ 78,747	\$ (78,731)	\$ 15,046	\$ 1,813,903

10.2.2 Changes in accumulated depreciation

2020						
Korean won in millions						
	Beginning balance	Business combination	Acquisition	Disposal	Transfer and others	Ending balance
Buildings	₩ 72,567	₩ -	₩ 14,850	₩ (22)	₩ (2,860)	₩ 84,535
Machinery	358,938	-	40,862	(10,564)	(16,610)	372,626
Bearer plants	14,625	-	7,971	(17)	(1,384)	21,195
Others	110,260	-	20,161	(5,669)	(8,627)	116,125
	<u>₩ 556,390</u>	<u>₩ -</u>	<u>₩ 83,844</u>	<u>₩ (16,272)</u>	<u>₩ (29,481)</u>	<u>₩ 594,481</u>
U.S. dollar in thousands	<u>\$ 511,388</u>	<u>\$ -</u>	<u>\$ 77,063</u>	<u>\$ (14,956)</u>	<u>\$ (27,097)</u>	<u>\$ 546,398</u>

2019						
Korean won in millions						
	Beginning balance	Business combination	Acquisition	Disposal	Transfer and others	Ending balance
Buildings	₩ 68,916	₩ -	₩ 12,908	₩ (6,304)	₩ (2,953)	₩ 72,567
Machinery	382,066	(60)	41,634	(66,259)	1,557	358,938
Bearer plants	8,002	-	5,916	-	707	14,625
Others	99,562	(68)	19,692	(9,930)	1,004	110,260
	<u>₩ 558,546</u>	<u>₩ (128)</u>	<u>₩ 80,150</u>	<u>₩ (82,493)</u>	<u>₩ 315</u>	<u>₩ 556,390</u>
U.S. dollar in thousands	<u>\$ 513,369</u>	<u>\$ (118)</u>	<u>\$ 73,667</u>	<u>\$ (75,821)</u>	<u>\$ 290</u>	<u>\$ 511,388</u>

10.2.3 Changes in accumulated impairment loss

2020						
Korean won in millions						
	Beginning balance	Business combination	Acquisition	Disposal	Other	Ending balance
Buildings	₩ 30,243	₩ -	₩ -	₩ -	₩ (1,750)	₩ 28,493
Machinery	4,607	-	80	(335)	(208)	4,144
Others	1,613	-	-	(78)	(86)	1,449
	<u>₩ 36,463</u>	<u>₩ -</u>	<u>₩ 80</u>	<u>₩ (413)</u>	<u>₩ (2,044)</u>	<u>₩ 34,086</u>
U.S. dollar in thousands	<u>\$ 33,514</u>	<u>\$ -</u>	<u>\$ 74</u>	<u>\$ (380)</u>	<u>\$ (1,879)</u>	<u>\$ 31,329</u>

2019						
Korean won in millions						
	Beginning balance	Business combination	Acquisition	Disposal	Other	Ending balance
Buildings	₩ 46,085	₩ -	₩ -	₩ -	₩ (15,842)	₩ 30,243
Machinery	8,596	-	757	(830)	(3,916)	4,607
Others	2,683	-	371	(257)	(1,184)	1,613
	<u>₩ 57,364</u>	<u>₩ -</u>	<u>₩ 1,128</u>	<u>₩ (1,087)</u>	<u>₩ (20,942)</u>	<u>₩ 36,463</u>
U.S. dollar in thousands	<u>\$ 52,724</u>	<u>\$ -</u>	<u>\$ 1,037</u>	<u>\$ (999)</u>	<u>\$ (19,248)</u>	<u>\$ 33,514</u>

10.2.4 Changes in government grants

		2020			
		Korean won in millions			
		Beginning balance	Depreciation	Change in scope of consolidation	Ending balance
Machinery	₩	1	-	-	₩ 1
Others		238	(76)	-	162
	₩	239	(76)	-	₩ 163
U.S. dollar in thousands	\$	220	(70)	-	\$ 150

		2019			
		Korean won in millions			
		Beginning balance	Depreciation	Change in scope of consolidation	Ending balance
Machinery	₩	14	(13)	-	₩ 1
Others		15	(77)	300	238
	₩	29	(90)	300	₩ 239
U.S. dollar in thousands	\$	27	(83)	276	\$ 220

10.3 The details of property, plant and equipment pledged as collateral for the Group's borrowings are as follows.

Collateral provided by	Creditor	Pledged assets	Description	Korean won in millions, U.S. dollar in thousands			
				Borrowing amount	Maximum pledge amount		
					2020	2019	
POSCO SPS	Woori bank	Land	Borrowings		KRW 60,000	KRW -	
"	Korea development bank	"	"		KRW -	KRW 50,000	
"	"	Buildings and Machinery	"	KRW 14,750	KRW -	KRW 79,000	
POSCO International TEXTILE LLC	Hamkor bank and others	Buildings and Machinery	Trade payables	USD 2,500	USD 6,872	USD 17,334	

Some of the Group's machinery are provided as mortgage of transfer to the Korea Development Bank in relation to the Group's borrowings.

11. Leases

11.1 Accounting as a lessee

11.1.1 The carrying amount and changes in right-of-use assets and lease liabilities for the years ended December 31, 2020 and 2019 are as follows:

	2020							Lease receivables	Lease liabilities
	Right-of-use assets					Total			
	Land	Building and structure	Aircraft	Others					
Beginning balance	₩ 40,961	₩ 19,825	₩ 13,139	₩ 1,348	₩ 75,273	₩ 228,059	₩ 278,902		
Acquisition	212	17,164	-	38,371	55,747	36,121	91,688		
Contract termination or cancel	-	(1,275)	-	-	(1,275)	-	(1,521)		
Depreciation	(1,010)	(11,428)	(4,957)	(17,697)	(35,092)	-	-		
Interest income	-	-	-	-	-	7,631	-		
Interest expense	-	-	-	-	-	-	13,761		
Translation	-	-	-	-	-	(13,679)	(18,449)		
Lease payment	-	-	-	-	-	-	(94,920)		
Lease receipt	-	-	-	-	-	(61,567)	-		
Others	(2,517)	(181)	(337)	(25)	(3,060)	-	(3,758)		
Ending balance	<u>₩ 37,646</u>	<u>₩ 24,105</u>	<u>₩ 7,845</u>	<u>₩ 21,997</u>	<u>₩ 91,593</u>	<u>₩ 196,565</u>	<u>₩ 265,703</u>		
U.S. dollar in thousands	<u>\$ 34,601</u>	<u>\$ 22,155</u>	<u>\$ 7,210</u>	<u>\$ 20,218</u>	<u>\$ 84,185</u>	<u>\$ 180,666</u>	<u>\$ 244,212</u>		
Current						<u>₩ 68,199</u>	<u>₩ 99,909</u>		
U.S. dollar in thousands						<u>\$ 62,683</u>	<u>\$ 91,828</u>		
Non-current						<u>₩ 128,366</u>	<u>₩ 165,794</u>		
U.S. dollar in thousands						<u>\$ 117,983</u>	<u>\$ 152,384</u>		
	2019								
	Right-of-use assets								
	Land	Building and structure	Aircraft	Others	Total	Lease receivables	Lease liabilities		
Beginning balance	₩ -	₩ -	₩ -	₩ 185	₩ 185	₩ -	₩ 195		
Changes in accounting policy	23,125	21,794	14,605	3,995	63,519	264,809	308,599		
Acquisition	5,847	6,431	1,824	124	14,226	2,071	16,296		
Depreciation	(526)	(9,174)	(3,627)	(3,186)	(16,513)	-	-		
Interest expense	-	-	-	-	-	-	13,293		
Translation	-	-	-	-	-	7,697	7,689		
Lease payment	-	-	-	-	-	-	(70,759)		
Lease receipt	-	-	-	-	-	(46,518)	-		
Business combination	3	328	-	150	481	-	481		
Others	12,512	446	337	80	13,375	-	3,108		
Ending balance	<u>₩ 40,961</u>	<u>₩ 19,825</u>	<u>₩ 13,139</u>	<u>₩ 1,348</u>	<u>₩ 75,273</u>	<u>₩ 228,059</u>	<u>₩ 278,902</u>		
U.S. dollar in thousands	<u>\$ 37,648</u>	<u>\$ 18,222</u>	<u>\$ 12,076</u>	<u>\$ 1,239</u>	<u>\$ 69,185</u>	<u>\$ 209,613</u>	<u>\$ 256,344</u>		
Current						<u>₩ 48,744</u>	<u>₩ 59,897</u>		
U.S. dollar in thousands						<u>\$ 44,801</u>	<u>\$ 55,052</u>		
Non-current						<u>₩ 179,315</u>	<u>₩ 219,005</u>		
U.S. dollar in thousands						<u>\$ 164,812</u>	<u>\$ 201,292</u>		

11.1.2 The amount recognized in profit or loss for the year ended December 31, 2020 are as follows:

	Korean won in millions	U.S. dollar in thousands
<Revenues>		
Interest on lease receivables	₩ 7,631	\$ 7,014
<Expenses>		
Depreciation of right-of-use assets	₩ (35,092)	\$ (32,254)
Interest of lease liabilities	(13,761)	(12,648)
Short-term lease	(645)	(593)
Leases of low-value assets	(1,460)	(1,342)
	₩ (50,958)	(46,837)
Net profit or loss	₩ (43,327)	\$ (39,823)

11.2 Accounting as a lessor

11.2.1. Details of finance lease receivables as of December 31, 2020 and 2019 are as follows:

	2020	
	Current	Non-current
Finance lease receivables	₩ 68,199	\$ 128,366
Allowance for doubtful accounts	-	(25,413)
	₩ 68,199	\$ 102,953
U.S. dollar in thousands	₩ 62,683	\$ 94,626

	2019	
	Current	Non-current
Finance lease receivables	₩ 48,744	\$ 179,315
Allowance for doubtful accounts	-	(27,043)
	₩ 48,744	\$ 152,272
U.S. dollar in thousands	₩ 44,801	\$ 139,956

11.2.2 Details of maturity profile of finance lease receivables for the year ended December 31, 2020 and 2019 are as follows. The maturity amount is an undiscounted contractual cash flow that includes interest receipt.

	2020	
	Korean won in millions	U.S. dollar in thousands
Within 1year	₩ 70,378	\$ 64,686
More than 1year and within 5years	129,971	119,459
More than 5years	9,969	9,163
	₩ 210,318	\$ 193,308

	2019	
	Korean won in millions	U.S. dollar in thousands
Within 1year	₩ 56,795	\$ 52,201
More than 1year and within 5years	178,698	164,244
More than 5years	16,089	14,788
	₩ 251,582	\$ 231,233

11.2.3 The Group recognized rental income of ₩7,673 million (\$7,052 thousand) and ₩7,163 million (\$6,583 thousand) in relation to operating lease arrangements for the years ended December 31, 2020 and 2019, respectively.

12. Intangible assets

12.1 Changes in the net book value of intangible assets for the years ended December 31, 2020 and 2019 are as follows:

		2020							
		Korean won in million							
	Beginning balance	Business combination	Acquisition	Disposal and transfer	Amortization	Impairment	Others	Ending balance	
Goodwill	₩ 38,219	₩ -	₩ -	₩ -	₩ -	₩ (780)	₩ (6,083)	₩ 31,356	
Industrial property rights	1,596	-	440	-	(455)	-	(42)	1,539	
Mining rights (*1)	1,106,501	-	135,345	-	(204,593)	(7,727)	(473)	1,029,053	
Exploration and evaluation assets	71,346	-	-	-	-	-	(31,852)	39,494	
Development assets	-	-	-	-	-	-	-	-	
Membership	14,833	-	40	(1,198)	(25)	(419)	(328)	12,903	
Software	10,835	-	2724	-	(4,543)	-	(57)	8,959	
Land use right	2,552	-	-	-	-	-	(151)	2,401	
Harbor policy usage rights	3,913	-	-	-	-	-	(233)	3,680	
	<u>₩ 1,249,795</u>	<u>₩ -</u>	<u>₩ 138,549</u>	<u>₩ (1,198)</u>	<u>₩ (209,616)</u>	<u>₩ (8,926)</u>	<u>₩ (39,219)</u>	<u>₩ 1,129,385</u>	
U.S. dollar in thousand	<u>\$ 1,148,709</u>	<u>\$ -</u>	<u>\$ 127,343</u>	<u>\$ (1,101)</u>	<u>\$ (171,708)</u>	<u>\$ (8,204)</u>	<u>\$ (36,047)</u>	<u>\$ 1,038,038</u>	

		2019							
		Korean won in million							
	Beginning balance	Business combination	Acquisition	Disposal and transfer	Amortization	Impairment	Others	Ending balance	
Goodwill	₩ 11,630	₩ 26,589	₩ -	₩ -	₩ -	₩ -	₩ -	₩ 38,219	
Industrial property rights	1,365	114	580	-	(412)	-	(51)	1,596	
Mining rights	1,197,581	-	89,658	-	(182,036)	-	1,298	1,106,501	
Exploration and evaluation assets	193,253	-	2,547	-	-	(123,888)	(566)	71,346	
Development assets	4,841	-	-	-	-	-	(4,841)	-	
Membership	24,700	-	3,351	(734)	(105)	(78)	(12,301)	14,833	
Software	12,223	-	2,867	-	(4,265)	(3,822)	3,832	10,835	
Land use right	-	2,552	-	-	-	-	-	2,552	
Harbor policy usage rights	-	3,913	-	-	-	-	-	3,913	
	<u>₩ 1,445,593</u>	<u>₩ 33,168</u>	<u>₩ 99,003</u>	<u>₩ (734)</u>	<u>₩ (186,818)</u>	<u>₩ (127,788)</u>	<u>₩ (12,629)</u>	<u>₩ 1,249,795</u>	
U.S. dollar in thousand	<u>\$ 1,328,670</u>	<u>\$ 30,485</u>	<u>\$ 90,995</u>	<u>\$ (675)</u>	<u>\$ (171,708)</u>	<u>\$ (117,452)</u>	<u>\$ (11,608)</u>	<u>\$ 1,148,709</u>	

(*1) As the price of bituminous coal declined during the year ended December 31, 2020, there were impairment indicators relating to the mining rights of POSCO INTERNATIONAL AUSTRALIA HOLDINGS PTY, and impairment assessment was conducted by internal and external experts. The recoverable amount of the mining rights was determined based on the calculation of the value in use, and the value in use was calculated as the present value obtained by applying a discount rate of 11.25% to the expected future cash flows at the date of the impairment test. As a result, an impairment loss was recognized.

12.2 Book value of goodwill allocated to Group's CGU as of December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
PT. Bio Inti Agrindo (*1)	₩ 6,955	₩ 10,851	\$ 6,392
POSCO INTERNATIONAL POWER (PNGPOM), LTD.	-	779	-
GRAIN TERMINAL HOLDINGS PTE., LTD. (*2)	24,401	26,589	22,427
	<u>₩ 31,356</u>	<u>₩ 38,219</u>	<u>\$ 28,819</u>

(*1) Recoverable amount of PT. Bio Inti Agrindo is determined based on a value in use calculation by the independent valuers. The value in use is measured based on the future cash flows for the period from 2020 to 2043 based on management's future business plans. The discount rate applied to the future cash flows is 13.0%. As of December 31, 2020, although the assessed recoverable amount of CGU exceeds the carrying amount, the excess amount may be offset as a result of reasonable changes in key assumptions used in the value in use calculation.

(*2) The recoverable amount of the subsidiary, GRAIN TERMINAL HOLDINGS PTE., LTD. is determined based on the calculation of value in use with the use of independent external experts. The value in use is calculated based on management's business plan, and the future cash flows from October 2020 to 2025 are discounted at a discount rate of 11.35%, the business structure of 2025 is maintained and perpetual growth rate of 1% is applied to operating profit for the last year of the estimated period. The recoverable amount of the cash-generating unit assessed as of December 31, 2020 exceeds the carrying amount, but there is a possibility that the excess will be offset by reasonable changes in key assumptions.

12.3 Joint arrangement

The mining rights of intangible assets and the machinery of property, plant and equipment include the Group's share of the jointly held assets held under joint arrangements. The major joint arrangements of the Group as of December 31, 2020 are as follows:

	Activities	Equity interest (%)	Location
Myanmar A-1/A-3 area	Development and production for gas area	51	Myanmar
Offshore midstream	Gas transmission facilities	51	Myanmar

13. Investment properties

13.1 Acquisition costs of Investment properties as of December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Acquisition cost	₩ 166,030	₩ 167,963	\$ 152,601
Accumulated depreciation	(18,437)	(15,795)	(16,946)
Book value	₩ 147,593	₩ 152,168	\$ 135,655

13.2 Changes in the book value of investment properties for the years ended December 31, 2020 and 2019 are as follows:

13.2.1 Changes in the acquisition cost

	2020			Ending balance
	Beginning balance	Acquisition	Others	
Land	₩ 51,249	₩ -	₩ (881)	\$ 50,368
Building	116,693	-	(1,031)	115,662
Structure	21	-	(21)	-
	₩ 167,963	₩ -	₩ (1,933)	\$ 166,030
U.S. dollar in thousands	\$ 154,378	\$ -	\$ (1,777)	\$ 152,601

	2019			Ending balance
	Beginning balance	Acquisition	Others	
Land	₩ 51,249	₩ -	₩ -	\$ 51,249
Building	116,362	331	-	116,693
Structure	21	-	-	21
	₩ 167,632	₩ 331	₩ -	\$ 167,963
U.S. dollar in thousands	\$ 154,074	\$ 304	\$ -	\$ 154,378

13.2.2 Changes in accumulated depreciation

	2020			Ending balance
	Beginning balance	Depreciation	Others	
Building	₩ 15,789	₩ 4,263	₩ (1,615)	\$ 18,437
Structure	6	-	(6)	-
	₩ 15,795	₩ 4,263	₩ (1,621)	\$ 18,437
U.S. dollar in thousands	\$ 14,517	\$ 3,918	\$ (1,490)	\$ 16,946

	2019			Ending balance
	Beginning balance	Depreciation	Others	
Building	₩ 12,891	₩ 2,898	₩ -	\$ 15,789
Structure	5	1	-	6
	₩ 12,896	₩ 2,899	₩ -	\$ 15,795
U.S. dollar in thousands	\$ 11,853	\$ 2,665	\$ -	\$ 14,517

13.3 The fair value of investment properties

The fair value of investment property amount to ₩163,703 million (\$150,462 thousand) as of December 31, 2020.

13.4 The income and expense arising from investment properties for the years ended December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Rental income	₩ 7,673	₩ 7,163	\$ 7,052
Rental expense	(4,438)	(3,003)	(4,079)
	<u>₩ 3,235</u>	<u>₩ 4,160</u>	<u>\$ 2,973</u>

13.5 Joint arrangement

The Group owns POSCO Tower Songdo, a real estate property, located in Yeonsu-gu, Incheon, under a joint arrangement. As of December 31, 2020, the Group owns 60% of the real estate property and has classified the asset as property, plant and equipment and investment properties. Such joint arrangements are accounted for as joint operations, and rental income generated and expenses incurred as a result of the joint operation are recognized as income and expenses in proportion to the Group's shares.

14. Trade and other payables

Trade and other payables as of December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
<Current>			
Trade payables	₩ 1,407,951	₩ 1,771,682	\$ 1,294,073
Other payables	229,402	222,365	210,847
Accrued expenses	31,782	35,309	29,211
Guarantee deposits received	5,063	2,273	4,653
Current portion of lease liabilities	99,909	59,897	91,828
	<u>₩ 1,774,107</u>	<u>₩ 2,091,526</u>	<u>\$ 1,630,612</u>
<Non-current>			
Long-term Other payables	₩ 2,209	₩ -	\$ 2,030
Long-term accrued expenses	1,617	1,447	1,486
Guarantee deposits received	6,740	2,726	6,195
Long-term financial guarantee liabilities	181	171	166
Long-term lease liabilities	165,794	219,005	152,384
	<u>₩ 176,541</u>	<u>₩ 223,349</u>	<u>\$ 162,261</u>
Total	<u>₩ 1,950,648</u>	<u>₩ 2,314,875</u>	<u>\$ 1,792,873</u>

15. Borrowings

15.1 Borrowings as of December 31, 2020 and 2019 are as follows:

	Creditor	Annual interest rates	The longest maturity	Korean won in millions		U.S. dollar in thousands
				2020	2019	2020
<Current borrowings>						
Short-term borrowings:						
Banker's usance and others	Woori Bank and others	Libor (by period) + 0.25~0.32%	-	₩ 69,951	₩ 124,525	64,293
General borrowings	CITI Bank and others	3M Libor + 1.3% and others	-	81,946	72,850	75,318
Borrowings denominated in Korean won	Korea Development Bank and others	2.45~2.60%	-	-	45,000	-
NEGO borrowings	Woori Bank and others	Libor (by period) + 0.22~1.64%	-	₩ 388,417	₩ 674,039	\$ 357,001
				₩ 540,314	₩ 916,414	\$ 496,612
Current-portion of long-term borrowings:						
Energy special account financing loan	Korea Energy Agency and others	3year government bond yield-2.25% and others	2021.12.31	5,524	88,662	5,077
Other borrowings	Korea Rural Community Corporation and others	2.00% and others	2021.12.31	3,385	3,250	3,111
Forgivable borrowings	Korea Energy Agency	3year government bond yield-2.25% and others	2021.12.31	2,765	3,442	2,541
Facility borrowings	Korea Development Bank and others	1year Industrial Financial Debentures yield+1.53% and others	2021.12.31	244,238	13,229	224,483
Less: present value discount				(188)	(296)	(173)
				₩ 255,724	₩ 108,287	\$ 235,039
				₩ 796,038	₩ 1,024,701	\$ 731,651

15.1 Borrowings as of December 31, 2020 and 2019 are as follows: (cont'd)

	Creditor	Annual interest rates	The longest maturity	Korean won in millions		U.S. dollar in thousands
				2020	2019	2020
<Non-current borrowings>						
Long-term borrowings denominated in Korean won:						
Energy special account financing loan	Korea Energy Agency	3year government bond yield-2.25% and others	2027.12.15	₩ 42,178	46,293	\$ 38,767
Forgivable borrowings	Korea Energy Agency (Kwanika)	3year government bond yield-1.25% and others	Undecided	2,791	-	2,565
Other borrowings	Korea Rural Community Cooperation	2.00%	2033.9.15	34,027	36,777	31,275
				₩ 78,996	₩ 83,070	\$ 72,607
Long-term borrowings denominated in foreign currency:						
Energy special account	Korea Energy Agency	3year government bond yield-2.25% and others	2027.12.15	9,779	15,163	8,988
Forgivable borrowings	Korea Energy Agency	3year government bond yield-2.25%	Undecided	48,940	48,734	44,982
Other borrowings	Korea Development Bank and others	3.42% and others	2022.10.01	82,073	90,054	75,435
Other borrowings	Korea EXIM Bank and others	3M Libor+2.58% and others	2026.03.15	160,026	498,471	147,083
				₩ 300,818	₩ 652,422	\$ 276,488
				₩ 379,814	₩ 735,492	\$ 349,095
Less: present value discount				(467)	(919)	(794)
				₩ 379,347	₩ 734,573	\$ 348,301
				₩ 1,175,385	₩ 1,759,274	\$ 1,079,952

15.2 Details of bonds as of December 31, 2020 and 2019 are as follows:

	Annual interest rates	Maturity	Korean won in millions		U.S. dollar in thousands
			2020	2019	2020
Current Portion of bonds:					
16-1st unsecured bond	2.26%	2021.07.17	₩ -	₩ 130,000	\$ -
18-1st unsecured bond	2.67%	2021.03.02	130,000	-	119,485
19-1st unsecured bond	2.22%	2021.09.13	70,000	-	64,338
20th unsecured bond	3M Libor + 90bp	2021.10.15	217,600	-	200,000
			₩ 417,600	₩ 130,000	\$ 383,823
Less: present value discount on bonds			(558)	42	(513)
			₩ 417,042	₩ 130,042	\$ 383,310
Non-current bonds:					
16-2nd unsecured bond	2.69%	2022.07.17	₩ 70,000	₩ 70,000	\$ 64,338
18-1st unsecured bond	2.67%	2021.03.02	-	130,000	-
18-2nd unsecured bond	3.08%	2023.03.02	70,000	70,000	64,338
19-1st unsecured bond	2.22%	2021.09.13	-	70,000	-
19-2nd unsecured bond	2.53%	2023.09.13	80,000	80,000	73,529
20th unsecured bond	3M LIBOR + 90bp	2021.10.15	-	231,560	-
21-1st unsecured bond	2.12%	2022.03.07	120,000	120,000	110,294
21-2nd unsecured bond	2.27%	2024.03.07	130,000	130,000	119,485
22-1st unsecured bond	1.68%	2022.07.04	70,000	70,000	64,338
22-2nd unsecured bond	1.73%	2024.07.04	80,000	80,000	73,529
22-3rd unsecured bond	1.95%	2026.07.04	50,000	50,000	45,956
23th unsecured bond	6M SGD SOR + 100bp	2022.10.25	139,777	145,953	128,472
24-1st unsecured bond	1.75%	2023.05.26	250,000	-	229,779
24-2nd unsecured bond	1.94%	2025.05.28	50,000	-	45,956
			₩ 1,109,777	₩ 1,247,513	\$ 1,020,014
Less: present value discount on bonds			(2,357)	(3,825)	(2,166)
			₩ 1,107,420	₩ 1,243,688	\$ 1,017,848
			₩ 1,524,462	₩ 1,373,730	\$ 1,401,158

16. Other liabilities

Other liabilities as of December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Current:			
Advances received	₩ 124,127	₩ 169,077	\$ 114,087
Unearned revenue	48,222	54,436	44,322
Withholdings	41,406	29,937	38,057
	₩ 213,755	₩ 253,450	\$ 196,466
Non-current:			
Long-term withholdings	704	32,556	647
	₩ 214,459	₩ 286,006	\$ 197,113

17. Retirement benefits

The Group operates a defined benefit pension plan and a defined contribution pension plan for its employees and uses the projected unit credit method in the actuarial valuation of plan assets and the defined benefit obligation.

17-1 The amounts recognized in the consolidated statement of financial position related to net defined benefit liabilities (assets) as of December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Present value of defined benefit obligation	₩ 187,185	₩ 173,708	\$ 172,045
Fair value of plan assets	(175,931)	(164,375)	(161,701)
Net defined benefit liabilities	11,254	9,342	10,344
Net defined benefit assets	-	(9)	-

17.2 Changes in the present value of the defined benefit obligation for the years ended at December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Beginning balance	₩ 173,708	₩ 150,345	\$ 159,658
Current service cost	17,725	18,450	16,291
Past service cost	-	1,068	-
Interest cost	2,838	3,439	2,608
Benefits paid	(11,656)	(9,325)	(10,713)
Re-measurement loss(gain) in OCI:			
- Actuarial changes arising from changes in demographic assumptions	(4,673)	237	(4,295)
- Actuarial changes arising from changes in financial assumptions	3,218	4,430	2,958
- Others	2,370	4,857	2,178
Others	3,655	207	3,359
Ending balance	₩ 187,185	₩ 173,708	\$ 172,044

17.3 Changes in fair value of plan assets for the years ended December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Beginning balance	₩ 164,375	₩ 147,919	\$ 151,080
Contribution by the employer	15,100	22,700	13,879
Interest income	1,980	3,137	1,820
Benefits paid	(10,900)	(8,148)	(10,018)
Re-measurement gain (loss) in OCI:			
- Actuarial changes arising from changes in financial assumptions	359	(537)	330
Others	5,017	(696)	4,611
Ending balance	₩ 175,931	₩ 164,375	\$ 161,702

17.4 Gains and losses recognized in relation to defined benefit plans for the years ended December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Current service cost	₩ 17,385	₩ 18,450	\$ 15,979
Past service cost	-	1,068	-
Net interest on net defined benefit	289	302	266
	₩ 17,674	₩ 19,820	\$ 16,245

17.5 Details of re-measurement gain (loss) recorded in other comprehensive income for the years ended December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Re-measurement of defined benefit obligation	₩ (915)	₩ (9,524)	\$ (841)
Re-measurement of plan assets	359	(537)	330
	₩ (556)	₩ (10,061)	\$ (511)
Income tax effect	5	2,793	5
Other comprehensive income	₩ (551)	₩ (7,268)	\$ (506)

17.6 Principal assumptions used in actuarial valuation as of December 31, 2020 and 2019 are as follows:

	<u>2020</u>	<u>2019</u>
Discount rate	2.00%	2.01 ~ 2.95%
Expected future salary growth rate	5.00%	3.00 ~ 5.00%

The sensitivity analysis of defined benefit obligation arising from changes in principal assumptions as of December 31, 2020 and 2019 is as follows:

	<u>Discount rate</u>		<u>Expected future salary growth rate</u>	
	<u>1% point increase</u>	<u>1% point decrease</u>	<u>1% point increase</u>	<u>1% point decrease</u>
Amount (Korean won in millions)	₩ (11,430)	₩ 13,265	₩ 12,742	₩ (11,236)
Amount (U.S. dollar in thousands)	\$ (10,506)	\$ 12,192	\$ 11,711	\$ (10,327)
Rate	(8.0%)	9.3%	8.90%	(7.8%)

17.7 Details of impact on defined benefit plans for future cash flows are as follows:

The estimated contribution by the Group as of December 31, 2021 amounts to ₩16,650 million (\$15,303 thousand). The maturity profile of the Group's un-discounted pension benefit payments for the year ended December 31, 2020 is as follows:

	<u>Korean won in millions</u>			
	<u>Less than 1year</u>	<u>1year to 5years</u>	<u>Over 5years</u>	<u>Total</u>
Benefits paid	₩ 10,975	₩ 44,909	₩ 152,576	₩ 208,459
U.S. dollar in thousands	\$ 10,087	\$ 41,276	\$ 140,235	\$ 191,598

The weighted average maturity period of defined benefit obligations of the Group ranges from 9.04 years.

18. Provisions

18.1 Provisions as of December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Current:			
Current portion of provisions	₩ 13,083	₩ 19,705	\$ 12,025
Non-current:			
Provision for contingencies	₩ 41,485	₩ 50,343	\$ 38,130
Provision for restoration	28,680	29,829	26,360
Provision for sales guarantees	594	-	546
Other long-term provisions	1,549	4,291	1,424
	₩ 72,308	₩ 84,463	\$ 66,460
Total: Provisions	₩ 85,391	₩ 104,168	\$ 78,485

18.2 Changes in provisions for the year ended December 31, 2020 are as follows:

	2020					
	Korean won in millions					
	Current portion of provisions	Provision for contingencies	Provision for restoration	Provision for sales guarantees	Other long-term provisions	Total
Beginning balance	₩ 19,705	₩ 50,343	₩ 29,829	₩ -	₩ 4,291	₩ 104,168
Increase	13,733	1,182	680	594	1,304	17,493
Reversal	-	(1,177)	-	-	-	(1,177)
Used	(19,156)	(6,118)	(110)	-	(4,035)	(29,419)
Foreign currency translation	(1,199)	(2,745)	(1,719)	-	(11)	(5,674)
Ending balance	₩ 13,083	₩ 41,485	₩ 28,680	₩ 594	₩ 1,549	₩ 85,391
U.S. dollar in thousands	\$ 12,025	\$ 38,130	\$ 26,360	\$ 546	\$ 1,424	\$ 78,484

19. Commitments and contingencies

19.1 Provision for contingencies

Changes in provision for contingencies for the year ended December 31, 2020 are as follows:

	Beginning balance	Increase	Reversal	Used	Translation	Ending balance	Principal debt amount
Daewoo Corp. (EXIM India, etc.)	₩ 29,308	₩ -	₩ -	₩ -	₩ (1,977)	₩ 27,331	₩ 248,868
Legal proceeding provisions, etc.	20,908	1,182	(1,177)	(6,118)	(768)	14,027	-
Provisions for construction warranties	127	-	-	-	-	127	-
	₩ 50,343	₩ 1,182	₩ (1,177)	₩ (6,118)	₩ (2,745)	₩ 41,485	₩ 248,868
U.S. dollar in thousands	\$ 46,271	\$ 1,086	\$ (1,082)	\$ (5,623)	\$ (2,523)	\$ 38,130	\$ 228,739

19.1.1 Contingent liabilities carried over from Daewoo Corporation prior to the spin-off

On July 22, 2000, Daewoo Corporation, prior to the spin-off, approved a proposal to divide the company into one surviving company and two newly incorporated companies, where each company engages in the trade and construction sector, respectively. On December 27, 2000, the Group was newly incorporated as Daewoo International Corporation through a spin-off of Daewoo Corporation's trade sector. Under the proposal, the Group and Daewoo Engineering & Construction Co., Ltd., the newly incorporated companies, were not obliged to repay other debts of Daewoo Corporation that were not transferred to the newly incorporated companies.

Daewoo Corporation, prior to the spin-off, sent notifications to the unsecured creditors and guaranteed creditors whether they are willing to raise any objection. As a result, several objections were raised by certain creditors, including domestic and foreign creditors who did not join the workout arrangement. Accordingly, part of the borrowings related to these creditors were either recognized as borrowings of the newly incorporated companies, or their payment guarantee obligations were transferred to the newly incorporated companies upon their incorporation.

Accordingly, the Group has made reasonable estimates of the amount of payment obligations for the debts payable to the creditors based on the information available and agreement made with the creditors. As of December 31, 2020, the Group has recognized ₩27,331 million (\$25,120 thousand) as provision for contingencies

The above provision for contingencies recognized by the Group in relation to Daewoo Corporation is the reasonable estimate of contingent losses divided at the ratio of 34 to 66 between the Group and Daewoo Engineering & Construction.

IDBI, a creditor of Daewoo Motor India (DMIL), to which Daewoo Corporation provided debt guarantees, filed a lawsuit against DMIL, Daewoo Corporation, Daewoo Engineering & Construction and the Group in Delhi in May 2002 with regards to the disposition of assets and confirmation of the debt. Accordingly, the Group has reasonably estimated the outcome of the lawsuit and reflected the estimated legal claim in the provision for contingencies.

On May 25, 2006, Daewoo Corporation applied for bankruptcy in the Seoul Central District Court pursuant to the Debtor Rehabilitation and Bankruptcy Act, and on June 16, 2006, the bankruptcy proceedings were concluded, and the bankruptcy was terminated on May 25, 2017.

19.2 Pending litigations

As of December 31, 2020, the Group is a defendant in pending lawsuits involving 27 claims (domestic: 6 claims and overseas: 21 claims). The total claim amount of the lawsuits is ₩25,092 million, USD 50,972 thousand, INR 4,469,396 thousand, CAD 79,000 thousand, PKR 124,775 thousand and BRL 76,618 thousand. The Group is involved in 25 pending lawsuits as a plaintiff as of December 31, 2020. As the ultimate outcome of these lawsuits could not be determined as of December 31, 2020, the Group has not reflected the potential impact that may arise as a result of the above litigations in the consolidated financial statements. As of December 31, 2020, the Group has recognized a provision for losses of ₩27,331 million (\$25,120 thousand) for lawsuits other than the aforementioned lawsuits.

19.3 Credit facilities

As of December 31, 2020, the Group has letter of credit facilities (“L/C”) with Woori Bank and others, document against acceptance facilities (“D/A”) and other trading facilities as follows (Korean won in millions, USD in thousands):

Description	Bank	Currency	Credit line amount
Local L/C	Woori bank and others	USD	202,206
L/C	Woori bank and others	USD	1,555,726
D/A	Woori bank and others	USD	1,989,284
Credit line in foreign currency	Woori bank and others	USD	707,761
P bond and others	Woori bank and others	USD	794,214
Credit line in foreign currency	Woori bank and others	KRW	180,000
Overdraft and others	Woori bank and others	KRW	7,000

19.4 Collateral

The Group has pledged 30 blank promissory notes, 17 blank checks and notes in aggregate of JPY 84,806 thousand as collateral to Korea Energy Agency and others for the contract performance guarantees and other purposes as of December 31, 2020.

19.5 Derivatives

The Group entered into currency forwards contracts and commodity futures contracts with financial institutions to hedge the foreign exchange risks and inventory price risks, and details on the maximum credit line amounts are as follows:

19.5.1 Details of derivatives as of December 31, 2020

(Korean won in millions, USD in thousands, CNY in thousands and MYR in thousands)

Contract	Bank	Derivative credit lines		Details
Currency forwards	Woori Bank	USD	20,360	Limit of loss
	Kookmin Bank	KRW	33,600	Limit of loss
	Suhyup Bank	KRW	10,000	Limit of loss
	Citibank Korea (*1)	USD	200,000	Limit of risk transaction
	SC Bank Korea	USD	120,000	Limit of transaction
	UOB (*2)	USD	200,000	Limit of transaction
	Deutsch Bank	USD	13,000	Limit of risk transaction
	Credit Agricole	USD	50,000	Limit of risk transaction
	KEB Hana Bank (*2)	USD	30,000	Limit of loss
	Korea Development Bank	KRW	30,000	Limit of risk transaction
	ANZ Bank	USD	10,000	Limit of risk transaction
	Societe Generale	USD	42,000	Limit of risk transaction
	SMBC	USD	200,000	Limit of transaction
	Industrial & Commercial			
	Bank of China	USD	50,000	Limit of risk transaction
	ING Bank (*3)	USD	34,000	Limit of risk transaction
	Mizuho Bank	USD	50,000	Limit of risk transaction
	MUFG Bank	USD	14,000	Limit of loss
	Nova Scotia Bank	USD	50,000	Limit of risk transaction
Commodity futures	Mitsui Bussan	USD	15,000	Limit of loss
	"		15,000	
		USD		Limit of transaction
	Toyota	USD	13,000	Limit of loss
	"		13,000	
		USD		Limit of transaction
	BOCI	USD	15,000	Limit of loss
	"		15,000	
		USD		Limit of transaction
	BNP Paribas S.A.	USD	7,500	Limit of transaction
	"		7,500	
		USD		Limit of loss
	Daishin Securities	USD	8,000	Limit of loss

(*1) includes limit of transaction on currency swap contracts.

(*2) includes limit of transaction on currency futures contracts.

(*3) includes limit of transaction on interest rate swap contracts.

19.5.2 Details of unsettled contracts for currency forwards (Korean won in millions):

Contract	Currency unit	Unsettled contractual amount		Accumulated valuation gain(loss)
		Long position	Short position	
Currency forwards	USD	72,950	1,047,516	44,580
	EUR	17,351	581,040	(16,626)
	JPY	39,878	118,100	(865)
	CNY	29,616	44,569	(289)
	AED	134	-	-
	THB	4,125	15,776	(243)
	CAD	-	5,800	(192)
	GBP	18,089	35,500	(666)
	AUD	5,820	5,979	22
	SGD	1,996	-	20
				25,741
Commodity futures	Aluminum	20,421	81,723	(5,199)
	Copper	84,721	162,117	(7,729)
	Corn	31,789	12,088	2,657
	Nickel	4,132	23,846	(1,095)
	Gasoil	3,741	1,108	85
	Tin	24,020	31,967	(1,490)
	Soybean	314,716	30,810	23,817
	Soybean Meal	365	43,842	(4,693)
	HRW Wheat	61	-	5
	HRW Wheat	277	-	17
				6,375

Unsettled currency swap for the year ended December 31, 2020 are as follows: (Korean won in millions, USD in thousands and SGD in thousands)

Bank	Unsettled Contractual Amount				Expiration date	Interest swap	Accumulated valuation gain (loss)
	Payment	Receipt					
UOB	USD 74,823	SGD 102,000			Oct.25, 2022	Pay 6M US\$ Libor+1.25% Receive 6M SGD SOR+1.00%	₩ 2,131
Credit Agricole	USD 49,627	SGD 68,000			Oct.25, 2022	Pay 6M US\$ Libor+1.25% Receive 6M SGD SOR+1.00%	1,701
							₩ 3,832
							\$ 3,522

U. S. dollar in thousands

Unsettled interest rate swap for the year ended December 31, 2020 are as follows: (Korean won in millions, USD in thousands and SGD in thousands)

Bank	Amount	Expiration date	Interest swap	Accumulated valuation gain (loss)
ING	USD 75,000	Oct. 1, 2022	Receive 3M US\$ Libor+1.33% Pay 1.645%	₩ (195)
SMBC Singapore	USD 110,000	Jun.28, 2021	Receive 3M US\$ Libor+1.88% Pay 2.191%	(67)
SMBC Singapore	USD 70,000	Jun.28, 2021	Receive 3M US\$ Libor+1.05% Pay 1.361%	(42)
				₩ (304)
				\$ (279)

U. S. dollar in thousands

19.5.3 Derivatives trading and valuation gains and losses

Changes in the book value of derivative financial assets (liabilities) for the year ended December 31, 2020 are as follows:

	Korean won in millions				
	Beginning balance	Settlement	Valuation gain	Valuation loss	Ending balance
Currency forwards	₩ 14,269	₩ (14,457)	₩ 47,119	₩ (21,190)	₩ 25,741
Commodity futures	(8,575)	8,575	38,004	(31,629)	6,375
Firm commitment contracts	2,227	(29,128)	107,511	(93,098)	(12,488)
Currency swap	950	-	3,832	(1,254)	3,528
	₩ 8,871	₩ (35,010)	₩ 196,466	₩ (147,171)	₩ 23,156
U.S. dollar in thousands	\$ 8,153	\$ (32,178)	\$ 180,575	\$ (135,267)	\$ 21,283

The Group has entered into product futures and other commitments to hedge the risk in changes in the fair value of firm sales and purchase contracts arising from fluctuations in product price, and applied fair value hedges using firm commitments as hedging instruments and product futures and other commitments as hedged items.

19.6 Guarantee obligations

Guarantees provided by the Group to certain creditors on behalf of associates/debtors as of December 31, 2020 are as follows: (Korean won in millions, Foreign currency in thousands)

Debtor	Creditor	Limit amount		outstanding balance		Year of expiration
		Foreign currency amounts	Korean won equivalent	Foreign currency amounts	Korean won equivalent	
GLOBAL KOMSOO Daewoo LLC	KEB HANA (Bahrain)	USD 8,225	8,949	USD 7,700	8,378	2022
SHERRITT INTERNATIONAL CORP.	Korea EXIM Bank	USD 21,818	23,738	USD 3,020	3,285	2023
POSCO ASSAN TST STEEL INDUSTRY	ING (Seoul) and others	USD 14,653	15,942	USD 14,653	15,942	2023
KSU Mandob Sejatera	Bank Muamalat	IDR 80,000,000	6,192	IDR 80,000,000	6,192	2026
			<u>54,821</u>		<u>33,797</u>	

Principal debtors listed above are related parties of the Group, excluding Sherritt International Corp. and KSU Mandob Sejatera.

As of December 31, 2020, assets provided as collateral in relation to the borrowings of DMSA/AMSA, an associate, are as follows:

Debtor	Collateralized Assets	Korean won in millions	U.S. dollar in thousands	Creditor	Details
		Book value	Book value		
DMSA/AMSA	DMSA/AMSA shares	31,075	28,561	PF major shareholder	PF collateral

19.7 Other commitments

19.7.1 Fund supplementary arrangements of SPH Co., Ltd.

In 2014, the Group and POSCO Engineering & Construction Co., Ltd. established a 50-50 joint venture company, SPH Co., Ltd. ("SPH"), to engage in the construction of employee housing in Songdo International Complex. In accordance with a fund supplement agreement entered into with SPH and its shareholders on December 20, 2018, the Group and POSCO Engineering & Construction Co., Ltd. (the "Joint Venturer") are jointly obliged to supplement funds to SPH if the funds to repay the principal and interest of borrowings from Park Avenue Jeilcha Ltd. are insufficient. Under the fund supplement agreement, the Joint Venturer guarantees up to ₩20,000 million (\$18,382 thousand), and the outstanding amount of SPH's borrowings payable to Park Avenue Jeilcha Ltd. is ₩20,000 million (\$18,382 thousand) as of December 31, 2020.

19.7.2 Commitments to supplement funds for Korea Ambatovy Consortium (KAC)

The Group invested in the Ambatovy Nickel Project (DMSA / ASMA) in Madagascar through Korea Ambatovy Consortium (KAC), which is composed of Korea Resource Corporation (KORES) and STX Co., Ltd. Sherritt International Corp., the operator, has partially transferred the shares in the project Sumitomo and AHL (Ambatovy Holdings Limited) in November 2017 and transferred the remaining shares to Sumitomo and AHL2 (Ambatovy Holdings II Limited) in August 2020. KAC has the rights and obligations to 15.55% shares in the project held by AHL and AHL2.

19.7.3 Environmental restoration expenses of Peru Block 8.

The Group and the other participant entered into a contract on the ratio of paying for environmental restoration cost with former operators. However, as the cost of environment restoration is expected to increase due to the revision of the local environmental law, the former operator refused to pay, and the Group applied for an arbitration. As a result of the arbitration in June 2018, the former operator is obligated for 94% of the cost for the pollution-prone areas where the responsibility of the former operator has already been proven and areas where the responsibility for pollution is proven in the future. As the procedure to obtain approval from the Peruvian government is in progress, the environmental restoration cost to be borne by the Group, the other participant and the former operator has not yet been determined.

19.7.4 Transfer of contract status on ship purchase agreement

The Group operates the chartered ship. The Group, the ship owner, and the shipping company have entered into a ship purchase agreement, under which, the shipping company is obliged to pay the contract amount to the ship owner and take over the ownership of the ship from the ship owner at the end of the contract period due to the expiration or termination of the agreement. If the shipping company fails to fulfill its obligation to purchase ships, such as payment of the acquisition price of ships, the Group is obliged to take over the ship with the transfer of the shipping company's contractual obligations and rights. The details of the ship purchase arrangement concluded as of the end of the current term are as follows.

19.7.4 Transfer of contract status on ship purchase agreement (cont'd)

Ship	Ship owner	Shipping company	Arrangement period	Korean won in millions		U.S. dollar in thousands	
				Book value		Book value	
Containership Heung-A Janice	D&G Shipping SA	Heung A Line Co., Ltd.	2014.10.28 ~ 2025.03.16	₩	7,700	\$	7,077
Containership Heung-A Haiphong	D&M Shipping SA	Heung A Line Co., Ltd.	2014.10.29 ~ 2025.03.16		7,700		7,077
Containership Heung-A Xiamen	D&F Shipping SA	Heung A Line Co., Ltd.	2015.02.05 ~ 2025.05.16		7,700		7,077
Containership Heung-A Akita	D&S Shipping SA	Heung A shipping Co., Ltd.	2015.03.05 ~ 2025.05.16		7,700		7,077
Commercial Tankership Busan Pioneer	HIDHC No.1 SA	Heung A shipping Co., Ltd.	2015.09.16 ~ 2025.12.29		6,500		5,974
Commercial Tankership Ulsan Pioneer	HIDHC No.2 SA	Heung A shipping Co., Ltd.	2016.01.29 ~ 2026.03.29		6,500		5,974
Commercial Tankership Asian Pioneer	HIDHC No.3 SA	Heung A shipping Co., Ltd.	2015.12.28 ~ 2026.03.29		12,752		11,721
Commercial Tankership No.2 Asian Pioneer	HIDHC No.4 SA	Heung A shipping Co., Ltd.	2016.03.31 ~ 2026.05.29		12,752		11,721
Containership MSC Paloma	HIDM No.1 SA	MSC	2013.12.23 ~ 2023.12.20		69,500		63,879
Containership MSC Melatilde	HIDM No.2 SA	MSC	2013.12.23 ~ 2023.12.20		69,500		63,879
				₩	208,304	\$	191,456

20. Issued capital and capital surplus

20.1 Issued capital as of December 31, 2020 is as follows (Korean won in millions, Korean won for Par Value amount):

	Number of shares authorized	Maturity	Par value	Issued capital	Paid-in capital in excess of par value (capital surplus)
Ordinary shares	500,000,000	123,375,149	₩ 5,000	₩ 616,876	₩ 518,848
U.S. dollar in thousands				\$ 566,982	\$ 476,882

20.2 Capital surplus as of December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Paid-in capital in excess of par value	₩ 518,848	₩ 518,848	\$ 476,881
Other capital surplus	39,179	38,912	36,010
	₩ 558,027	₩ 557,760	\$ 512,891

20.3 Other capital components as of December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Treasury stock	₩ (6)	₩ (6)	\$ (6)
Other capital adjustments	(2)	(2)	(2)
	₩ (8)	₩ (8)	\$ (8)

21. Other components of equity and accumulated other comprehensive income (loss)

Accumulated other comprehensive income (loss) as of December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Gain (loss) on equity instruments at fair value through OCI	₩ (6,925)	₩ (1,711)	\$ (6,365)
Change in equity for equity method investments	34,093	45,116	31,335
Negative change in equity for equity method investments	(29,206)	(27,672)	(26,844)
Cumulative exchange differences on translations of foreign operations	(22,910)	(138)	(21,057)
Loss on valuation of derivatives	(84)	-	(77)
	₩ (25,032)	₩ 15,595	\$ (23,008)

22. Retained earnings

22.1 Details of retained earnings as of December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Legal reserve(*1)	₩ 61,893	₩ 53,257	\$ 56,887
Voluntary reserve (*2)	1,600,400	1,511,000	1,470,955
Unappropriated retained earnings	345,940	293,249	317,960
	₩ 2,008,233	₩ 1,857,506	\$ 1,845,802

(*1) In accordance with the Commercial law, the Group is required to accumulate at least 10% of the dividend from cash dividends at each balance sheet as reserve for profits until the balance reaches 50% of the paid-in capital. It can be used to transfer capital or to protect deficits.

(*2) The voluntary reserve for the Group is the full amount of the business expansion reserves.

22.2 Details of dividends declared for the years ended December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Dividends per share (Korean won and %)	₩ 700(14%)	₩ 700(14%)	\$ 0.64
Number of shares	123,374,891	123,374,891	123,374,891
Dividends	₩ 86,362,424	₩ 86,362,424	\$ 79,377,228

23. Expenses disclosed by nature

Expenses disclosed by the nature of expense (cost of sales and selling and administrative expense) for the years ended December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Cost of goods sold	₩ 19,154,607	₩ 22,157,555	\$ 17,605,337
Material costs	511,384	161,656	470,022
Changes in inventories	(95,067)	(6,193)	(87,378)
Employee benefits	270,747	243,125	248,848
Depreciation of property, plant and equipment	83,768	80,059	76,993
Amortization of intangible assets	209,616	186,818	192,662
Depreciation of investment properties	4,263	2,899	3,918
Others	858,590	991,338	789,145
	₩ 20,997,908	₩ 23,817,257	\$ 19,299,547

24. Selling and administrative expenses

Details of selling and administrative expenses for the years ended December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Salaries	₩ 202,453	₩ 207,473	\$ 186,078
Retirement benefits	16,963	16,880	15,591
Employee welfare	40,494	39,426	37,219
Travel	3,215	13,559	2,955
Communication	5,147	5,803	4,731
Utilities	3,615	3,917	3,323
Taxes and dues	6,031	6,881	5,543
Rents	9,039	11,149	8,308
Depreciation	20,622	19,317	18,954
Amortization	6,837	6,227	6,284
Depreciation of right-of-use assets	11,056	9,388	10,162
Repairs	1,631	2,372	1,499
Insurance	25,465	27,575	23,405
Entertainment	1,319	2,067	1,212
Advertising	1,005	1,697	924
Packaging	386	382	355
Shipping	42,720	41,205	39,265
Commissions	41,478	62,320	38,123
Bad debt expenses	700	22,950	643
Supplies expenses	2,187	3,397	2,010
Vehicles maintenance	1,678	2,432	1,542
Publication expenses	368	429	338
Training expenses	2,355	3,962	2,165
Development expenses	495	2,637	455
Sales promotional expenses	2,301	3,951	2,115
Fair fee	29	149	27
Sample fee	167	258	153
Miscellaneous expenses	459	746	422
Conference fee	243	594	223
Other selling and administrative expenses	129	134	119
	₩ 450,587	₩ 519,277	\$ 414,143

25. Finance income and costs

25.1 Details of finance income for the years ended December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
<Finance income>			
Interest income	₩ 36,784	₩ 40,715	\$ 33,809
Financial guarantee income	147	76	135
Dividends income	230	196	211
Gains on foreign currency transactions	504,425	408,237	463,626
Gains on foreign currency translation	132,095	78,344	121,411
Gains on valuation of derivatives	196,466	86,302	180,575
Gains on settlement of derivatives	302,178	183,057	277,737
Gains on valuation of trade receivables	3,474	389	3,193
Gains on valuation of trade payable	544	-	500
Gains on valuation of financial assets at FVPL	3	-	3
Gains on disposal of financial assets at FVPL	3	-	3
	₩ 1,176,349	₩ 797,316	\$ 1,081,203

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
<Finance cost>			
Losses on repayment of borrowings	₩ -	₩ 2,237	\$ -
Losses on disposal of trade receivables	12,670	30,260	11,645
Interest expenses	98,489	141,244	90,523
Financial guarantee expenses	1,400	2,104	1,287
Losses on foreign currency transactions	516,718	388,897	474,925
Losses on foreign currency translation	134,930	85,543	124,017
Losses on valuation of derivatives	147,171	55,838	135,267
Losses on settlement of derivatives	348,945	212,280	320,722
Losses on valuation on trade receivables	216	3,505	199
Losses on valuation on trade payables	-	603	-
Losses on valuation on financial assets at FVPL	-	11	-
Losses on disposal of financial assets at FVPL	13	-	12
	₩ 1,260,552	₩ 922,522	\$ 1,158,597

25.2 Details of interest income for the years ended December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Interest income on cash equivalents	₩ 2,774	₩ 2,355	\$ 2,550
Other interest income	34,010	38,360	31,259
	₩ 36,784	₩ 40,715	\$ 33,809

25.3 Details of interest expenses for the years ended December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Interest on borrowings and bonds	₩ 98,489	₩ 141,244	\$ 90,523
Less: capitalization of borrowing costs	-	-	-
	₩ 98,489	₩ 141,244	\$ 90,523

26. Other income and expenses

Details of other income for the years ended December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
<Other income>			
Gain on disposal of property, plant and equipment	₩ 914	₩ 21,512	\$ 840
Reversal of loss on impairment of property, plant and equipment	-	221	-
Gain on disposal of intangible assets	-	876	-
Reversal of loss on impairment of intangible assets	-	26	-
Gain on disposal of leased assets	2	61	2
Reversal of provisions for contingencies	1,177	1,600	1,082
Reversal of other allowance for doubtful accounts	314	2,340	289
Insurance benefits	312	-	-
Gain on disposal of investments in associates	1,016	2,571	934
Miscellaneous income	13,858	18,887	12,737
	₩ 17,593	₩ 48,094	\$ 15,884

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
<Other expenses>			
Contribution to provisions for restoration	₩ 500	₩ 4,140	\$ 460
Other bad debt expenses	50,882	51,833	46,767
Loss on disposal of property, plant and equipment	450	324	414
Loss on impairment of property, plant and equipment	80	1,384	74
Loss on disposal of intangible assets	41	68	38
Loss on impairment of intangible assets	8,926	127,814	8,204
Loss on disposal of other non-current assets	3	7	3
Donations	1,836	1,098	1,688
Contingencies	847	8,495	778
Loss on disposal of investments in associates	29,168	22,599	26,809
Loss on impairment of investments in associates	54	4,776	50
Miscellaneous expenses	6,710	30,792	6,167
	₩ 99,497	₩ 253,330	\$ 91,452

27. Impairment loss on financial instruments

Details of impairment loss on financial instruments for the years ended December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Bad debt expenses	₩ 700	₩ 22,950	\$ 643
Other bad debt expenses	50,882	51,833	46,767
Less: reversal of allowance for doubtful accounts	(314)	(2,340)	(289)
	₩ 51,268	₩ 72,443	\$ 47,121

28. Income taxes

28.1 The major components of income tax expenses for the years ended December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Current income taxes	₩ 136,823	₩ 94,868	\$ 125,756
Changes in deferred tax arising from temporary differences	(23,423)	50,444	(21,528)
Changes in deferred tax arising from tax credit carry forwards	(20,205)	(20,205)	(18,571)
Income tax charged directly to equity	4,450	2,473	4,090
Income tax expenses	₩ 97,645	₩ 127,580	\$ 89,747

28.2 A reconciliation between income tax expenses at the effective income tax rates of the Group and profit before income taxes at the Korea statutory tax rate for the years ended December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Accounting profit before income tax	₩ 327,169	₩ 329,978	\$ 300,707
Tax at the statutory income tax rate (26.5% in 2020, 24.2% in 2019)	₩ 79,610	₩ 79,393	\$ 73,170
Adjustments:			
Non-taxable income	(7)	(21)	(6)
Non-deductible expenses	3,851	13,513	3,540
Tax credits	(8,524)	(3,402)	(7,835)
Others	22,715	38,097	20,878
Income tax expense	₩ 97,645	₩ 127,580	\$ 89,747
Effective income tax rates	29.85%	38.66%	29.85%

28.3 Income tax charged directly to equity for the years ended December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Equity instruments valuation at FVOCI	₩ 1,745	₩ 31	\$ 1,604
Re-measurement loss on defined benefit liabilities	4	2,793	4
Equity adjustments in equity method	2,964	(3,800)	2,724
Exchange differences on translation of foreign operations	(550)	3,234	(506)
Reclassification arising from disposal of equity instruments valuation at FVOCI	287	215	264
	<u>₩ 4,450</u>	<u>₩ 2,473</u>	<u>\$ 4,090</u>

28.4 Changes in deferred tax assets and liabilities for the years ended December 31, 2020 and 2019 are as follows:

	2020			
	Beginning balance	Recognized in profit or loss	Recognized directly to equity	Ending balance
Valuation of derivatives	₩ 1,625	₩ (104)	₩ -	₩ 1,521
Loss on impairment of investments	48,437	4,381	-	52,818
Equity in equality methods	82,732	(25,379)	2,964	60,317
Provisions of severance liability	35,383	9,544	4	44,931
Severance insurance deposits	(36,900)	(4,207)	-	(41,107)
Debt restructuring	(4,163)	60	-	(4,103)
Extraordinary loss	7,880	(2,997)	-	4,883
Allowance for doubtful accounts	11,092	16,192	-	27,284
Depreciation	39,644	17,644	-	57,288
Capitalized borrowing costs	(17,964)	3,195	-	(14,769)
Accrued expenses	15,608	(3,798)	-	11,810
Foreign currency translation	666	(97)	-	569
Equity instruments valuation at FVOCI	653	(287)	2,032	2,398
Financial guarantee liabilities	479	2,658	-	3,137
Borrowings with low interest rates	(319)	153	-	(166)
Forgivable borrowings	2,199	2,383	-	4,582
Others	44,318	22,765	(550)	66,533
	<u>₩ 231,370</u>	<u>₩ 42,106</u>	<u>₩ 4,450</u>	<u>₩ 277,926</u>
Tax credit carryforwards	(32,430)	(2,928)	-	(35,358)
	<u>₩ 198,940</u>	<u>₩ 39,178</u>	<u>₩ 4,450</u>	<u>₩ 242,568</u>
U.S. dollar in thousands	\$ 182,849	\$ 36,009	\$ 4,090	₩ 222,949

28.4 Changes in deferred tax assets and liabilities for the years ended December 31, 2020 and 2019 are as follows: (cont'd)

	2019			
	Beginning balance	Recognized in profit or loss	Recognized directly to equity	Ending balance
Valuation of derivatives	₩ (1,601)	₩ 3,226	₩ -	₩ 1,625
Loss on impairment of investments	15,674	32,763	-	48,437
Equity in equality methods	97,348	(10,816)	(3,800)	82,732
Provisions of severance liability	29,089	3,420	2,874	35,383
Severance insurance deposits	(31,453)	(5,447)	-	(36,900)
Debt restructuring	(3,936)	(227)	-	(4,163)
Extraordinary loss	5,593	2,287	-	7,880
Allowance for doubtful accounts	12,401	(1,309)	-	11,092
Depreciation	28,892	10,752	-	39,644
Capitalized borrowing costs	(18,707)	743	-	(17,964)
Accrued expenses	13,448	2,160	-	15,608
Foreign currency translation	648	18	-	666
Equity instruments valuation at FVOCI	621	1	31	653
Financial guarantee liabilities	2,744	(2,265)	-	479
Borrowings with low interest rates	(434)	115	-	(319)
Forgivable borrowings	2,189	10	-	2,199
Others	103,621	(62,752)	3,449	44,318
	₩ 256,137	₩ (27,321)	₩ 2,554	₩ 231,370
Tax credit carryforwards	(26,958)	(5,472)	-	(32,430)
	₩ 229,179	₩ (32,793)	₩ 2,554	₩ 198,940
U.S. dollar in thousands	\$ 210,642	\$ (30,141)	\$ 2,347	₩ 182,849

29. Earnings per share

29.1 Earnings per share

Details of earnings per share for the years ended December 31, 2020 and 2019 are as follows (Korean won in millions, except for per share amounts):

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Profit for the year attributable to ordinary equity holders of the parent	₩ 238,557	₩ 209,404	\$ 219,262
Weighted average number of ordinary shares outstanding	123,374,891	123,374,891	123,374,891
Basic earnings per share (Korean won, U.S dollar)	1,934	1,697	1.78

29.2 Diluted earnings per share

Diluted earnings per share are consistent with basic earnings per share because there is no potential common stock that can be converted into common stock for the years ended December 31, 2020 and 2019.

30. Fair value measurement

30.1 Carrying amount and fair value of financial instruments

The book value and fair value of financial instruments of the Group as of December 31, 2020 and 2019 are as follows:

	2020			
	Korean won in million		U.S. dollar in thousand	
	Book value	Fair value	Book value	Fair value
<Financial assets>				
Financial asset at amortized costs				
- Cash and cash equivalents	₩ 679,304	₩ 679,304	\$ 624,360	\$ 624,360
- Trade and other receivables (*1)	2,875,783	2,875,783	2,643,183	2,643,183
- Other current financial assets	18,708	18,708	17,195	17,195
- Long-term trade and other receivables (*1)	230,798	230,798	212,131	212,131
- Other non-current financial assets	10	10	9	9
	<u>₩ 3,804,603</u>	<u>₩ 3,804,603</u>	<u>\$ 3,496,878</u>	<u>\$ 3,496,878</u>
Financial asset at fair value				
- Trade and other receivables	₩ 18,569	₩ 18,569	\$ 17,067	\$ 17,067
- Derivative financial assets	113,411	113,411	104,238	104,238
- Financial assets at FVOCI (equity instruments)	28,942	28,942	26,601	26,601
- Financial assets at FVPL (long-term investment)	570	570	524	524
- Financial assets at FVPL (other securities)	17	17	16	16
	<u>₩ 161,509</u>	<u>₩ 161,509</u>	<u>\$ 148,446</u>	<u>\$ 148,446</u>
Total financial assets	<u>₩ 3,966,112</u>	<u>₩ 3,966,112</u>	<u>\$ 3,645,324</u>	<u>\$ 3,645,324</u>
<Financial liabilities>				
Financial liabilities amortized cost				
- Trade and other payables (*2)	₩ 1,774,107	₩ 1,774,107	\$ 1,630,613	\$ 1,630,613
- Borrowings	796,038	796,038	731,653	731,653
- Current-portion of bonds	417,042	418,358	383,311	384,520
- Long-term trade and other payables (*2)	176,541	176,541	162,262	162,262
- Long-term borrowings	379,347	379,347	348,665	348,665
- Bonds	1,107,420	1,124,976	1,017,849	1,033,985
	<u>₩ 4,650,495</u>	<u>₩ 4,669,367</u>	<u>\$ 4,274,353</u>	<u>\$ 4,291,698</u>
Financial liabilities at fair value				
- Derivative financial liabilities	₩ 90,255	₩ 90,255	\$ 82,955	\$ 82,955
Total financial liabilities	<u>₩ 4,740,750</u>	<u>₩ 4,759,622</u>	<u>\$ 4,357,308</u>	<u>\$ 4,374,653</u>

(*1) Trade and other receivables and long-term trade and other receivables include ₩68,199 million (\$62,683 thousand) of current portion of lease receivables and ₩128,366 million (\$ 117,983 thousand) of long-term lease receivables respectively.

(*2) Trade and other payables and long-term trade and other payables include ₩99,909 million (\$91,828 thousand) of current portion of lease liabilities and ₩165,794 million (\$152,384 thousand) of long-term lease liabilities respectively.

30.1 Carrying amount and fair value of financial instruments (cont'd)

	2019			
	Korean won in million		U.S. dollar in thousand	
	Book value	Fair value	Book value	Fair value
<Financial assets>				
Financial asset at amortized costs				
- Cash and cash equivalents	₩ 236,089	₩ 236,089	\$ 216,994	\$ 216,994
- Trade and other receivables	3,390,667	3,390,667	3,116,422	3,116,422
- Other current financial assets	22,892	22,892	21,040	21,040
- Long-term trade and other receivables	441,665	441,665	405,942	405,942
- Other non-current financial assets	949	949	872	872
	<u>₩ 4,092,262</u>	<u>₩ 4,092,262</u>	<u>\$ 3,761,270</u>	<u>\$ 3,761,270</u>
Financial asset at fair value				
- Trade and other receivables	₩ 46,458	₩ 46,458	\$	\$ 42,700
- Derivative financial assets	42,074	42,074		38,671
- Financial assets at FVOCI (equity instruments)	31,852	31,852		29,276
- Financial assets at FVPL (long-term investment)	632	632		581
- Financial assets at FVPL (other securities)	73	73	67	67
	<u>₩ 121,089</u>	<u>₩ 121,089</u>	<u>\$ 67</u>	<u>\$ 111,295</u>
Total financial assets	<u>₩ 4,213,351</u>	<u>₩ 4,213,351</u>	<u>\$ 3,761,337</u>	<u>\$ 3,872,565</u>
<Financial liabilities>				
Financial liabilities amortized cost				
- Trade and other payables	₩ 2,091,526	₩ 2,091,526	\$ 1,922,358	\$ 1,922,358
- Borrowings	1,024,701	1,024,701	941,821	941,821
- Current-portion of bonds	130,042	131,217	119,524	120,604
- Long-term trade and other payables	223,349	223,349	205,284	205,284
- Long-term borrowings	734,573	734,573	675,159	675,159
- Bonds	1,243,688	1,258,714	1,143,096	1,156,906
	<u>₩ 5,447,879</u>	<u>₩ 5,464,080</u>	<u>\$ 5,007,242</u>	<u>\$ 5,022,132</u>
Financial liabilities at fair value				
- Derivative financial liabilities	₩ 33,203	₩ 33,203	\$ 30,517	\$ 30,517
Total financial liabilities	<u>₩ 5,481,082</u>	<u>₩ 5,497,283</u>	<u>\$ 5,037,759</u>	<u>\$ 5,052,649</u>

30.2 Fair value hierarchy

The following are the criteria for classifying fair value from Level 1 to Level 3, depending on how observable it is in the market.

- Level1 - Quoted (unadjusted) prices in active markets for identical assets or liabilities
- Level2 - Input variables for assets or liabilities observable either directly (e.g., price) or indirectly (e.g., derived from the price), except for the quoted prices included in Level1
- Level3 - Input variables for assets or liabilities that are not based on observable market data (unobservable inputs)

The measurements according to the above hierarchy of assets and liabilities that are measured at fair value or for which fair values are disclosed as of December 31, 2020 and 2019 are as follows:

	2020				U.S. dollar in thousand	
	Korean won in millions				Total	
	Level 1	Level 2	Level 3	Total	Total	
Assets						
Biological assets	₩ -	₩ -	₩ 12,043	₩ 12,043	\$ 11,069	
Trade and other receivables	-	-	18,569	18,569	17,067	
Financial assets at FVOCI	2,895	-	-	2,895	2,661	
Financial assets at FVPL	-	17	-	17	16	
Derivative financial assets	-	113,411	-	113,411	104,238	
Liabilities						
Derivative financial liabilities	₩ -	₩ 90,255	₩ -	₩ 90,255	\$ 82,955	
	2019				U.S. dollar in thousand	
	Korean won in millions				Total	
	Level 1	Level 2	Level 3	Total	Total	
Assets						
Biological assets	₩ -	₩ -	₩ 13,678	₩ 13,678	\$ 12,572	
Trade and other receivables	-	-	46,458	46,458	42,700	
Financial assets at FVOCI	3,931	-	-	3,931	3,613	
Financial assets at FVPL	-	73	-	73	67	
Derivative financial assets	-	42,074	-	42,074	38,671	
Liabilities						
Derivative financial liabilities	₩ -	₩ 33,203	₩ -	₩ 33,203	\$ 30,517	

30.3 Assumption used for fair value valuation technique

The fair value of financial instruments that are traded in active markets is determined based on quoted market prices at the end of reporting period. These instruments are included in Level 1, mostly are classified into financial assets at fair value which are listed stocks.

For financial instruments not traded in an active market, the fair value is determined using appropriate valuation techniques. This valuation technique fully makes use of observable market information as possible and internal information at minimum. When every significant input variable required for measuring fair value of the instrument is observable, the instrument is classified into Level 2.

When one or more significant input variables are not based on observable market information, the instrument is classified into Level 3.

30.3 Assumption used for fair value valuation technique (cont'd)

Valuation techniques used to measure fair values of instruments are:

- Quoted prices or dealer price of similar instrument
- Present value discounted by forward exchange rate as the end of reporting period is used for fair value of derivative instrument
- Discounted cash flow and other techniques are used for other instruments

Book values of instruments which are classified into same category with trade and other receivables are estimated as reasonable approximate values of fair value.

The Group considered the maturity interest rate of the Group in determining the fair value of the derivative financial assets, liabilities and bonds valued at Level 2 hierarchy.

31. Financial instruments risk management

31.1 Capital risk management

The purpose of the Group's capital management is to maintain an optimal capital structure to protect the ability to continue to provide benefits to shareholders and stakeholders as a continuing entity and to reduce capital costs. In order to maintain or adjust the capital structure, the Group applies policies such as adjusting dividends.

Capital structure of the Group is composed of net borrowings, which are borrowings less cash and cash equivalents and equity. The Group maintains the same capital risk management policies as 2019. Details of the capital components managed by the Group as of December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Total borrowings	₩ 2,699,847	₩ 3,133,004	\$ 2,481,477
Less: Cash and cash equivalents	(679,304)	(236,089)	(624,360)
Net borrowings	₩ 2,020,543	₩ 2,896,915	\$ 1,857,117
Total equity	₩ 3,160,874	₩ 3,048,061	\$ 2,905,215
Gearing ratio	63.92%	95.04%	63.92%

31.2 Financial risk management

The Group is exposed to market risk (foreign currency risk and interest rate risk), credit risk, and liquidity risk. The purpose of Group's financial risk management is to detect potential risk which could decrease the Group's profit and to eliminate, reduce and hedge such risk to an acceptable level. The Group uses derivative financial instruments for hedging special risk such as foreign currency risk. Financial risk management policy of the Group has been consistent with the policy of 2019.

31.2.1 Market risk

Market risk is the risk that the fair value of financial instrument will fluctuate because of changes in market prices. Market prices comprise three types of risk: foreign currency risk, interest rate risk and other price risk.

31.2.1.1 Foreign currency risk

The Group is exposed to the risk of exchange rate fluctuations because it has transactions denominated in foreign currency. The book values of monetary assets and liabilities denominated in major foreign currencies other than functional currencies as of December 31, 2020 and 2019 are as follows:

	Korean won in million				U.S. dollar in thousand	
	2020		2019		2020	
	Asset	Liability	Asset	Liability	Asset	Liability
USD	₩ 2,360,691	₩ 1,649,466	₩ 2,882,015	₩ 2,491,826	\$ 2,169,753	\$ 1,516,053
JPY	98,615	54,511	73,088	66,298	90,639	50,102
EUR	521,256	211,639	495,803	164,416	479,096	194,521

The effect that fluctuation in the exchange rate of 10% of the functional currency on each foreign currency has on profit or loss as of December 31, 2020 and 2019 is as follows:

	Korean won in million		U.S. dollar in thousand	
	Increase by 10%	Decrease by 10%	Increase by 10%	Decrease by 10%
USD	₩ 71,123	₩ (71,123)	\$ 65,370	\$ (65,370)
JPY	4,410	(4,410)	4,053	(4,053)
EUR	30,962	(30,962)	28,458	(28,458)

31.2.1.2 Interest rate risk

The interest rate risk of the Group arises from borrowings and bonds. Due to short-term borrowings issued at floating interest rates, the Group is exposed to cash flow interest rate risk.

As of December 31, 2020, with all other variables remain constant, a change of 1% in the floating interest rate on borrowings will have an effect of ₩11,255 million (\$10,345 thousand) decrease or increase in the Group's income before income taxes.

31.2.2 Credit risk

Credit risk is the risk that counterparties will not meet its obligations under a financial instrument or customer contract, leading to a financial loss. The Group's exposure to the credit risk relates to operating and financial activities.

31.2.2.1 Trade and other receivables

It is the principle for the Group to conduct transactions only with those with sound financial status by performing credit verification procedures for all counterparties that desire credit transactions with the Group. In addition, the Group manages the balance of accounts receivable by continuously reevaluating credit ratings so that the level of the Group's exposure to the credit risk is maintained at an insignificant level.

31.2.2.2 Other assets

Credit risks associated with the Group's other assets which consist of cash, short-term deposits and short-term and long-term loans arise from the default by the counterparties. Maximum exposure to credit risks will be the book value of the other assets. The Group deposits cash and cash equivalents and short-term financial products at financial institutions such as Woori Bank, and deals with financial institutions with excellent credit ratings. So, credit risk from financial institutions is limited.

31.2.2.3 Maximum exposure to credit risk

The book value of a financial asset represents the maximum exposure to a credit risk. If a financial guarantee is provided, the maximum exposure to credit risk is the maximum amount due on the claims of the assured. For borrowing arrangements, the maximum exposure to credit risk is the total commitment amount. In addition, in the case of a borrowing agreement, the maximum exposure amount of credit risk is the balance of the applicable borrowing as of the end of the current year, and the limit of the agreement amount is detailed in Note 19.

The maximum exposure to credit risk of the Group as of December 31, 2020 and 2019 is as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Trade and other receivables (*1)	₩ 2,894,352	₩ 3,437,125	\$ 2,660,250
Other current financial assets	18,708	22,892	17,195
Derivative financial assets	113,411	42,074	104,238
Long-term trade and other receivables (*1)	230,798	441,665	212,131
Other non-current financial assets	29,539	33,506	27,150
Financial guarantee contract	53,797	50,281	49,446
	₩ 3,340,605	₩ 4,027,543	\$ 3,070,410

(*1) Trade and other receivables and long-term trade and other receivables include ₩68,199 million (\$62,683 thousand) of current lease receivables and ₩128,366 million (\$117,983 thousand) of long-term lease receivables before allowance for bad debts, respectively.

31.2.2.4 Aging analysis of non-derivative financial instruments

Aging analysis of non-derivative financial instruments as of December 31, 2020 is as follows:

	Not Past due	Past due				Total
		Within 1 month	1 to 3 months	3 to 12 months	Over 12 months	
Cash and cash equivalents	₩ 679,304	₩ -	₩ -	₩ -	₩ -	₩ 679,304
Trade and other receivables	2,812,920	53,976	10,702	27,979	15,619	2,921,196
Other current financial assets	18,708	-	-	-	-	18,708
Long-term trade and other receivables	356,140	-	539	1,492	73	358,244
Other non-current financial assets	29,539	-	-	-	-	29,539
	₩ 3,896,611	₩ 53,976	₩ 11,241	₩ 29,471	₩ 15,692	₩ 4,006,991
U.S. dollar in thousand	\$ 3,581,444	\$ 49,610	\$ 10,332	\$ 27,087	\$ 14,423	\$ 3,682,896

31.2.3 Liquidity risk

The Group establishes short and long-term capital management plans and analyzes and reviews cash flow budgets against actual cash outflows in order to match the maturity of financial liabilities and financial assets. The Group believes that it has sufficient cash inflows from operating activities and financial assets to redeem financial liabilities that become due.

31.2.3.1 The maturity analysis based on the maturity of the remaining contract of the financial liability outstanding as of December 31, 2020 is as follows. The maturity amount is an undiscounted contractual cash flow that includes interest payments.

	<u>Within 1 year</u>	<u>1 to 5 years</u>	<u>Over 5 years</u>	<u>Total</u>
Trade and other payables (*1)	₩ 1,774,107	₩ -	₩ -	₩ 1,774,107
Derivative financial liabilities	90,255	-	-	90,255
Borrowings	791,012	183,372	272,387	1,246,771
Bonds	443,299	1,093,431	50,569	1,587,299
Long-term trade and other payables (*1)	-	175,433	927	176,360
	<u>₩ 3,098,673</u>	<u>₩ 1,452,236</u>	<u>₩ 323,883</u>	<u>₩ 4,874,792</u>
U.S. dollar in thousand	<u>\$ 2,848,045</u>	<u>\$ 1,334,776</u>	<u>\$ 297,687</u>	<u>\$ 4,480,507</u>

(*1) Trade and other payables and the long-term trade and other payables include ₩99,909 million (\$91,828 thousand) of current portion of lease liabilities and ₩165,794 million (\$152,384 thousand) of long-term lease liabilities, respectively.

31.2.3.2 The maturity analysis based on the guarantee period of the financial guarantee contract as of December 31, 2020 is as follows:

	<u>Within 1 year</u>	<u>1 to 5 years</u>	<u>Over 5 years</u>	<u>Total</u>
Financial guarantee contract (*1)	₩ 53,797	₩ 27,605	₩ 6,192	₩ 87,594
U.S. dollar in thousand	<u>\$ 49,446</u>	<u>\$ 25,372</u>	<u>\$ 5,691</u>	<u>\$ 80,509</u>

(*1) The Group provides arrangements of guarantee obligations and fund supplementary to the associate and other related parties, and for further information, see Note 19 of contingent liabilities and commitments.

32. Related party transactions

32.1 Details of related parties as of December 31, 2020 and 2021 are as follows:

	2020	2019
Parent	POSCO Co., Ltd.	POSCO Co., Ltd.
Associates	Blue Ocean Corporate's Financial Stabilization Private Equity Fund No. 1 POSCO MEXICO PROCESSING CENTER HOLDING,LLC. POSCO-ESDC LTD. POSCO IJPC Shanghai Lansheng DAEWOO Corp Shanghai Waigaoqiao Free Trade Zone Lansheng Daewoo Int'l Trading Co., Ltd. GENERAL MEDICINES CO.,LTD. KOREA LNG LTD. - (*1) KWANIKA COPPER CORP. GLOBAL KOMSCO DAEWOO LLC SOUTH-EAST ASIA GAS PIPELINE CO.,LTD. HyunSon Engineering & Construction SPH Co, Ltd. YULCHON MEXICO S. A. DE C. V. DMSA/AMSA PT. BATUTUA TEMBAGA RAYA Inco tech Inc. TK-Chemical Corp. - (*1) SHINPOONG DAEWOO PHARMA CO.,LTD. POSCO-MALAYSIA SDN.BHD. POSCO-ITPC S.p.A Hunchun POSCO HYUNDAI International Logistics Quro Co. (*2)	Blue Ocean Corporate's Financial Stabilization Private Equity Fund No. 1 POSCO MEXICO PROCESSING CENTER HOLDING,LLC. POSCO-ESDC LTD. POSCO IJPC Shanghai Lansheng DAEWOO Corp Shanghai Waigaoqiao Free Trade Zone Lansheng Daewoo Int'l Trading Co., Ltd. GENERAL MEDICINES CO.,LTD. KOREA LNG LTD. KG POWER(M) SDN. BHD. KWANIKA COPPER CORP. GLOBAL KOMSCO DAEWOO LLC SOUTH-EAST ASIA GAS PIPELINE CO.,LTD. HyunSon Engineering & Construction SPH Co, Ltd. YULCHON MEXICO S. A. DE C. V. DMSA/AMSA PT. BATUTUA TEMBAGA RAYA Inco tech Inc. TK-Chemical Corp. Daewoo-hanil Co., Ltd. SHINPOONG DAEWOO PHARMA CO.,LTD. POSCO-MALAYSIA SDN.BHD. POSCO-ITPC S.p.A Hunchun POSCO HYUNDAI International Logistics IT Engineering. Co., Ltd.
Others	POSCO ASIA CO., LTD. POSCO-VIETNAM CO.,LTD. POSCO-THAINOX POSCO ASSAN TST STEEL INDUSTRY POSCO-AAPC POSCO C&C POSCO AMERICA CORP. ZHANGJIAGANG POHANG STAINLESS STEEL CO., LTD. POSCO-Foshan Steel Processing Center CO., LTD. COMPANHIA SIDERURGICA DO PECEM POSCO ENERGY CO., LTD POSCO VST CO., LTD. POSCO SS-VINA PT. KRAKATAU POSCO POSCO Maharashtra Steel PVT. LTD. Daewoo Human Resources S.A. DE C.V. POSCO HUMANS CO., LTD DAEWOO LOGISTICS CORP. etc.	POSCO ASIA CO., LTD. POSCO-VIETNAM CO.,LTD. POSCO-THAINOX POSCO ASSAN TST STEEL INDUSTRY POSCO-AAPC POSCO C&C POSCO AMERICA CORP. ZHANGJIAGANG POHANG STAINLESS STEEL CO., LTD. POSCO-Foshan Steel Processing Center CO., LTD. COMPANHIA SIDERURGICA DO PECEM POSCO ENERGY CO., LTD POSCO VST CO., LTD. POSCO SS-VINA PT. KRAKATAU POSCO POSCO Maharashtra Steel PVT. LTD. Daewoo Human Resources S.A. DE C.V. POSCO HUMANS CO., LTD DAEWOO LOGISTICS CORP. etc.

(*1) The Group disposed the shares for the year ended December 31, 2020.

(*2) IT engineering was merged with Quro Co. for the year ended December 31, 2020.

32.2 Significant transactions with related parties for the years ended December 31, 2020 and 2019 are as follows:

	2020					
	Sales and others			Purchase and others		
	Sales	Others	Total	Purchase and others	Others	Total
Parent company						
POSCO (*1)	₩ 1,005,205	₩ 2,229	₩ 1,007,434	₩ 5,777,670	₩ 137,617	₩ 5,915,287
Associates						
POSCO MEXICO PROCESSING CENTER HOLDING, LLC.	₩ 269,881	₩ -	₩ 269,881	₩ 424	₩ 42	₩ 466
SPH CO., LTD	100	49	149	-	-	-
PT BATUTUA TEMBAGA RAYA	-	1,075	1,075	28,174	-	28,174
POSCO-ESDC LTD.	-	57	57	-	3,488	3,488
POSCO IJPC GENERAL MEDICINES CO., LTD.	204,788	-	204,788	2,419	-	2,419
KOREA LNG LTD.	9,790	253	10,043	-	-	-
DMSA/AMSA SOUTH-EAST ASIA GAS PIPELINE CO., LTD.	-	7,755	7,755	-	-	-
GLOBAL KOMSCO DAEWOO LLC	-	60	60	29,202	-	29,202
YULCHON MEXICO S.A. DE C.V.	15	69,925	69,940	-	-	-
POSCO-Malaysia SDN. BHD.	-	29	29	17,094	-	17,094
POSCO-ITPC S.p.A.	1,099	-	1,099	-	-	-
TK-Chemical Co., Ltd.	72,591	-	72,591	6,533	-	6,533
Quro Co.	53,229	-	53,229	2,339	-	2,339
	104,749	-	104,749	26,863	-	26,863
	104	-	104	183	-	183
Others						
POSCO ASIA CO., LTD.	₩ 71,280	₩ -	₩ 71,280	₩ 205,620	₩ 242	₩ 205,862
POSCO-VIETNAM CO., LTD.	143,802	-	143,802	59,292	-	59,292
POSCO-THAINOX	115,190	-	115,190	129,907	-	129,907
POSCO ASSAN TST STEEL INDUSTRY	49,439	48	49,487	53,516	-	53,516
POSCO-AAPC	63,051	-	63,051	6	125	131
POSCO C&C	37,870	-	37,870	204,750	27	204,777
POSCO AMERICA CORP.	131,096	-	131,096	78,897	8	78,905
ZHANGJIAGANG POHANG STAINLESS STEEL CO., LTD.	33,058	-	33,058	1,759	-	1,759
POSCO-Foshan Steel Processing Center CO., LTD.	63,050	-	63,050	1,487	-	1,487
COMPANHIA SIDERURGICA DO PECÉM	13,544	-	13,544	159,548	-	159,548
POSCO Energy Co., Ltd.	126,505	-	126,505	97	-	97
POSCO VST CO., LTD.	280,747	-	280,747	53,698	-	53,698
POSCO SS-VINA PT. KRAKATAU	242,393	-	242,393	16,609	-	16,609
POSCO Maharashtra Steel PVT.LTD.	92,530	-	92,530	156,454	11	156,465
Others	168,158	-	168,158	20,957	-	20,957
	1,416,977	2,630	1,419,607	340,307	70,120	410,427
	₩ 4,770,241	₩ 84,110	₩ 4,854,351	₩ 7,373,805	₩ 211,680	₩ 7,585,485
	\$ 4,384,413	\$ 77,307	\$ 4,461,720	\$ 6,777,394	\$ 194,559	\$ 6,971,953

32.2 Significant transactions with related parties for the years ended December 31, 2020 and 2019 are as follows: (cont'd)

	2019											
	Sales and others			Purchase and others								
	Sales	Others	Total	Purchase and others	Others	Total						
Parent company												
POSCO	₩	1,321,597	₩	6,460	₩	1,328,057	₩	5,889,230	₩	155,159	₩	6,044,389
Associates												
POSCO MEXICO PROCESSING CENTER HOLDING LLC.	₩	345,924	₩	-	₩	345,924	₩	882	₩	59	₩	941
SPH CO., LTD PT BATUTUA		92		28		120		-		-		-
TEMBAKA RAYA POSCO-ESDC LTD.		-		537		537		45,841		-		45,841
POSCO IJPC GENERAL MEDICINES CO., LTD.		86,782		-		86,782		-		-		-
KOREA LNG LTD.		9,575		114		9,689		-		-		-
DMSA/AMSA SOUTH-EAST ASIA GAS PIPELINE CO., LTD.		-		13,403		13,403		-		-		-
GLOBAL KOMSCO DAEWOO LLC YULCHON MEXICO S.A. DE C.V.		-		-		-		71,275		-		71,275
POSCO LNG Singapore Pte. Ltd		71		42,261		42,332		-		-		-
POSCO-Malaysia SDN. BHD.		-		-		-		15,719		-		15,719
POSCO-ITPC S.p.A.		673		-		673		-		-		-
Hunchun Posco Hyundai International Logistics		43,253		-		43,253		-		-		-
TK-Chemical Co., Ltd.		104,621		-		104,621		9,128		-		9,128
Others		48,335		-		48,335		3,276		-		3,276
POSCO ASIA CO., LTD.	₩	76,971	₩	-	₩	76,971	₩	453,553	₩	726	₩	454,279
POSCO-VIETNAM CO., LTD.		347,969		-		347,969		110,374		-		110,374
POSCO-THAINOX POSCO ASSAN TST STEEL INDUSTRY		215,203		-		215,203		67,576		-		67,576
POSCO-AAPC		295,376		-		295,376		87,301		-		87,301
POSCO C&C POSCO AMERICA CORP.		84,871		-		84,871		1,241		129		1,370
ZHANGJIAGANG POHANG STAINLESS STEEL CO., LTD.		60,163		-		60,163		229,013		472		229,485
POSCO-Foshan Steel Processing Center CO., LTD.		136,978		-		136,978		77,935		-		77,935
COMPANHIA SIDERURGICA DO PECÉM		62,691		-		62,691		2,545		-		2,545
POSCO Energy Co., Ltd.		67,173		-		67,173		1,189		-		1,189
POSCO VST CO., LTD.		80,368		-		80,368		364,110		835		364,945
POSCO SS-VINA PT. KRAKATAU POSCO		56,523		-		56,523		51		-		51
POSCO Maharashtra Steel PVT.LTD.		252,271		-		252,271		49,026		-		49,026
Others		423,929		-		423,929		15,703		-		15,703
		67,937		-		67,937		136,711		-		136,711
		453,854		-		453,854		31,433		-		31,433
		1,264,173		1,813		1,265,986		357,441		59,781		417,222
		₩ 6,078,090		₩ 64,691		₩ 6,142,781		₩ 8,085,092		₩ 222,150		₩ 8,307,242
		\$ 5,586,480		\$ 59,459		\$ 5,645,938		\$ 7,431,151		\$ 204,182		\$ 7,635,333

(*1) In addition to the above transactions, dividends paid to POSCO for the years ended December 31, 2020 and 2019 amounted to ₩54,331 million (\$49,937 thousand) and ₩46,570 million(\$42,803 thousand), respectively.

32.3 Significant balances of receivables and payables outstanding with related parties as of December 31, 2020 and 2019 are summarized as follows:

	2020					
	Receivables (*1)			Payables		
	Trade receivables	Others	Total	Trade payables	Others	Total
Parent company						
POSCO	₩ 55,081	₩ 794	₩ 55,875	₩ 596,874	₩ 9,486	₩ 606,360
Associates						
POSCO MEXICO PROCESSING CENTER HOLDING, LLC.	₩ 87,023	₩ -	₩ 87,023	₩ 117	₩ 809	₩ 926
SPH CO., LTD	2	-	2	-	73	73
PT BATUTUA TEMBAGA RAYA POSCO-ESDC LTD.	-	47,689	47,689	-	-	-
POSCO IJPC	26,693	-	26,693	46	161	207
Shanghai Lansheng DAEWOO Corp	2,606	-	2,606	-	324	324
Shanghai Waigaoqiao Free Trade Zone Lansheng Daewoo Int'l Trading Co., Ltd.	-	-	-	-	534	534
GENERAL MEDICINES CO., LTD.	1,342	-	1,342	-	11	11
KOREA LNG LTD.	-	696	696	-	-	-
DMSA/AMSA SOUTH-EAST ASIA GAS PIPELINE CO., LTD.	102	-	102	-	-	-
GLOBAL KOMSCO DAEWOO LLC YULCHON	-	91,003	91,003	-	-	-
MEXICO S.A. DE C.V.	323	-	323	-	11	11
POSCO-Malaysia SDN. BHD.	21,130	4	21,134	446	83	529
POSCO-ITPC S.p.A.	13,409	-	13,409	577	205	782
TK-Chemical Co., Ltd.	21,916	-	21,916	429	-	429
Quro Co.	-	-	-	5	-	5
Others						
POSCO ASIA CO., LTD.	₩ 4,286	₩ 115	₩ 4,401	₩ 52,235	₩ 17,453	₩ 69,688
POSCO-VIETNAM CO., LTD.	4,571	999	5,570	9,666	-	9,666
POSCO-THAINOX	4,248	-	4,248	44,272	14	44,286
POSCO ASSAN TST STEEL INDUSTRY	29,844	172	30,016	2,987	231	3,218
POSCO-AAPC	21,145	-	21,145	-	-	-
POSCO C&C POSCO AMERICA CORP.	6,071	510	6,581	14,588	20	14,608
ZHANGJIAGANG POHANG STAINLESS STEEL CO., LTD.	182	-	182	25	-	25
POSCO-Foshan Steel Processing Center CO., LTD.	3,827	8	3,835	-	-	-
POSCO Energy Co., Ltd.	14,642	-	14,642	9	88	97
POSCO VST CO., LTD.	20,267	3,014	23,281	-	1,694	1,694
POSCO SS-VINA PT. KRAKATAU POSCO	109,029	108	109,137	4,132	27	4,159
POSCO Maharashtra Steel PVT.LTD.	48,573	-	48,573	967	1,122	2,089
POSCO	45,098	449	45,547	9,185	21	9,206
Others	-	-	-	5,828	-	5,828
	251,490	90,999	342,489	15,231	30,668	45,899
	₩ 792,900	₩ 239,390	₩ 1,032,290	₩ 757,970	₩ 63,685	₩ 821,655
	\$ 728,768	\$ 220,028	\$ 948,796	\$ 696,664	\$ 58,534	\$ 755,198

32.3 Significant balances of receivables and payables outstanding with related parties as of December 31, 2020 and 2019 are summarized as follows: (cont'd)

	2019					
	Receivables (*1)			Payables		
	Trade receivables	Others	Total	Trade payables	Others	Total
Parent company						
POSCO	₩ 24,916	₩ 396	₩ 25,312	₩ 624,266	₩ 13,003	₩ 637,269
Associates						
POSCO MEXICO PROCESSING CENTER HOLDING, LLC.	₩ 76,804	₩ -	₩ 76,804	₩ -	₩ 779	₩ 779
SPH CO., LTD	2	-	2	-	18	18
PT BATUTUA TEMBAGA RAYA POSCO-ESDC LTD.	-	56,424	56,424	56	-	56
POSCO IJPC Shanghai	17,347	-	17,347	-	113	113
Lansheng DAEWOO Corp Shanghai	2,606	-	2,606	-	344	344
Waigaoqiao Free Trade Zone Lansheng Daewoo Int'l Trading Co., Ltd.	265	-	265	-	568	568
GENERAL MEDICINES CO., LTD.	2,949	-	2,949	-	7	7
KOREA LNG LTD.	-	1,366	1,366	-	-	-
DMSA/AMSA SOUTH-EAST ASIA GAS PIPELINE CO., LTD.	48	59,671	59,719	-	-	-
GLOBAL KOMSCO DAEWOO LLC YULCHON MEXICO S.A. DE C.V.	14	147,367	147,381	-	-	-
POSCO-Malaysia SDN. BHD.	-	2,292	2,292	-	67	67
POSCO-ITPC S.p.A.	542	-	542	-	16	16
TK-Chemical Co., Ltd.	17,179	-	17,179	156	182	338
	14,703	-	14,703	-	188	188
	37,373	-	37,373	110	-	110
Others						
POSCO ASIA CO., LTD.	₩ 8,249	₩ 136	₩ 8,385	₩ 218,378	₩ 19,760	₩ 238,138
POSCO-VIETNAM CO., LTD.	-	47	47	3,147	-	3,147
POSCO-THAINOX	23,348	-	23,348	3,617	103	3,720
POSCO ASSAN TST STEEL INDUSTRY	188,083	78	188,161	3,065	44	3,109
POSCO-AAPC	9,462	-	9,462	5	-	5
POSCO C&C	2,332	1,048	3,380	20,102	-	20,102
POSCO AMERICA CORP.	8,688	-	8,688	4,904	1,222	6,126
ZHANGJIAGANG POHANG STAINLESS STEEL CO., LTD.	3,344	-	3,344	-	-	-
POSCO-Foshan Steel Processing Center CO., LTD.	14,418	32	14,450	-	42	42
COMPANHIA SIDERURGICA DO PECÉM	5,293	-	5,293	-	33	33
POSCO Energy Co., Ltd.	25,233	1,424	26,657	-	1,791	1,791
POSCO VST CO., LTD.	53,274	-	53,274	2,285	29	2,314
POSCO SS-VINA PT. KRAKATAU	78,298	102	78,400	-	-	-
POSCO Maharashtra Steel PVT.LTD.	25,800	280	26,080	2,309	-	2,309
	45,977	-	45,977	10,218	-	10,218
	200,388	85,311	285,699	21,439	39,301	60,740
Others						
	₩ 886,935	₩ 355,974	₩ 1,242,909	₩ 914,057	₩ 77,793	₩ 991,850
	\$ 815,198	\$ 327,182	\$ 1,142,380	\$ 840,126	\$ 71,501	\$ 911,627

32.3 Significant balances of receivables and payables outstanding with related parties as of December 31, 2020 and 2019 are summarized as follows: (cont'd)

Allowance for doubtful accounts for the above receivables as of December 31, 2020 and 2019 amount to ₩97,713 million (\$89,809 thousand) and ₩51,760 million (\$47,573 thousand), respectively.

(*1) Other receivables include the amount of loan investment under the respective agreement, and details of the changes for the year ended December 31, 2020 are as follows.

	Korean won in millions					
	Beginning balance	Increase (Including interest capitalization)	Reversal	Debt for Equity Swap	Foreign exchange translation and others	Ending balance
DMSA/AMSA	₩ 57,999	₩ -	₩ -	₩ (60,278)	₩ 2,279	₩ -
SOUTH-EAST ASIA GAS PIPELINE CO., LTD.	147,367	-	(47,539)	-	(8,825)	91,003
PT BATUTUA TEMBAGA RAYA	36,291	-	-	-	(936)	35,355
	<u>₩ 241,657</u>	<u>₩ -</u>	<u>₩ (47,539)</u>	<u>₩ (60,278)</u>	<u>₩ (7,482)</u>	<u>₩ 126,358</u>
U.S. dollar in thousand	<u>\$ 222,111</u>	<u>\$ -</u>	<u>\$ (43,694)</u>	<u>\$ (55,403)</u>	<u>\$ (6,877)</u>	<u>\$ 116,138</u>

32.4 Key management personnel compensation

Compensations for key management personnel for the years ended December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Salaries	₩ 14,026	₩ 17,020	\$ 12,892
Long-term employee benefits	1,272	1,943	1,169
Retirement benefits	1,607	2,299	1,477
	<u>₩ 16,905</u>	<u>₩ 21,262</u>	<u>\$ 15,538</u>

32.5 Guarantees provided to the related parties

Guarantees provided to the related parties as of December 31, 2020 and 2019 are disclosed in Note 19.6.

33. Statement of Cash Flows

33.1 Changes in liabilities arising from financing activities for the years ended December 31, 2020 and 2019 are as follows: (Korean won in millions)

	2020					
	Beginning balance	Cash flows arising from financing activities	Non-cash flows			Ending balance
			Reclassifi- cation	Exchange rate fluctuation	Others	
Current portion of lease liabilities	₩ 59,897	₩ (94,920)	₩ 129,108	₩ (7,779)	₩ 13,603	₩ 99,909
Short-term borrowings	916,414	(361,048)	-	(15,052)	-	540,314
Current portion of long-term borrowings	108,287	(204,326)	352,103	(339)	(1)	255,724
Current portion of bonds	130,042	(130,000)	430,702	(13,960)	258	417,042
Long-term lease liabilities	219,005	-	(129,108)	(10,670)	86,567	165,794
Bonds	1,243,688	298,995	(430,702)	(6,157)	1,596	1,107,420
Long-term borrowings	734,573	10,373	(352,103)	(18,502)	5,006	379,347
	₩ 3,411,906	₩ (480,926)	₩ -	₩ (72,459)	₩ 107,029	₩ 2,965,550
U.S. dollar in thousand	\$ 3,135,943	\$ (442,028)	\$ -	\$ (66,598)	\$ 98,372	\$ 2,725,689

	2019					
	Beginning balance	Cash flows arising from financing activities	Non-cash flows			Ending balance
			Reclassifi- cation	Exchange rate fluctuation	Others	
Current portion of lease liabilities	₩ 38,000	₩ (70,759)	₩ 86,509	₩ 351	₩ 5,796	₩ 59,897
Short-term borrowings	2,364,204	(1,439,831)	-	(7,959)	-	916,414
Current portion of long-term borrowings	63,220	(329,322)	374,699	(225)	(85)	108,287
Current portion of bonds	538,509	(545,972)	130,000	6,865	640	130,042
Long-term lease liabilities	271,193	-	(86,509)	7,338	26,983	219,005
Bonds	770,515	593,935	(130,000)	7,888	1,350	1,243,688
Long-term borrowings	652,936	399,255	(374,699)	12,517	44,564	734,573
	₩ 4,698,577	₩ (1,392,694)	₩ -	₩ 26,775	₩ 79,248	₩ 3,411,906
U.S. dollar in thousand	\$ 4,318,545	\$ (1,280,050)	\$ -	\$ 24,609	\$ 72,838	\$ 3,135,943

33.2 Significant non-cash transactions relating to investing activities and financing activities for the years ended December 31, 2020 and 2019 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2020	2019	2020
Reclassification of current portion of long-term trade receivables	₩ 44,897	₩ 24,368	\$ 41,266
Write-off of trade receivables	10,536	66,523	9,684
Write-off of other receivables	60,278	23,682	55,403
Debt-equity swaps of long-term loans	50,271	47,973	46,205
Reclassification of current portion of long-term loans	352,103	374,699	323,624
Other receivables arising from disposal of long-term equity securities	430,702	130,000	395,866
Reclassification of current portion of long-term borrowings	78,513	-	72,163
Reclassification of current portion of long-term bonds	129,108	86,509	118,665
Reclassification of current portion of lease liabilities	55,747	-	51,238

34. Uncertainty of the impact of COVID-19

Various prevention and control measures, including movement restrictions, are being implemented worldwide to contain the spread of COVID-19, and as a result, the global economy has been widely affected. In addition, various forms of government support policies are being announced to cope with the impact of COVID-19. The main items of the Group's consolidated financial statements impacted by COVID-19 are the recoverability of trade receivables (see note 5), impairment of inventory, property, plant and equipment and intangible assets (see notes 8, 10, and 12), deferred tax asset valuation (see note 28), and recognition of provisions (see note 18).

The Group has prepared the consolidated financial statements by reasonably estimating the impact of COVID-19 on the Group. However, the future spread and duration of COVID-19 may affect the Group's estimates and assumptions, however, the impact cannot be reliably estimated at this stage.

35. Uncertainty of the impact of the Myanmar coup

In February 2021, the military government of Myanmar initiated a coup on the grounds of the ruling party's election denial, and declared a state of emergency for one year after detaining Aung San Suu Kyi, Myanmar national advisor and senior members of the ruling party's National League for Democracy (NLD). However, as of December 31, 2020, the impact on the Group's operations, such as the Myanmar gas field, could not be reliably estimated, and the related impact has not been reflected in the consolidated financial statements.