

POSCO International Corporation (formerly, POSCO DAEWOO Corporation)

Separate financial statements
for the years ended December 31, 2019 and 2018
with the independent auditor's report

POSCO International Corporation
(formerly, POSCO DAEWOO Corporation)

Table of contents

Independent auditor's report	Page
Separate financial statements	
Separate statements of financial position	1
Separate statements of comprehensive income	3
Separate statements of changes in equity	4
Separate statements of cash flows	5
Notes to the separate financial statements	8
Independent auditor's report on internal control over financial reporting	

Independent auditor's report

The Shareholders and Board of Directors POSCO International Corporation (formerly, POSCO DAEWOO Corporation)

Opinion

We have audited the separate financial statements of POSCO International Corporation (the "Company"), which comprise the separate statements of financial position as of December 31, 2019 and 2018, and the separate statements of comprehensive income, separate statements of changes in equity and separate statements of cash flows for the years then ended, and notes to the separate financial statements, including a summary of significant accounting policies.

In our opinion, the separate financial statements present fairly, in all material respects, the separate financial position of the Company as of December 31, 2019 and 2018 and its separate financial performance and its separate cash flows for the years then ended in accordance with Korean International Financial Reporting Standards ("KIFRS").

We also have audited, in accordance with Korean Auditing Standards ("KGAAS"), the Company's internal control over financial reporting ("ICFR") as of December 31, 2019, based on criteria established in Conceptual Framework for designing and operating ICFR established by the Operating Committee of ICFR (the "ICFR Committee"), and our report dated March 20, 2020 expressed unqualified opinion thereon.

Basis for opinion

We conducted our audit in accordance with KGAAS. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the separate financial statements section of our report. We are independent of the Company in accordance with the ethical requirements that are relevant to our audit of the separate financial statements in the Republic of Korea, and we have fulfilled our 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 separate financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Timing of revenue recognition

As mentioned in the Note 3 (Revenue from contracts with customers) to the separate financial statements, the export and triangular transactions in the overseas revenue account for 83% of the total sales of the Company. As the volume of the sales transactions mentioned above is significant and timing of revenue recognition varies by transaction conditions, we determined that there is a high risk of errors in timing of revenue recognition and identified it as a significant risk.

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

- Assessed the internal control process established by the Company in relation to the timing of revenue recognition
- Selected samples of transactions occurred prior to and after December 31, 2019 and tested the timing of recognition by reviewing contracts, shipping documents and others in relation to the selected samples

Assessment of allowance for doubtful accounts

As a general trading entity, the Company engages in trading and business with various global clients. Therefore, the Company's trade receivables are exposed to credit risks, together with a broad range of economic and political risks. We considered the estimation uncertainties with various risks that are taken into account when assessing the recoverability of trade receivables and identified the Company's estimation of allowance for doubtful accounts as a significant risk.

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

- Assessed the internal control process established by the Company in relation to the identification of uncollectible receivables
- Reviewed the reasonableness of amounts assessed for all receivables requiring individual assessment
- Reviewed the reasonableness of the assessment model and the completeness of the data necessary for estimation for the receivables requiring collective assessment and independently reviewed the collective assessment details presented by management

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

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

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

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

Auditor's responsibilities for the audit of the separate financial statements

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

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

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

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



March 20, 2020

This audit report is effective as of March 20, 2020 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 to the time this report is used. Such events and circumstances could significantly affect the accompanying separate financial statements and may result in modifications to this report.

POSCO International Corporation
(formerly, POSCO DAEWOO Corporation)

Separate financial statements
for the years ended December 31, 2019 and 2018

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

Kim, Young-Sang
Chief Executive Officer
POSCO International Corporation

POSCO International Corporation (formerly, POSCO Daewoo Corporation)
Separate statements of financial position
as of December 31, 2019 and 2018

		Korean won in millions		U.S. dollar in thousands
	Notes	2019	2018	2019
Assets				
Current assets				
Cash and cash equivalents	4,30,31	₩ 85,092	₩ 53,760	\$ 73,495
Trade and other receivables, net	5,30,31	3,473,836	4,258,659	3,000,377
Other current financial assets	6,30,31	311	66	268
Derivative financial assets	19,30,31	42,074	53,261	36,340
Other current assets	7	153,497	118,576	132,577
Inventories, net	8	599,360	783,459	517,672
		₩ 4,354,171	₩ 5,267,781	3,760,728
Non-current assets				
Trade and other receivables, net	5,30,31	489,009	413,765	422,360
Other non-current financial assets	6,30,31	28,725	29,944	24,810
Investments in subsidiaries and associates	9	633,804	631,887	547,421
Property, plant and equipment, net	10	629,892	645,853	544,042
Right-of-use assets, net	11	20,824	-	17,986
Intangible assets, net	12	1,146,774	1,358,280	990,477
Investment properties, net	13	152,168	154,736	131,429
Net defined benefit assets	17	9	970	8
Deferred tax assets	28	260,552	264,846	225,041
Current tax assets		5,183	5,183	4,476
		₩ 3,366,940	₩ 3,505,463	\$ 2,908,050
Total assets		₩ 7,721,111	₩ 8,773,244	\$ 6,668,778
Liabilities and equity				
Current liabilities				
Trade and other payables	14,30,31	₩ 1,938,246	₩ 1,940,101	\$ 1,674,077
Borrowings	15,30,31	697,346	1,936,790	602,303
Current portion of bonds	15,30,31	130,042	538,509	112,319
Derivative financial liabilities	19,30,31	33,117	44,240	28,603
Current provisions	18	18,309	-	15,814
Other current liabilities	16	207,767	224,565	179,450
Current tax liabilities		-	54,682	-
		₩ 3,024,829	₩ 4,738,886	\$ 2,612,566
Non-current liabilities				
Trade and other payables	14,30,31	187,944	15,803	162,329
Borrowings	15,30,31	232,883	336,310	201,143
Bonds	15,30,31	1,243,688	770,515	1,074,182
Other non-current liabilities	16	32,556	37,963	28,119
Net defined benefit liabilities	17	4,619	-	3,989
Provisions	18,19	85,473	74,621	73,824
		₩ 1,787,164	₩ 1,235,211	\$ 1,543,586
Total liabilities		₩ 4,811,992	₩ 5,974,098	\$ 4,156,151

(Continued)

POSCO International Corporation (formerly, POSCO Daewoo Corporation)
Separate statements of financial position (cont'd)
as of December 31, 2019 and 2018

	Notes	Korean won in millions		U.S. dollar in thousands
		2019	2018	2019
Equity				
Issued capital	20	₩ 616,876	₩ 616,876	\$ 532,800
Capital surplus	20	544,003	544,003	469,859
Other components of equity	20	(6)	(6)	(5)
Accumulated other comprehensive income (loss)	6,21	(1,896)	(1,945)	(1,638)
Retained earnings	22	1,750,143	1,640,219	1,511,611
Total equity		<u>₩ 2,909,119</u>	<u>₩ 2,799,146</u>	<u>\$ 2,512,627</u>
Total liabilities and equity		<u>₩ 7,721,111</u>	<u>₩ 8,773,244</u>	<u>\$ 6,668,779</u>

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

POSCO INTERNATIONAL Corporation (formerly, POSCO Daewoo Corporation)
Separate statements of comprehensive income
as of December 31, 2019 and 2018

		Korean won in millions		U.S. dollar in thousands (Note 2)
	Notes	2019	2018	2019
Sales	3	₩ 22,743,722	₩ 23,308,796	\$ 19,643,913
Cost of sales	23	(21,771,950)	(22,523,175)	(18,804,586)
Gross profit		971,773	785,621	839,327
Selling and administrative expenses	23,24	(403,606)	(400,336)	(348,598)
Operating profit		568,166	385,285	490,729
Finance income	25	804,992	769,101	695,277
Finance costs	25	(843,205)	(824,200)	(728,282)
Other income	26	45,027	23,374	38,890
Other expenses	26	(282,606)	(219,551)	(244,089)
Profit for the year before tax	3	292,374	134,008	252,525
Income tax expense	28	(100,669)	(36,237)	(86,949)
Profit for the year		₩ 191,704	₩ 97,772	\$ 165,576
Other comprehensive income (loss):				
Other comprehensive income (loss) to be reclassified to profit or loss in subsequent periods:				
Other comprehensive income (loss) not to be reclassified to profit or loss in subsequent periods:				
Loss on valuation of equity instruments measured at fair value through other comprehensive income	6,21,28	(529)	(5,621)	(457)
Re-measurement gain (loss) on defined benefit liabilities	17,28	(7,177)	(5,682)	(6,199)
Other comprehensive loss for the year, net of tax		(7,706)	(11,303)	(6,656)
Total comprehensive income for the year, net of tax		₩ 183,998	₩ 86,469	\$ 158,920
Earnings per share				
(Korean won and U.S. dollar):				
Basic	29	₩ 1,554	₩ 792	\$ 1.34
Diluted	29	₩ 1,554	₩ 792	\$ 1.34

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

POSCO INTERNATIONAL Corporation (formerly, POSCO Daewoo Corporation)

Separate statements of changes in equity
as of December 31, 2019 and 2018

	Korean won in millions					U.S. dollar in thousands
	Issued capital	Capital surplus	Other components of equity	Accumulated other comprehensive income	Retained earnings	Total
As of January 1, 2018	₩ 616,876	₩ 544,003	₩ (6)	₩ 13,383	₩ 1,601,370	₩ 2,775,626
Effects of changes in accounting policies	-	-	-	(9,707)	8,446	(1,261)
As of January 1, 2018 (restarted)	₩ 616,876	₩ 544,003	₩ (6)	₩ 3,676	₩ 1,609,817	₩ 2,774,365
Profit for the year	-	-	-	-	97,772	97,772
Net gain on valuation of equity instruments at FVOCI	-	-	-	(5,621)	-	(5,621)
Re-measurement gain(loss) on the net defined benefit	-	-	-	-	(5,682)	(4,855)
Total comprehensive income	₩ -	₩ -	₩ -	₩ (5,621)	₩ 92,089	₩ 86,469
Dividends (DPS: ₩500)	-	-	-	-	(61,687)	(53,280)
As of December 31, 2018	₩ 616,876	₩ 544,003	₩ (6)	₩ (1,945)	₩ 1,640,219	₩ 2,799,146
As of January 1, 2019	₩ 616,876	₩ 544,003	₩ (6)	₩ (1,945)	₩ 1,640,219	₩ 2,799,146
Profit for the year	-	-	-	-	191,704	191,704
Net loss on valuation of financial assets at FVOCI	-	-	-	(529)	-	(457)
Re-measurement gain(loss) on the net defined benefit	-	-	-	-	(7,177)	(6,199)
Total comprehensive income	₩ -	₩ -	₩ -	₩ (529)	₩ 184,527	₩ 183,998
Disposal of financial assets at FVOCI	-	-	-	578	(578)	-
Dividends	-	-	-	-	-	-
(DPS:600 won)	-	-	-	-	(74,025)	(63,936)
As of December 31, 2019	₩ 616,876	₩ 544,003	₩ (6)	₩ (1,896)	₩ 1,750,143	₩ 2,909,119
As of December 31, 2019	₩ 616,876	₩ 544,003	₩ (6)	₩ (1,896)	₩ 1,750,143	₩ 2,909,119

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

POSCO INTERNATIONAL Corporation (formerly, POSCO Daewoo Corporation)
Separate statements of cash flows
for the years ended December 31, 2019 and 2018

	Korean won in millions		U.S. dollar in thousands	
	2019	2018	2019	
Operating activities				
Profit for the year	₩ 191,704	₩ 97,772	\$ 165,576	
Reconciliation of profit for the year to net cash flows provided by (used in) operating activities:				
Depreciation of property, plant and equipment	38,831	40,136	33,538	
Amortization of intangible assets	184,955	124,545	159,747	
Depreciation of investment properties	2,899	2,895	2,504	
Depreciation of right-of-use assets	11,696	-	10,102	
Retirement benefits	18,996	16,481	16,407	
Bad debt expenses	19,478	35,956	16,823	
Interest expenses	96,836	110,551	83,638	
Net loss on valuation of financial assets at fair value measurement	11	-	9	
Loss on disposal of investments in subsidiaries and associates	285	379	246	
Gain on disposal of investments in subsidiaries and associates	(3,454)	-	(2,983)	
Loss on impairment of investments in subsidiaries and associates	76,038	160,085	65,674	
Net gain on disposal of financial assets at fair value measurement	-	(5,271)	-	
Loss on redemption of borrowings	2,237	-	1,933	
Loss on foreign currency translation	84,010	47,369	72,560	
Loss on settlement of derivatives	210,746	195,473	182,023	
Loss on valuation of derivatives	55,752	88,047	48,153	
Loss on valuation of accounts receivable	3,505	3,209	3,027	
Loss on valuation of accounts payable	603	-	521	
Other bad debt expenses	49,819	13,244	43,029	
Loss on disposal of property, plant and equipment	60	440	52	
Impairment loss on property, plant and equipment	1,349	1,028	1,165	
Reversal of impairment loss on property, plant and equipment	(221)	-	(191)	
Loss on disposal of intangible assets	62	75	53	
Impairment loss on intangible assets	127,814	3,339	110,394	
Reversal of impairment loss on intangible assets	(26)	-	(22)	
Income tax expenses	100,669	36,237	86,949	
Loss on valuation of inventories	2,684	6,020	2,319	
Financial guarantee expenses	-	3,592	-	
Contingent losses	8,495	20,993	7,337	
Reversal of provision for contingency loss	(1,600)	(476)	(1,382)	
Increase in provision for restoration	4,140	865	3,576	
Interest income	(37,899)	(33,436)	(32,734)	
Dividends income	(49,705)	(50,110)	(42,931)	
Gain on foreign currency translation	(64,527)	(55,860)	(55,732)	
Gain on settlement of derivatives	(182,191)	(226,009)	(157,360)	
Gain on valuation of derivatives	(86,294)	(81,367)	(74,533)	
Gain on valuation of accounts payable	(389)	-	(336)	
Gain on valuation of accounts receivable	-	(64)	-	
Reversal of other bad debt allowance	(2,340)	(2,072)	(2,021)	
Gain on disposal of property, plant and equipment	(20,246)	(197)	(17,486)	
Gain on disposal of intangible assets	(875)	(2,536)	(756)	
(Reversal of) loss on valuation of inventories	(260)	(3,749)	(225)	
Financial guarantee income	(2,033)	(1,635)	(1,756)	

(Continued)

POSCO INTERNATIONAL Corporation (formerly, POSCO Daewoo Corporation)
Separate statements of cash flows (cont'd)
for the years ended December 31, 2019 and 2018

	Korean won in millions		U.S. dollar in thousands	
	2019	2018	2019	
Changes in operating assets and liabilities:				
Trade receivables	₩ 832,603	₩ (823,445)	\$ 719,125	
Other current receivables	(23,314)	(5,530)	(20,137)	
Other current assets	(35,301)	39,220	(30,490)	
Inventories	181,674	(52,982)	156,913	
Derivative financial assets	2,050	22,447	1,771	
Other non-current receivables	1,647	520	1,442	
Trade accounts payable	(92,033)	242,986	(79,489)	
Other current payables	44,241	(55,682)	38,211	
Other current liabilities	(17,251)	55,853	(14,900)	
Other non-current payables	1,656	171	1,430	
Contingent liabilities	13,153	(6,702)	11,360	
Payment of severance benefit	(573)	(434)	(495)	
Contribution to plan assets	(22,700)	(15,977)	(19,606)	
Interest received	26,442	33,824	22,839	
Dividends received	43,836	41,647	37,861	
Interest paid	(83,697)	(95,276)	(72,290)	
Income tax paid	(147,942)	(91,664)	(127,778)	
Net cash flows provided by (used in) operating activities	₩ 1,566,107	₩ (165,075)	\$ 1,352,658	
Investing activities				
Disposal of debt securities at amortized cost	-	80	-	
Disposal of investments in subsidiaries and associates	18,772	17,561	16,214	
Disposal of equity securities at FVPL	4,200	2,209	3,628	
Disposal of equity securities at FVOCI	672	-	581	
Collection of equity Investment at FVPL	470	-	406	
Disposal of other securities at FVPL	21	-	18	
Decrease in guarantee deposits	-	2	-	
Decrease in long-term guarantee deposits	-	933	-	
Proceeds from disposal of property, plant and equipment	435	460	376	
Proceeds from disposal of intangible assets	1,473	6,646	1,272	
Decrease in short-term loans	-	47,294	-	
Decrease in long-term loans	63,102	2,435	54,502	
Decrease in finance lease receivables	56,889	-	49,135	
Increase in deposits at financial institutions, net	(335)	(217)	(289)	
Acquisition of subsidiaries	(74,717)	(11,563)	(64,534)	
Acquisition of equity securities at FVOCI	(454)	-	(392)	
Acquisition of equity investment at FVPL	-	(400)	-	
Increase in long-term other receivables	(10,657)	(20,174)	(9,204)	
Increase in guarantee deposits	(40)	-	(34)	
Increase in long-term guarantee deposits	(41)	-	(35)	
Increase in short-term loans	(17,191)	-	(14,848)	
Increase in long-term loans	(25,368)	(18,353)	(21,910)	
Acquisition of property, plant, and equipment	(26,481)	(32,213)	(22,872)	
Acquisition of intangible assets	(99,073)	(29,188)	(85,570)	
Acquisition of investment properties	(331)	-	(286)	
Net cash flows used in investing activities	₩ (108,652)	₩ (34,488)	₩ (93,844)	

(Continued)

POSCO INTERNATIONAL Corporation (formerly, POSCO Daewoo Corporation)
Separate statements of cash flows (cont'd)
for the years ended December 31, 2019 and 2018

	Korean won in millions		U.S. dollar in thousands
	2019	2018	2019
Financing activities			
Issuance of bonds	₩ 593,935	₩ 573,623	\$ 513
Proceeds from short-term borrowings	-	384,753	-
Proceeds from long-term borrowings	96,195	5,060	83,084
Repayment of current portion of bonds	(545,972)	(464,280)	(471,560)
Repayment of short-term borrowings	(1,282,100)	-	(1,107,358)
Repayment of current long-term borrowings	(28,678)	-	(24,769)
Repayment of long-term borrowings	(126,037)	(230,667)	(108,859)
Dividends paid	(74,025)	(61,687)	(63,936)
Lease liabilities paid	(64,128)	(6)	(55,388)
Net cash flows provided by (used in) financing activities	(1,430,810)	206,794	(1,235,800)
Net increase in cash and cash equivalents	26,645	7,232	48
Cash and cash equivalents as of January 1	53,760	44,350	45
Net foreign exchange differences	4,687	2,178	4
Cash and cash equivalents as of December 31	₩ 85,092	₩ 53,760	\$ 97

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

1. Corporate information

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 changed its name from POSCO Daewoo Corporation to POSCO International Corporation in accordance with the resolution at the annual shareholders’ meeting held on March 18, 2019.

The Company engages in various business activities, such as providing international trade, export agency services, intermediary trading, manufacturing, natural resource development and lease service. The primary products sold by the Company include various industrial grade steel, metals, chemicals, auto parts, machinery, ships, plants, electronics, special materials, grains 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, 2019 is ₩616,876 million. POSCO, the Company’s largest shareholder, owns 62.91% equity interest in the Company.

2. Basis of preparation and summary of significant accounting policies

2.1 Basis of preparation

The Company prepares statutory financial statements in the Korean language in accordance with Korean International Financial Reporting Standards (“KIFRS”) enacted by the *Act on External Audit of Stock Companies, etc.* The accompanying separate financial statements have been translated into English from the Korean language financial statements. In the event of any differences in interpreting the financial statements or the independent auditors’ report thereon, the Korean version, which is used for regulatory reporting purposes, shall prevail.

The separate financial statements have been prepared on a historical cost basis, except for derivative financial instruments, available-for-sale financial assets and others that have been measured at fair value. The carrying values of recognized assets and liabilities that are designated as hedged items in fair value hedges that would otherwise be carried at amortized cost are adjusted to record changes in the fair values attributable to the risks that are being hedged in effective hedge relationships. The separate financial statements are presented in Korean won (KRW) and all values are rounded to the nearest million, except when otherwise indicated.

2.2 Summary of significant accounting policies

2.2.1 Subsidiaries, associates and jointly controlled entities

Pursuant to KIFRS 1027, the accompanying separate financial statements are accounted for, by a parent, investor in an associate on the basis of the direct equity interest rather than on the basis of the reported results and net assets of the investees. Moreover, KIFRS 1027 requires that, in separate financial statements, investments in subsidiaries or associates should be accounted for at cost. All dividends should be recognized in profit or loss within separate financial statements once the right to receive payment has been established.

2.2.2 Current versus non-current classification

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

An asset is current when it is:

- Expected to be realized or intended to be sold or consumed in the normal operating cycle
- Held primarily for the purpose of 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

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

All other assets are classified as non-current. A liability is current when:

- It is expected to be settled in the normal operating cycle
- It is held primarily for the purpose of 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 Company classifies all other liabilities as non-current.

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

2.2.3 Fair value measurement

The Company measures financial instruments such as derivatives at fair value at each balance sheet 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 Company.

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

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

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

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

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

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

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

2.2.3 Fair value measurement (cont'd)

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

2.2.4 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 Company expects to be entitled in exchange for those goods or services.

2.2.4.1 Trade

(1) Classification and implementation of performance obligations

Performance obligation are identified in certain contracts with respect to (1) the sale of goods, and (2) the performance of their duties as part of their trade transactions with customers. The Company 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 Company has no alternative use for assets created by fulfilling obligations and the Company has the enforceable right for the payment for the portion completed up to now, the revenue is recognized by the percentage-of-completion methods.

The Company 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 K-IFRS 1037, 'Contingent Liabilities and Contingent Assets.' Guarantees of the types of services classified as separate performance obligations are not recognized.

(2) Variable consideration

If the consideration in a contract includes a variable amount, the Company 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 constrained until it is highly probable that a significant revenue reversal in the amount of cumulative revenue recognized will not occur when the associated uncertainty with the variable consideration is subsequently resolved.

Certain contracts provide a customer with a right to return the goods within a specified period. For goods that are expected to be returned, instead of revenue, the Company recognizes a refund liability. A right of return asset (and corresponding adjustment to cost of sales) is also recognized for the right to recover products from a customer. If the Company receives short-term advances from its customers, the practical expedient in KIFRS 1115 is used, and the Company 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) Judgement on principal versus agent

The Company 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 Company 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.

2.2.4.2 Energy Division

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 goods are transferred.

2.2.4.3 Others

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

2.2.5 Cash and cash equivalents

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

Cash and cash equivalents in the cash flow statement are amounts after deducting the bank overdraft from these cash and cash equivalents.

2.2.6 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.

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

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

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

Purchases or sales 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 Company commits to purchase or sell the asset.

2.2.6.1 Financial instruments (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 Company's financial assets at amortized cost include cash and cash equivalents, trade and other receivables and other financial assets.

Financial assets at fair value through OCI (debt instruments)

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

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

For debt instruments at fair value through OCI, interest income, foreign exchange revaluation and impairment losses or reversals are recognized 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 Company's debt instruments at fair value through OCI includes investments in quoted debt instruments included under other non-current financial assets.

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

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

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

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

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

2.2.6.1 Financial assets (cont'd)

Financial assets at fair value through profit or loss

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

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

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

(3) Derecognition

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

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

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

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

2.2.6.1 Financial assets (cont'd)

(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

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

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

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

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

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

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

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

(2) Subsequent measurement

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

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 Company that are not designated as hedging instruments in hedge relationships as defined by KIFRS 1109. Separated embedded derivatives are also classified as held for trading unless they are designated as effective hedging instruments.

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

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

Loans and borrowings

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

Amortized cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the EIR. The EIR amortization is included as finance costs in the statement of profit or loss. 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 the statement of profit or loss.

2.2.6.3 Offsetting of financial instruments

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

2.2.6.4 Derivative financial instruments and hedge accounting

(1) Initial recognition and subsequent measurement

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

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

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

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

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

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

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

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

For 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.

2.2.7 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).

2.2.8 Non-current assets held for sale and discontinued operations

The Company classifies non-current assets and disposal company's 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 company's 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.

2.2.8 Non-current assets held for sale and discontinued operations (cont'd)

The criteria for held for sale classification is regarded as met only when the sale is highly probable and the asset or disposal company 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. Management must be committed to the sale expected 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 company qualifies as discontinued operation if it is a component of an entity that either has been disposed of, or is classified as held for sale, and:

- Represents a separate major line of business or geographical area of operations
- Is part of a single 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 profit or loss and other comprehensive income.

2.2.9 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 Company 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.

	Years
Buildings	40~50
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 assets' residual values, useful lives and methods of depreciation are reviewed at each fiscal year end, and adjusted prospectively, if appropriate.

2.2.10 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 company 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.

2.2.11 Leases

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

2.2.11.1 Company as a lessee

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

(1) Right-of-use assets

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

Right-of-use assets are also subject to impairment and are described in the accounting policy for impairment of non-financial assets in Note 2-2-14.

(2) Lease liabilities

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

2.2.11.1 Company as a lessee (cont'd)

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

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

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

(3) Short-term leases and leases of low-value assets

The Company applies the short-term lease recognition exemption to its short-term leases of 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.

2.2.11.2 Company as a lessor

Leases in which the Company does not transfer substantially all the risks and rewards incidental to ownership of an asset are classified as operating leases. Rental income arising is accounted for on a straight-line basis over the lease terms and is included in revenue in the statement of 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.

2.2.12 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.

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 Company 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.

2.2.13. Exploration and evaluation assets, development assets and mining rights

The Company 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:

2.2.13.1 Exploration and evaluation assets

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

2.2.13.2 Development assets

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

2.2.13.3 Mining rights

Mining rights (production fields) consist of expenditures 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 based on the reserves.

2.2.14 Impairment of non-financial assets

The Company assesses, at each reporting date, whether there is an indication that an asset may be impaired. If any indication exists or an annual impairment test of the asset is required, the Company 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 Company 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.

2.2.15 Foreign currency translation

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

At the end of each reporting period, foreign currency monetary items are translated using the closing rate. Exchange differences arising on translating monetary items at rates different from those at which they were translated on initial recognition during the period or in previous financial statements are recognized in profit or loss in the period in which they arise.

Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rates at the dates of the initial transactions. Non-monetary items measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value is determined. 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 Company 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 Company shall determine the date of the transaction due to prepayment or advance receipt of the consideration respectively.

2.2.16 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.

2.2.17 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 Company 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.

2.2.18 Pension benefit

The Company operates a defined benefit pension plan, which requires contributions to be made to a separately administered fund.

The cost of providing benefits under the defined benefit plan is determined using the projected unit credit method. Re-measurements, comprising of actuarial gains and losses, the effect of the asset ceiling, excluding net interest (not applicable to the Company) and the return on plan assets (excluding net interest), are recognized immediately in the statement of financial position with a corresponding debit or credit to retained earnings through OCI in the period in which they occur. 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 Company recognizes restructuring-related costs

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

2.2.19 Taxes

2.2.19.1 Current income 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.

2.2.19.2 Deferred tax

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

- When the 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

Deferred 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.

2.2.19.2 Deferred tax (cont'd)

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 Company 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.

2.2.20 Provisions and contingent liabilities

Provisions are recognized when the Company has a present obligation (legal or constructive) as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

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 Company will be reimbursed if it fulfills its obligations. Expenses recognized in the 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.

(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 Company 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 Company's financial statements requires management to make judgments, estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the disclosure of contingent liabilities, at the end of the reporting period. 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 Company'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 judgements

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

The Company has lease agreements that include the option for extension and termination. The Company 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 Company reassesses the lease term if there is a significant event or change in circumstances that is within its control and affects its ability to exercise or not to exercise the option to renew or to terminate (for example, significant lease improvements or significant customer customization of the leased asset).

The Company includes the renewal period as part of the lease term for the lease of facilities and machinery with a shorter 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 Company typically exercises the option to extend the lease. The extended term for a lease of facilities and machinery with a long 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 Company 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 least 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 Company. When such changes occur, they are reflected in the assumption.

2.3.2.1 Impairment of non-financial assets

The Company 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

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

The provision matrix is initially based on the Company's historical observed default rates. The Company 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 over the next year 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 Company's historical credit loss experience and forecast of economic conditions may also not be 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

When 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 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 Company 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 Company 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 company 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 Company 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 Company applied for the first-time certain standards and amendments, which are effective for annual periods beginning on or after January 1, 2019. The nature and the impact of each new standard and amendment are described below:

2.4.1 KIFRS 1116 Leases

KIFRS 1116 Leases replaces KIFRS 1017 *Leases*, KIFRS 2104 *Determining Whether an Arrangement Contains a Lease*, KIFRS 2015 *Operating Leases-Incentives* and KIFRS 2027 *Evaluating the Substance of Transactions Involving the Legal Form of a Lease*. KIFRS 1116 sets out the principles for the recognition, measurement, presentation and disclosure of leases and requires lessees to account for most leases in the separate statement of financial position.

The lessor's accounting has not changed significantly from the accounting in KIFRS 1017. The lessor continues to classify the lease as an operating lease and a financing lease using principles similar to KIFRS 1017. Therefore, KIFRS 1116 does not affect a lease when the Company is a lessor.

2.4.1 KIFRS 1116 Leases (cont'd)

The Company adopted KIFRS 1116 using the cumulative catch-up transition method, and the initial application date is January 1, 2019. In the cumulative catch-up transition method, this standard is applied retrospectively to recognize the cumulative effect of initial application at the date of initial application. The Company has chosen to apply a practical expedient not to reassess whether the contract is a lease, or contains a lease, on the date of initial application.

The effects of adopting KIFRS 1116 on January 1, 2019 are as follows:

	Korean won in millions	U.S. dollar in thousands
<Assets>	2019	2019
Current portion of finance lease receivables	₩ 39,151	\$ 33,815
Long-term finance lease receivables	225,658	194,902
Right-of-use assets	28,076	24,249
	₩ 292,885	\$ 252,966
<Liabilities>		
Current portion of lease liabilities	₩ 35,623	\$ 30,768
Long-term lease liabilities	237,533	205,159
Net effect on net assets	19,729	17,040
	₩ 292,885	\$ 252,967

The Company has lease arrangements for various items of buildings and structures, aircraft, and other equipment. Prior to the adoption of KIFRS 1116, the Company classified each lease as a finance lease or operating lease as a lessee at the opening date.

In adopting KIFRS 1116, the Company adopted a single recognition and measurement approach for all leases in which the entity is a lessee, except for short-term leases, and leases of low-value assets and vehicles. The accounting policies that are effective beginning on or after January 1, 2019 are described in Note 2-2-11 Leases. The standard provides specific transitional provisions and practical expedients applied by Company.

2.4.1.1 Leases previously classified as finance leases

At the date of initial application, the Company did not change the initial carrying amount of the assets and liabilities recognized for the lease previously classified as a finance lease (i.e., the right-of-use assets and the lease liabilities are the same as the lease assets and liabilities recognized in accordance with KIFRS 1017). The requirements of KIFRS 1116 have been applied to these leases since January 1, 2019.

2.4.1.2 Leases previously accounted for as operating leases

The Company recognized right-of-use assets and lease liabilities for those leases previously classified as operating leases, except for short-term leases and leases of low-value assets. The right-of-use assets for most leases were recognized based on the carrying amount as if the standard had always been applied, apart from the use of incremental borrowing rate at the date of initial application. In some leases, the right-of-use assets were recognized based on the amount equal to the lease liabilities, adjusted for any related prepaid and accrued lease payments previously recognized. Lease liabilities were recognized based on the present value of the remaining lease payments, discounted using the incremental borrowing rate at the date of initial application.

The Company also applied the available practical expedients wherein it:

- Used a single discount rate to a portfolio of leases with reasonably similar characteristics
- Relied on its assessment of whether leases are onerous immediately before the date of initial application
- Applied the short-term leases exemptions to leases with lease term that ends within 12 months of the date of initial application
- Excluded the initial direct costs from the measurement of the right-of-use asset at the date of initial application
- Used hindsight in determining the lease term where the contract contained options to extend or terminate the lease

Based on the above, as of January 1, 2019:

- Right-of-use assets of ₩28,076 million and lease receivables of ₩264,809 million were recognized and presented separately in the separate statement of financial position
- Additional lease liabilities of ₩273,156 million (included in interest-bearing borrowings) were recognized

The lease liabilities as of January 1, 2019 can be reconciled to the operating lease commitments as of December 31, 2018, as follows:

Operating lease commitments as of December 31, 2018	₩	308,240	\$	266,229
Weighted average incremental borrowing rate as of January 1, 2019		2.17% ~4.50%		
Discounted operating lease commitment January 1, 2019		275,645	\$	238,077
<Less>				
Commitments relating to short-term leases	₩	(464)	\$	(401)
Commitments relating to leases of low-value assets		(2,025)		(1,749)
	₩	(2,489)	\$	(2,150)
Lease liabilities as of Jan. 1, 2019	₩	273,156	\$	235,927

2.4.2 KIFRS 2123 *Uncertainty over Income Tax Treatments*

This interpretation addresses how to apply KIFRS 1012, when there is uncertainty over income tax treatments. However, this Interpretation does not apply to taxes or levies out of the scope of KIFRS 1012 and to any uncertain tax treatment relating to such taxes or levies. This Interpretation specifically addresses the following:

- Whether an entity will consider uncertain income tax treatment separately
- The assumptions an entity makes about the examination of tax treatments by taxation authorities
- How an entity will determine taxable income (tax loss), tax base, unused tax loss, unused tax deduction, and tax rate
- How an entity will consider changes in facts and circumstances

The Company determines whether to consider each uncertain tax treatment separately or together with one or more other uncertain tax treatments and uses an approach that better predicts the resolution of uncertainties.

The Company has applied significant judgement in identifying uncertainty over income tax treatments. Since the Company operates in a complex multinational tax environment, the effect that the interpretation would have on the financial statements was assessed and there is no effect that the interpretation has on the separate financial statements of the Company.

2.4.3 Amendments to KIFRS 1109 *Financial Instruments - Prepayment Features with Negative Compensation*

In KIFRS 1109, a debt instrument held in a business model that has contractual cash flows that are solely payments of principal and interest (SPPI terms) and are appropriate for classification can be measured at amortized cost or fair value through OCI. The amendments to KIFRS 1109 clarify financial assets that meet SPPI terms, regardless of the event or circumstances that result in early settlement of the contract and whether the parties receive or receive reasonable compensation for early settlement of the contract. This amendment has no effect on the separate statement of financial position of the Company.

2.4.4 Amendments to KIFRS 1019 *Employee Benefits – Plan Amendment, Curtailment and Settlement of Defined Benefit Plans*

The amendments address the accounting when a plan amendment, curtailment or settlement occurs during a reporting period. The amendments clarify that when a plan amendment, curtailment or settlement occurs during the annual reporting period, an entity is required to; determine the current service cost for the remainder of the period after the plan amendment, curtailment or settlement, using the actuarial assumptions used to remeasure the net defined benefit liability (asset) reflecting the benefits offered under the plan and the plan assets after that event, and ; determine the net interest for the remainder of the period after the plan amendment, curtailment or settlement, using the discount rate used to remeasure the net defined benefit liability (asset) reflecting the benefits offered under the plan and the plan assets after that event. Since there are no amendments, curtailments or settlements to the Company during the reporting period, the amendments do not affect the separate financial statements of Company.

2.4.5 Amendments to KIFRS 1028 *Investments in Associates and Joint Ventures - Long-Term Investment Interest on Associates and Joint Ventures*

The amendments clarify that an entity should apply KIFRS 1109 to financial instruments that do not apply the equity method to associates or a joint venture, including long-term investment interests that, in effect, include part of the entity's net investment in the associates or joint ventures. This means that the expected credit loss model in KIFRS 1109 applies to such long-term investment interests. The amendments also clarify in applying KIFRS 1109 that an entity does not consider the loss of associates or joint ventures or impairment losses on its net investment arising from the application of KIFRS 1028 *Investments in associates and joint Ventures*. The amendment may be applied retrospectively for annual periods beginning on or after January 1, 2019. This amendment has no effect on the separate statement of financial position of the Company.

2.4.6 Annual Improvements 2015-2017 Cycle

KIFRS 1103 Business Combinations

The amendments clarify that, when an entity obtains control of a business that is a joint operation, it applies the requirements for a business combination achieved in stages, including remeasuring previously held interests in the assets and liabilities of the joint operation at fair value. In doing so, the acquirer remeasures its entire previously held interest in the joint operation. An entity applies those amendments to business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after January 1, 2019, with early application permitted. These amendments will apply on future business combinations of the Company.

KIFRS 1111 Joint Arrangements

A party that participates in, but does not have joint control of, a joint operation might obtain joint control of the joint operation in which the activity of the joint operation constitutes a business as defined in KIFRS 1103. The amendments clarify that the previously held interests in that joint operation are not remeasured. An entity applies those amendments to transactions in which it obtains joint control on or after the beginning of the first annual reporting period beginning on or after January 1, 2019, with early application permitted. Since the Company has no transactions that have obtained joint control during the current term, the amendment has no effect on its financial statements.

KIFRS 1012 Income Taxes

The amendments clarify that the income tax consequences of dividends are linked more directly to past transactions or events that generated distributable profits than to distributions to owners. Therefore, an entity recognizes the income tax consequences of dividends in profit or loss, other comprehensive income or equity according to where the entity originally recognized those past transactions or events. An entity applies those amendments for annual reporting periods beginning on or after January 1, 2019, with early application is permitted. When an entity first applies those amendments, it applies them to the income tax consequences of dividends recognized on or after the beginning of the earliest comparative period. Since the Company's current practice is in line with these amendments, the Company does not expect any effect on its separate financial statements.

KIFRS 1023 Borrowing Costs

The amendments clarify that an entity treats as part of general borrowings any borrowing originally made to develop a qualifying asset when substantially all of the activities necessary to prepare that asset for its intended use or sale are complete. An entity applies those amendments to borrowing costs incurred on or after the beginning of the annual reporting period in which the entity first applies those amendments. An entity applies those amendments for annual reporting periods beginning on or after January 1, 2019, with early application permitted. Since the Company's current practice is in line with these amendments, the Company does not expect any effect on its financial statements.

2.5 Accounting standards published but not yet implemented

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

Amendments to KIFRS 1103 Business Combinations – Definition of business

In October 2018, the International Accounting Standards Board (IASB) amended the definition of a business in KIFRS 1103 *Business Combinations* to help an entity determine whether its acquired activities and groups of assets are business. The amendments clarified the minimum requirements to meet the definition of the business, removed the assessment of *whether market participants are capable of replacing any missing elements*, added guidance to help an entity assess whether an acquired process is substantive, narrowed the definitions of a business and of outputs, and introduced an optional fair value concentration test. Since those amendments apply prospectively to transactions or events occurring on or after the date of initial application, the Company does not expect any effect on its separate financial statements at the date of the amendment.

Amendments to KIFRS 1101 and 1008 *Definition of Material*

In October 2018, IASB aligned the definition of material in KIFRS 1001 *Presentation of financial statements* and KIFRS 1008 *Accounting policies, changes in accounting estimates and errors* and clearly amended specific aspects of the definition. According to the new definition, '*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 Company does not expect those amendments has any effect on its separate financial statements.

2.6 Approval of 2019 financial statements

The financial statements of the Company for the year ended December 31, 2019 are scheduled to be approved at the Company's general shareholders' meeting to be held on March 30, 2020.

3. Segment information

3.1 Operating segment

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

The financial performance and financial position of each segment for the years ended December 31, 2019 and 2018 are as follows:

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

	Korean won in millions				U.S. dollar in thousands
	2019				2019
	Trading	Energy	Others	Total	Total
Sales	₩ 20,882,110	₩ 1,846,937	₩ 14,685	₩ 22,743,722	\$ 19,643,913
Profit (loss) for the year before tax	(10,171)	298,885	3,660	292,374	252,525
Total asset	4,788,013	2,466,605	200,758	7,455,376	6,439,261
Total liabilities	2,732,329	697,565	8,368	3,438,262	2,969,651

The Company restructured its organization in 2019, and the operating segment of 2018, presented for comparative purpose, was restated based on the modified restructured organization.

3.1.2 The financial performance and position of each segment for the years ended December 31, 2018 are as follows:

	Korean won in millions				U.S. dollar in thousands
	2018				2019
	Trading	Energy	Others	Total	Total
Sales	₩ 21,933,735	₩ 1,300,653	₩ 14,408	₩ 23,308,796	\$ 20,846,790
Profit (loss) for the year before tax	(14,399)	144,705	3,702	134,008	115,744
Total asset	5,565,908	2,733,297	204,010	8,503,215	7,605,058
Total liabilities	3,774,485	828,136	7,771	4,610,392	4,123,363

The Company restructured its organization in 2019, and the operating segment of 2018, presented for comparative purpose, was restated based on the modified restructured organization.

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 enterprise level.

3.1.3.1 Reconciliation of assets is as follows:

	Korean won in millions	U.S. dollar in thousands
	2019	2019
Segment operating assets	₩ 7,455,376	\$ 6,439,261
Current tax assets	5,183	4,477
Deferred tax assets	260,552	225,041
Total assets	₩ 7,721,111	\$ 6,668,778

	Korean won in millions	U.S. dollar in thousand
	2018	2018
Segment operating assets	₩ 8,503,125	\$ 7,604,977
Current tax assets	5,183	4,636
Deferred tax assets	264,886	236,907
Total assets	₩ 8,773,244	\$ 7,846,565

3.1.3.2 Reconciliation of liabilities is as follows:

	Korean won in millions	U.S. dollar in thousand
	2019	2019
Segment operating liabilities	₩ 3,438,262	\$ 2,969,651
Current tax liabilities	-	-
Current portion of bonds	130,042	112,318
Bonds	1,243,688	1,074,182
Total liabilities	₩ 4,811,992	\$ 4,156,151

	Korean won in millions	U.S. dollar in thousand
	2018	2018
Segment operating liabilities	₩ 4,610,392	\$ 4,123,417
Current tax liabilities	54,682	48,906
Current portion of bonds	538,509	481,629
Bonds	770,515	689,129
Total liabilities	₩ 5,974,098	\$ 5,343,080

3.2 Revenue from the contracts with customers

Details of classification of sales except for rental revenue from investment properties of ₩ 7,163 million (\$ 6,187 thousand) for the year ended December 31, 2019 are as follows:

3.2.1 Sales categorization based on the geographical locations

	Korean won in million	U.S. dollar in thousand
	2019	2019
Domestic	₩ 4,522,461	\$ 3,906,081
Asia(excluding China)	8,545,476	7,380,788
China	2,987,586	2,580,399
North America	1,448,707	1,251,258
Europe	2,912,161	2,515,254
Others	2,320,168	2,003,945
Total sales	₩ 22,736,559	\$ 19,637,726

	Korean won in million	U.S. dollar in thousand
	2018	2018
Domestic	₩ 4,639,350	\$ 4,007,039
Asia(excluding China)	6,394,337	5,522,834
China	3,039,741	2,625,446
North America	1,536,674	1,327,236
Europe	3,674,549	3,173,734
Others	3,969,596	3,428,568
Total sales	₩ 23,254,247	\$ 20,084,857

3.2.2 Sales categorization based on the major product and services

	Korean won in million	U.S. dollar in thousand
	2019	2019
Steel	₩ 11,789,473	\$ 10,182,651
Energy	1,846,937	1,595,212
Food material	8,239,350	7,116,385
Others	860,799	743,478
Total sales	₩ 22,736,559	\$ 19,637,726

	Korean won in million	U.S. dollar in thousand
	2018	2018
Steel	₩ 12,179,653	\$ 10,519,652
Energy	1,300,653	1,123,383
Food material	8,736,978	7,546,189
Others	1,036,963	895,632
Total sales	₩ 23,254,247	\$ 20,084,857

The Company restructured its organization in 2019, and the operating segment of 2018, presented for comparative purpose, 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
	2019	2019
Triangular	₩ 10,670,697	\$ 9,216,356
Export	8,210,225	7,091,229
Domestic	3,855,637	3,330,141
Total sales	₩ 22,736,559	\$ 19,637,726

	Korean won in millions	U.S. dollar in thousands
	2018	2018
Triangular	₩ 10,402,363	\$ 8,984,594
Export	8,862,825	7,654,884
Domestic	3,989,059	3,445,378
Total sales	₩ 23,254,247	\$ 20,084,857

3.2.4 Sales categorization based on the timing of sales recognition

	Korean won in millions	U.S. dollar in thousands
	2019	2019
Sales recognized at once	₩ 22,060,808	\$ 19,054,075
Sales recognized over periods	675,751	583,651
Total sales	₩ 22,736,559	\$ 19,637,726

	Korean won in millions	U.S. dollar in thousands
	2018	2018
Sales recognized at once	₩ 22,873,449	\$ 19,755,959
Sales recognized over periods	380,798	328,898
Total sales	₩ 23,254,247	\$ 20,084,857

3.3 Contract balance

Details of contract assets and liabilities arising from revenue from contracts with customers for the year ended December 31, 2019 are as follows:

		Korean won in million				U.S. dollar in thousand
		2019				2019
		Beginning balance	Increase	Decrease	Ending balance	Ending balance
Contract assets	Due from customers	₩ 51,929	₩ 137,929	₩ (51,929)	₩ 137,929	\$ 119,133
Contract liabilities	Advances	153,798	1,492,730	(1,508,747)	137,781	119,002
	Unearned revenues	36,529	41,769	(36,529)	41,769	36,076

4. Cash and cash equivalents

The Company's cash and cash equivalents is managed in the same amount in the statements of financial position and cash flows. Cash and cash equivalents as of December 31, 2019 and 2018 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2019	2018	2019
Account and checking account	₩ 56,389	₩ 44,115	\$ 48,704
Other cash equivalents	28,703	9,645	24,791
Total	₩ 85,092	₩ 53,760	\$ 73,495

5. Trade and other receivables

5.1 Trade and other receivables as of December 31, 2019 and 2018 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2019	2018	2019
Current			
Trade receivables	₩ 3,284,017	₩ 4,161,694	\$ 2,836,429
Allowance for doubtful accounts	(6,827)	(3,146)	(5,897)
Other receivables	74,607	48,311	64,439
Allowance for doubtful accounts	(936)	(891)	(808)
Accrued income	528	-	456
Guarantee-deposits	3,577	399	3,089
Short-term loans	17,864	942	15,429
Current portion of finance lease bonds	48,744	-	42,101
Current portion of long-term loans	52,262	51,350	45,139
	₩ 3,473,836	₩ 4,258,659	\$ 3,000,377
Non-current			
Long-term trade receivables	₩ 17,267	₩ 69,900	\$ 14,914
Allowance for doubtful accounts	(10,103)	(58,135)	(8,726)
Long-term loans	242,719	305,361	209,638
Allowance for doubtful accounts	(3,297)	(10,924)	(2,848)
Long-term other receivables (*1)	137,856	130,655	119,067
Allowance for doubtful accounts	(51,546)	(30,009)	(44,521)
Long-term finance lease receivables	179,315	-	154,876
Allowance for doubtful accounts	(27,043)	-	(23,357)
Long-term guarantee deposits	3,841	6,917	3,317
	₩ 489,009	₩ 413,765	\$ 422,361
	₩ 3,962,845	₩ 4,672,424	\$ 3,422,737

(*1) The Company has recognized a long-term other receivable of ₩19,303 million (\$16,672 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 year ended December 31, 2019 and 2018 are as follows

	Korean won in millions		U.S. dollar in thousands
	2019	2018	2019
Beginning balance	₩ 61,281	₩ 146,575	\$ 52,929
Bad debt expenses	19,478	35,956	16,823
Write-off	(65,030)	(119,064)	(56,167)
Foreign exchange translation loss(profit)	(30)	(2,186)	(26)
Others	1,231	-	1,063
Ending balance	16,930	61,281	14,623

5.3 Financial assets transferred but not derecognized

As of December 31, 2019, the Company has continued to recognize the book value of trade receivables ₩ 407,350 million (\$ 351,831 thousand) (₩1,053,993 million (\$942,664 thousand) in 2018) that was disposed of by the Company but was not derecognized. The cash proceeds received from factoring of such receivables are accounted for as short-term borrowings.

The Company factored the above trade receivables to financial institutions with recourse and, accordingly. The Company retains the risks 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, 2019 and 2018 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2019	2018	2019
Deposits in financial institutions	₩ 311	₩ 66	\$ 269

6.2 Other financial assets Other current financial assets as of December 31, 2019 and 2018 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2019	2018	2019
Financial assets at amortized cost	₩ 869	₩ 778	\$ 751
Financial assets at FVOCI	27,139	27,947	23,440
Financial assets FVPL (long-term investment)	632	1,102	546
Financial assets at FVPL (other securities)	73	105	63
Deposits in financial institutions	12	12	10
Total	₩ 28,725	₩ 29,944	\$ 24,810

6.2.1 Financial assets measured at fair value as of December 31, 2019 and 2018 are as follows:

		Korean won in millions						U.S. dollar in thousands
		2019			2018			2019
	Number of shares	Equity owner- ship (%)	Acquisition cost	Fair value or net asset value	Book value	Book value	Book value	
<FVOCI securities>								
Marketable securities								
Maruichi Steel Tube Ltd.	120,000	0.15	₩ 2,933	₩ 3,931	₩ 3,931	₩ 4,213	\$ 3,395	
IQ Power Licensing AG(*1)	-	-	-	-	-	380	-	
			₩ 2,933	₩ 3,931	₩ 3,931	₩ 4,593	\$ 3,395	
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	841	
CES Co., Ltd.(*1)	-	-	-	-	-	600	-	
Central Corporation	100,474	9.67	1,859	-	-	-	-	
Hanmi ADM Co., Ltd.	10,000	16.67	1,000	1,000	1,000	1,000	864	
Miju Steel Mfg Co., Ltd.	8,186	0.56	182	-	-	-	-	
Daewoo Display Corp.	39,403	4.47	-	-	-	-	-	
Shin Pyung Steel co., Ltd.	2,328	10.36	-	-	-	-	-	
S&S M Tech Co., Ltd.	26,390	8.47	1,000	1,000	1,000	1,000	864	
KG Power (M) Sdn. Bhd.	1,457,847	6.69	45	-	-	-	-	
Discover Mixtech Manufacturing	3,679,880	3.73	4,053	-	-	-	-	
Korea Minerals Co., Ltd	269	-	-	-	-	-	-	
POSCO Humans Co., Ltd. (*2)	88,000	3.29	454	454	454	-	392	
CJ Philippines, Inc.	109,200	10.00	349	349	349	349	301	
Dongjin Vietnam Co., Ltd	20,000	6.25	803	803	803	803	694	
POSCO Assan TST Steel Industry A.S.	24,096,526	10.00	15,460	18,101	18,101	18,101	15,634	
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	452	
K.K. Korea Kamchatka Co., Ltd	328	10.00	-	-	-	-	-	
Knoc Inam Ltd	10	10.00	-	-	-	-	-	
			₩ 33,831	₩ 23,208	₩ 23,208	₩ 23,354	\$ 20,045	
FVPL(other securities)								
Korea Investment Private Placement KEXIM Carbon Credit Special Asset Fund No.1	-	2.13	₩ 242	₩ 73	₩ 73	₩ 105	\$ 63	
FVPL(equity investment)								
POSCO Agricultural Products Export Fund	-	10.00	₩ 530	₩ 530	₩ 530	₩ 1,000	\$ 458	
Korea Dic & Mold Industry Cooperative	-	-	1	1	1	1	1	
Korea Speciality Contractor Financial Cooperative	-	-	101	101	101	101	87	
			₩ 632	₩ 632	₩ 632	₩ 1,102	\$ 546	
			₩ 37,638	₩ 27,844	₩ 27,844	₩ 29,154	\$ 24,049	

(*1) It is sold in the year of 2019

(*2) It is newly acquired in the year of 2019

6.2.1 Financial assets measured at fair value as of December 31, 2019 and 2018 are as follows (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 price as of December 31, 2019. As a result, the Company has recognized accumulated other comprehensive income of ₩529 million (\$457 thousand) as of December 31, 2019, which comprise of ₩776 million (\$670 thousand) of valuation loss incurred during the reporting period, net of deferred tax effect of ₩199 million (\$172 thousand) and effect of changes in average tax rate of ₩48 million (\$41 thousand).

In addition, the Company has assessed using the base price as of December 31, 2019, its investments 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 loss of ₩11 million (\$12 million) in profit or loss of the current reporting period.

Due to disposal of investments in IQ Power Licensing AG, classified as financial assets at FVOCI, the Company has transferred an accumulated valuation gain of ₩578 million (\$499 thousand) to retained earnings as of December 31, 2019.

7. Other current assets

Other current assets as of December 31, 2019 and 2018 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2019	2018	2019
Advance payments	₩ 108,664	₩ 75,643	\$ 93,854
Prepaid expenses	44,833	42,933	38,723
	₩ 153,497	₩ 118,576	\$ 132,576

8. Inventories

Inventories as of December 31, 2019 and 2018 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2019	2018	2019
Merchandise	₩ 414,589	₩ 515,210	\$ 358,083
Valuation allowance	(2,818)	(997)	(2,434)
Finished goods	30,069	19,926	25,971
Valuation allowance	(4,424)	(3,832)	(3,821)
Semi-finished goods and Work-in-process	30,200	25,950	26,084
Valuation allowance	(781)	(510)	(675)
Raw materials	73,604	81,184	63,572
Valuation allowance	(592)	(852)	(511)
Materials-in-transit	53,035	135,960	45,807
Others	6,478	11,420	5,595
	₩ 599,360	₩ 783,459	\$ 517,671

The Company recognized a loss on valuation of inventories of ₩2,684 million (\$2,318 thousand) and ₩260 million (\$225 thousand) in cost of sales for the years ended December 31, 2019 and 2018, respectively. A reversal of valuation allowance for inventories recognized for the years ended December 31, 2019 and 2018 amounted to ₩2,469 million (\$2,208 thousand) and ₩197 million (\$176 thousand), respectively.

9. Investments in subsidiaries and associates

Investments in subsidiaries and associates as of December 31, 2019 and 2018 are as follows:

	Korean won in millions						U.S. dollar in thousand	
	2019			2018			2019	
	Equity owner- ship (%)	Book value		Equity owner- ship (%)	Book value		Book value	
<Subsidiaries>								
POSCO INTERNATIONAL AMERICA CORP.(*1)	100.0	₩	29,590	100.0	₩	29,590	\$	25,557
POSCO INTERNATIONAL DEUTSCHLAND GmbH(*1)	100.0		9,724	100.0		9,724		8,399
POSCO INTERNATIONAL JAPAN CORP.(*1)	100.0		4,729	100.0		4,729		4,084
POSCO INTERNATIONAL Singapore Pte Ltd.(*1)	100.0		3,711	100.0		3,711		3,205
POSCO INTERNATIONAL Italia S.R.L.(*1)	100.0		3,621	100.0		3,621		3,127
POSCO INTERNATIONAL China Co.,Ltd.(*1)(*7)	100.0		20,979	100.0		16,009		18,120
POSCO INTERNATIONAL Myanmar Corp.Ltd.(*1)	100.0		5,403	100.0		5,403		4,667
POSCO INTERNATIONAL Mexico S.A. de C.V.(*1)	100.0		2,905	100.0		2,905		2,509
POSCO INTERNATIONAL Malaysia Sdn Bhd(*1)	100.0		2,192	100.0		2,192		1,893
POSCO INTERNATIONAL Shanghai Co.,Ltd.(*1)	100.0		8,807	100.0		8,807		7,607
POSCO INTERNATIONAL India Pvt.,Ltd.(*1)	100.0		2,299	100.0		2,299		1,986
POSCO INTERNATIONAL Vietnam Co.,Ltd(*1)	100.0		4,613	100.0		4,613		3,984
POSCO INTERNATIONAL Textile LLC.(*1)	100.0		24,808	100.0		24,808		21,427
POSCO INTERNATIONAL Australia Holdings Pty Ltd.(*1)	100.0		124,422	100.0		124,422		107,464
PT. Bio Inti Agrindo	85.0		58,481	85.0		58,481		50,510
DAEWOO AAPC Corp. Brasil Sao Paulo Steel Processing Center	100.0		5,027	100.0		5,027		4,342
POSCO INTERNATIONAL Power(PNGPOM) Ltd.(*1)	51.0		-	51.0		-		-
DAEWOO Power And Infra (Pty) Ltd.(*3)	100.0		8,217	100.0		8,217		7,097
POSCO INTERNATIONAL Power(PNGLAE) Ltd.(*1)	-		-	100.0		1		-
DAEWOO Precious Resources Co.,Ltd(*3)	100.0		14,686	100.0		14,686		12,684
Golden Lace POSCO INTERNATIONAL CO., Ltd.(*1)	-		-	70.0		4,841		-
POSCO INTERNATIONAL Ukraine, LLC.(*1)	60.0		6,781	60.0		6,781		5,857
Grain Terminal Holding Pte. Ltd.(*6)	100.0		3,205	100.0		3,205		2,768
POSCO South East Asia Pte. Ltd.	75.0		42,402			-		36,623
POSCO-Gulf SFC L.L.C.(*3)	100.0		-	100.0		-		-
DAEWOO Global Development Pte. Ltd	-		-	100.0		7,314		-
LA SRDC	55.5		9,232	55.5		15,354		7,974
POHANG SRDC CO., LTD.	85.7		150	85.7		150		130
POSCOTMC India Pvt.,Ltd.	51.0		4,550	51.0		4,550		3,930
	73.6		861	73.6		861		744
		₩	401,395		₩	372,301	\$	346,687

POSCO INTERNATIONAL Corporation (formerly, POSCO Daewoo Corporation)
Notes to the separate financial statements
for the years ended December 31, 2019 and 2018

<Associates>

Blue Ocean Recovery PEF No. 1	27.5	-	27.5	-	-
POSCO Mexico Processing Center Holding, LLC(*2)	19.6	11,509	19.6	11,509	9,940
POSCO-ESDC Ltd.	20.0	1,160	20.0	1,160	1,002
POSCO IJPC	20.0	4,665	20.0	4,665	4,029
Shanghai Lansheng Daewoo Corp.	49.0	-	49.0	-	-
Shanghai Waigaoqiao Free Trade Zone Lansheng Daewoo Int'l Trading Co., Ltd.	49.0	876	49.0	876	757
General Medicines Co., Ltd.	33.0	2,990	33.0	2,990	2,582
Korea LNG Ltd.	20.0	2,749	20.0	2,749	2,374
KG Power (M) Sdn. Bhd.	20.0	-	20.0	-	-
Sebang Steel(*4)	-	-	49.0	484	-
Kwanika Copper Corp.(*7)	35.0	7,358	35.0	7,173	6,355
Global Komsco Daewoo LLC	35.0	4,445	35.0	4,445	3,839
South-East Asia Gas Pipeline Co., Ltd.	25.0	135,899	25.0	135,899	117,377
HyunSon Engineering & Construction(*2)	4.9	281	4.9	281	243
VNS-Daewoo Co., Ltd.(*3)	-	-	50.0	1,641	-
SPH Co., Ltd.	50.0	500	50.0	500	432
Yulchon Mexico S. A. De C. V.(*2)	10.0	1,349	10.0	1,349	1,165
DMSA/AMSA(*2)	4.0	12,189	4.0	26,710	10,528
PT. Batutua Tembaga Raya	22.0	20,381	22.0	20,381	17,603
IT Engineering(*2)	5.0	923	10.8	923	797
POSCO Singapore Lng Trading Pte. Ltd(*3)	-	-	25.0	772	-
Inco Tech(*2)	10.0	350	10.0	350	302
TK Chemical Corp.(*2)(*5)	5.0	8,428	8.8	14,818	7,279
Hanil DAEWOO Cement Co., Ltd.(*2)	15.0	-	15.0	-	-
Shinpoong DAEWOO Pharma Co.,Ltd.(*2)	3.4	343	3.4	343	296
POSCO-Malyasia Sdn. Bhd.(*2)	13.6	7,577	13.6	7,577	6,544
Erae Automotive Systems Mexico(*4)	-	-	7.7	478	-
POSCO-ITPC S.P.A(*2)	10.0	781	10.0	781	675
Hunchun POSCO HYUNDAI International Logistics(*2)	10.0	7,656	10.0	10,732	6,613
		₩ 232,409		₩ 259,586	\$ 200,733
		₩ 633,804		₩ 631,887	\$ 547,420

9. Investments in subsidiaries and associates (cont'd)

(*1) By the determination of the nineteenth annual meeting of shareholders (March 18, 2019), some subsidiaries have changed the corporate name accordingly to the Company's new name as below

Formerly corporate name	Changed Corporate name
POSCO Daewoo America Corp.	POSCO INTERNATIONAL America CORP.
POSCO Daewoo Deutschland GmbH	POSCO INTERNATIONAL Deutschland GmbH
POSCO Daewoo Japan Corp.	POSCO INTERNATIONAL Japan CORP.
POSCO Daewoo Singapore Pte Ltd.	POSCO INTERNATIONAL Singapore Pte Ltd.
POSCO Daewoo Italia S.R.L.	POSCO INTERNATIONAL Italia S.R.L.
POSCO Daewoo Shanghai Co.,Ltd.	POSCO INTERNATIONAL Shanghai Co.,Ltd.
POSCO Daewoo China Co.,Ltd.	POSCO INTERNATIONAL China Co.,Ltd.
POSCO Daewoo Myanmar Corp.Ltd.	POSCO INTERNATIONAL Myanmar Corp.Ltd.
POSCO Daewoo Mexico S.A. de C.V.	POSCO INTERNATIONAL Mexico S.A. de C.V.
POSCO Daewoo Malaysia Sdn Bhd	POSCO INTERNATIONAL Malaysia Sdn Bhd
POSCO Daewoo India Pvt.,Ltd.	POSCO INTERNATIONAL India Pvt.,Ltd.
POSCO Daewoo Vietnam Co.,Ltd	POSCO INTERNATIONAL Vietnam Co.,Ltd
POSCO Daewoo Australia Holdings Pty Ltd.	POSCO INTERNATIONAL Australia Holdings Pty Ltd.
POSCO Daewoo Power (PNGPOM) Ltd.	POSCO INTERNATIONAL Power (PNGPOM) Ltd.
Daewoo Power PNG Ltd.	POSCO INTERNATIONAL Power (PNGLAE) Ltd.
Golden Lace Daewoo Co. Ltd.	Golden Lace POSCO INTERNATIONAL Co. Ltd.
Daewoo Textile LLC.	POSCO INTERNATIONAL Textile LLC.
POSCO Daewoo Ukraine, LLC.	POSCO INTERNATIONAL Ukraine, LLC.

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

(*3) The equity ownership is liquidated in the current period.

(*4) The equity ownership is disposed in the current period.

(*5) The equity ownership is decreased as some of the shares are sold in the current period.

(*6) The equity ownership is newly acquired in the current period.

(*7) More equity ownership is added in the current period.

9.1 Impairment loss in subsidiaries and associates

	Korean won in millions			U.S. dollar in thousands
	Carrying amount before impaired	Recoverable Amount	Impairment loss	Impairment loss
POSCO-Gulf SFC L.L.C.(*1)	₩ 7,314	₩ 5,924	₩ 1,390	\$ 1,201
POSCO INTERNATIONAL (China) Co., Ltd. (*2)	48,139	20,979	27,160	23,458
Daewoo Global Development Pte. Ltd. (*2)	15,354	9,232	6,122	5,288
POSCO Singapore LNG Trading Pte (*1)	772	685	87	75
DMSA/AMSA(*2)	50,391	12,189	38,202	32,995
Hunchun POSCO Hyundai International (*2)	10,732	7,656	3,076	2,657
	<u>₩ 132,702</u>	<u>₩ 56,665</u>	<u>₩ 76,037</u>	<u>\$ 65,674</u>

(*1) The equity ownership is liquidated in the current period.

(*2) At the end of the current period, external experts have proceeded the impairment test on the shares and the loss on the impairment was recognized for the amount less than its book value of the investee.

10. Property, plant, and equipment

10.1 Property, plant, and equipment as of December 31, 2019 and 2018 are as follows:

	Korean won in millions				U.S. dollar in thousands
	2019		2018		2019
Acquisition cost	₩	919,675	₩	900,814	\$ 794,330
Accumulated depreciation		(284,505)		(249,933)	(245,729)
Accumulated impairment loss		(5,040)		(4,999)	(4,353)
Government grants		(238)		(29)	(206)
Book value		629,892		645,853	544,042

10.2 Changes in the acquisition cost of property, plant and equipment for the years ended December 31, 2019 and 2018 are as follows:

10.2.1 Changes in the acquisition cost of property, plant and equipment (Korean won in millions)

	2019				
	Beginning balance	Acquisition	Disposals	Others	Ending balance
Land	₩ 156,784	₩ 631	₩ -	₩ -	₩ 157,415
Buildings	151,795	162	-	66	152,023
Structures	27,898	506	(18)	666	29,052
Machinery	484,572	4,369	(1,836)	4,470	491,575
Others	75,168	9,266	(3,642)	2,492	83,284
Construction-in-progress	4,597	13,259	(10)	(11,520)	6,326
	₩ 900,814	₩ 28,193	₩ (5,506)	₩ (3,826)	₩ 919,675
U.S. dollar in thousand	\$ 778,039	\$ 24,350	\$ (4,756)	\$ (3,305)	\$ 794,330

	2018				
	Beginning balance	Acquisition	Disposals	Others	Ending balance
Land	₩ 137,714	₩ 19,070	₩ -	₩ -	₩ 156,784
Buildings	140,195	11,600	-	-	151,795
Structures	26,260	804	(213)	1,047	27,898
Machinery	475,216	7,904	(257)	1,709	484,572
Others	70,061	9,545	(4,708)	270	75,168
Construction-in-progress	6,067	7,165	(61)	(8,574)	4,597
	₩ 855,513	₩ 56,088	₩ (5,239)	₩ (5,548)	₩ 900,814
U.S. dollar in thousand	\$ 762,466	\$ 50,164	\$ 4,686	\$ 4,962	\$ 805,665

10.2.2 Changes in the accumulated depreciation of property, plant and equipment (Korean won in millions)

2019					
	Beginning balance	Depreciation	Disposals	Others	Ending balance
Buildings	27,307	3,577	-	-	30,884
Structures	7,566	1,171	(1)	-	8,736
Machinery	156,590	25,612	(1,001)	-	181,201
Others	58,470	8,562	(3,348)	-	63,684
	₩ 249,933	₩ 38,922	₩ (4,350)	₩ -	₩ 284,505
U.S. dollar in thousand	\$ 215,869	\$ 33,617	\$ (3,757)	\$ -	\$ 245,729

2018					
	Beginning balance	Depreciation	Disposals	Others	Ending balance
Buildings	23,947	3,360	-	-	27,307
Structures	6,511	1,078	(23)	-	7,566
Machinery	131,081	25,560	(24)	(27)	156,590
Others	51,855	11,222	(4,489)	(118)	58,470
	₩ 213,394	₩ 41,220	₩ (4,536)	₩ (145)	₩ 249,933
U.S. dollar in thousand	\$ 190,854	\$ 36,866	\$ (4,057)	\$ (130)	\$ 223,534

10.2.3 Changes in the accumulated impairment loss of property, plant and equipment

Changes in the accumulated impairment loss of property, plant and equipment for the years ended December 31, 2019 and 2018 are as follows (Korean won in millions):

2019				
	Beginning Balance	Impairment losses	Disposals	Ending balance
Structures	1,215	-	-	1,215
Machinery	3,712	757	(830)	3,639
Others	72	371	(257)	186
	₩ 4,999	₩ 1,128	₩ (1,087)	₩ 5,040
U.S. dollar in thousand	\$ 4,318	\$ 974	\$ (939)	\$ 4,353

2018				
	Beginning Balance	Impairment losses	Disposals	Ending balance
Structures	559	656	-	1,215
Machinery	3,412	300	-	3,712
Others	-	72	-	72
	₩ 3,971	₩ 1,028	₩ -	₩ 4,999
U.S. dollar in thousand	\$ 3,552	\$ 919	\$ -	\$ 4,471

10.2.4 Changes in the government grants for property, plant and equipment

Changes in the government grants for property, plant and equipment for the years ended December 31, 2019 and 2018 are as follows (Korean won in millions):

		2019			
		Beginning balance	Received	Depreciation	Ending balance
Machinery	₩	14	₩ -	₩ (13)	₩ 1
Others		15	300	(78)	237
	₩	29	₩ 300	₩ (91)	₩ 238
U.S. dollar in thousand	\$	25	\$ 259	\$ (79)	\$ 206

		2018			
		Beginning balance	Received	Depreciation	Ending balance
Machinery	₩	26	₩ -	₩ (12)	₩ 14
Others		1,087	-	(1,072)	15
	₩	1,113	₩ -	₩ (1,084)	₩ 29
U.S. dollar in thousand	\$	995	\$ -	\$ (970)	\$ 26

10.3 Property, plant and equipment pledged as collateral as of December 31, 2019 and 2018 are as follows (Korean won in millions and U.S. dollar in thousands):

Collateral provided by	Assets pledged as collateral	Accounts	Borrowed Amount	Collateral	2019	2018	2019
Korea Development Bank	Land, buildings, machinery	Borrowings	134,085	Second Interest Beneficiary certificates of collateral trust	79,000	79,000	\$ 68,232
					50,000	50,000	\$ 43,185

The Company's machinery is partially provided as collateral (transferrable) in relation to the borrowings to Korea Development Bank as of December 31, 2019.

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 year ended December 31, 2019 are as follows:

	2019							
	Right-of-use assets							
	Building and structure	Aircraft	Others	Total		Lease receivables	Lease liabilities	
Beginning balance	₩ -	₩ -	₩ -	₩ -		₩ -	₩ -	
Changes in accounting policy	9,812	14,605	3,659	28,076		264,809	273,156	
Acquisition	1,894	1,824	31	3,749		2,071	5,820	
Depreciation	(5,266)	(3,627)	(2,803)	(11,696)		-	-	
Interest income	-	-	-	-		10,371	-	
Interest expense	-	-	-	-		-	10,771	
Translation	-	-	-	-		7,697	7,690	
Lease payment	-	-	-	-		-	(64,128)	
Lease receipt	-	-	-	-		(56,889)	-	
Replacement	327	337	31	695		-	(60)	
Ending balance	₩ 6,767	₩ 13,139	₩ 918	₩ 20,824		₩ 228,059	₩ 233,249	
Current:						₩ 48,744	₩ 54,221	
Non-current:						₩ 179,315	₩ 179,028	

11.1.2 The amount recognized in profit or loss for the year ended December 31, 2019 are as follows:

	Korean won in million	U.S. dollar in thousand
	2019	2019
<Revenues>		
Interest on lease receivables	₩ 10,371	\$ 8,958
<Expenses>		
Depreciation of right-of-use assets	₩ 11,696	\$ 10,102
Interest of lease liabilities	10,771	9,303
Short-term lease	333	288
Leases of low-value assets	₩ 1,172	\$ 1,012
Net profit or loss	₩ (13,601)	\$ (11,747)

11.2 Accounting as a lesser

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

	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	\$ 42,101	\$ 131,518

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

	2019	
	Korean won in millions	U.S. dollar in thousands
Within 1year	₩ 56,795	\$ 49,054
More than 1year and within 5years	178,698	154,343
More than 5years	16,089	13,896
	₩ 251,582	\$ 217,293

11.2.3 The Company recognized rental income of ₩7,163 million (\$6,187 thousand) and ₩7,157 million (\$6,401 thousand) in relation to operating lease arrangements for the years ended December 31, 2019 and 2018, respectively.

12. Intangible assets

12.1 Intangible assets as of December 31, 2019 and 2018 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2019	2018	2019
Acquisition cost	₩ 2,312,654	₩ 2,211,548	\$ 1,997,456
Accumulated amortization and impairment loss	(1,153,059)	(840,579)	(995,905)
Government grants	(12,821)	(12,689)	(11,074)
Book value	₩ 1,146,774	₩ 1,358,280	\$ 990,477

12.2 Changes in the net book value of intangible assets for the years ended December 31, 2019 and 2018 are as follows (Korean won in millions):

12.2.1 Changes in acquisition cost of intangible assets

2019					
	Beginning balance	Acquisition	Disposals	Others	Ending balance
Goodwill	₩ 1,033	₩ -	₩ -	₩ -	₩ 1,033
Exploration and evaluation assets	296,890	2,547	-	(434)	299,003
Industrial property rights	5,064	578	-	-	5,642
Mining rights	1,846,739	89,658	-	(314)	1,936,083
Development costs	6,711	-	-	-	6,711
Membership	15,789	3,301	(660)	-	18,430
Software	39,322	2,867	(262)	3,825	45,752
	<u>₩ 2,211,548</u>	<u>₩ 98,951</u>	<u>₩ (922)</u>	<u>₩ 3,077</u>	<u>₩ 2,312,654</u>
U.S. dollar in thousand	<u>\$ 1,910,130</u>	<u>\$ 85,465</u>	<u>\$ (796)</u>	<u>\$ 2,658</u>	<u>\$ 1,997,456</u>

2018					
	Beginning balance	Acquisition	Disposals	Others	Ending balance
Goodwill	₩ 1,033	₩ -	₩ -	₩ -	₩ 1,033
Exploration and evaluation assets	306,931	3,088	-	(13,129)	296,890
Industrial property rights	4,929	135	-	-	5,064
Mining rights	1,828,089	18,650	-	-	1,846,739
Development costs	6,711	-	-	-	6,711
Membership	16,834	3,140	(4,185)	-	15,789
Software	29,150	4,906	-	5,266	39,322
	<u>₩ 2,193,677</u>	<u>₩ 29,919</u>	<u>₩ (4,185)</u>	<u>₩ (7,863)</u>	<u>₩ 2,211,548</u>
U.S. dollar in thousand	<u>\$ 1,961,969</u>	<u>\$ 26,759</u>	<u>\$ (3,743)</u>	<u>\$ (7,032)</u>	<u>\$ 1,977,952</u>

12.2.2 Changes in accumulated amortization and impairment losses of intangible assets for the years ended December 31, 2019 and 2018 are as follows (Korean won in millions):

2019					
	Beginning balance	Amortization	Impairment losses	Disposals	Ending balance
Goodwill	₩ 1,033	₩ -	₩ -	₩ -	₩ 1,033
Exploration and evaluation assets	90,948	-	123,888	0	214,836
Industrial property rights	4,650	292	-	-	4,942
Mining rights	705,541	180,422	-	0	885,963
Development costs	6,711	-	-	-	6,711
Membership	4,311	99	78	-	4,488
Software	27,385	4,142	3,822	(263)	35,086
	<u>₩ 840,579</u>	<u>₩ 184,955</u>	<u>₩ 127,788</u>	<u>₩ (263)</u>	<u>₩ 1,153,059</u>
U.S. dollar in thousand	<u>\$ 726,014</u>	<u>\$ 159,747</u>	<u>\$ 110,371</u>	<u>\$ (227)</u>	<u>\$ 995,905</u>

12.2.2 Changes in accumulated amortization and impairment losses of intangible assets for the years ended December 31, 2019 and 2018 are as follows (Korean won in millions): (cont'd)

	2018				
	Beginning balance	Amortization	Impairment losses	Disposals	Ending balance
Goodwill	₩ 1,033	₩ -	₩ -	₩ -	₩ 1,033
Exploration and evaluation assets	87,609	-	3,339	-	90,948
Industrial property rights	4,483	167	-	-	4,650
Mining rights	584,228	121,313	-	-	705,541
Development costs	6,711	-	-	-	6,711
Membership	4,225	86	-	-	4,311
Software	24,406	2,979	-	-	27,385
	<u>₩ 712,695</u>	<u>₩ 124,545</u>	<u>₩ 3,339</u>	<u>₩ -</u>	<u>₩ 840,579</u>
U.S. dollar in thousand	<u>\$ 637,416</u>	<u>\$ 111,390</u>	<u>\$ 2,986</u>	<u>\$ -</u>	<u>\$ 751,792</u>

12.2.3 Changes in government grants for intangible assets for the years ended December 31, 2019 and 2018 are as follows (Korean won in millions):

	2019			
	Beginning balance	Receipt	Others	Ending balance
Exploration and evaluation assets	₩ 12,689	₩ -	₩ 132	₩ 12,821
U.S. dollar in thousand	<u>\$ 10,960</u>	<u>\$ -</u>	<u>\$ 114</u>	<u>\$ 11,074</u>

	2018			
	Beginning balance	Receipt	Others	Ending balance
Exploration and evaluation assets	₩ 12,255	₩ 434	₩ -	₩ 12,689
U.S. dollar in thousand	<u>\$ 10,961</u>	<u>\$ 388</u>	<u>\$ -</u>	<u>\$ 11,349</u>

12.3. Mining rights and machinery include the Company's proportionate share of the jointly controlled assets. As of December 31, 2018, the list of significant joint operations is as follows:

	Activities	Equity interest (%)	Location
Myanmar A-1/A-3 area	Development and production for gas area	51.00	Myanmar
Offshore midstream	Gas transmission facilities	51.00	Myanmar

13. Investment properties

13.1 Investment properties as of December 31, 2019 and 2018 are as follows

	Korean won in millions		U.S. dollar in thousands
	2019	2018	2019
Acquisition cost	₩ 167,963	₩ 167,332	\$ 145,071
Accumulated depreciation	(15,795)	(12,896)	(13,642)
Book value	₩ 152,168	₩ 154,736	\$ 131,429

13.2 Changes in the book value of investment properties for the years ended December 31, 2019 and 2018 are as follows:

13.2.1 Changes in acquisition cost of investment properties (Korean won in millions):

2019			
	Beginning balance	Acquisition	Ending balance
Landing	51,249	-	51,249
Building	116,362	331	116,693
Structure	21	-	21
	₩ 167,632	₩ 331	₩ 167,963
U.S. dollar in thousands	\$ 144,785	\$ 286	\$ 145,071

2018			
	Beginning balance	Acquisition	Ending balance
Landing	51,249	-	51,249
Building	116,362	-	116,362
Structure	21	-	21
	₩ 167,632	₩ -	₩ 167,632
U.S. dollar in thousands	\$ 149,926	\$ -	\$ 149,926

13.2.2 Changes in accumulated depreciation of investments properties for the years ended December 31, 2018 and 2017 are as follows (Korean won in millions):

2019			
	Beginning balance	Depreciation	Ending balance
Building	₩ 12,891	₩ 2,898	₩ 15,789
Structure	5	1	6
	₩ 12,896	₩ 2,899	₩ 15,795
U.S. dollar in thousands	\$ 11,138	\$ 2,504	\$ 13,642

2018			
	Beginning balance	Depreciation	Ending balance
Building	₩ 9,997	₩ 2,894	₩ 12,891
Structure	4	1	5
	₩ 10,001	₩ 2,895	₩ 12,896
U.S. dollar in thousands	\$ 8,945	\$ 2,589	\$ 11,534

13.3 The fair value of investment properties amounted to ₩182,838 million (\$157,918 thousand) and ₩174,576 million (\$ 127,462 thousand) as of December 31, 2019 and 2018, respectively.

13.4 Income and expense arising from investment properties for the years ended December 31, 2019 and 2018 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2019	2018	2019
Rental income	₩ 7,163	₩ 7,157	\$ 6,182
Rental expense	(3,003)	(2,993)	(2,594)
	₩ 4,160	₩ 4,164	\$ 3,593

13.5 Joint arrangement

The Company owns POSCO Tower Songdo, a real estate property, located in Yeonsu-gu, Incheon, under a joint arrangement. As of December 31, 2019, the Company 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 Company's shares.

14. Trade and other payables

Trade and other payables as of December 31, 2019 and 2018 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2019	2018	2019
Current:			
Trade payables	₩ 1,684,028	₩ 1,781,799	\$ 1,454,507
Other payables	176,529	133,793	152,469
Accrued expenses	22,096	24,027	19,084
Guarantee deposits received	1,372	482	1,185
Current portion of lease liabilities	54,221	-	46,831
	₩ 1,938,246	₩ 1,940,101	\$ 1,674,077

	Korean won in millions		U.S. dollar in thousands
	2019	2018	2019
Non-current:			
Long-term other payables	₩ 1,447	₩ 897	\$ 1,250
Long-term guarantee deposits received	2,614	2,970	2,258
Financial guarantee liabilities	4,855	11,936	4,193
Long-term lease liabilities	179,028	-	154,628
	₩ 187,944	₩ 15,803	\$ 162,329
	₩ 2,126,190	₩ 1,955,904	\$ 1,836,405

15. Borrowings

15.1 Borrowings as of December 31, 2019 and 2018 are as follows:

		Annual interest	The	Korean won in millions		U.S. dollar
		rates as of	longest			in
Creditor		Dec. 31, 2018	maturity	2019	2018	thousands
						2019
Current borrowings:						
Short-term borrowings						
Banker's usance and others	Wooribank and others	6M Libor + 0.3~1.3% and others	-	₩ 603,288	₩ 1,896,815	\$ 521,064
				₩ 603,288	₩ 1,896,815	\$ 521,064
Current-portion of long-term borrowings:						
Energy special account financing loan	Korea Energy Agency	3year government bond yield-2.25% and others	2020.12.31	88,662	5,798	76,578
Forgivable borrowings	Korea Energy Agency	3year government bond yield-2.25% and others	2020.12.31	3,442	31,887	2,973
Others	Kookmin Bank and others	3M Libor + 1.0% and others	2020.12.31	2,250	3,000	1,943
Less: present value discount				(296)	(710)	(256)
				₩ 94,058	₩ 39,975	\$ 81,239
				₩ 697,346	₩ 1,936,790	\$ 602,303
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	₩ 46,293	₩ 6,808	\$ 39,984
Other borrowings	Korea Rural Community Cooperation	2.00% and others	2033.9.15	36,777	147,042	31,765
				₩ 83,070	₩ 153,850	\$ 71,748
Long-term borrowings denominated in foreign currency						
Energy special account financing loan	Korea Energy Agency	3year government bond yield-2.25% and others	2027.12.15	15,163	19,386	13,096
Forgivable borrowings	Korea Energy Agency	3year government bond yield-2.25% and others	Undecided	48,734	85,888	42,092
Others foreign currency borrowings	Kookmin Bank and others	3M Libor + 1.60% and others	2022.10.01	86,835	78,267	75,000
				₩ 150,732	₩ 183,541	\$ 130,188
				₩ 233,802	₩ 337,391	\$ 201,936
Less: present value discount				(919)	(1,081)	(794)
				₩ 232,883	₩ 336,310	\$ 201,143
				₩ 930,229	₩ 2,273,100	\$ 803,445

15.2 Details of bonds as of December 31, 2019 and 2018 are as follows:

	Annual interest rates as of Dec. 31, 2018	Maturity	Korean won in millions		U.S. dollar in thousands				
			2019	2018	2019				
Current portion of bonds									
10-2 unsecured bond	3.26%	2019.07.02	₩	-	₩	220,000	\$		
13rd unsecured bond	2.02%	2019.07.14		-		150,000		-	
15th unsecured bond	2.53%	2019.07.08		-		30,000		-	
16-1 unsecured bond	2.26%	2019.07.17		130,000		-		112,282	
17th unsecured bond	3M SGD	2019.10.25		-		139,108		-	
	SOR+85bp		₩	130,000	₩	539,108	\$	112,282	
Less: present value discount on bonds				42		(599)		36	
				₩	130,042	₩	538,509	\$	112,318
Non-current portion of bonds									
16-1 unsecured bond	2.26%	2020.07.17		-		130,000	\$	-	
16-2 unsecured bond	2.69%	2022.07.17		70,000		70,000		60,459	
18-1 unsecured bond	2.67%	2021.03.02		130,000		130,000		112,282	
18-2 unsecured bond	3.08%	2023.03.02		70,000		70,000		60,459	
19-1 unsecured bond	2.22%	2021.09.13		70,000		70,000		60,459	
19-2 unsecured bond	2.53%	2023.09.13		80,000		80,000		69,097	
20th unsecured bond	3M LIBOR + 90bp	2021.10.15		231,560		223,620		200,000	
21-1 unsecured bond	2.12%	2022.03.07		120,000		-		103,645	
21-2 unsecured bond	2.27%	2024.03.07		130,000		-		112,282	
22-1 unsecured bond	1.68%	2022.07.04		70,000		-		60,459	
22-2 unsecured bond	1.73%	2024.07.04		80,000		-		69,097	
22-3 unsecured bond	1.95%	2026.07.04		50,000		-		43,185	
23rd unsecured bond	6M SGD SOR +	2022.10.25		145,953		-		126,061	
	100bp		₩	1,247,513	₩	773,620	\$	1,077,486	
Less: present value discount on bonds				(3,825)		(3,105)		(3,304)	
				₩	1,243,688	₩	770,515	\$	1,074,182
				₩	1,373,730	₩	1,309,024	\$	1,186,500

16. Other liabilities

Other liabilities as of December 31, 2019 and 2018 are as follows:

	Korean won in million		U.S. dollar in thousand	
	2019	2018	2019	
Current:				
Advances received	₩ 137,781	₩ 153,798	\$ 119,002	
Withholdings	28,217	34,237	24,371	
Income received in advance	41,769	36,530	36,076	
	₩ 207,767	₩ 224,565	\$ 179,450	
Non-current:				
Long-term withholdings	₩ 32,556	₩ 37,963	28,119	
	₩ 240,323	₩ 262,528	\$ 207,569	

17. Retirement benefits

The Company operates a defined benefit 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 separate statement of financial position related to the net defined benefit liabilities (assets) as of December 31, 2019 and 2018 are as follows:

	Korean won in millions		U.S. dollar in thousands	
	2019	2018	2019	
Present value of defined benefit obligation	₩ 168,895	₩ 146,949	\$ 145,876	
Fair value of plan assets	(164,375)	(147,919)	(141,971)	
Net defined benefit liabilities	4,619	-	3,989	
Net defined benefit liabilities	(9)	(970)	(8)	

17.2 Changes in the present value of the defined benefit obligation for the years ended December 31, 2019 and 2018 are as follows:

	Korean won in millions		U.S. dollar in thousands	
	2019	2018	2019	
Beginning balance	₩ 146,949	₩ 131,392	\$ 126,921	
Current service cost	17,620	16,353	15,219	
Past service cost	1,068	-	922	
Interest cost	3,439	3,715	2,970	
Benefits paid	(9,604)	(9,727)	(8,295)	
Re-measurement loss (gain) in OCI:	9,513	6,016	8,216	
- Actuarial changes arising from changes in demographic assumptions	237	136	205	
- Actuarial changes arising from changes in financial assumptions	4,419	5,607	3,817	
- Others	4,857	273	4,195	
Others	-	(800)	-	
Ending balance	₩ 168,985	₩ 146,949	\$ 145,954	

17.3 Changes in the fair value of plan assets for the years ended at December 31, 2019 and 2018 are as follows:

	Korean won in million		U.S. dollar in thousand	
	2019	2018	2019	
Beginning balance	₩ 147,919	₩ 139,179	\$ 127,759	
Contribution by employer	22,700	15,977	19,606	
Interest Income	3,131	3,735	2,704	
Benefits paid	(8,825)	(9,472)	(7,622)	
Re-measurement gain (loss) in OCI	(537)	(1,480)	(464)	
- Actuarial changes arising from changes in financial assumptions	(537)	(1,480)	(464)	
Others	(13)	(20)	(11)	
Ending balance	₩ 164,375	₩ 147,919	\$ 141,972	

17.4 The gains and losses recognized in relation to defined benefit plan for the years ended December 31, 2019 and 2018 are as follows:

	Korean won in millions		U.S. dollar in thousands	
	2019	2018	2019	
Current service cost	₩ 17,620	₩ 16,353	\$ 15,219	
Past service cost	1,068	-	922	
Net interest on net defined benefit	308	(20)	266	
	₩ 18,996	₩ 16,333	\$ 16,407	

17.5 Details of re-measurement gain (loss) recorded in other comprehensive income for the years ended December 31, 2019 and 2018 are as follows:

	Korean won in million		U.S. dollar in thousand	
	2019	2018	2019	
Re-measurement of defined benefit obligation	₩ (9,513)	₩ (6,016)	\$ (8,216)	
Re-measurement of plan assets	(537)	(1,480)	(464)	
	₩ (10,050)	₩ (7,496)	\$ (8,680)	
Income tax effect	2,874	1,814	2,482	
Other comprehensive income	₩ (7,176)	₩ (5,682)	\$ (6,198)	

17.6 Principal assumptions used in actuarial valuation as of December 31, 2019 and 2018 are as follows:

	2019	2018
Discount rate	2.01~2.95%	2.33~3.03%
Expected future salary growth rate	3.00~5.00%	3.00~5.00%

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

The estimated contribution by the Company as of December 31, 2010 amounts to ₩22,896 million (\$19,775 thousand). The maturity profile of the Company's un-discounted pension benefit payments for the year ended December 31, 2019 is as follows:

	Korean won in million				
	Less than 1year	1year to 2years	2years to 5years	Over 5years	Total
Amount to be paid	₩ 7,549	₩ 9,312	₩ 27,278	₩ 188,784	₩ 232,923
U.S. dollar in thousand	\$ 6,520	\$ 8,043	\$ 23,560	\$ 163,054	\$ 201,177

The weighted average maturity period of defined benefit obligations of the Company ranges from 9.85 to 13.79 years.

18. Provisions

18.1 Provisions as of December 31, 2019 and 2018 are as follows:

	Korean won in million		U.S. dollar in thousand
	2019	2018	2019
<Current>			
Current portion of provisions	₩ 18,309	₩ -	\$ 15,814
<Non-current>			
Provision for contingency	52,652	45,164	45,476
Provision for restoration	28,759	29,457	24,839
Other long-term provisions	4,062	-	3,508
	₩ 85,473	₩ 74,621	\$ 73,824
Total: Provisions	₩ 103,782	₩ 74,621	\$ 89,637

18.2 Changes in provisions for the year ended December 31, 2019 are as follows:

	Korean won in millions				
	Current portion of provisions	Provision for contingency	Provision for restoration	Other long-term provisions	Total
Beginning					
balance	-	45,164	29,457	-	74,621
Addition	21,024	8,495	4,140	2,058	35,717
Transfer	-	(1,600)	-	-	(1,600)
Used	(2,715)	(810)	(5,293)	(1,494)	(10,312)
Replacement	-	-	70	3,498	3,568
Foreign					
currency					
translation	-	1,403	385	-	1,788
Ending balance	₩ 18,309	₩ 52,652	₩ 28,759	₩ 4,062	₩ 103,782
U.S. dollar in thousands	\$ 15,814	\$ 45,476	\$ 24,839	\$ 3,508	\$ 89,637

19. Commitments and contingencies

19.1 provision for contingencies

Changes in provision for contingencies for the year ended December 31, 2019 are as follows (Korean won in millions):

	Beginning balance	Increase	Reversal	Transfer	Translation	Ending Balance	Principal debt amount
Creditors of Daewoo Corp.	₩ 27,576	₩ 932	₩ -	₩ -	₩ 800	₩ 29,308	₩ 266,866
Legal proceedings provisions	3,283	-	-	(810)	90	2,563	-
Provisions for contingency	14,178	7,563	(1,600)	-	513	20,654	-
Provisions for construction warranties	127	-	-	-	-	127	-
	₩ 45,164	₩ 8,495	₩ (1,600)	₩ (810)	₩ 1,403	₩ 52,652	₩ 266,866
U.S. dollar in thousands	\$ 39,008	\$ 7,337	\$ (1,382)	\$ (700)	\$ 1,212	\$ 45,476	\$ 230,494

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, which each company engages in the trade and construction sector, respectively. On December 27, 2000, the Company was newly incorporated as Daewoo International Corporation through a spin-off of Daewoo Corporation's trade sector. Under the proposal, the Company 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 Company 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, 2019, the Company has recognized ₩29,308 million (\$25,314 thousand) as provision for contingent losses.

The above provision for contingent losses recognized by the Company in relation to Daewoo Corporation is the reasonable estimates of contingent losses divided at the ratio of 34 to 66 between the Company 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 Company in Delhi in May 2002 with regards to the disposition of assets and confirmation of the debt. Accordingly, the Company has reasonably estimated the outcome of the lawsuit and reflected the estimated legal claim in the provision for contingent losses.

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, 2019, the Company is a defendant in pending lawsuits involving 17 claims (domestic: 8 claims and overseas: 9 claims). The total claim amount of the lawsuits is ₩18,786 million, USD 22,813 thousand, INR 4,518,694 thousand, CAD 79,000 thousand, PKR 124,775 thousand. The Company is involved in 18 pending lawsuits as a plaintiff as of December 31, 2019. As the ultimate outcome of these lawsuits could not be determined as of December 31, 2019, the Company has not reflected the potential impact that may arise as a result of the above litigations in the separate financial statements. As of December 31, 2019, the Company has recognized a provision for losses of ₩29,308 million (\$25,314 thousand) for lawsuits other than the aforementioned lawsuits.

As of December 31, 2019, the Company is a defendant in pending lawsuits involving 17 claims (domestic: 8 claims and overseas: 9 claims). The total amount of the lawsuits is ₩18,786 million, USD 22,813 thousand, INR 4,518,694 thousand, CAD 79,000 thousand, PKR 124,775 thousand. The ultimate outcome of these lawsuits could not be determined. Therefore, the Company has not recognized potential liabilities that may arise as a result of the above litigations as of December 31, 2019 in the financial statements other than lawsuits for which provision for contingencies recognized is ₩29,308 million. On the other hand, the Company is involved in 18 pending lawsuits as a plaintiff as of December 31, 2019.

19.3 Credit facilities

As of December 31, 2019, the Company has letter of credit facilities ("L/C") with Woori Bank and others, document against acceptance facilities ("D/A") and other trading facilities as follows (U.S. dollar in thousands and Korean won in millions):

	Bank	Credit line amount	
Local L/C	Woori Bank and others	USD	238,561
L/C	Woori Bank and others	USD	1,548,000
D/A	Woori Bank and others	USD	1,865,459
Credit line in foreign currency	Woori Bank and others	USD	458,000
P-Bond and others	Woori Bank and others	USD	637,986
Overdraft and others	Woori Bank and others	KRW	7,000

19.4 Collateral

The Company has pledged 33 blank promissory notes and 20 blank checks as collateral to Korea Energy Agency and others for the contract performance guarantees as of December 31, 2019.

19.5 Derivatives

The Company 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 (Korean won in millions and USD in thousands):

19.5.1 Details of derivatives as of December 31, 2019

(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	15,000	Limit of loss
	Kookmin Bank	KRW	33,600	Limit of loss
	Suhyup Bank	KRW	10,000	Limit of loss
	Citibank Korea	USD	50,000	Limit of risk transaction
	SC Bank Korea	USD	120,000	Limit of transaction
	UOB(*1)	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(*1)	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	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		USD	15,000	Limit of loss
	Mitsui Bussan	USD	15,000	Limit of transaction
		USD	13,000	Limit of loss
		USD	13,000	Limit of transaction
	Toyota	USD	15,000	Limit of loss
		USD	15,000	Limit of transaction
	BOCI	USD	5,000	Limit of loss
		USD	5,000	Limit of transaction
	CMS	USD	5,000	Limit of loss
	Daishin Securities	USD	5,000	Limit of loss
	Citibank Korea (*2)	USD	200,000	Limit of risk transaction

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

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

19.5.2 Unsettled currency forwards

Currency Unit	Korean won in million				Accumulated valuation gain (loss)
	Unsettled Contractual Amount				
	Long Position		Short Position		
USD	₩	59,669	₩	848,015	₩ 16,698
EUR		83,530		624,326	(2,379)
JPY		53,921		58,811	192
CNY		14,865		31,033	(42)
AED		96		-	-
CAD		-		6,033	(92)
GBP		4,490		35,856	52
AUD		204		3,832	(76)
SGD		369		120	1
CHF		66		66	1
					₩ 14,355
U. S. dollar in thousands					\$ 12,399

Commodity futures	Korean won in million				Accumulated valuation gain (loss)
	Unsettled Contractual Amount				
	Long Position		Short Position		
ALUMINUM	₩	14,574	₩	44,676	₩ (553)
Propane		19,094		23,582	(5,265)
COPPER		50,419		118,046	(2,374)
FUEL OIL		2,520		4,355	(310)
NICKEL		12,573		43,036	1,557
Gasoil		3,048		-	20
Tin		14,496		32,555	(540)
Soybean		-		24,067	(1,814)
Soybean Meal		57,744		-	704
					₩ (8,575)
U. S. dollar in thousands					\$ (7,406)

Unsettled currency swaps for the year ended December 31, 2019 are as follows:

	Unsettled Contractual Amount						Accumulated valuation gain
Bank	Payment		Receipt		Expiratio n date	Interest swap	(loss)
UOB	US	74,82	SG	102,00	Oct.25, 2022	Pay 6M US\$ Libor+1.25%	₩ 562
	D	3	D	0		Receive 6M SGD SOR+1.00%	
Credit agricole	US	49,62	SG		Oct.25, 2022	Pay 6M US\$ Libor+1.25%	388
	D	7	D	68,000		Receive 6M SGD SOR+1.00%	
							₩ 950
U. S. dollar in thousands							\$ 821

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, 2019 are as follows:

	Korean won in million				Ending balance
	Beginning balance	Settlement	Valuation gain	Valuation loss	
Currency forwards	3,702	(3,702)	18,274	(3,919)	14,355
Commodity futures	19,610	(19,610)	5,573	(14,148)	(8,575)
Firm commitment contracts	(12,994)	(7,295)	60,201	(37,685)	2,227
Currency swap	(1,297)	-	2,247	-	950
	<u>₩ 9,021</u>	<u>₩ (30,607)</u>	<u>₩ 86,295</u>	<u>₩ (55,752)</u>	<u>₩ 8,957</u>
U.S. dollar in thousand	<u>\$ 7,792</u>	<u>\$ (26,435)</u>	<u>\$ 74,534</u>	<u>\$ (48,153)</u>	<u>\$ 7,736</u>

The Company uses commodity futures and other financial instruments to hedge its commodity price risks and other risks attributable to firm sales or purchase contracts. The Company applies fair value hedge accounting under which the firm sales or purchase contracts (the firm commitment contract) are designated as the hedged item with commodity futures and others as hedging instruments.

19.6 Guarantee obligations

Guarantees provided by the Company to certain creditors on behalf of associates/debtors as of December 31, 2019 are as follows:

Debtor	Creditor	Unsettled Contractual Amount		Outstanding Balance		Year of expiration
		Foreign currency amounts (in thousand)	Korean won equivalent (in millions)	Foreign currency amounts (in thousand)	Korean won equivalent (in million)	
PT. Bio Intl Agrindo	Korea Exim bank	USD 115,000	133,147	USD 115,000	133,147	2026
	POSCO-Asia	USD 10,000	11,578	USD 10,000	11,578	2020
	Citibank N.A					
	Indonesia	USD 10,766	12,465	USD 10,766	12,465	2020
	PT Bank Woori					
Daewoo Global Development Pte. Ltd	Saudara Indonesia	USD 10,000	11,578	USD 9,224	10,680	2020
	Korea Exim bank	USD 61,050	70,684	USD 61,050	70,684	2021
	KDB, Singapore	USD 68,868	79,735	USD 52,975	61,334	2021
Global Komsco Daewoo LLC	SMBC, Singapore	USD 70,000	81,046	USD 70,000	81,046	2021
	KEB Hana, Bahrain	USD 8,225	9,523	USD 8,050	9,320	2022
Sherrit International Corp. POSCO International Power (Pngleae) LTD.	Korea Exim bank	USD 21,818	25,261	USD 3,451	3,996	2023
	KDB, Singapore	USD 53,517	61,962	USD 41,167	47,663	2022
POSCO Assan TST Steel Industry Golden Lace POSCO International Co., Ltd	ING, Seoul etc.	USD 14,653	16,965	USD 14,653	16,965	2020
	Shinhan Bank, Yanggon	USD 6,500	7,526	USD 6,500	7,526	2021
	Shinhan Bank, Yanggon	USD 2,500	2,895	USD 2,500	2,895	2020

POSCO INTERNATIONAL Corporation (formerly, POSCO Daewoo Corporation)
Notes to the separate financial statements
for the years ended December 31, 2019 and 2018

	Shinhan Bank, Yanggon	USD	2,000	2,316	USD	2,000	2,316	2020
Mykolaevskiy Kombinat Hlyboproductiv	Black Sea Trade							
Private Joint Stock Company	Development Bank	USD	26,054	30,165	USD	26,054	30,165	2025
POSCO International Singapore Pte. Ltd..						-	-	
POSCO International Japan Corp.						-	-	
POSCO International Malaysia SDN BHD						-	-	
POSCO International Deutschland GmbH	BMG, Amsterdam	USD	50,000	57,890	USD	5,603	6,487	2020
POSCO International Italia S.R.L.						-	-	
POSCO International America Corp..						-	-	
POSCO International Mexico S.A. de C.V..						-	-	
			<u>USD</u>	<u>530,951</u>	<u>614,736</u>	<u>USD</u>	<u>438,993</u>	<u>508,267</u>

Principal debtors listed above are related parties of the Company, excluding Sheritt International Corp.

As of December 31, 2019, 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	12,189	10,528	PF major shareholder	PF collateral

19.7 Other commitments

19.7.1 Fund supplementary arrangements of SPH Co., Ltd.

In 2014, the Company 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 Company 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 (\$17,274 thousand), and the outstanding amount of SPH's borrowings payable to Park Avenue Jeilcha Ltd. is ₩20,000 million (\$17,274 thousand) as of December 31, 2019.

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

The Company 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.

Sheritt International Corp., the operator, has partially transferred the shares in the project Sumitomo and Ambatovy Holdings Limited in November 2017. KAC retains rights and obligation including call options for ownership interest 12.83% in the newly incorporated entity.

19.7.3 Environmental restoration expenses of Peru Block 8.

The Company 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, the former operator refused to pay, and the Company applied for an arbitration. As a result of the arbitration in June 2018, the former operator is obligated for 94% of the cost of recovering the polluted area. As due diligence is underway to calculate the environmental restoration cost, the amounts have not yet been determined.

19.7.4 Transfer of contract status on ship purchase agreement

The Company operates the chartered ship. The Company, 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 Company 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.

Ship	Ship owner	Shipping company	Arrangement period	Korean won in millions		U.S. dollar in thousands	
				Book value		Book value	
Containership							
Heung-A	D&G Shipping	Heung A Line	2014.10.28 ~				
Janice	SA	Co., Ltd.	2025.03.16	₩	7,700	\$	6,651
Containership							
Heung-A	D&M Shipping	Heung A Line	2014.10.29 ~				
Haiphong	SA	Co., Ltd.	2025.03.16		7,700		6,651
Containership							
Heung-A	D&F Shipping	Heung A Line	2015.02.05 ~				
Xiamen	SA	Co., Ltd.	2025.05.16		7,700		6,651
Containership							
Heung-A	D&S Shipping	Heung A	2015.03.05 ~				
Akita	SA	shipping Co., Ltd.	2025.05.16		7,700		6,651
Commercial Tankership							
Busan	HIDHC No.1	Heung A shipping Co., Ltd.	2015.09.16 ~				
Pioneer	SA		2025.12.29		6,500		5,614
Commercial Tankership							
Ulsan	HIDHC No.2	Heung A shipping Co., Ltd.	2016.01.29 ~				
Pioneer	SA		2026.03.29		6,500		5,614
Commercial Tankership							
Asian	HIDHC No.3	Heung A shipping Co., Ltd.	2015.12.28 ~				
Pioneer	SA		2026.03.29		12,752		11,014
Commercial Tankership							
No.2 Asian	HIDHC No.4	Heung A shipping Co., Ltd.	2016.03.31 ~				
Pioneer	SA		2026.05.29		12,752		11,014
Containership							
MSC Paloma	HIDHC No.1	MSC	2013.12.23 ~				
	SA		2026.12.20		69,500		60,028
Containership							
MSC	HIDHC No.2		2013.12.23 ~				
Melatilde	SA	MSC	2023.12.20		69,500		60,028
				₩	208,304	\$	179,914

20. Issued capital, capital surplus

20.1 Issued capital as of December 31, 2018 is as follows (Korean won in millions, Korean won for par value amount):

	Number of shares authorized	Number of shares issued	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				\$ 532,800	\$ 448,133

20.2 Capital surplus as of December 31, 2019 and 2018 are as:

	Korean won in millions		U.S. dollar in thousands
	2019	2018	2019
Paid-in capital in excess of par value	₩ 518,848	₩ 518,848	\$ 448,133
Other capital surplus	25,155	25,155	21,727
	<u>₩ 544,003</u>	<u>₩ 544,003</u>	<u>\$ 469,859</u>

20.3 Other components of equity as of December 31, 2018 and 2017 are as follows (Korean won in millions):

	Korean won in millions		U.S. dollar in thousands
	2019	2018	2019
Treasury stock	₩ (6)	₩ (6)	\$ (5)
	<u>₩ (6)</u>	<u>₩ (6)</u>	<u>\$ (5)</u>

21. Accumulated other comprehensive income

Accumulated other comprehensive income of the years ended December 31, 2019 and 2018 are solely composed of gain on valuation of equity instruments.

Changes in gain on valuation of equity instruments for the years ended December 31, 2019 and 2018 are as follows:

	Korean won in million		U.S. dollar in thousand
	2,019	2,018	2019
Beginning balance	₩ (1,945)	₩ 13,383	\$ (1,680)
Effects of changes in accounting standard	-	(9,707)	-
Gain(loss) on valuation of equity instruments at fair value through OCI	(776)	(7,416)	
Reclassification arising from disposal of equity instruments valuation at FVOCI	792	-	686
Tax effect	31	1,795	27
Ending balance	<u>₩ (1,896)</u>	<u>₩ (1,945)</u>	<u>\$ (1,638)</u>

22. Retained earning

22.1 Retained earnings as of December 31, 2019 and 2018 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2019	2018	2019
Appropriated retained earnings(*1)	₩ 52,744	₩ 45,342	\$ 45,555
Discretionary appropriated related earnings(*2)	1,511,000	1,492,000	1,305,061
Unappropriated retained earnings	186,399	102,877	160,994
	₩ 1,750,143	₩ 1,640,219	\$ 1,511,611

(*1) In accordance with the Commercial law, the Company 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 Company is the full amount of the business expansion reserves.

22.2 Detailed statements of appropriations of retained earnings for the years ended as of December 31, 2019 and 2018 are as follows:

	Korean won in million		U.S. dollar in thousand
	2019	2018	2019
Retained earnings before appropriation:			
Unappropriated retained earnings carried forward the prior year	₩ 2,450	₩ 2,342	\$ 2,116
Effects of changes in accounting standard	-	8,446	-
Actuarial gain (loss)	(7,177)	(5,682)	(6,199)
Profit(loss) on disposal of securities	(578)	-	(499)
Profit for the year	191,704	97,772	165,576
	₩ 186,400	₩ 102,878	\$ 160,994
Appropriations:			
Legal reserve	8,636	7,402	7,459
Reserve for business expansion	89,400	19,000	77,215
Cash dividends	86,362	74,025	74,591
	₩ 184,399	₩ 100,427	\$ 159,266
Unappropriated retained earnings to be carried forward to the next year	₩ 2,001	₩ 2,450	\$ 1,728

Appropriation approval dates for 2019 and 2018 are March 30, 2020 and March 18, 2019, respectively.

22.3 Dividends

Details of dividends declared for the years ended December 31, 2019 and 2018 are as follows:

				U.S. dollar in thousand
	2019	2018	2019	
DPS (Korean won, %)	₩ 700(14%)	600(12%)	\$ 0.58	
Number of shares	123,374,891	123,374,891	123,374,891	
Dividends (Korean won in thousands)	86,362,424	74,024,935	\$ 74,591,891	

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, 2019 and 2018 are as follows:

	Korean won in millions		U.S. dollar in thousands	
	2019	2018	2019	
Cost of goods sold	₩ 21,142,588	₩ 22,012,520	\$ 18,261,002	
Employee benefits	162,824	145,964	140,632	
Depreciation of property, plant and equipment	38,831	40,136	33,539	
Amortization of intangible assets	184,955	124,545	159,747	
Depreciation of investment properties	2,899	2,895	2,504	
Others	643,459	597,451	555,760	
	₩ 22,175,556	₩ 22,923,511	\$ 19,153,184	

24 Selling and administrative expenses

Details of selling and administrative expenses for the years ended December 31, 2019 and 2018 are as follows:

	Korean won in millions		U.S. dollar in thousands	
	2019	2018	2019	
Salaries	₩ 145,987	₩ 131,940	\$ 126,090	
Retirement benefits	16,837	14,024	14,542	
Employee welfare	31,343	26,998	27,071	
Travel	9,477	8,686	8,185	
Communication	4,650	4,510	4,016	
Utilities	367	318	317	
Taxes and dues	3,585	3,310	3,096	
Rents	6,417	10,045	5,542	
Depreciation	5,082	7,460	4,389	
Amortization	4,422	3,129	3,819	
Depreciation of right-of-use assets	4,249	-	3,670	
Repairs	871	543	752	
Insurance	23,497	30,129	20,295	
Entertainment	398	493	344	
Advertising	1,569	1,099	1,355	
Packaging	382	1,209	330	
Shipping	34,301	29,271	29,626	
Commissions	76,035	78,348	65,672	
Bad debt expenses	19,478	35,956	16,823	
Supplies	1,193	557	1,030	
Car maintenance	2,359	2,200	2,037	
Printing	315	340	272	
Training	3,667	2,195	3,167	
Research and development	2,637	2,992	2,278	
Sales promotion	3,507	3,680	3,029	
Others	981	904	847	
	₩ 403,606	₩ 400,336	\$ 348,597	

25 Finance income and costs

25.1 Details of finance income and costs for the years ended December 31, 2019 and 2018 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2019	2018	2019
<Finance income>			
Interest income	₩ 37,900	₩ 33,436	\$ 32,734
Financial guarantee income	2,033	1,635	1,756
Dividends income	49,705	50,110	42,931
Gain on foreign currency transactions	381,953	315,349	329,895
Gain on foreign currency translation	64,527	55,860	55,732
Gain on valuation of derivatives	86,294	81,367	74,533
Gain on settlement of derivatives	182,191	226,009	157,360
Gain on valuation of trade receivables	389	-	336
Gain on valuation of trade payables	-	64	-
Gain on disposal of financial assets at FVPL	-	5,271	-
	₩ 804,992	₩ 769,101	\$ 695,277

	Korean won in millions		U.S. dollar in thousands
	2019	2018	2019
<Finance cost>			
Loss on redemption of borrowings	₩ 2,237	₩ -	1,932
Loss on disposal of trade accounts receivables	29,335	39,062	25,337
Interest expenses	96,836	110,551	83,638
Financial guarantee expenses	-	3,592	-
Loss on foreign currency translation	360,170	336,897	311,081
Loss on valuation of derivatives	84,010	47,369	72,560
Loss on valuation of derivatives	55,752	88,047	48,153
Loss on settlement of derivatives	210,746	195,473	182,023
Loss on valuation on trade receivables	3,505	3,209	3,027
Loss on valuation on trade payables	603	-	521
Loss on disposal of financial assets at FVPL	11	-	10
	₩ 843,205	₩ 824,200	\$ 728,282

25.2 Details of interest income for the years ended December 31, 2019 and 2018 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2019	2018	2019
Interest income on cash equivalents	₩ 2,029	₩ 1,375	\$ 1,752
Other interest income	35,871	32,061	30,982
	₩ 37,900	₩ 33,436	\$ 32,734

25.3 Details of interest expenses for the years ended December 31, 2019 and 2018 are as follows:

	Korean won in million		U.S. dollar in thousand
	2019	2018	2019
Interest on borrowings and bonds	₩ 96,836	₩ 111,261	\$ 83,638
Less: capitalization of borrowing costs	-	(710)	-
	₩ 96,836	₩ 110,551	\$ 83,638

26 Other income and expenses

Details of other income and expenses for the years ended December 31, 2019 and 2018 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2019	2018	2019
Income fee	₩ 46	₩ -	\$ 40
Gain on insurance settlement	23	40	20
Gain on disposition of investments in associates	3,454	-	2,983
Gain on disposal of property, plant and equipment	20,246	197	17,487
Gain on disposal of intangible assets	875	2,536	756
Reversal of other bad debt allowance	2,340	2,072	2,021
Reversal of contingent liability	1,600	476	1,382
Reversal of loss on impairment of property, plant and equipment	221	-	191
Reversal of loss on impairment of intangible assets	26	-	22
Miscellaneous income	16,196	18,053	13,989
	₩ 45,027	₩ 23,374	\$ 38,890

	Korean won in millions		U.S. dollar in thousands
	2019	2018	2019
Contribution to provisions for restoration	₩ 4,140	₩ 865	\$ 3,576
Other bad debt expense	49,819	13,244	43,029
Loss on disposal of property, plant and equipment	60	440	52
Loss on impairment of property, plant and equipment	1,349	1,028	1,165
Loss on disposal of intangible assets	62	75	54
Loss on impairment of intangible assets	127,814	3,339	110,394
Donations	1,016	1,684	878
Contingency loss	8,495	20,993	7,337
Loss on impairment of investments in subsidiaries and associates	76,038	160,085	65,675
Loss on disposition of investments in associates	285	379	246
Miscellaneous expenses	13,528	17,419	11,684
	₩ 282,606	₩ 219,551	\$ 244,090

27. Impairment loss on financial instruments

Details of impairment loss on financial instruments for the years ended December 31, 2019 and 2018 are as follows:

	Korean won in million		U.S. dollar in thousand	
	2019	2018	2019	
Bad debt expenses	₩ 19,478	₩ 35,956	\$ 16,823	
Other bad debt expenses	49,818	14,242	43,028	
Less: reversal of allowance for doubtful accounts	(2,340)	(2,072)	(2,021)	
	₩ 66,957	₩ 48,126	\$ 57,831	

28. Income taxes

28.1 The major components of income tax expenses for the years ended December 31, 2019 and 2018 are as follows:

	Korean won in millions		U.S. dollar in thousands	
	2019	2018	2019	
Current income taxes	₩ 93,255	₩ 96,396	\$ 80,545	
Changes in deferred income tax arising from temporary differences	24,499	(68,134)	21,160	
Changes in deferred income tax arising from tax credit carry forwards	(20,205)	3,964	(17,451)	
Income tax charged directly to equity	3,120	4,011	2,695	
Income tax expenses	₩ 100,669	₩ 36,237	\$ 86,949	

28.2 A reconciliation between income tax expenses at the effective income tax rates of the Company and income before income taxes at the Korea statutory tax rate for the years ended December 31, 2019 and 2018 are as follows:

	Korean won in million		U.S. dollar in thousand	
	2019	2018	2019	
Accounting profit before income tax	₩ 292,374	₩ 134,008	\$ 252,525	
Tax at the statutory income tax rate (25.07% in 2019, 24.2% in 2018)	70,374	32,430	60,783	
Adjustments:			-	
Non-taxable income (₩ 87million in 2019, 636 million in 2018)	(21)	(154)	(18)	
Non-deductible expenses (₩ 55,840 million in 2019, 6,071 million in 2018)	13,513	1,469	11,671	
Tax credits	(3,402)	(1,708)	(2,938)	
Others	250,205	4,200	216,104	
Income tax expense	100,669	36,237	86,949	
Effective income tax rates	34.43%	27.04%		

28.3 Income tax charged directly to equity for the years ended December 31, 2019 and 2018 are as follows:

	Korean won in millions		U.S. dollar in thousands	
	2019	2018	2019	
Gain on valuation of equity Instruments at fair value through OCI	₩ 31	₩ 1,795	\$ 27	
Re-measurement loss (gain) on defined benefit liabilities	2,874	1,814	2,482	
Effects of changes in accounting standard	-	402	-	
Profit (loss) on disposal of securities	215	-	186	
	₩ 3,120	₩ 4,011	\$ 2,695	

28.4 Changes in deferred tax assets and liabilities for the years ended December 31, 2019 and 2018 are as follows (Korean won in millions):

	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 in subsidiaries and associates)	15,674	32,763	-	48,437
Investments in subsidiaries and associates	117,830	(19,158)	-	98,672
Provisions of severance liability	29,150	3,420	2,874	35,444
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	28,893	10,752	-	39,645
Capitalized borrowing costs	(18,707)	743	-	(17,964)
Accrued expenses	13,449	2,160	-	15,609
Foreign currency translation	648	18	-	666
Equity instruments valuation at FVOCI	621	1	31	653
Financial guarantee liabilities	2,745	(2,265)	-	480
Borrowings with low interest rates	(434)	115	-	(319)
Forgivable borrowings	2,189	10	-	2,199
Others	91,784	(54,708)	215	37,291
	₩ 264,846	₩ (27,619)	₩ 3,120	₩ 240,347
Tax credit carryforwards	-	20,205	-	20,205
	₩ 264,846	₩ (7,414)	₩ 3,120	₩ 260,552
U.S. dollar in thousands	\$ 228,749	\$ (6,404)	\$ 2,695	\$ 225,041

28.4 Changes in deferred tax assets and liabilities for the years ended December 31, 2019 and 2018 are as follows (Korean won in millions): (cont'd)

	2018			
	Beginning balance	Recognized in profit or loss	Recognized directly to equity	Ending balance
Valuation of derivatives	₩ (1,154)	₩ (447)	₩ -	₩ (1,601)
Loss on impairment of investments in subsidiaries and associates)	20,018	(4,344)	-	15,674
Investments in subsidiaries and associates	75,713	42,117	-	117,830
Provisions of severance liability	26,223	1,113	1,814	29,150
Severance insurance deposits	(25,893)	(5,560)	-	(31,453)
Debt restructuring	(3,995)	59	-	(3,936)
Extraordinary loss	1,807	3,786	-	5,593
Allowance for doubtful accounts	37,371	(24,970)	-	12,401
Depreciation	25,836	3,057	-	28,893
Capitalized borrowing costs	(24,557)	5,850	-	(18,707)
Accrued expenses	15,230	(1,781)	-	13,449
Foreign currency translation	681	(33)	-	648
Equity instruments valuation at FVOCI	(4,273)	3,099	1,795	621
Financial guarantee liabilities	4,629	(1,884)	-	2,745
Borrowings with low interest rates	(613)	179	-	(434)
Forgivable borrowings	(6,113)	8,302	-	2,189
Others	55,801	35,581	402	91,784
	₩ 196,711	₩ 64,124	₩ 4,011	₩ 264,846
Tax credit carryforwards	3,964	(3,964)	-	-
	₩ 200,675	₩ 60,160	₩ 4,011	₩ 264,846
U.S. dollar in thousand	\$ 173,324	\$ 51,961	\$ 3,464	\$ 228,749

29. Earnings per share

29.1 Basic earnings per share

Basic earnings per share for the years ended December 31, 2019 and 2018 are calculated as follows (Korean won in millions, except for per share amounts):

	Korean won in millions		U.S. dollar in thousands
	2019	2018	2019
Profit for the year attributable to ordinary equity holders of the parent	₩ 191,704	₩ 97,772	\$ 165,576
Weighted average number of ordinary shares outstanding	123,374,891	123,374,891	
Basic earnings per share (Korean won and U.S. dollar)	₩ 1,554	₩ 792	\$ 1.34

29.2 Diluted earnings per share for the years ended December 31, 2019 and 2018 are the same as basic earnings per share as the Company does not have any dilutive potential shares.

30. Fair value of financial instruments

30.1 Book value and fair value of financial instruments

Book value and fair value of financial instruments as of December 31, 2019 and 2018 are as follows:

	2019		2018	
	Book value	Fair value	Book value	Fair value
<Financial assets>				
Financial asset recognized at amortized cost				
Cash and cash equivalents	₩ 85,092	₩ 85,092	₩ 53,760	₩ 53,760
Trade and other receivables (*1)	3,427,378	3,427,378	4,240,508	4,240,508
Other current financial assets	311	311	66	66
Long-term trade and other receivables (*1)	489,009	489,009	413,765	413,765
Other non-current financial assets	882	882	790	790
Total: Financial asset recognized at amortized cost	₩ 4,002,672	₩ 4,002,672	₩ 4,708,889	₩ 4,708,889
Financial asset at fair value				
Trade and other receivables	46,458	46,458	18,151	18,151
Derivative financial assets	42,074	42,074	53,261	53,261
Financial assets at FVOCI	27,139	27,139	27,947	27,947
Financial assets at FVPL (Long-term investment)	632	632	1,102	1,102
Financial assets at FVPL (Other securities)	73	73	105	105
Total: Financial asset at fair value	₩ 116,376	₩ 116,376	₩ 100,566	₩ 100,566
<Total : Financial assets>	₩ 4,119,048	₩ 4,119,048	₩ 4,809,455	₩ 4,809,455
U.S. dollar in thousands	\$ 3,557,651	\$ 3,557,651	\$ 4,153,960	\$ 4,153,960
<Financial liabilities>				
Financial liabilities at amortized cost				
Trade and other payables (*2)	₩ 1,938,246	₩ 1,938,246	₩ 1,940,101	₩ 1,940,101
Borrowings	697,346	697,346	1,936,790	1,936,790
Current portion of bonds	130,042	131,217	538,509	542,936
Long-term trade and other payables (*2)	187,944	187,944	15,803	15,803
Long-term borrowings	232,883	232,883	336,310	336,310
Bonds	1,243,688	1,258,714	770,516	779,146
Total: Financial liabilities at amortized cost	₩ 4,430,149	₩ 4,446,350	₩ 5,538,029	₩ 5,551,086
Financial liabilities at fair value				
Derivative financial liabilities	₩ 33,117	₩ 33,117	₩ 44,240	₩ 44,240
Total: Financial liabilities at fair value	₩ 33,117	₩ 33,117	₩ 44,240	₩ 44,240
<Total: Financial liabilities>	₩ 4,463,266	₩ 4,479,467	₩ 5,582,269	₩ 5,595,326
U.S. dollar in thousands	\$ 3,854,954	\$ 3,868,947	\$ 4,821,445	\$ 4,832,722

(*1) Trade and other receivables and long-term trade and other receivables include ₩ 48,744 million (\$42,101 thousand) of current portion of lease bonds and ₩179,315 million (\$154,876 thousand) of long-term lease bonds respectively.

(*2) Trade and other payables and long-term trade and other payables include ₩ 54,221 million (\$46,831 thousand) of current portion of lease liabilities and ₩179,028 million (\$ 154,628 thousand) of long-term lease liabilities respectively.

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 Level 1
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, 2019 and 2018 are as follows:

2019										
Korean won in millions								U. S. dollar in thousands		
Level 1		Level 2		Level 3		Total		Total		
[Financial assets]										
Trade and other receivables	₩	-	₩	-	₩	46,458	₩	46,458	\$	40,126
Financial assets at fair value through OCI		3,931		-		-		3,931		3,395
Financial assets at fair value through profit or loss		-		73		-		73		63
Derivative financial assets		-		42,074		-		42,074		36,340
[Financial liabilities]										-
Derivative financial liabilities		-		33,117		-		33,117		28,603
2018										
Korean won in millions								U. S. dollar in thousands		
Level 1		Level 2		Level 3		Total		Total		
[Financial assets]										
Trade and other receivables		-		-		18,151		18,151		15,677
Financial assets at fair value through OCI		4,593		-		18,102		22,695		19,602
Financial assets at fair value through profit or loss		-		105		-		105		91
Derivative financial assets		-		53,261		-		53,261		46,002
[Financial liabilities]										
Derivative financial liabilities		-		44,240		-		44,240		38,210

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.

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

The 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 Company considered the maturity interest rate of the Company 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 Company'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 Company applies policies such as adjusting dividends.

Capital structure of the Company is composed of net borrowings, which are borrowings less cash and cash equivalents and equity. The Company maintains the same capital risk management policies as 2018. Details of the capital components managed by the Company as of December 31, 2019 and 2018 are as follows:

	Korean won in million		U.S. dollar in thousand	
	2019	2018	2019	
Total borrowings	₩ 2,303,960	₩ 3,582,124	\$ 1,989,946	
Less: Cash and cash equivalents	(85,092)	(53,760)	(73,495)	
Net borrowings	₩ 2,218,868	₩ 3,528,364	\$ 1,916,452	
Total equity	2,909,119	2,799,146	2,512,627	
Gearing ratio	76%	126%		

31.2 Financial risk management

The Company is exposed to market risk (foreign currency risk and interest rate risk), credit risk, and liquidity risk. The purpose of Company's financial risk management is to detect potential risk which could decrease the Company's profit and to eliminate, reduce and hedge such risk to an acceptable level. The Company uses derivative financial instruments for hedging special risk such as foreign currency risk. Financial risk management policy of the Company has been consistent with the policy of 2018.

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 Company 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, 2019 and 2018 are as follows:

		Korean won in millions				U.S. dollar in thousands			
		2019		2018				2019	
		Asset	Liability	Asset	Liability			Asset	Liability
	₩	2,678,058	₩ 2,364,831	₩ 3,182,272	₩ 3,191,366		\$	2,313,058	\$ 2,042,521
JPY		73,088	66,298	72,812	74,366			63,127	57,262
EUR		495.777	151.894	626.379	326.354			428.206	122.555

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, 2019 is as follows:

Korean won in millions			
2019			
Increase by 10%		Decrease by 10%	
USD	₩ 31,323	₩	(31,323)
JPY	679		(679)
EUR	34,388		(34,388)

31.2.1.2 Interest rate risk

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

As of December 31, 2019, with all other variables remain constant, a change of 1% in the floating interest rate on borrowings will have an effect of ₩4,704 million (\$4,063 thousand) decrease or increase in the Company'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 Company'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 Company to conduct transactions only with those with sound financial status by performing credit verification procedures for all counterparties that desire credit transactions with the Company. In addition, the Company manages the balance of accounts receivable by continuously reevaluating credit ratings so that the level of the Company's exposure to the credit risk is maintained at an insignificant level.

31.2.2.2 Other assets

Credit risks associated with the Company's other assets which consist of cash, short-term deposits and short-term and long-term loans arise from the default by the counterparties. Maximum exposure to credit risks will be the book value of the other assets. The Company 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.

As of December 31, 2019, and 2018, the maximum exposure to credit risk of the Company is as follows:

	Korean won in millions		U.S. dollar in thousands
	2019	2018	2019
Cash and cash equivalents	₩ 85,092	₩ 53,760	\$ 73,495
Trade and other receivables	3,473,836	4,258,659	3,000,377
Other current financial assets	311	66	269
Derivative financial assets	42,074	53,261	36,340
Long-term trade and other receivables	489,009	413,765	422,361
Other non-current financial assets	28,725	29,944	24,810
Financial guarantee contract	528,228	584,903	456,234
	₩ 4,647,275	₩ 5,394,358	\$ 4,013,884

(*1) Trade and other receivables and long-term trade and other receivables include ₩ 48,744 million (\$42,101 thousand) of current portion of lease bonds and ₩179,315 million (\$154,876 thousand) of long-term lease bonds respectively.

31.2.2.4 Aging analysis of non-derivative financial instruments

	Total	Not past due	Past due but not impaired			
			Within 1 month	1 month to 3 month	3 month to 12 month	Over 12 month
Cash and cash equivalents	₩ 85,092	₩ 85,092	₩ -	₩ -	₩ -	₩ -
Trade and other receivables (*1)	3,473,836	3,294,020	114,434	13,453	33,601	18,328
Other current financial assets	311	311	-	-	-	-
Non-current trade and other receivables (*1)	489,009	304,314	10,630	66,742	11,010	96,313
Other non-current financial assets	28,725	28,725	-	-	-	-
	<u>₩ 4,076,973</u>	<u>₩ 3,712,462</u>	<u>₩ 125,064</u>	<u>₩ 80,195</u>	<u>₩ 44,611</u>	<u>₩ 114,641</u>
U.S. dollar in thousands	<u>\$ 3,521,310</u>	<u>\$ 3,206,480</u>	<u>\$ 108,019</u>	<u>\$ 69,265</u>	<u>\$ 38,531</u>	<u>\$ 99,016</u>

(*1) The Trade and other payables and the long-term trade and other payables include ₩ 48,744 million (\$ 42,101 thousand) of current portion of lease liabilities and ₩ 179,315 million (\$154,876 thousand) of long-term lease liabilities, respectively.

31.2.3 Liquidity risk

The Company 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 Company believes that it has sufficient cash inflows from operating activities and financial assets to redeem financial liabilities that become due.

The maturity analysis based on the maturity of the remaining contract of the financial liability outstanding as of December 31, 2019 is as follows. The maturity amount is an undiscounted contractual cash flow that includes interest payments.

	Within 1 year	1 year to 5 years	Over 5 years	Total
Trade and other payables (*1)	₩ 1,938,246	₩ -	₩ -	₩ 1,938,246
Derivative financial liabilities	33,117	-	-	33,117
Borrowings	700,973	142,631	136,045	979,649
Bonds	158,613	875,970	433,539	1,468,122
Long-term trade and other payables	-	182,464	16,909	199,373
	<u>₩ 2,830,949</u>	<u>₩ 1,201,065</u>	<u>₩ 586,493</u>	<u>₩ 4,618,507</u>
U.S. dollar in thousands	<u>\$ 2,445,111</u>	<u>\$ 1,037,368</u>	<u>\$ 506,558</u>	<u>\$ 3,989,037</u>

(*1) The Trade and other payables and the long-term trade and other payables include ₩ 54,221 million (\$ 46,831 thousand) of current portion of lease liabilities and ₩ 179,028 million (\$154,628 thousand) of long-term lease liabilities, respectively.

The Company 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 Status of related parties as of December 31, 2019 and 2018 are as follows:

	2019	2018
parent		
subsidiaries	POSCO CO., LTD.	POSCO CO., LTD.
Subsidiaries	POSCO INTERNATIONAL AMERICA CORP.(*1) POSCO INTERNATIONAL DEUTSCHLAND GmbH(*1) POSCO INTERNATIONAL JAPAN CORP.(*1) POSCO INTERNATIONAL SINGAPORE PTE LTD.(*1) POSCO INTERNATIONAL ITALIA S.R.L.(*1) POSCO INTERNATIONAL CHINA CO.,LTD.(*1) POSCO INTERNATIONAL MYANMAR CORP. LTD.(*1) POSCO INTERNATIONAL MEXICO S.A. de C.V.(*1) POSCO INTERNATIONAL MALAYSIA SDN BHD(*1) POSCO INTERNATIONAL SHANGHAI CO.,LTD.(*1) POSCO DAEWOO WAIGAIQIAO SHANGHAI CO., LTD. POSCO INTERNATIONAL INDIA PVT.,LTD.(*1) POSCO INTERNATIONAL VIETNAM CO.,LTD.(*1) POSCO INTERNATIONAL TEXTILE LLC.(*1) POSCO INTERNATIONAL AUSTRALIA HOLDINGS PTY. LTD.(*1) PT. BIO INTI AGRINDO DAEWOO AAPC CORP. BRASIL SAO PAULO STEEL PROCESSING CENTER POSCO INTERNATIONAL POWER(PNGPOM) LTD.(*1) POSCO INTERNATIONAL POWER (PNGLAIE) LTD (*1) GOLDEN LACE POSCO INTERNATIONAL CO.,LTD.(*1) POSCO INTERNATIONAL UKRAINE, LLC.(*1) POSCO SOUTH EAST ASIA PTE. LTD. DAEWOO GLOBAL DEVELOPMENT PTE. LTD. POSCO INTERNATIONAL AMARA CO., LTD.(*1) LA SRDC POHANG SRDC CO., LTD. POSCO TMC INDIA PVT.,LTD. GRAIN TERMINAL HOLDING PTE. LTD. MYKOLAIV MILING WORKS PJSC. YUZHNAVYA STEVEDORING COMPANY LIMITED LLC. - - - - -	POSCO DAEWOO AMERICA CORP. POSCO DAEWOO DEUTSCHLAND GmbH POSCO DAEWOO JAPAN CORP. POSCO DAEWOO SINGAPORE PTE LTD. POSCO DAEWOO ITALIA S.R.L. POSCO DAEWOO CHINA CO.,LTD. POSCO DAEWOO MYANMAR CORP. LTD. POSCO DAEWOO MEXICO S.A. de C.V. POSCO DAEWOO MALAYSIA SDN BHD POSCO DAEWOO SHANGHAI CO.,LTD. POSCO DAEWOO WAIGAIQIAO SHANGHAI CO., LTD. POSCO DAEWOO INDIA PVT.,LTD. POSCO DAEWOO VIETNAM CO.,LTD. DAEWOO TEXTILE LLC. POSCO DAEWOO AUSTRALIA HOLDINGS PTY. LTD. PT. BIO INTI AGRINDO DAEWOO AAPC CORP. BRASIL SAO PAULO STEEL PROCESSING CENTER POSCO DAEWOO POWER(PNGPOM) LTD. DAEWOO POWER PNG LTD. GOLDEN LACE DAEWOO CO.,LTD. POSCO DAEWOO UKRAINE, LLC. POSCO SOUTH EAST ASIA PTE. LTD. DAEWOO GLOBAL DEVELOPMENT PTE. LTD. DAEWOO AMARA CO., LTD. LA SRDC Pohang SRDC Co., Ltd. POSCO TMC INDIA PVT.,LTD. - - - DAEWOO PRECIOUS RESOURCES CO., LTD. DAEWOO POWER AND INFRA (PTY) LTD POSCO-GULF SFC L.L.C. POSCO DAEWOO E&P CANADA CORP. DAEWOO INT'L GUANGZHOU CORP.

32.1 Status of related parties as of December 31, 2019 and 2018 are as follows: (cont'd)

	2019	2018
Associates	BLUE OCEAN RECOVERY PEF No. 1 POSCO MEXICO PROCESSING CENTER HOLDING,LLC. POSCO-ESDC LTD. POSCO IJPC SHANGHAI LANSHENG DAEWOO CORP. SHANGHAI WAIGAOGIAO FREE TRADE ZONE 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 IT ENGINEERING INCO TECH TK CHEMICAL CORP. HANIL DAEWOO CEMENT CO., LTD. SHINPOONG DAEWOO PHARMA CO, LTD. POSCO-MALAYSIA SDN.BHD. POSCO-ITPC S.P.A HUNCHUN POSCO HYUNDAI INTERNATIONAL LOGISTICS - - - -	BLUE OCEAN RECOVERY PEF No. 1 POSCO MEXICO PROCESSING CENTER HOLDING,LLC. POSCO-ESDC LTD. POSCO IJPC SHANGHAI LANSHENG DAEWOO CORP. SHANGHAI WAIGAOGIAO FREE TRADE ZONE 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 IT ENGINEERING INCO TECH TK CHEMICAL CORP. HANIL DAEWOO CEMENT CO., LTD. SHINPOONG DAEWOO PHARMA CO, LTD. POSCO-MALAYSIA SDN.BHD. POSCO-ITPC S.P.A HUNCHUN POSCO HYUNDAI INTERNATIONAL LOGISTICS POSCO SINGAPORE LNG TRADING Pte, Ltd SEBANG STEEL VNS-DAEWOO CO., LTD ERAE AUTOMOTIVE SYSTEMS MEXICO
Others	POSCO ASIA CO., LTD. POSCO-VIETNAM CO, LTD. POSCO-THAINOX POSCO ASSAN TST STEEL INDUSTRY POSCO-AAPC POSCO C&C Co., Ltd. POSCO AMERICA CORP. ZHANGJIAGANG POHANG STAINLESS STEEL CO., LTD. POSCO-FOSHAN STEEL PROCESSING CENTER CO., LTD. COMPANHIA SIDERURGICA DO PECÉM POSCO ENERGY CO., LTD POSCO VST CO., LTD. POSCO SS-VINA PT. KRATAU 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 Co., Ltd. POSCO AMERICA CORP. ZHANGJIAGANG POHANG STAINLESS STEEL CO., LTD. POSCO-FOSHAN STEEL PROCESSING CENTER CO., LTD. COMPANHIA SIDERURGICA DO PECÉM POSCO ENERGY CO., LTD POSCO VST CO., LTD. POSCO SS-VINA PT. KRATAU POSCO POSCO MAHARASHTRA STEEL PVT. LTD. DAEWOO HUMAN RESOURCES S.A. DE C.V. - DAEWOO LOGISTICS CORP. ETC.

(*1) The subsidiaries and associates' name has been changed in the current period.

32.2 Significant transactions with related parties for the years ended December 31, 2019 and 2018 are as follows

2019												
	Sales and others					Purchase and others						
	Sales		Others		Total	Purchase		Others		Total		
Parent company												
POSCO(*1)	₩	590,872	₩	6,460	₩	597,332	₩	5,874,601	₩	155,156	₩	6,029,757
Subsidiaries												
POSCO DAEWOO WAIGAIQIAO SHANGHAI CO., LTD.	₩	5,080	₩	-	₩	5,080	₩	5,268	₩	-	₩	5,268
PT. BIO INTI AGRINDO		-		1,931		1,931		11,973		-		11,973
POSCO INTERNATIONAL VIETNAM CO., LTD.		38,582		-		38,582		-		2,827		2,827
POSCO INTERNATIONAL MYANMAR CORP. LTD.		3		-		3		-		1,221		1,221
POSCO INTERNATIONAL POWER (PNGLAE) LTD.		419		3,505		3,924		-		-		-
POSCO INTERNATIONAL POWER (PNGPOM) LTD.		447		4,473		4,920		-		-		-
POSCO INTERNATIONAL AMERCIA CORP.		1,037,249		-		1,037,249		99,279		959		100,238
POSCO INTERNATIONAL DEUTSCHLAND GmbH		562,375		-		562,375		-		681		681
POSCO INTERNATIONAL JAPAN CORP.		587,301		-		587,301		108,054		782		108,836
POSCO INTERNATIONAL SINGAPORE PTE LTD.		2,180,533		-		2,180,533		34,984		1,862		36,846
POSCO INTERNATIONAL ITALIA S.R.L.		610,489		-		610,489		-		1,597		1,597
POSCO INTERNATIONAL CHINA CO., LTD.		163,777		-		163,777		-		5,492		5,492
POSCO INTERNATIONAL TEXTILE L.L.C.		12,261		-		12,261		74,163		-		74,163
POSCO INTERNATIONAL AUSTRALIA HOLDINGS PTY. LTD.		169		3,483		3,652		-		-		-
POSCO DAEWOO E&P CANADA CORP.		-		569		569		-		-		-
POSCO INTERNATIONAL MEXICO S.A. de C.V.		141,504		-		141,504		2,295		3,772		6,067
POSCO INTERNATIONAL MALAYSIA SDN BHD		329,437		-		329,437		82,347		2,076		84,423
POSCO INTERNATIONAL SHANGHAI CO., LTD.		273,118		-		273,118		-		3,834		3,834
POSCO INTERNATIONAL INDIA PVT., LTD.		24,955		-		24,955		-		2,510		2,510
POHANG SRDC CO., LTD.		-		229		229		339		3,242		3,581
GOLDEN LACE POSCO INTERNATIONAL CO.,LTD.		-		-		-		14,914		-		14,914
LA SRDC		-		-		-		24,123		-		24,123
DAEWOO GLOBAL DEVELOPMENT PTE. LTD.		2,330		-		2,330		-		-		-
POSCO INTERNATIONAL UKRAINE, LLC.		-		-		-		707		369		1,076
MYKOLAIV MILLING WORKS PJSC.		-		-		-		-		507		507
Associates												
POSCO MEXICO PROCESSING CENTER HOLDING, L.L.C.	₩	220,537	₩	-	₩	220,537	₩	-	₩	59	₩	59
SPH Co., Ltd.		92		28		120		-		-		-
POSCO-ESDC LTD.		-		75		75		-		3,266		3,266
POSCO IJPC		86,770		-		86,770		-		-		-
GENERAL MEDICINES CO., LTD.		7,826		114		7,940		-		-		-
KOREA LNG LTD.		-		13,404		13,404		-		-		-
DMSA/AMSA		-		-		-		71,275		-		71,275
SOUTH-EAST ASIA GAS PIPELINE CO., LTD.		71		42,262		42,333		-		-		-
PT BATUTUA TEMBAGA RAYA		-		537		537		45,841		-		45,841
GLOBAL KOMSCO DAEWOO L.L.C.		-		-		-		15,719		-		15,719
YULCHON MEXICO S.A. DE C.V.		671		-		671		-		-		-
POSCO-Malaysia SDN. BHD.		92,010		-		92,010		8,602		-		8,602
POSCO-ITPC		47,493		-		47,493		-		-		-
HUNCHUN POSCO HYUNDAI INTERNATIONAL LOGISTICS		-		-		-		89		-		89
TK CHEMICAL		170,717		-		170,717		64,322		-		64,322

32.2 Significant transactions with related parties for the years ended December 31, 2019 and 2018 are as follows (cont'd)

Others

POSCO ASIA CO., LTD.	₩	58,680	₩	-	₩	58,680	₩	453,554	₩	148	₩	453,702
POSCO-VIETNAM CO., LTD.		91,002		-		91,002		110,374		-		110,374
POSCO-THAINOX		127,290		-		127,290		67,576		-		67,576
POSCO ASSAN TST STEEL INDUSTRY		198,610		-		198,610		87,301		-		87,301
POSCO-AAPC		456		-		456		-		-		-
POSCO C&C CO., LTD.		60,162		-		60,162		229,014		472		229,486
POSCO AMERICA CORP. ZHANGJIAGANG POHANG		135,499		-		135,499		-		-		-
STAINLESS STEEL CO., LTD.		25,323		-		25,323		2,545		-		2,545
POSCO-FOSHAN STEEL PROCESSING CENTER CO., LTD.		36,221		-		36,221		-		-		-
COMPANHIA SIDERURGICA DO PECÉM		80,368		-		80,368		364,110		835		364,945
POSCO ENERGY CO., LTD.		801		-		801		18		-		18
POSCO VST CO., LTD.		122,283		-		122,283		47,545		-		47,545
POSCO SS-VINA		224,298		-		224,298		8,028		-		8,028
PT. KRAKATAU POSCO		64,634		-		64,634		136,711		-		136,711
POSCO Maharashtra Steel PVT. LTD.		-		-		-		9,891		-		9,891
OTHERS		896,046		1,811		897,857		101,285		27,748		129,033
	₩	9,308,761	₩	78,881	₩	9,387,642	₩	8,156,847	₩	219,415	₩	8,376,262
U.S.dollar in thousand	\$	8,040,042	\$	68,130	\$	8,108,172	\$	7,045,126	\$	189,510	\$	7,234,636

2018

	Sales and others						Purchase and others					
	Sales		Others		Total		Purchase		Others		Total	
Parent company												
POSCO	₩	754,877	₩	747	₩	755,624	₩	5,766,687	₩	128,242	₩	5,894,929
Subsidiaries												
POSCO DAEWOO WAIGAIQIAO SHANGHAI CO., LTD.	₩	10,191	₩	-	₩	10,191	₩	1,937	₩	-	₩	1,937
PT. BIO INTI AGRINDO		-		1,172		1,172		1,861		-		1,861
POSCO DAEWOO VIETNAM CO., LTD.		27,411		-		27,411		-		2,393		2,393
POSCO DAEWOO MYANMAR CORP. LTD.		3		-		3		-		642		642
DAEWOO POWER PNG LTD.		834		1,374		2,208		-		-		-
POSCO DAEWOO POWER(PNGPOM) LTD.		423		2,897		3,320		-		-		-
POSCO DAEWOO AMERCIA CORP.		1,229,085		-		1,229,085		193,084		2,764		195,848
POSCO DAEWOO DEUTSCHLAND GmbH		569,924		-		569,924		-		644		644
POSCO DAEWOO JAPAN CORP.		515,683		-		515,683		120,688		711		121,399
POSCO DAEWOO SINGAPORE PTE LTD.		1,649,439		-		1,649,439		64,796		719		65,515
POSCO DAEWOO ITALIA S.R.L.		673,872		-		673,872		201		2,979		3,180
POSCO DAEWOO CHINA CO., LTD.		194,093		-		194,093		245		4,457		4,702
DAEWOO TEXTILE L.L.C.		10,061		-		10,061		77,653		380		78,033
POSCO DAEWOO AUSTRALIA HOLDINGS PTY. LTD.		164		-		164		-		-		-
POSCO DAEWOO E&P CANADA CORP.		-		1,822		1,822		-		-		-
POSCO DAEWOO MEXICO S.A. de C.V.		127,899		-		127,899		-		4,423		4,423
POSCO DAEWOO MALAYSIA SDN BHD		365,895		-		365,895		90,981		1,874		92,855
POSCO DAEWOO SHANGHAI CO., LTD.		219,923		-		219,923		3,614		3,583		7,197
POSCO DAEWOO INDIA PVT., LTD.		32,373		-		32,373		-		3,058		3,058
POSCO SOUTH EAST ASIA PTE. LTD.		52		-		52		-		-		-
POHANG SRDC CO., LTD.		-		1,308		1,308		378		5,615		5,993
GOLDEN LACE DAEWOO CO.,LTD.		-		-		-		11,085		-		11,085
LA SRDC		-		-		-		30,213		-		30,213
DAEWOO GLOBAL DEVELOPMENT PTE. LTD.		2,201		-		2,201		-		-		-
POSCO DAEWOO UKRAINE, LLC.		-		-		-		-		114		114
POSCO TMC INDIA PTE. LTD.		162		-		162		-		-		-

POSCO INTERNATIONAL Corporation (formerly, POSCO Daewoo Corporation)
Notes to the separate financial statements
for the years ended December 31, 2019 and 2018

32.2 Significant transactions with related parties for the years ended December 31, 2019 and 2018 are as follows (cont'd)

Associates

POSCO MEXICO PROCESSING CENTER HOLDING, L.L.C.	₩	274,542	₩	-	₩	274,542	₩	256	₩	-	₩	256
SPH Co., Ltd.		50		-		50		-		-		-
PT BATUTUA TEMBAGA RAYA		-		172		172		15,663		-		15,663
POSCO-ESDC LTD.		-		59		59		-		3,439		3,439
POSCO IJPC		70,170		-		70,170		15		-		15
GENERAL MEDICINES CO., LTD.		4,604		353		4,957		-		-		-
KOREA LNG LTD.		-		7,634		7,634		-		-		-
DMSA/AMSA		-		-		-		50,996		-		50,996
SOUTH-EAST ASIA GAS PIPELINE CO., LTD.		-		39,141		39,141		-		-		-
GLOBAL KOMSCO DAEWOO L.L.C.		-		-		-		14,770		19		14,789
YULCHON MEXICO S.A. DE C.V.		2,109		-		2,109		-		-		-
SEBANG STEEL		-		-		-		13,585		-		13,585
POSCO SINGAPORE LNG TRADING Pte. Ltd		79,664		-		79,664		-		-		-
POSCO-Malaysia SDN. BHD.		101,090		-		101,090		15,166		-		15,166
POSCO-ITPC		100,686		-		100,686		-		-		-
HUNCHUN POSCO HYUNDAI INTERNATIONAL LOGISTICS		2,022		-		2,022		-		-		-
TK CHEMICAL		185,115		-		185,115		80,927		-		80,927
Others		-		-		-		-		-		-
POSCO ASIA CO., LTD.	₩	73,267	₩	-	₩	73,267	₩	610,008	₩	149	₩	610,157
POSCO-VIETNAM CO.,LTD.		117,595		-		117,595		68,291		-		68,291
POSCO-THAINOX		127,816		-		127,816		87,981		77		88,058
POSCO ASSAN TST STEEL INDUSTRY		344,859		-		344,859		93,443		11		93,454
POSCO-AAPC		12,579		-		12,579		-		-		-
POSCO C&C		76,683		-		76,683		261,726		249		261,975
POSCO AMERICA CORP.		82,262		-		82,262		-		-		-
ZHANGJIAGANG POHANG STAINLESS STEEL CO., LTD.		80,917		-		80,917		504		-		504
POSCO-FOSHAN STEEL PROCESSING CENTER CO., LTD.		41,323		-		41,323		150		-		150
COMPANHIA SIDERURGICA DO PECÉM		221,493		-		221,493		282,818		1,515		284,333
POSCO ENERGY CO., LTD		4,391		-		4,391		93		-		93
POSCO VST CO., LTD.		152,285		-		152,285		55,064		44		55,108
POSCO SS-VINA		289,034		-		289,034		1,810		-		1,810
PT. KRAKATAU POSCO		54,593		-		54,593		146,564		6		146,570
POSCO MAHARASHTRA STEEL PVT. LTD.		4,248		-		4,248		121,144		-		121,144
OTHERS		806,852		598		807,450		42,353		69,484		111,837
	₩	9,694,814	₩	57,277	₩	9,752,091	₩	8,326,750	₩	237,591	₩	8,564,341
	\$	8,373,479	\$	49,471	\$	8,422,950	\$	7,191,873	\$	205,209	\$	7,397,082

U.S.dollar in thousand

(*1) In addition to the above transactions, dividends paid to POSCO for the years ended December 31, 2019 and 2018, amounted to ₩46,570 million (\$40,223 thousand) and ₩38,801 million (\$33,513 thousand), respectively.

32.3 Significant outstanding balances of receivables and payables with related parties as of December 31, 2019 and 2018 are summarized as follows (Korean won in millions):

2019												

32.3 Significant outstanding balances of receivables and payables with related parties as of December 31, 2019 and 2018 are summarized as follows (Korean won in millions): (cont'd)

Associates												
POSCO MEXICO PROCESSING CENTER HOLDING, L.L.C.	₩	65,956	₩	-	₩	65,956	₩	-	₩	779	₩	779
SPH Co., Ltd.		2		-		2		-		18		18
PT BATUTUA TEMBAGA RAYA		-		56,424		56,424		56		-		56
YULCHON MEXICO S.A. DE C.V.		542		-		542		-		16		16
POSCO IJPC		17,347		-		17,347		-		113		113
SHANGHAI LANSHENG DAEWOO CORP.		2,606		-		2,606		-		344		344
SHANGHAI 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		48		59,671		59,719		-		-		-
SOUTH-EAST ASIA GAS PIPELINE CO.,LTD.		14		147,367		147,381		-		-		-
GLOBAL KOMSCO DAEWOO L.L.C.		-		2,291		2,291		-		67		67
POSCO-MALAYSIA SDN. BHD.		17,179		-		17,179		156		183		339
POSCO-ITPC		14,703		-		14,703		-		188		188
TK CHEMICAL		37,373		-		37,373		110		-		110
Others												
POSCO C&C CO., LTD.(1)	₩	2,332	₩	1,048	₩	3,380	₩	20,102	₩	-	₩	20,102
POSCO AMERICA CORP.		8,688		-		8,688		-		1,222		1,222
POSCO ASIA CO.,LTD.		8,249		136		8,385		218,378		2		218,380
ZHANGJIAGANG POHANG STAINLESS STEEL CO.,LTD.		1,596		-		1,596		-		-		-
POSCO ENERGY CO., LTD.(2)		122		1,424		1,546		-		1,791		1,791
POSCO-FOSHAN STEEL PROCESSING CENTER CO.,LTD.		11,889		-		11,889		-		42		42
POSCO-VIETNAM CO.,LTD.		-		47		47		3,147		-		3,147
COMPANHIA SIDERURGICA DO PECEM		5,293		-		5,293		-		33		33
POSCO-THAINOX		23,348		-		23,348		3,617		103		3,720
POSCO VST CO.,LTD.		52,665		-		52,665		2,285		29		2,314
POSCO SS-VINA		78,298		102		78,400		-		-		-
POSCO ASSAN TST STEEL INDUSTRY		188,083		78		188,161		3,065		44		3,109
PT. KRAKATAU POSCO		25,800		280		26,080		2,309		-		2,309
OTHERS		194,823		85,093		279,916		10,012		5,235		15,247
	₩	1,958,427	₩	483,998	₩	2,442,425	₩	907,499	₩	69,679	₩	977,178
U.S.dollar in thousand	\$	1,691,507	\$	418,032	\$	2,109,540	\$	783,813	\$	60,182	\$	843,996

32.3 Significant outstanding balances of receivables and payables with related parties as of December 31, 2019 and 2018 are summarized as follows (Korean won in millions): (cont'd)

	2018								
	Receivables (*1)						Payables		
	Trade receivables	Others(*2)	Total	Trade payables	Others	Total			
Parent company									
POSCO	₩ 7,094	₩ 1,532	₩ 8,626	₩ 429,502	₩ 9,031	₩ 438,533			
Subsidiaries									
POSCO DAEWOO WAIGAIQIAO SHANGHAI CO.,LTD.	₩ 4,487	₩ -	₩ 4,487	₩ 33	₩ -	₩ 33			
PT. BIO INTI AGRINDO	-	31,393	31,393	-	622	622			
POSCO DAEWOO VIETNAM CO.,LTD.	9,137	47	9,184	-	207	207			
POSCO DAEWOO E&P CANADA CORP.	-	14,602	14,602	-	-	-			
DAEWOO POWER PNG LTD.	34	1,668	1,702	-	712	712			
POSCO SOUTH EAST ASIA PTE. LTD.	-	11,181	11,181	-	-	-			
POSCO DAEWOO POWER(PNGPOM) LTD.	-	3,914	3,914	-	71	71			
POSCO DAEWOO AMERICA CORP.	258,102	7,689	265,791	22,883	13,025	35,908			
POSCO DAEWOO DEUTSCHLAND GmbH	253,281	-	253,281	-	134	134			
POSCO DAEWOO JAPAN CORP.	88,263	3,628	91,891	13,505	149	13,654			
POSCO DAEWOO SINGAPORE PTE. LTD.	269,712	-	269,712	-	66	66			
POSCO DAEWOO ITALIA S.R.L.	175,231	-	175,231	112	68	180			
POSCO DAEWOO CHINA CO.,LTD.	43,337	337	43,674	-	510	510			
DAEWOO TEXTILE L.L.C.	5,661	12,785	18,446	-	9	9			
POSCO DAEWOO AUSTRALIA HOLDINGS PTY. LTD.	44	4,472	4,516	-	-	-			
POSCO DAEWOO MEXICO S.A. de C.V.	65,149	-	65,149	-	1,230	1,230			
POSCO DAEWOO MALAYSIA SDN BHD	59,843	-	59,843	310	321	631			
POSCO DAEWOO SHANGHAI CO.,LTD.	57,100	-	57,100	-	427	427			
POSCO DAEWOO INDIA PVT.LTD.	4,589	523	5,112	-	378	378			
BRASIL SAO PAULO STEEL PROCESSING CENTER	539	-	539	-	-	-			
POSCO DAEWOO MYANMAR CORP. LTD.	3	-	3	-	36	36			
POHANG SRDC CO., LTD.	-	-	-	28	418	446			
GOLDEN LACE DAEWOO CO.,LTD.	-	2,390	2,390	-	50	50			
LA SRDC DAEWOO GLOBAL DEVELOPMENT PTE. LTD.	-	-	-	1,349	-	1,349			
	1,864	1,946	3,810	-	1,219	1,219			

32.3 Significant outstanding balances of receivables and payables with related parties as of December 31, 2019 and 2018 are summarized as follows (Korean won in millions): (cont'd)

Associate:												
POSCO MEXICO PROCESSING CENTER HOLDING, L.L.C.	₩	106,632	₩	₩	106,632	₩	-	₩	-	₩	-	
PT BATUTUA TEMBAGA RAYA YULCHON MEXICO S.A. DE C.V.		618	-		618		-		8		8	
POSCO IJPC SHANGHAI LANSHENGDAEWOO CORP.		12,192	-		12,192		-		-		-	
SHANGHAI WAIGAOQIAO FREE TRADE ZONE LANSHENG DAEWOO INT'L TRADING CO., LTD..		99	2,605		2,704		-		333		333	
GENERAL MEDICINES CO.,LTD.		397	-		397		-		549		549	
KOREA LNG LTD.		1,949	369		2,318		-		-		-	
DMSA/AMSA SOUTH-EAST ASIA GAS PIPELINE CO.,LTD.		-	1,051		1,051		-		-		-	
GLOBAL KOMSCO DAEWOO L.L.C.		-	65,912		65,912		-		-		-	
POSCO-ESDC LTD.		-	191,107		191,107		-		-		-	
SEBANG STEEL POSCO-Malaysia SDN. BHD.		-	-		-		-		13		13	
POSCO-ITPC HUNCHUN POSCO HYUNDAI INTERNATIONAL LOGISTICS TK CHEMICAL CO., LTD.		-	-		-		-		267		267	
		-	-		-		52		-		52	
		18,023	-		18,023		192		-		192	
		26,658	-		26,658		-		-		-	
		835	-		835		-		-		-	
		40,684	-		40,684		4,949		-		4,949	
Others												
POSCO C&C CO., LTD.(*)	₩	6,064	₩	-	₩	6,064	₩	19,815	₩	1	₩	19,816
POSCO AMERICA CORP.		7,319	-		7,319		-		-		-	
POSCO ASIA CO.,LTD.		9,200	-		9,200		290,206		-		290,206	
ZHANGJIAGANG POHANG STAINLESS STEEL CO.,LTD.		21,381	-		21,381		-		-		-	
POSCO ENERGY CO., LTD.(*)		-	-		-		-		1,949		1,949	
POSCO-Foshan Steel Processing Center CO.,LTD.		6,491	-		6,491		-		-		-	
POSCO-VIETNAM CO.,LTD.		45,244	-		45,244		2,014		-		2,014	
COMPANHIA SIDERURGICA DO PECÉM		62,211	-		62,211		62,596		-		62,596	
POSCO-THAINOX		19,246	-		19,246		6,500		-		6,500	
POSCO VST CO.,LTD.		74,350	-		74,350		4,432		-		4,432	
POSCO SS-VINA		184,547	-		184,547		-		-		-	
POSCO ASSAN TST STEEL INDUSTRY PT. KRAKATAU		318,981	99		319,080		3,414		93		3,507	
POSCO		19,138	-		19,138		1,255		-		1,255	
OTHERS		164,605	74,535		239,140		2,508		4,273		6,781	
	₩	2,450,334	₩	469,841	₩	2,920,175	₩	865,655	₩	36,169	₩	901,824
U.S.dollar in thousand	\$	2,116,371	\$	405,805	\$	2,522,176	\$	747,672	\$	31,239	\$	778,912

(*1) A allowance for the trade receivables as of December 31, 2019 and 2018 amount to ₩55,613 million (\$48,033 thousand) and ₩ 45,961 million (\$41,106 thousand) respectively.

(*2) Other receivables include the amount of loan investment under the relevant agreement, and details of the changes for the year ended December 31, 2019 are as follows.

POSCO INTERNATIONAL Corporation (formerly, POSCO Daewoo Corporation)
Notes to the separate financial statements
for the years ended December 31, 2019 and 2018

		2019						
		Beginning balance	Increase (Include capitalized interest)	Decrease	Transfer to equity	Foreign exchange translation and others	Ending balance	
PT BATUTUA TEMBAGA RAYA	₩	35,100	₩ -	₩ -	₩ -	₩ 1,191	₩ 36,291	
POSCO INTERNATIONAL POWER (PNGPOM) LTD.		1,238	-	(1,215)	-	(23)	-	
DMSA/AMSA		64,297	15,451	-	(23,682)	1,933	57,999	
SOUTH-EAST ASIA GAS PIPELINE CO., LTD.		191,107	-	(48,027)	-	4,287	147,367	
POSCO-SOUTH EAST ASIA PTE. LTD.		11,181	-	-	-	397	11,578	
POSCO DAEWOO E&P CANADA CORP.		14,602	-	(4,260)	-	(10,342)	-	
PT. BIO INTI AGRINDO		30,356	25,580	-	-	738	56,674	
POSCO INTERNATIONAL POWER PNG LTD.		204	263	(471)	-	4	-	
	₩	348,085	₩ 41,294	₩ (53,973)	₩ (23,682)	₩ (1,815)	₩ 309,909	
U.S. dollar in millions	\$	300,643	\$ 35,666	\$ (46,617)	\$ (20,454)	\$ (1,568)	\$ 267,671	

32.4 Key management personnel compensation

Compensations for key management personnel for the years ended December 31, 2019 and 2018 are as follows:

	Korean won in millions		U.S. dollar in thousands	
	2019	2018	2019	
Salaries	₩ 17,020	₩ 16,353	\$ 14,700	
Long-term employee benefits	1,943	1,613	1,678	
Retirement benefits	2,299	2,178	1,986	
	₩ 21,262	₩ 20,144	\$ 18,364	

32.5 Guarantees provided to related parties

Guarantees provided to related parties as of December 31, 2019 and 2018 are mentioned in notes 19-6:

33 Statement of Cash flows

33.1 Changes in liabilities arising from financing activities for the years ended December 31, 2019 and 2018 are as follows:

		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	₩	35,623	₩ (64,128)	₩ 82,315	₩ 350	₩ 61	₩ 54,221
Short-term borrowings		1,896,815	(1,282,100)	-	(11,428)	1	603,288
Current portion of long-term borrowings		39,975	(28,678)	83,119	(272)	(85)	94,059
Current portion of bonds		538,509	(545,972)	130,000	6,865	640	130,042
Long-term lease liabilities		237,533		(82,315)	7,340	16,470	179,028
Bonds		770,515	593,935	(130,000)	7,888	1,350	1,243,688
Long-term borrowings		336,310	(29,842)	(83,119)	5,201	4,333	232,883
	₩	3,855,280	₩ (1,356,785)	₩ -	₩ 15,944	₩ 22,770	₩ 2,537,209
U.S. dollar in thousand	\$	3,329,832	\$ (1,171,865)	\$ -	\$ 13,771	\$ 19,667	\$ 2,191,405
		2018					
		Beginning balance	Cash flows arising from financing activities	Non cash flows			Ending balance
				Reclassifi- cation	Exchange rate fluctuation	Others	
Short-term borrowings	₩	1,520,180	₩ 384,753	₩ -	₩ (8,117)	₩ (1)	₩ 1,896,815
Current portion of long-term borrowings		225,798	(224,550)	42,581	(3,815)	(39)	39,975
Current portion of bonds		463,736	(464,280)	539,204	(866)	715	538,509
Bonds		734,200	573,623	(539,204)	809	1,087	770,515
Long-term borrowings		372,553	(1,057)	(42,581)	6,157	1,238	336,310
	₩	3,316,467	₩ 268,489	₩ -	₩ (5,832)	₩ 3,000	₩ 3,582,124
U.S. dollar in thousand	\$	2,864,456	\$ 231,896	\$ -	\$ (5,037)	\$ 2,591	\$ 3,093,906

33.2 Major investing activities and financing activities that are accompanied by non-cash transactions for the years ended December 31, 2019 and 2018 are as follows:

	Korean won in millions		U.S. dollar in thousands
	2019	2018	2019
Reclassification of current portion of long-term trade receivables	18,129	₩ -	\$ 15,658
Write-off of trade receivables	65,215	42,525	56,327
Write-off of other receivables	202	19,028	174
Debt-equity swaps of long-term loans	23,682	17,973	20,454
Reclassification of current portion of long-term loans	47,973	47,170	41,435
Other receivables arising from disposal of long-term equity securities	-	21,000	-
Reclassification of current portion of long-term financial lease receivables	56,584	-	48,872
Reclassification of provision of long-term other receivables on financial guarantee liabilities	9,208	12,940	7,953
Reclassification of current portion of long-term borrowings	83,119	42,581	71,790
Reclassification of current portion of long-term bonds	130,000	540,759	112,282
Reclassification of current portion of lease liabilities	82,315	-	71,096

Independent auditor's report on internal control over financial reporting

POSCO International Corporation
(formerly, POSCO Daewoo Corporation)
The Shareholders and Board of Directors

Opinion on internal control over financial reporting

We have audited POSCO International Corporation's (the "Company") internal control over financial reporting ("ICFR") based on the Conceptual Framework for designing and operating ICFR established by the Operating Committee of ICFR (the "ICFR Committee") as of December 31, 2019.

In our opinion, the Company's ICFR has been effectively designed and operated, in all material respects, as of December 31, 2019, in accordance with the Conceptual Framework for designing and operating ICFR.

We also have audited, in accordance with the Korean Auditing Standards ("KGAAS"), the separate statement of financial position as of December 31, 2019, and the separate statement of comprehensive income, separate statement of changes in equity and separate statement of cash flows for the year then ended, and notes to the separate financial statements, including a summary of significant accounting policies, and our report dated March 20, 2020 expressed an unqualified opinion thereon.

Basis for opinion on ICFR

We conducted our audit in accordance with KGAAS. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of ICFR section of our report. We are independent of the Company in accordance with the ethical requirements that are relevant to our audit of ICFR 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.

Responsibilities of management and those charged with governance for ICFR

Management is responsible for designing, implementing, and maintaining an effective ICFR, and for assessing the effectiveness of the ICFR included in the accompanying report on the effectiveness of the ICFR.

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

Auditor's responsibilities for the audit of ICFR

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

An audit of ICFR involves performing procedure to obtain audit evidence as to whether a material weakness exists. The procedures selected depend on the auditor's judgment, including the assessment of the risks that a material weakness exists. An audit also includes testing and evaluating the design and operating effectiveness of ICFR based on obtaining an understanding of ICFR and the assessed risk.

ICFR definition and inherent limitations

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

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

The engagement partner on the audit resulting in this independent auditor's report is Yongwoo Lee.

A handwritten signature in black ink that reads "Ernst & Young HAN Young". The signature is written in a cursive, flowing style.

March 20, 2020

This audit report is effective as of March 20, 2020 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 to the time this report is used. Such events and circumstances could significantly affect the Company's ICFR and may result in modifications to this report.