

# **Korea National Oil Corporation and its subsidiaries**

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

Korea National Oil Corporation

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## Independent auditor's report

### The Shareholders and Board of Directors Korea National Oil Corporation

#### Opinion

We have audited the accompanying consolidated financial statements of Korea National Oil Corporation(the "Company") and its subsidiaries(collectively, the "Group"), which comprise the consolidated statement of financial position as of December 31, 2019 and the consolidated statement of comprehensive income(loss), consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and the notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2019, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions.

#### Basis for opinion

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

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

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions, and for such internal control as management determines is necessary to enable the preparation of the consolidated financial statements that are free from material misstatement, whether due to fraud or error.

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

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

#### Auditor's responsibilities for the audit of the consolidated financial statements

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

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

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a

material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

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

### **Emphasis of matters**

Without qualifying our conclusion, we draw attention to Note 2 to the condensed financial statements which states that the Group applies Korean International Financial Reporting Standards (KIFRS) where specific accounting treatments are not prescribed by the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions. No material matter has been applied differently from KIFRS.

### **Other Matters**

The consolidated financial statements of the Group for the year ended December 31, 2018, were audited by KPMG Samjung Accounting Corp., in accordance with KGAAS (not presented herein) whose report dated March, 9, 2019 (not presented herein), expressed an unqualified opinion thereon. The accompanying consolidated statement of financial position as of December 31, 2018 presented for comparative purpose is not different, in all material respects, from the above audited consolidated statement of financial position.



March 3<sup>rd</sup>, 2020

111, Yeouigongwon-ro, Yeongdeungpo-gu, Seoul, Republic of Korea

This audit report is effective as of March 3<sup>rd</sup>, 2020, the independent auditor's report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the date of the independent auditor's report to the time this report is used. Such events and circumstances could significantly affect the accompanying consolidated financial statements and may result in modifications to this report.

# **Korea National Oil Corporation and its subsidiaries**

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

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

Su-Yeong, Yang  
Chief Executive Officer  
Korea National Oil Corporation

**Korea National Oil Corporation and its subsidiaries**  
**Consolidated statements of financial position**  
**December 31, 2019 and 2018**

<i>(in Korean won)</i>	Notes	<u>2019</u>	<u>2018</u>
<b>Assets</b>			
<b>Current assets</b>			
Cash and cash equivalents	5,6,26,41,43	₩ 725,056,410,891	₩ 778,120,148,878
Current financial assets	7,10,12,41,42,43	312,477,148,056	87,103,034,162
Trade and other receivables, net	8,23,41,43	484,674,617,029	444,109,507,070
Inventories, net	13	98,001,120,211	95,619,589,763
Current income tax assets		5,467,561,503	53,461,320,344
Current non-financial assets	14	<u>87,677,366,722</u>	<u>66,830,233,059</u>
		<u>1,713,354,224,412</u>	<u>1,525,243,833,276</u>
<b>Non-current assets</b>			
Non-current financial assets, net	6,7,9,10,11,41,42,43	1,684,920,064,133	785,335,300,405
Long-term trade and other receivables, net	8,23,41,43	44,162,826,491	33,836,113,280
Property, plant and equipment, net	16,23,26,27	8,717,719,481,763	8,674,307,451,404
Goodwill	17	152,975,919,835	143,792,882,265
Intangible assets other than goodwill, net	18	1,406,826,475,801	2,063,367,675,864
Investments in associates and joint ventures	15	239,920,503,348	275,957,499,954
Deferred tax assets	39	853,682,419,962	1,006,600,263,783
Non-current non-financial assets	14	<u>3,917,584,915,080</u>	<u>3,730,560,029,569</u>
		<u>17,017,792,606,413</u>	<u>16,713,757,216,524</u>
<b>Total assets</b>		<u>₩ 18,731,146,830,825</u>	<u>₩ 18,239,001,049,800</u>
<b>Liabilities</b>			
<b>Current liabilities</b>			
Trade and other payables	20,23,41,43,46	₩ 771,657,311,606	₩ 644,690,362,285
Current financial liabilities	7,19,21,22,41,42,43,46	1,575,772,270,504	1,521,136,236,746
Current income tax liabilities		50,950,396,225	29,929,263,668
Current non-financial liabilities	28	150,381,118,367	174,521,678,134
Current provisions	25	<u>60,382,894,748</u>	<u>56,418,469,066</u>
		<u>2,609,143,991,450</u>	<u>2,426,696,009,899</u>
<b>Non-current liabilities</b>			
Long-term trade and other payables	20,23,41,43,46	549,409,820,867	434,319,512,101
Non-current financial liabilities	7,19,21,22,41,42,43,46	12,443,241,329,623	12,226,052,926,194
Non-current non-financial liabilities	28	57,746,729,186	68,522,554,726
Employee benefits, net	24	13,453,938,615	8,749,812,327
Deferred tax liabilities	39	221,647,766,711	185,533,918,235
Non-current provisions	25	<u>2,236,312,862,677</u>	<u>2,125,061,337,618</u>
		<u>15,521,812,447,679</u>	<u>15,048,240,061,201</u>
<b>Total liabilities</b>		<u>18,130,956,439,129</u>	<u>17,474,936,071,100</u>
<b>Equity</b>			
<b>Equity attributable to the owner of the Company</b>			
Share capital	1,29	10,515,105,780,075	10,481,533,780,075
Accumulated deficit	30,31	(9,307,633,460,802)	(9,201,495,688,459)
Other components of equity	32	<u>(1,156,227,964,793)</u>	<u>(1,032,764,256,425)</u>
		51,244,354,480	247,273,835,191
<b>Non-controlling interests</b>		<u>548,946,037,216</u>	<u>516,791,143,509</u>
<b>Total equity</b>		<u>600,190,391,696</u>	<u>764,064,978,700</u>
<b>Total liabilities and equity</b>		<u>₩ 18,731,146,830,825</u>	<u>₩ 18,239,001,049,800</u>

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

**Korea National Oil Corporation and its subsidiaries**  
**Consolidated statements of comprehensive income(loss)**  
**Years ended December 31, 2019 and 2018**

<i>(in Korean won)</i>	<b>Notes</b>	<b>2019</b>	<b>2018</b>
<b>Continuing operations</b>			
<b>Revenue</b>	4,26,33	₩ 2,929,992,959,600	₩ 3,149,265,266,290
<b>Cost of sales</b>	4,40	<u>(2,052,413,071,153)</u>	<u>(2,171,932,854,252)</u>
<b>Gross profit</b>	4	877,579,888,447	977,332,412,038
Selling and administrative expenses	4,18,24,34,40	<u>(306,110,440,934)</u>	<u>(433,971,587,671)</u>
<b>Operating profit</b>	4	571,469,447,513	543,360,824,367
Other non-operating income	4,8,35,41,45	93,597,344,082	76,488,772,599
Other non-operating expenses	4,8,35,41	(8,259,254,071)	(37,791,273,655)
Other loss, net	4,7,16,18,36	(2,095,013,255)	(849,323,244,196)
Finance income	4,7,9,37,41,45	402,068,273,215	231,241,417,396
Finance costs	4,7,19,38,41	(731,432,586,748)	(783,490,645,306)
Gain (loss) on investments in associates and joint ventures, net	4,15	<u>53,712,409,399</u>	<u>(112,547,149,313)</u>
Profit (loss) before income tax	4	379,060,620,135	(932,061,298,108)
Income tax expense	4,39	<u>(463,998,437,016)</u>	<u>(228,333,933,634)</u>
<b>Loss from continuing operations</b>		(84,937,816,881)	(1,160,395,231,742)
<b>Discontinued operations</b>			
Profit from discontinued operations, net of tax		-	854,209,774
<b>Loss for the year</b>	30,31	<u>(84,937,816,881)</u>	<u>(1,159,541,021,968)</u>
<b>Other comprehensive income (loss)</b>			
<i>Items that will never be reclassified subsequently to profit or loss</i>			
Actuarial losses on defined benefit plans, net of tax	24,30	(3,200,429,622)	(1,679,984,253)
Retained earnings adjustments in equity method, net of tax		-	(46,222,503)
Net change in fair value of financial assets measured at fair value through other comprehensive income	9,41	(27,087,490,099)	(177,207,309,089)
<i>Items that are or may be reclassified subsequently to profit or loss</i>			
Equity adjustments arising from investments in equity-method investees, net of tax	15	(2,256,031,648)	2,811,814,449
Net change in the unrealized fair value of derivative using cash flow hedge accounting, net of tax	7,41	(110,655,301,372)	99,356,555,254
Foreign currency translation differences for foreign operations		33,806,265,068	40,863,016,928
<b>Other comprehensive loss for the year, net of tax</b>		<u>(109,392,987,673)</u>	<u>(35,902,129,214)</u>
<b>Total comprehensive loss for the year</b>		<u>₩ (194,330,804,554)</u>	<u>₩ (1,195,443,151,182)</u>
<b>Loss attributable to:</b>			
Owners of the Company		₩ (103,443,325,742)	₩ (1,205,946,785,504)
Non-controlling interests		<u>18,505,508,861</u>	<u>46,405,763,536</u>
<b>Loss for the year</b>		<u>₩ (84,937,816,881)</u>	<u>₩ (1,159,541,021,968)</u>
<b>Total comprehensive loss attributable to:</b>			
Owners of the Company		₩ (230,107,463,732)	₩ (1,274,009,423,761)
Non-controlling interests		<u>35,776,659,178</u>	<u>78,566,272,579</u>
<b>Total comprehensive loss for the year</b>		<u>₩ (194,330,804,554)</u>	<u>₩ (1,195,443,151,182)</u>

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

**Korea National Oil Corporation and its subsidiaries**  
**Consolidated statements of changes in equity**  
**Years ended December 31, 2019 and 2018**

(in Korean won)

	Attributable to owners of the Company				Non-controlling	Total
	Share capital	Accumulated deficit	Other components of equity	Subtotal	interests	equity
<b>Balance at January 1, 2018 before adjustment</b>	W 10,434,864,780,075	W (8,363,377,364,175)	W (589,302,687,164)	W 1,482,184,728,736	W 901,705,636,211	W 2,383,890,364,947
Adjustment on initial adoption of K-IFRS No. 1109	-	369,554,667,976	(377,105,179,418)	(7,550,511,442)	-	(7,550,511,442)
<b>Balance at January 1, 2018 after adjustment</b>	10,434,864,780,075	(7,993,822,696,199)	(966,407,866,582)	1,474,634,217,294	901,705,636,211	2,376,339,853,505
<b>Total comprehensive income (loss) for the year</b>						
Profit (loss) for the year	-	(1,205,946,785,504)	-	(1,205,946,785,504)	46,405,763,536	(1,159,541,021,968)
Other comprehensive income						
<b>Items that will not be reclassified subsequently to profit or loss</b>						
Actuarial losses on defined benefit plans, net of tax	-	(1,679,984,253)	-	(1,679,984,253)	-	(1,679,984,253)
Retained earnings adjustments in equity method, net of tax	-	(46,222,503)	-	(46,222,503)	-	(46,222,503)
Net change in fair value of financial assets measured at fair value through other comprehensive income	-	-	(177,207,309,089)	(177,207,309,089)	-	(177,207,309,089)
<b>Items that may be reclassified subsequently to profit or loss</b>						
Equity adjustments arising from investments in equity-method investees, net of tax	-	-	2,811,814,449	2,811,814,449	-	2,811,814,449
Net change in the unrealized fair value of derivative using cash flow hedge accounting, net of tax	-	-	99,356,555,254	99,356,555,254	-	99,356,555,254
Foreign currency translation differences for foreign operations	-	-	8,702,507,885	8,702,507,885	32,160,509,043	40,863,016,928
<b>Total other comprehensive loss for the year</b>	-	(1,207,672,992,260)	(66,336,431,501)	(1,274,009,423,761)	78,566,272,579	(1,195,443,151,182)
<b>Transactions with owners of the Company, recognized directly in equity</b>						
Issuance of share capital	46,669,000,000	-	-	46,669,000,000	-	46,669,000,000
Dividends paid	-	-	-	-	(37,431,456,696)	(37,431,456,696)
Distribution to non-controlling interests	-	-	(19,958,342)	(19,958,342)	(2,433,808,585)	(2,453,766,927)
Change in the scope of consolidation	-	-	-	-	(423,615,500,000)	(423,615,500,000)
<b>Total transactions with owners of the Company</b>	46,669,000,000	-	(19,958,342)	46,649,041,658	(463,480,765,281)	(416,831,723,623)
<b>Balance at December 31, 2018</b>	W 10,481,533,780,075	W (9,201,495,688,459)	W (1,032,764,256,425)	W 247,273,835,191	W 516,791,143,509	W 764,064,978,700
<b>Balance at January 1, 2019</b>	W 10,481,533,780,075	W (9,201,495,688,459)	W (1,032,764,256,425)	W 247,273,835,191	W 516,791,143,509	W 764,064,978,700
<b>Total comprehensive income (loss) for the year</b>						
Profit (loss) for the year	-	(103,443,325,742)	-	(103,443,325,742)	18,505,508,861	(84,937,816,881)
Other comprehensive income						
<b>Items that will not be reclassified subsequently to profit or loss</b>						
Actuarial losses on defined benefit plans, net of tax	-	(3,200,429,622)	-	(3,200,429,622)	-	(3,200,429,622)
Net change in fair value of financial assets measured at fair value through other comprehensive income	-	-	(27,087,490,099)	(27,087,490,099)	-	(27,087,490,099)
<b>Items that may be reclassified subsequently to profit or loss</b>						
Equity adjustments arising from investments in equity-method investees, net of tax	-	-	(2,256,031,648)	(2,256,031,648)	-	(2,256,031,648)
Net change in the unrealized fair value of derivative using cash flow hedge accounting, net of tax	-	-	(110,655,301,372)	(110,655,301,372)	-	(110,655,301,372)
Foreign currency translation differences for foreign operations	-	-	16,535,114,751	16,535,114,751	17,271,150,317	33,806,265,068
<b>Total other comprehensive loss for the year</b>	-	(106,643,755,364)	(123,463,708,368)	(230,107,463,732)	35,776,659,178	(194,330,804,554)
<b>Transactions with owners of the Company, recognized directly in equity</b>						
Issuance of share capital	33,572,000,000	-	-	33,572,000,000	-	33,572,000,000
Distribution to non-controlling interests	-	505,983,021	-	505,983,021	(3,621,765,471)	(3,115,782,450)
<b>Total transactions with owners of the Company</b>	33,572,000,000	505,983,021	-	34,077,983,021	(3,621,765,471)	30,456,217,550
<b>Balance at December 31, 2019</b>	W 10,515,105,780,075	W (9,307,633,460,802)	W (1,156,227,964,793)	W 51,244,354,480	W 548,946,037,216	W 600,190,391,696

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



**Korea National Oil Corporation and its subsidiaries**  
**Consolidated statements of cash flows**  
**Years ended December 31, 2019 and 2018**

(in Korean won)

	2019	2018
<b>Cash flows from operating activities</b>		
Loss for the year	₩ (84,937,816,881)	₩ (1,159,541,021,968)
Adjustment for:		
Severance and retirement benefits	12,723,526,195	8,817,688,669
Wages and salaries	4,359,067,934	-
Depreciation	965,218,918,919	1,068,719,904,560
Amortization of intangible assets other than goodwill	81,194,519,000	66,267,991,859
Other bad debt expense	3,186,538,955	765,168,480
Gains on exemption of debts	(76,223,080,929)	-
Reversal of other bad debt allowance	(3,495,036,527)	(8,356,085,894)
Non-operating income from overseas oil fields	(365,395,128)	(1,538,146,780)
Gains on disposal of property, plant and equipment	(12,234,503,767)	(7,660,786,299)
Losses on valuation of inventories	404,191,177	121,465,055
Loss on cancellation of debt exemption	1,065,761,174	11,033,808
Other income	(4,944,867,160)	(1,379,733,926)
Other expenses	2,369,477,299	345,743,968
Transfer to other provision	938,611,291	13,039,492,808
Gains on disposal of intangible assets other than goodwill	(87,120,730,552)	(6,763,819)
Reversal of impairment losses on property, plant and equipment	(25,224,458,258)	(23,146,479,941)
Gains on foreign currency translation (other than finance income)	(22,942,425,015)	(26,654,135,840)
Losses on disposal of property, plant and equipment	17,491,127,469	154,437,052
Impairment losses on property, plant and equipment	176,250,820,929	272,828,899,217
Impairment losses on intangible assets other than goodwill	18,106,642,179	609,346,912,576
Reversal of impairment losses on intangible assets other than goodwill	(53,230,301,443)	-
Losses on foreign currency translation (other than finance cost)	21,518,126,092	19,636,929,194
Income tax expense	463,998,437,016	228,333,933,634
Interest income	(22,512,597,370)	(22,655,696,529)
Dividends income	(10,232,181)	(10,295,683)
Gains on transaction of derivative (finance income)	(11,338,703,001)	(4,421,358,354)
Gains on valuation of derivative (finance income)	(18,630,088,549)	(23,218,443,225)
Gains on transaction of derivative (other than finance income)	(42,418,004)	-
Losses on transaction of derivative (other than finance cost)	117,357,642	-
Gains on foreign currency translation (finance income)	(136,666,853,054)	(55,441,206,189)
Interest expense	474,593,305,053	426,020,666,500
Losses on transaction of derivative (finance cost)	-	1,088,097,827
Losses on valuation of derivative (finance cost)	2,518,652,850	-
Losses on valuation of financial asset measured at fair value through profit or loss	82,191,492,544	5,058,940,998
Gains on valuation of financial asset measured at fair value through profit or loss	(167,773,467,775)	(87,037,043,388)
Gains on transaction of financial asset measured at fair value through profit or loss	(2,072,434,884)	-
Losses on valuation of financial liabilities measured at fair value through profit or loss	15,615,393,575	-
Losses on foreign currency translation (finance cost)	65,411,763,076	209,389,524,458
Other finance costs (interest expense)	77,451,325,484	115,393,451,884
Transfer to other provision (Sales commissions)	(24,786,154,683)	122,362,848,987
Reversal of other provision	(2,454,517,994)	-
Gains on disposal of asset held for sale	-	(2,058,657,999)
Share of gain in associates and joint ventures	(116,300,551,234)	(6,049,649,038)
Gains on disposal of investments in associates and joint ventures	(37,011,521)	-
Share of loss in associates and joint ventures	23,372,718,406	117,335,392,425
Impairment losses on investments in associates and joint ventures	39,252,434,950	1,261,405,926
	<u>1,760,944,380,180</u>	<u>3,016,665,446,981</u>
Changes in:		
Inventories	2,530,434,890	(8,001,353,180)
Trade and other receivables	(43,642,565,894)	93,793,171,048
Other receivables from operating activities	(13,525,738,194)	47,237,270,791
Trade and other payables	(21,999,177,514)	(247,322,811,402)
Other payables from operating activities	(52,016,981,114)	76,421,609,704
Defined benefit liability	(180,995,466)	-
Payments from plan assets	(11,524,029,215)	(10,375,860,909)
Current other provisions	(17,671,811,111)	(58,184,542,885)
Non-current other provisions	-	(8,243,190,130)
Decommissioning cost	(39,829,872,292)	(9,150,562,428)
	<u>(197,860,735,910)</u>	<u>(123,826,269,391)</u>
Cash generated from operating activities	<u>1,478,145,827,389</u>	<u>1,733,298,155,622</u>
Dividend received	17,257,116,448	3,026,196,901
Interest paid	(455,870,627,770)	(511,015,935,140)
Interest received	76,762,229,700	110,942,172,488
Income tax paid	(83,599,099,347)	(75,232,300,540)
<b>Net cash inflow from operating activities</b>	<u>₩ 1,032,695,446,420</u>	<u>₩ 1,261,018,289,331</u>

**Korea National Oil Corporation and its subsidiaries**  
**Consolidated statements of cash flows**  
**Years ended December 31, 2019 and 2018**

(in Korean won)

	<u>2019</u>	<u>2018</u>
<b>Cash flows from investing activities</b>		
Acquisition of investments in associates and joint ventures	₩ (9,056,586,845)	₩ (43,614,436,930)
Proceeds from disposal of investments in associates and joint ventures	267,540,221	-
Proceeds from disposal of property, plant and equipment	18,739,499,698	6,187,227,382
Acquisition of property, plant and equipment	(503,201,535,631)	(598,040,058,789)
Proceeds from disposal of intangible assets other than goodwill	234,864,044	17,129,470
Acquisition of intangible assets other than goodwill	(48,046,370,391)	(27,259,002,207)
Proceeds from disposal of asset held for sale	-	5,623,854,460
Acquisition of non-current non-financial assets	(25,154,394,323)	(27,458,034,913)
Increase in long-term deposits received	(427,206,447)	(2,853,865,715)
Decrease in long-term deposits received	366,209,999	3,074,997,407
Increase in long-term and short-term financial assets	(35,213,926,547)	(149,791,630,224)
Decrease in long-term and short-term financial assets	34,924,277,443	151,609,019,127
Increase in long-term loans	(160,303,832,591)	(120,228,581,673)
Decrease of long-term loans	169,712,525,315	27,536,759,178
Increase in leasehold deposits provided	452,263,177	46,364,265
Decrease in leasehold deposits provided	(5,490,841)	-
Proceeds from disposal of financial assets measured at fair value through profit or loss	286,522,167,729	-
Acquisition of financial assets measured at fair value through profit or loss	(511,219,410,502)	-
Cash outflow from futures contracts, forward contracts, options contracts and swap contracts	(4,525,663,331)	-
<b>Net cash outflow from investing activities</b>	<u>(785,935,069,823)</u>	<u>(775,150,259,162)</u>
<b>Cash flows from financing activities</b>		
Proceeds from increase in share capital	33,572,000,000	46,669,000,000
Proceeds from short-term borrowings	233,130,000,000	200,567,277,885
Repayments of short-term borrowings	(188,835,300,000)	(409,580,272,904)
Repayments of current portion of long-term borrowings	(234,684,729,761)	-
Proceeds from issue of bond payables	1,270,571,087,901	1,821,361,622,595
Repayments of bond payables	(1,490,846,568,698)	(2,381,291,976,794)
Proceeds from long-term borrowings	283,159,024,767	528,487,812,843
Repayments of long-term borrowings	(164,291,102,004)	(276,917,859,571)
Dividends paid	-	(37,431,456,168)
Repayments of finance lease liability	(28,660,897,898)	(8,565,749,677)
Net cash outflow due to other distribution to non-controlling interests	(3,115,782,450)	(2,433,808,585)
<b>Net cash outflow from financing activities</b>	<u>(290,002,268,143)</u>	<u>(519,135,410,376)</u>
<b>Net decrease in cash and cash equivalents before net effect of foreign exchange differences</b>	(43,241,891,546)	(33,267,380,207)
Effect of exchange rate fluctuations on cash held	(9,888,455,565)	20,345,437,270
<b>Net decrease in cash and cash equivalents</b>	(53,130,347,111)	(12,921,942,937)
<b>Cash and cash equivalents as at January 1 before deduction of government grants</b>	778,197,858,919	791,119,801,856
<b>Cash and cash equivalents as at December 31 before deduction of government grants</b>	725,067,511,808	778,197,858,919
Government grants	(11,100,917)	(77,710,041)
<b>Cash and cash equivalents as at December 31 after deduction of government grants</b>	<u>₩ 725,056,410,891</u>	<u>₩ 778,120,148,878</u>

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

**Korea National Oil Corporation and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2019 and 2018**

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**1. Reporting Entity**

**1.1 Description of the Controlling Company**

Korea National Oil Corporation (the “Parent Company”) was incorporated on March 3, 1979 to engage in the development of oil fields, distribution of crude oil, maintenance of petroleum reserve stock and improvement of the petroleum distribution infrastructure under the Korea National Oil Corporation Act. The Parent Company’s head office is located at 305, Jongga-Ro, Jung-Gu, Ulsan in Korea. The Parent Company also has 9 petroleum stockpile sites, 1 domestic gas field management office, and overseas subsidiaries and affiliates (Dana Petroleum Limited etc.) in other countries.

As of December 31, 2019, the Parent Company’s share capital is ₩ 10,515,106 million, which is wholly owned by the government of the Republic of Korea.

**1.2 Consolidated subsidiaries**

Details of the consolidated subsidiaries as of December 31, 2019 and 2018, are as follows:

Subsidiary name <sup>1</sup>	Principal activity	Country of incorporation	Ownership (%)	
			2019	2018
ANKOR E&P Holdings Corp.	Exploration and production (“E&P”)	United States	100.00	100.00
Dana Petroleum Limited	E&P	United Kingdom	100.00	100.00
KNOC Eagle Ford Corporation	E&P	United States	100.00	100.00
Harvest Operations Corp.	E&P	Canada	100.00	100.00
KNOC Kaz B.V.	E&P	Netherlands	100.00	100.00
KNOC Sumatra Ltd.	E&P	Indonesia	100.00	100.00
KNOC Yemen Ltd.	E&P	Yemen	60.00	60.00
KNOC Trading Singapore Pte. Ltd.	Trading and Marketing	Singapore	100.00	100.00
KNOC Service	Facility maintenance	South Korea	100.00	-

<sup>1</sup> including intermediate parent companies and their subsidiaries

**Korea National Oil Corporation and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2019 and 2018**

**1.2 Consolidated subsidiaries (cont'd)**

Financial information for subsidiaries as of and for the years ended December 31, 2019 and 2018, is as follows:

<i>(in Korean won)</i>		<b>2019</b>						
<b>Subsidiary name</b>		<b>Assets</b>	<b>Liabilities</b>	<b>Revenue</b>	<b>Profit (loss) for the year</b>			
ANKOR E&P Holdings Corp.	₩	458,117,682,331	₩	202,504,287,239	₩	106,456,792,295	₩	13,813,665,004
Dana Petroleum Limited <sup>1</sup>		2,908,747,825,043		1,683,849,806,839		1,277,072,045,730		150,443,248,159
KNOC Eagle Ford Corporation		2,713,454,703,094		585,691,411,095		359,524,834,189		74,762,599,776
Harvest Operations Corp.		2,681,161,729,641		3,175,755,374,775		310,288,485,225		2,388,119,656
KNOC Kaz B.V. <sup>1</sup>		787,546,928,913		573,650,640,634		279,684,849,272		86,474,382,872
KNOC Sumatra Ltd. <sup>2</sup>		684,824,806		-		-		60,194
KNOC Yemen Ltd. <sup>2</sup>		14,032,698		-		-		-
KNOC Trading Singapore Pte. Ltd.		483,723,398		46,222,595		411,183,003		54,405,175
KNOC Service <sup>3</sup>		476,754,496		10,869,739		-		(34,115,230)

<sup>1</sup> The amounts presented are after reflecting the difference between the fair value and the book value that arose during the business combination.

<sup>2</sup> The entity is in the process of liquidation as of December 31, 2019.

<sup>3</sup> The entity was newly established for the year ended December 31, 2019, and its main business is the maintenance of the headquarter building.

**Korea National Oil Corporation and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2019 and 2018**

**1.2 Consolidated subsidiaries (cont'd)**

(in Korean won)

Subsidiary name	2018			
	Assets	Liabilities	Revenue	Profit (loss) for the year
ANKOR E&P Holdings Corp.	₩ 466,124,841,808	₩ 229,614,170,528	₩ 121,844,800,383	₩ (37,798,751,382)
Dana Petroleum Limited <sup>1</sup>	2,962,432,952,674	1,653,661,053,201	1,490,812,820,612	160,351,793,022
KNOC Eagle Ford Corporation	2,626,974,989,910	635,210,141,875	451,619,779,519	153,665,031,619
Harvest Operations Corp.	2,441,861,309,772	2,900,996,993,467	242,824,429,913	(322,992,581,341)
KNOC Kaz B.V. <sup>1</sup>	756,302,445,336	574,615,524,250	272,416,774,348	(4,140,853,792)
KNOC Exploracao e Producao dePetro do Brasil Ltda. <sup>2</sup>	-	-	-	(9,861,934)
KNOC NEMONE Ltd. <sup>2</sup>	-	-	-	-
KNOC NEMTWO Ltd. <sup>2</sup>	-	-	-	-
KNOC Sumatra Ltd.	661,284,994	-	-	160,765
KNOC Yemen Ltd. <sup>3</sup>	13,551,529	-	-	-
KNOC Trading Singapore Pte. Ltd.	375,068,367	10,189,368	357,813,786	(44,294,843)

<sup>1</sup> The amounts presented are after reflecting the difference between the fair value and the book value that arose during the business combination.

<sup>2</sup> The liquidation process has been completed as of December 31, 2018.

<sup>3</sup> The entity is in the process of liquidation as of December 31, 2018.

The changes in the scope of consolidation are as follows:

	Changes	Reason
KNOC Service	Included in the consolidation	Newly established

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2019 and 2018

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## 2. Basis of Preparation and Changes in Accounting Policies

### 2.1 Statement of compliance

The consolidated financial statements of the Korea National Oil Corporation (the Parent Company) and its subsidiaries (collectively referred to as the “Group”) have been prepared in accordance with Korean International Financial Reporting Standards (“K-IFRS”), as prescribed in the Act on External Audits of Corporations in the Republic of Korea.

The accompanying consolidated financial statements have been translated into English from Korean financial statements. In the event of any differences in interpreting the financial statements or the independent auditor’s report thereon, Korean version, which is used for regulatory reporting purposes, shall prevail.

#### (a) Basis of measurement

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

- ✓ derivative financial instruments measured at fair value
- ✓ financial assets measured at fair value through profit or loss
- ✓ financial assets measured at fair value through other comprehensive income
- ✓ financial liabilities measured at fair value through profit or loss
- ✓ investments in associates and joint ventures measured at fair value
- ✓ net defined benefit liabilities recognized at the net of the total present value of defined benefit obligations less the fair value of plan assets

#### (b) Functional and presentation currency

Items included in the consolidated financial statements of each of the Group’s entities are measured using the currency of the primary economic environment in which the entity operates (the ‘functional currency’). The accompanying consolidated financial statements are prepared in the Group’s functional currency, the United States dollar, and presented in Korean won, the Group’s presentation currency, for the financial reporting purposes in accordance with K-IFRS No. 1021, ‘The Effects of Changes in Foreign Exchange Rates’. The Group is required to present its financial statements in Korean won in accordance with regulations in Korea.

Assets and liabilities for each statement of financial position presented (i.e. including comparatives) were translated at the closing rate at the date of that statement of financial position, income and expenses for each statement presenting profit or loss and other comprehensive income (i.e. including comparatives) were translated at the average exchange rates of the period and all resulting exchange differences were recognized in other comprehensive income.

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2019 and 2018

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#### 2.2 New standards and interpretations not yet adopted by the Group

There are no certain new accounting standards and interpretations that have been published that are not mandatory for annual reporting period commencing January 1, 2019 and have not been early adopted by the Group.

#### 2.3 New and amended standards adopted by the Group

The Group has applied the following standards and amendments for the first time for their annual reporting period commencing January 1, 2019.

##### (a) Enactment of Korean IFRS 1116 *Leases*

The Group has changed its accounting policies by applying K-IFRS No. 1116 *Leases* on January 1, 2019, the date of initial application. This standard has replaced K-IFRS 1017 *Leases*, Interpretation 2104 *Determining whether an Arrangement contains a Lease*, Interpretation 2015 *Operating Leases-Incentives*, and Interpretation 2027 *Evaluating the Substance of Transactions Involving the Legal Form of a Lease*.

The Group applied the standard retrospectively in accordance with the transitional provisions in K-IFRS No. 1116. The Group apply the modified retrospective approach which recognizes the cumulative impact of initially applying the revenue standard as an adjustment to retained earnings (or other components of equity, as appropriate) as of January 1, 2019, the period of initial application. The Group does not restate any comparative information. See Note 2.4 (g) for further details on the impact of the application of the standard and the practical expedient.

##### (b) Amendment to Korean IFRS 1109 *Financial Instruments*

The narrow-scope amendments made to Korean IFRS 1109 *Financial Instruments* enable entities to measure certain prepayable financial assets with negative compensation at amortized cost. When a modification of a financial liability measured at amortized cost that does not result in the derecognition, a modification gain or loss shall be recognized in profit or loss. The amendment does not have a material impact on the financial statements.

##### (c) Amendments to Korean IFRS 1019 *Employee Benefits*

The amendments require that an entity shall calculate current service cost and net interest for the remainder of the reporting period after a plan amendment, curtailment or settlement based on updated actuarial assumptions from the date of the change. The amendments also require that a reduction in a surplus must be recognized in profit or loss even if that surplus was not previously recognized because of the impact of the asset ceiling. The amendment does not have a significant impact on the financial statements.

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2019 and 2018

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#### 2.3 New and amended standards adopted by the Group (cont'd)

##### *(d) Amendments to Korean IFRS 1028 Investments in Associates and Joint Ventures*

The amendments clarify that an entity shall apply Korean IFRS 1109 to financial instruments in an associate or joint venture to which the equity method is not applied. These include long-term interests that, in substance, form part of the entity's net investment in an associate or joint venture. The amendment does not have a significant impact on the financial statements.

##### *(e) Enactment to Interpretation of Korean IFRS 2123 Uncertainty over Income Tax Treatments*

The Interpretation explains how to recognize and measure deferred and current income tax assets and liabilities where there is uncertainty over a tax treatment, and includes guidance on how to determine whether each uncertain tax treatment is considered separately or together. It also presents examples of circumstances where a judgement or estimate is required to be reassessed. The amendment does not have a significant impact on the financial statements.

##### *(f) Annual Improvements to Korean IFRS 2015 – 2017 Cycle:*

- Amendments to Korean IFRS 1103 *Business Combination*

The amendments clarify that when a party to a joint arrangement obtains control of a business that is a joint operation, and had rights to the assets and obligations for the liabilities relating to that joint operation immediately before the acquisition date, the transaction is a business combination achieved in stages. In such cases, the acquirer shall remeasure its entire previously held interest in the joint operation. The amendment does not have a material impact on the financial statements.

- Amendments to Korean IFRS 1111 *Joint Agreements*

The amendments clarify that when 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. In such cases, previously held interests in the joint operation are not remeasured. The amendment does not have a material impact on the financial statements.

- Amendments to Paragraph 57A of Korean IFRS 1012 *Income Tax*

The amendments clarify that the income tax consequences of dividends is more directly related to past transactions or events that generate distributable profits rather than distribution to its owners. The Group 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. The amendment does not have a material impact on the financial statements.

- Amendments to Korean IFRS 1023 *Borrowing Costs*

The amendments clarify that if a specific borrowing remains outstanding after the related qualifying asset is ready for its subsequently intended use or sale, it becomes part of general borrowings. The amendment does not have a material impact on the financial statements.



# **Korea National Oil Corporation and its subsidiaries**

## **Notes to the consolidated financial statements**

### **December 31, 2019 and 2018**

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#### **2.3 New and amended standards adopted by the Group (cont'd)**

##### *(g)* Effect of changes in accounting policy on financial statements

The effect of the change in accounting policies of the Group on the financial statements is described in 2.4 *(g)* Lease.

#### **2.4 Significant accounting policies**

The significant accounting policies applied by the Group in preparation of its consolidated financial statements are included below. The accounting policies set out below have been applied consistently to all periods presented in these consolidated financial statements, except for changes in accounting policies as explained in Note 2.3.

##### *(a)* Basis of consolidation

##### *(i)* Non-controlling interests

Non-controlling interests are measured at their proportionate share of the acquiree's identifiable net assets at the date of acquisition. Changes in the Group's interest in a subsidiary that do not result in a loss of control are accounted for as equity transactions.

##### *(ii)* Subsidiaries

Subsidiaries are entities controlled by the Group. The Group controls an entity when it is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. The financial statements of subsidiaries are included in the consolidated financial statements from the date on which control commences until the date on which control ceases.

##### *(iii)* Loss of control

When the Group loses control over a subsidiary, it derecognizes the assets and liabilities of the subsidiary, and any related non-controlling interests and other components of equity. Any resulting gain or loss is recognized in profit or loss. Any interest retained in the former subsidiary is measured at fair value when control is lost.

##### *(iv)* Interests in equity-accounted investees

The Group's interests in equity-accounted investees comprise interests in associates and a joint venture. Associates are those entities in which the Group has significant influence, but not control or joint control, over the financial and operating policies. A joint venture is an arrangement in which the Group has joint control, whereby the Group has rights to the net assets of the arrangement, rather than rights to its assets and obligations for its liabilities.

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2019 and 2018

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#### 2.4 Significant accounting policies (cont'd)

Interests in associates and the joint venture are accounted for using the equity method. They are initially recognized at cost, which includes transaction costs. Subsequent to initial recognition, the consolidated financial statements include the Group's share of the profit or loss and OCI of equity-accounted investees, until the date on which significant influence or joint control ceases.

#### (v) Transactions eliminated on consolidation

Intra-group balances and transactions, and any unrealized income and expenses arising from intra-group transactions, are eliminated. Unrealized gains arising from transactions with equity-accounted investees are eliminated against the investment to the extent of the Group's interest in the investee. Unrealized losses are eliminated in the same way as unrealized gains, but only to the extent that there is no evidence of impairment.

#### (b) Business combination

The acquisition method of accounting is used to account for business combinations by the Group. The consideration transferred in a business combination is measured at the fair values, at the acquisition date (transfer date), of the assets transferred with controlling interest in the acquired entity, liabilities issued or borne by the Group to the former owners of the acquired entity and equity interests issued by the Group in exchange for control of the acquired entity. Acquisition-related costs are generally recognized in profit or loss as incurred.

The identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date except that:

- deferred tax assets and liabilities and assets and liabilities related to employ benefit arrangements are recognized and measured in accordance with Korean IFRS 1012 *Income Tax* and Korean IFRS 1019 *Employee Benefits*, respectively;
- liabilities and equity instruments incurred due to replacing the share-based payment of the acquired entity with the share-based payment of the Group are measured in accordance with Korean IFRS 1102 *Share-based Payment*; and
- non-current assets (or disposal groups comprising assets and liabilities) classified as available-for-sale assets pursuant to Korean IFRS 1105 *Non-current Assets Held for Sale and Discontinued Operations* are measured in accordance with Korean IFRS 1105 *Non-current Assets Held for Sale and Discontinued Operations*.

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2019 and 2018

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#### 2.4 Significant accounting policies (cont'd)

Goodwill is measured as the excess of the sum of the consideration transferred, the amount of any non-controlling interests in the acquired entity, and the fair value of the Group's previously held equity interest in the acquired entity (if any) over the net of the acquisition-date amounts of the identifiable assets acquired and the liabilities assumed. If, after reassessment, the net of the acquisition-date amounts of the identifiable assets acquired and liabilities assumed exceeds the sum of the consideration transferred, the amount of any non-controlling interest in the acquired entity and the fair value of the Group's previously held interest in the acquire (if any), the excess is recognized immediately in profit or loss as a bargain purchase gain.

Non-controlling interests that present ownership interests and entitle their holders to a proportionate share of the entity's net assets in the event of liquidation may be initially measured either at fair value or at the non-controlling interests' proportionate share of the recognized amounts of the acquired entity's identifiable net assets. The choice of measurement basis is made on a transaction-by-transaction basis. Other types of non-controlling interests are measured at fair value or, when applicable, on other basis specified in Korean IFRS.

The Group's consideration transferred includes the assets and liabilities on a contingent consideration agreement. The contingent consideration is measured at its fair value at the acquisition date and is included as a part of the consideration transferred in a business combination. Changes in the fair value of the contingent consideration that qualify as measurement period adjustments are adjusted retrospectively, with corresponding adjustments against goodwill. Measurement period adjustments are the adjustments resulted from obtaining additional information on any fact and circumstance that existed at the acquisition date during the 'adjustment period (which cannot exceed one year from the acquisition date)'.

The subsequent accounting for changes in fair value of the contingent consideration, which does qualify as measurement period adjustments, depends on how the contingent consideration is classified. Contingent consideration that is classified as equity is not remeasured at the subsequent reporting dates and its subsequent settlement is accounted for within equity. Contingent consideration that is classified as an asset or a liability is remeasured at the subsequent reporting dates in accordance with Korean IFRS 1109 *Financial Instruments* or Korean IFRS 1037 *Provisions, Contingent Liabilities and Contingent Assets*, as appropriate, with the corresponding gain or loss being recognized in profit or loss.

When a business combination is achieved in stages, the Group's previously held equity interest in the acquired entity is remeasured at fair value at the acquisition date (i.e., the date when the Group obtains control) and the resulting gain or loss, if any, is recognized in profit or loss. The amounts arising from interests in the acquisition prior to the acquisition date that have previously been recognized in other comprehensive income are reclassified to profit or loss where such treatment would be appropriate if that interests were disposed of.

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2019 and 2018

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#### 2.4 Significant accounting policies (cont'd)

If the initial recognition of the business combination has not been completed until the end of the reporting period in which the combination occurs, the Group reports provisional amounts for the items for which the accounting is incomplete. Those provisional amounts are adjusted during the measurement period (see above), or additional assets or liabilities are recognized, to reflect new information obtained on the facts and circumstances that existed at the acquisition date that, if known, would have affected the amounts recognized at that date.

#### (c) Investments in associates

An associate is an entity that is not a subsidiary or joint venture of the Group, and over which the Group has significant influence. The Group has a significant influence over an associate when:

- the Group participates in the Board of Directors or such decision-making bodies of the investee;
- the Group participates in making decisions on policies including decisions on dividend payment and other distribution;
- the Group has a material transaction with the investee;
- the Group has a mutual interaction of management with the investee; and
- the Group shares essential information on technology with the investee.

The results and assets and liabilities of associates are incorporated in these consolidated financial statements using the equity method of accounting, except when the investment is classified as held for sale, in which case it is accounted for in accordance with Korean IFRS 1105 *Non-current Assets Held for Sale and Discontinued Operations*. Under the equity method, an investment in an associate is initially recognized in the consolidated statement of financial position at cost and adjusted thereafter to recognize the Parent Company's share of the profit or loss and other comprehensive income of the associate. When the Parent Company's share of losses of an associate exceeds the Parent Company's interest in that associate (which includes any long-term interests that, in substance, form part of the Parent Company's net investment in the associate), the Parent Company discontinues recognizing its share of further losses. Additional losses are recognized only to the extent that the Parent Company has incurred legal or constructive obligations or made payments on behalf of the associate.

Any excess of the cost of acquisition over the Parent Company's share of the net fair value of the identifiable assets, liabilities and contingent liabilities of an associate recognized at the date of acquisition is recognized as goodwill, which is included within the carrying amount of the investment. Any excess of the Parent Company's share of the net fair value of the identifiable assets, liabilities and contingent liabilities over the cost of acquisition, after reassessment, is recognized immediately in profit or loss.

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2019 and 2018

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#### 2.4 Significant accounting policies (cont'd)

The requirements of Korean IFRS 1109 *Financial Instruments* are applied to determine whether it is necessary to recognize any impairment loss with respect to the Group's investment in an associate. When necessary, the entire carrying amount of the investment as a single asset (including goodwill) is tested for impairment in accordance with Korean IFRS 1036 *Impairment of Assets* by comparing its recoverable amount (higher of value in use and fair value less costs to sell) with its carrying amount, and any impairment loss recognized forms part of the carrying amount of the investment. Any reversal of that impairment loss is recognized in accordance with Korean IFRS 1036 to the extent that the recoverable amount of the investment subsequently increases.

When an entity has transactions with an associate of the Group, profits and losses resulting from the transactions with the associate are recognized in the Parent Company's consolidated financial statements only to the extent of interests in the associate that are not related to the Group.

#### (d) Investments in joint ventures

A joint arrangement is an arrangement for the Group and other parties to perform economic activities that are subject to a joint control. A joint control requires a unanimous consent of the parties sharing the control on the decisions related to the major financial and operational policies on the joint arrangement.

In case of that the Group performs the economic activities in accordance with the joint arrangement, the Group's share of a joint venture and the Group's share of the liabilities that the Group incurred jointly with other parties are recognized in the joint venture's financial statement and classified by nature. The liabilities and expenses incurred directly in relation to the Group's share of a joint venture are recognized on accrual basis. The Group recognizes its share of revenues incurred due to sales or use of its share of the joint venture's business results and the its share of costs incurred by the joint venture when it is highly possible that the economic benefits related to such transactions will flow into or out and the amounts can be measured reliably.

The Group's share of a joint venture is incorporated in the consolidated financial statements using the equity method of accounting, except when the investment share is classified as held for sale, in which case it is accounted for in accordance with Korean IFRS 1105 *Non-current Assets Held for Sale and Discontinued Operations*.

Goodwill arising from acquiring a share of a joint venture is recognized in accordance with the Group's accounting policies on goodwill arising from a business combination. When the Group has a transaction with a joint venture, a gain or loss incurred from the transaction is recognized on the Group's financial statement only for the amounts that are the share of the joint venture not related to the Group.

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2019 and 2018

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#### 2.4 Significant accounting policies (cont'd)

##### (e) Goodwill

Goodwill arising on an acquisition of a business is carried at cost as established at the date of acquisition of the business, less accumulated impairment losses, if any. For impairment testing, goodwill is allocated to cash-generating units (or groups of cash-generating units) of the Group that were expected, at the date of acquisition, to benefit from the synergies of the combination giving rise to the goodwill.

A cash-generating unit to which goodwill has been allocated is tested for impairment annually or more frequently when there is an indication that the unit may be impaired. If the recoverable amount of the cash-generating unit is less than its carrying amount, the impairment loss is allocated first to reduce the carrying amount of any goodwill allocated to the unit and then to the other assets of the unit on a pro rata basis based on the carrying amount of each asset in the unit. Any impairment loss for goodwill is recognized directly in profit or loss in the consolidated statement of comprehensive income. An impairment loss recognized for goodwill is not reversed in subsequent periods.

On disposal of the relevant cash-generating unit, the allocated amount of goodwill is included in the determination of the profit or loss on disposal. The Group's accounting policies with respect to the goodwill arising from acquisition of an affiliate are stated in the Note 2.4 (b).

##### (f) Revenue

Under the new standard, K-IFRS No. 1115, the Group recognizes revenue base on the five-step approach (Step 1: Identify the contract(s) with a customer, Step 2: Identify the performance obligations in the contract, Step 3: Determine the transaction price, Step 4: Allocate the transaction price to the performance obligations in the contract, Step 5: Recognize revenue when the entity satisfied a performance obligation) is applied for all types of contracts or agreements. Revenue is measured based on the consideration defined by the contracts with customers, and the amount collected as an agent of a third party is excluded. In addition, the Group recognizes revenue when the control over the goods or service is transferred to the customer.

##### i) Sale of goods

The contracts which the Group entered with customers for the sale of crude oil and others contain a single performance obligation. Depending on sales contract with customers, performance obligation can be distinguished as 'performance obligation satisfied at a point in time' and 'performance obligation satisfied over time'. In the case of 'performance obligation satisfied at a point in time', the Group has concluded that revenue to be recognized at the time of delivery because control of goods is transferred at a point in time of delivery. Also, in the case of 'performance obligation satisfied over time', although revenue should be recognized by measuring progress towards complete satisfaction of a performance obligation, the Group has applied practical expedient allowed under K-IFRS No. 1115 in relation to measuring progress.

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2019 and 2018

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#### 2.4 Significant accounting policies (cont'd)

##### ii) Rendering of services

The Group provides services such as lending stockpile oil resources, storing oil resources, and leasing related facilities. Service contract contains a large number of performance obligations whose promises with customers are distinct within the context of the contract and separately identifiable. The Group has determined that service contract contains 'performance obligation satisfied over time', and applied practical expedient of measuring progress allowed under K-IFRS No. 1115.

##### (g) Leases

The Group has applied Korean IFRS No. 1116 *Leases* from January 1, 2019.

In accordance with the amendment of the standard, lessee applies a single lease model and recognizes assets and liabilities for all lease which lease term is over 12 months and underlying assets are not low value assets. A lessee is required to recognize a right-of-use asset representing its right to use the underlying leased asset and a lease liability representing its obligation to make lease payments.

At inception of a contract, the Group shall assess whether the contract is, or contains, a lease. Also, at the date of initial application, the Group shall assess whether the contract is, or contains, a lease in accordance with the standard. However, the Group will not need to reassess all contracts with applying the practical expedient because the entity elected to apply the practical expedient only to contracts entered before the date of initial application.

For a contract that is, or contains, a lease, the Group shall account for each lease component within the contract as a lease separately from non-lease components of the contract.

The lessor accounting has not significantly changed. A lease in which the risks and rewards of ownership of the underlying asset are not transferred to the Group is classified as a finance lease, and leases in which the risks and rewards of ownership of the underlying asset are not transferred to the Group are classified as an operating lease.

##### i) The Group as a lessor

The Group recognizes the amount equivalent to the net investment in the leases as finance lease receivables. Uncollected part of net investment is recognized as interest income applying the effective interest rate.

Lease income from operating leases is recognized in income on a straight-line basis over the lease term. Initial direct costs incurred in negotiating and arranging an operating lease are added to the carrying amount of the lease asset and recognized as expense over the lease term on the same basis as lease income.

**Korea National Oil Corporation and its subsidiaries**  
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**2.4 Significant accounting policies (cont'd)**

ii) The Group as a lessee

For leases previously classified as 'finance leases', the Group recognized the carrying amount of the lease asset and lease liability as the carrying amount of the right-of-use asset and the lease liability at the date of initial application.

On adoption of Korean IFRS No. 1116, the Group changed the leases accounting that was not accounted for in the financial statements in relation to leases which had previously been classified as 'operating leases' under the principles of Korean IFRS 1017, and recognized the right-of-use asset and the lease liability at the date of initial application.

A lessee measured the liabilities at the present value of the remaining lease payments, discounted using the lessee's incremental borrowing rate at the date of initial application. The lessee's incremental borrowing rate applied to the lease liabilities on January 1st, 2019 was 3.55%

(in Korean won)

	<b>2019</b>
Operating lease commitments as of December 31, 2018	₩ 259,640,003,220
Add: Discounted using the lessee's incremental borrowing rate of at the date of initial application (January 1st, 2019)	209,507,832,455
Add: finance lease liabilities recognized as of December 31, 2018	222,267,254,416
Less: application of exemption on low-value underlying leases	(126,392,134)
Less: application of exemption on leases with lease term that is within 12 months at the turning point	(8,684,301,018)
<b>Lease liability recognized as of January 1, 2019</b>	<b>₩ 422,964,393,719</b>

When the Group has used the practical expedients to estimate the remaining lease duration, the Group applies a hindsight on the possibility to exercise where the contract contains options to extend or terminate the lease.

The Group recognized right-of-use asset at the date of initial application in relation to leases which had previously been classified as 'operating leases' under the adoption of Korean IFRS 1017. The lessee recognized the amount equal to the lease liability as a right-of use asset and adjusted the amount of any prepaid or accrued lease payments relating to that lease recognized in the consolidated statement of financial position immediately before transition.



# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2019 and 2018

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#### 2.4 Significant accounting policies (cont'd)

When calculating the amount of right-of-use assets at the date of initial application by using cumulative effect cumulative reconciliation action, the Group has used the following practical expedients:

- the accounting for operating leases with a remaining lease term of less than 12 months as of January 1, 2019, as short-term leases;
- the exclusion of initial direct costs for the measurement of the right-of-use asset at the date of initial application; and
- the use of hindsight in determining the lease term where the contract contains options to extend or terminate the lease.

#### iii) New accounting policies

The new accounting policies with implementation of K-IFRS No. 1116 for their annual reporting period commencing January 1, 2019 are as follows.

##### - Right-of-use asset

The Group recognized a right-of-use asset at the commencement date. Right-of-use assets are recognized at its cost, and carried at cost less accumulated amortization and accumulated impairment losses, adjusted in the event of a remeasurement of the lease liability.

The cost of the right-of-use assets includes the amount recognized of the lease liability and initial direct costs incurred, and the prepaid lease payments or lease incentive paid before commencement date are deducted. As for lease assets, if there is no reasonable certainty that the Group will obtain ownership at the end of the lease term, the asset is fully depreciated over the shorter of the asset's useful life and the lease term. The Group performs an assessment for impairment of right-of-use assets.

##### - Lease liability

The Group measured the lease liability at the present value of the lease payments at commencement date. Lease liabilities include the net present value of the following lease payments:

- fixed payments (including in-substance fixed payments), less any lease incentives receivable;
- variable lease payment that are based on an index or a rate, initially measured using the index or rate as of the commencement date;
- amounts expected to be payable by the Group (the lessee) under residual value guarantees;
- the exercise price of a purchase option if the Group (the lessee) is reasonably certain to exercise that option; and

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

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#### 2.4 Significant accounting policies (cont'd)

- payments of penalties for terminating the lease, if the lease term reflects the Group (the lessee) exercising that option.

Variable lease payments, which do not depend on the index or a rate, are recognized as an expense as incurred.

When calculating the present value of the lease payments, the lessee's incremental borrowing rate is used at commencement date if that rate cannot be determined. After the commencement date, the Group increases the carrying amount of the lease liability by reflecting the interest on the lease liability and reduces the carrying amount of the lease liability by reflecting the lease payments. In addition, the Group remeasures the lease liability to reflect changes in leases, changes in fixed payments, changes in lease terms, or changes in the valuation of underlying asset that option.

#### - Short-term leases and leases of low-value assets

The lessee may elect not to apply the requirements to short-term lease (a lease term of 12 months or less at the commencement date, and does not exercise option) and low value real estate and tools and fixtures (underlying assets below \$ 5,000). Payments of short-term leases and leases of low-value assets are recognized on a straight-line basis as an expense over the lease term.

#### - Critical judgements in determining the lease term where the contract contains options to extend the lease

Extension options or periods after termination options are included in the lease term if the lease is reasonably certain to be extended or not terminated. The Group applies these judgments when assessing whether the exercise of these options is reasonably certain. The Group considers all facts and circumstances that create an economic incentive to exercise an extension option.

After the commencement date, the lease term is reassessed if a significant event or a significant change in circumstances occurs, which affects the exercise (or not exercised) of the option (e.g. changes in business strategy), and that is within the control of the lessee.

The carrying amount of the Group's right-of-use asset and lease liability and changes during the reporting period are explained in Note 23.

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**2.4 Significant accounting policies (cont'd)**

The impact of the adoption of K-IFRS No. 1116 as of January 1, 2019, at the date of initial application, on the consolidated statement of financial position is as follows:

<i>(in Korean won)</i>	<u>2019</u>
<b>Assets</b>	
Finance lease receivables	₩ 3,552,708,533
Finance lease asset <sup>1</sup>	(217,840,322,869)
Right-of-use assets <sup>1</sup>	419,659,531,909
Prepaid expenses	(8,981,215,948)
Leasehold deposits provided at present value discount	(7,075,471)
<b>Total assets</b>	<u>₩ 196,383,626,154</u>
<b>Liabilities</b>	
Lease liabilities	₩ 200,697,139,303
Provisions	(4,313,513,149)
<b>Total liabilities</b>	<u>₩ 196,383,626,154</u>
<b>Effect of adjustments on equity</b>	
Retained earnings	₩ -
<b>Total equity</b>	<u>₩ -</u>

<sup>1</sup> In accordance with K-IFRS No. 1017, the previously recognized finance lease asset of ₩ 217,840,322,869 for lease contracts were reclassified into right-of-use assets.

*(h) Foreign currencies*

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

Foreign currency differences arising on retranslation are recognized in profit or loss, except for differences arising on the retranslation of available-for-sale equity instruments, a financial liability designated as a hedge of the net investment in a foreign operation, or qualifying cash flow hedges, which are recognized in other comprehensive income. When gains or losses on non-monetary items are recognized in other comprehensive income, exchange components of those gains or losses are recognized in other comprehensive income. Conversely, when gains or losses on non-monetary items are recognized in profit or loss, exchange components of those gains or losses are recognized in profit or loss.

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2019 and 2018

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#### 2.4 Significant accounting policies (cont'd)

##### (i) Borrowing costs

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

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

##### (j) Government grants

Government grants are not recognized until there is reasonable assurance that the Group complies with the conditions relating to the grants and that the grants will be received. The benefits of government grants with interest rates lower than the market interest rate are treated as government grants. The difference between the fair value of government grants based on the market interest rate and the consideration received are accounted for as government grants.

Government grants related to assets are presented as a deduction of related assets. The related government grants are recognized as profit or loss in a way that decreases the depreciation over the expected lives of the related assets.

Government grants related to income are recognized in profit or loss on a systematic basis over the period to match with the related subsidized expenses. Government grants that are receivable as compensation for expenses or losses already incurred or for the purpose of giving immediate financial support to the Group with no future related costs are recognized in profit or loss in the period in which they become receivable.

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

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#### 2.4 Significant accounting policies (cont'd)

##### (k) Employee benefits

##### i) Short-term employee benefits

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

##### ii) Retirement benefits: defined contribution plans

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

A defined benefit plan is a post-employment benefit plan other than a defined contribution plan. The Group's net obligation in respect of defined benefit plans is calculated by estimating the amount of future benefit that employees have earned in return for their service in the current and prior periods; that benefit is discounted to determine its present value. The fair value of plan assets is deducted. The calculation is performed annually by an independent actuary using the projected unit credit method.

The discount rate is the yield at the reporting date on high-quality corporate bonds that have maturity dates approximating the terms of the Group's obligations and that are denominated in the same currency in which the benefits are expected to be paid. The Group recognizes all actuarial gains and losses arising from actuarial assumption changes and experiential adjustments in other comprehensive income when incurred.

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

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

# **Korea National Oil Corporation and its subsidiaries**

## **Notes to the consolidated financial statements**

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#### **2.4 Significant accounting policies (cont'd)**

##### *(l)* Income taxes

Income tax expense comprises current and deferred tax. Current tax and deferred tax are recognized in profit or loss except to the extent that it relates to a business combination, or items recognized directly in equity or in other comprehensive income.

##### i) Current tax

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

##### ii) Deferred tax

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

The carrying amount of a deferred tax asset is reviewed at the end of each reporting period and reduces the carrying amount to the extent that it is no longer probable that sufficient taxable profit will be available to allow the benefit of part or all of that deferred tax asset to be utilized. Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the period when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period.

Deferred tax assets and liabilities are offset only if there is a legally enforceable right to offset the related current tax liabilities and assets, and they relate to income taxes levied by the same tax authority and they intend to settle current tax liabilities and assets on a net basis.

**Korea National Oil Corporation and its subsidiaries**  
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**2.4 Significant accounting policies (cont'd)**

*(m)* Property, plant and equipment

Property, plant and equipment are initially measured at cost and after initial recognition, are carried at cost less accumulated depreciation and accumulated impairment losses.

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

The following costs are capitalized as oil and gas properties.

- the costs incurred in development stage for constructing facilities and drilling wells for production
- the costs of acquiring production areas or fields with proved reserves
- the construction costs and other expenditures for initiating production
- the estimated costs for decommissioning

Additionally, the Group depreciates the acquisition costs of oil and gas properties which are aggregated on an area-by-area basis or field-by-field basis. For the costs of oil and gas properties which are aggregated on an area-by-area basis, the Group depreciates the acquisition costs using proved reserves as the total estimated production when applying the unit-of-production depreciation method.

For the costs of oil and gas properties which are aggregated on a field-by-field basis, the Group depreciates the acquisition costs using proved developed reserves as the total estimated production when applying the unit-of-production depreciation method.

Costs related to undeveloped oil and gas properties are not immediately included in the depletable pool of developed assets but are transferred to the depletable pool as the reserves become proved (for area-by-area basis) or developed (for field-by-field basis) through drilling activities.

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

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

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**2.4 Significant accounting policies (cont'd)**

	<u>Useful lives</u>
Buildings	20 - 40 years
Structures	20 - 40
Machinery	5 - 20
Tools and fixtures	5
Vehicles	5
Right-of-use assets	1~40
Others	5~10

Gains and losses on disposal of an item of property, plant and equipment are determined by comparing the proceeds from disposal with the carrying amount of property, plant and equipment and are recognized in profit or loss. Depreciation methods, useful lives and residual values are reviewed at the end of each reporting date and adjusted, if appropriate. The change is accounted for as a change in an accounting estimate.

*(n)* Intangible assets other than goodwill

Intangible assets other than goodwill with finite useful lives acquired separately are carried at cost. Intangible assets other than goodwill acquired in a business combination are initially recognized at their fair value at the acquisition date (which is regarded as their cost). Subsequent to initial recognition, intangible assets acquired in a business combination are reported at cost less accumulated amortization and accumulated impairment losses.

Prior to acquiring the legal rights to explore an area, all costs related to exploration and evaluation of an area are charged directly to the statement of comprehensive loss. Once the legal rights to explore are acquired, all costs associated with acquisition of exploration rights, geological, geophysical and geographical research, drilling costs and evaluation of technical and commercial viability of economic production are capitalized as exploration and evaluation assets. All such costs are subject to review for impairment when facts and circumstances suggest that the carrying amount of the assets exceeds their recoverable amount. When technical feasibility and commercial viability are established, the relevant expenditure is transferred to oil and gas properties after impairment is assessed and any resulting impairment loss is recognized. If no potentially commercial petroleum is discovered from exploration drilling, the relating exploration and evaluation assets are written off through the statement of comprehensive loss.



# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

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#### 2.4 Significant accounting policies (cont'd)

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

When future economic benefits are not expected through the use or disposition of intangible assets other than goodwill, the Group removes the book value of the assets from the consolidated statements of financial position. The difference between the amounts received from the disposal and the book values of assets is recognized in profit or loss when the assets are removed.

##### (o) Oil stockpiles

The Group stockpiles crude oil and petroleum products to stabilize domestic demand and market prices and classifies those assets as oil stockpiles (non-current non-financial assets) of which the cost is determined using the moving-average method. The Group performs annual impairment test for oil stockpiles.

##### (p) Impairment of non-financial assets

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

For impairment testing, assets are grouped together into the smallest group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets ("CGUs"). The recoverable amount of an asset or CGU is the greater of its value in use and its fair value less costs to sell. The value in use is estimated by applying a pre-tax discount rate that reflect current market assessments of the time value of money and the risks specific to the asset or CGU for which estimated future cash flows have not been adjusted, to the estimated future cash flows expected to be generated by the asset or CGU.

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#### 2.4 Significant accounting policies (cont'd)

An impairment loss is recognized in profit or loss if the carrying amount of an asset or a CGU exceeds its recoverable amount. When reversing the impairment loss in prior periods, the carrying amount of an asset shall be lower of the modified recoverable amount and the carrying amount that would have been determined had no impairment loss been recognized for the asset in prior periods. Reversed amount should be accounted as profit or loss immediately.

#### (q) Inventories

Inventories are measured at the lower of cost and net realizable value. The cost of inventories is based on the moving-weighted average method, and includes expenditures for acquiring the inventories, production or conversion costs and other costs incurred in bringing them to their existing location and condition. Net realizable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and selling expenses.

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

#### (r) Provisions

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

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

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

Provisions are reviewed at the end of each reporting period and adjusted to reflect the current best estimates. If it is no longer probable that an outflow of resources embodying economic benefits will be required to settle the obligation, the provision is reversed.

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

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#### 2.4 Significant accounting policies (cont'd)

##### - Restoration costs

When there is a legal or contractual obligation for dismantling, removing facilities and restoring sites on which they are located to their original condition at the end of the useful lives of the facilities, the present value of the estimated future restoration costs are capitalized at the acquisition date as additions to the cost of oil and gas properties and are accounted for as a provision. The Group subsequently depreciates the restoration costs using the unit-of-production method and the difference between estimated restoration costs and their present value is charged to current operations by applying the effective-interest-rate method.

##### - Employee incentive

Based on the annual management performance, the Ministry of Strategy and Finance conducts an institutional evaluation and pays incentive based on the evaluation. Performance incentives are reasonably estimated in accordance with Korean IFRS No. 1037 and presented as provisions for employee benefits.

#### (s) Financial assets

##### *i) Classification*

From January 1, 2019, the Group classifies its financial assets in the following measurement categories:

- those to be measured at fair value through profit or loss;
- those to be measured at fair value through other comprehensive income; and
- those to be measured at amortized cost.

The classification depends on the Group's business model for managing the financial assets and the contractual terms of the cash flows.

For financial assets measured at fair value, gains and losses will either be recorded in profit or loss or other comprehensive income. For investments in debt instruments, this will depend on the business model in which the investment is held. The Group reclassifies debt investments when, and only when its business model for managing those assets changes.

For investments in equity instruments that are not held for trading, this will depend on whether the Group has made an irrevocable election at the time of initial recognition to account for the equity investment at fair value through other comprehensive income.

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#### 2.4 Significant accounting policies (cont'd)

##### *ii) Measurement*

At initial recognition, the Group 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 that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at fair value through profit or loss are expensed in profit or loss.

Financial assets with embedded derivatives are considered in their entirety when determining whether their cash flows are solely payment of principal and interest.

##### *A. Debt instruments*

Subsequent measurement of debt instruments depends on the Group's business model for managing the asset and the cash flow characteristics of the asset. The Group classifies its debt instruments into one of the following three measurement categories:

- **Amortized cost:** Assets that are held for collection of contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortized cost. A gain or loss on a debt investment that is subsequently measured at amortized cost and is not part of a hedging relationship is recognized in profit or loss when the asset is derecognized or impaired. Interest income from these financial assets is included in 'finance income' using the effective interest rate method.
- **Fair value through other comprehensive income:** Assets that are held for collection of contractual cash flows and for selling the financial assets, where the assets' cash flows represent solely payments of principal and interest, are measured at fair value through other comprehensive income. Movements in the carrying amount are taken through other comprehensive income, except for the recognition of impairment loss (reversal of impairment loss), interest income and foreign exchange gains and losses which are recognized in profit or loss. When the financial asset is derecognized, the cumulative gain or loss previously recognized in other comprehensive income is reclassified from equity to profit or loss. Interest income from these financial assets is included in 'finance income' using the effective interest rate method. Foreign exchange gains and losses are presented in 'finance income or cost' and impairment losses are presented in 'finance cost'.
- **Fair value through profit or loss:** Assets that do not meet the criteria for amortized cost or fair value through other comprehensive income are measured at fair value through profit or loss. A gain or loss on a debt investment that is subsequently measured at fair value through profit or loss and is not part of a hedging relationship is recognized in profit or loss and presented net in the statement of profit or loss within 'finance income or cost' in the year in which it arises.

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2019 and 2018

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#### 2.4 Significant accounting policies (cont'd)

##### *B. Equity instruments*

The Group subsequently measures all equity investments at fair value. Where the Group's management has elected to present fair value gains and losses on equity investments, which held for long-term investment or strategic purpose, in other comprehensive income, there is no subsequent reclassification of fair value gains and losses to profit or loss following the derecognition of the investment. Dividend income from such investments continue to be recognized in profit or loss as 'finance income' when the right to receive payments is established.

Changes in the fair value of financial assets at fair value through profit or loss are recognized in 'finance income or cost' in the statement of profit or loss as applicable. Impairment loss (reversal of impairment loss) on equity investments measured at fair value through other comprehensive income are not reported separately from other changes in fair value.

##### *(iii) Impairment*

In respect of the impairment of financial assets, the Group accounts for expected credit losses at each reporting date, and changes in those expected credit losses to reflect changes in credit risk since initial recognition. That is, it is not necessary for a credit event to have occurred before credit losses are recognized.

The Group shall recognize expected credit losses as an allowance for bad debts on i) debt instruments subsequently measured at amortized cost or at fair value through other comprehensive income; ii) lease receivables; iii) contract assets; and iv) loan commitments and financial guarantee contracts under Korean IFRS 1109.

At each reporting date, the Group measures the loss allowance for a financial instrument at an amount equal to the lifetime expected credit losses if the credit risk on that financial instrument has increased significantly or the credit has been impaired upon the acquisition of assets since initial recognition. If, at the reporting date, the credit risk on a financial instrument has not increased significantly since initial recognition (except for financial assets whose credit has been impaired upon the acquisition), the Group measures the loss allowance for that financial instrument at an amount equal to 12-month expected credit losses.

Under Korean IFRS 1109, for trade receivables, contract assets and lease receivables that contain a significant financing component, the Group measures the loss allowance using the simplified approach at an amount equal to lifetime expected credit losses.

##### *-Trade receivables*

The Group applies the simplified approach to measure the loss allowance at an amount equal to lifetime expected credit losses for trade receivables.

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2019 and 2018

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#### 2.4 Significant accounting policies (cont'd)

##### - Debt investments

Debt investments at amortized cost and those at fair value through other comprehensive income are considered to be low risk, and thus the provision for impairment is determined as 12 months expected credit losses.

##### *(iv) Derecognition*

The Group derecognizes a financial asset only when the contractual rights to the cash flows from the asset expire or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another entity. If the Group neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the Group recognizes its retained interest in the asset and an associated liability for amounts it may have to pay. If the Group retains substantially all the risks and rewards of ownership of a transferred financial asset, the Group continues to recognize the financial asset and also recognizes a collateralized borrowing for the proceeds received.

##### *(t) Financial liabilities and equity instruments*

The Group classifies non-derivative financial liabilities into financial liabilities at fair value through profit or loss or other financial liabilities in accordance with the substance of the contractual arrangement and the definitions of financial liabilities. The Group recognizes financial liabilities in the consolidated statement of financial position when the Group becomes a party to the contractual provisions of the financial liability.

##### i) Financial liabilities at fair value through profit or loss

The Group requires the effect of changes in the credit risk on financial liabilities designated at fair value through profit or loss attributable to changes in the credit risk to be recognized in other comprehensive income, unless this treatment of the credit risk component creates or enlarges a measurement mismatch. Amounts presented in other comprehensive income are not subsequently transferred to profit or loss. When financial liabilities are derecognized, they are recognized as retained earnings.

##### ii) Other financial liabilities

At the date of initial recognition, other financial liabilities are measured at fair value minus transaction costs. Subsequent to initial recognition, other financial liabilities are measured at amortized cost using the effective interest method. The effective interest method is a method of calculating the amortized cost of a financial liability and of allocating the interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments through the expected life of the financial instrument or, when appropriate, a shorter period to the net carrying amount of the financial asset or financial liability at the date of initial recognition.

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2019 and 2018

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#### 2.4 Significant accounting policies (cont'd)

##### iii) Derecognition of financial liabilities

The Group derecognizes a financial liability from the consolidated statement of financial position when it is extinguished (i.e. when the obligation specified in the contract is discharged, cancelled or expires). The difference between carrying amount and consideration paid is recognized through profit or loss when derecognizing a financial liability.

##### (u) Derivative financial instruments

The Group entered into a variety of derivative financial instruments to manage its exposure to interest rate and foreign exchange rate risk, including foreign exchange forward contracts, interest swap and currency swap. Derivatives are initially recognized at fair value at the date the derivative contract is entered into and are subsequently remeasured to their fair value at the end of each reporting period. The resulting gain or loss is recognized in profit or loss immediately, unless the derivative is designated and effective as a hedging instrument, in which case, the timing of the recognition in profit or loss depends on the nature of the hedge relationship.

##### i) Embedded derivative

In case of which the embedded derivative instrument is not closely related to the economic characteristics and risks of the host contract and a separated instrument with the same terms as the embedded derivative meets the definition of a derivative, if a hybrid contract contains a host that is not an asset at fair value through profit or loss, an embedded derivative is accounted for separately from the host. Changes of an embedded derivative separated from the host are recognized in profit or loss.

##### ii) Hedge accounting

The Group holds forward exchange contracts, currency swaps and commodity future contracts to manage foreign exchange risk and commodity fair value risk. The Group designated derivative as hedging instruments to hedge the risk of changes in the fair value of assets, liabilities or firm commitments (a fair value hedge) and foreign currency risk of highly probable forecasted transactions or firm commitments (a cash flow hedge).

On initial designation of the hedge, the Group formally documents the relationship between the hedging instruments and hedged items, including the risk management objectives and strategy in undertaking the hedge transaction, together with the methods that will be used to assess the effectiveness of the hedging relationship.

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2019 and 2018

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#### 2.4 Significant accounting policies (cont'd)

##### iii) Fair value hedge

Changes in the fair value of a derivative hedging instrument designated as a fair value hedge are recognized in profit or loss. The gain or loss from remeasuring the hedging instrument at fair value for a derivative hedging instrument and the gain or loss on the hedged item attributable to the hedged risk are recognized in profit or loss in the same line item of the consolidated statement of comprehensive income. However, the Group elected to present the changes in the fair value as other comprehensive income at the date of initial recognition, the gain or loss from remeasuring the hedging instrument at fair value for a derivative hedging instrument and the gain or loss on the hedged item attributable to the hedged risk are recognized in other comprehensive income.

The Group discontinues fair value hedge accounting if the hedging instrument expires or is sold, terminated or exercised or even after considering re-adjustments, or if the hedge no longer meets the criteria for hedge accounting. Any adjustment arising from gain or loss on the hedged item attributable to the hedged risk is amortized to profit or loss from the date the hedge accounting is discontinued. If the hedge relationship no longer meets the requirements for hedge effectiveness related to the hedge ratio, but the objectives of risk management for the designated hedge relationship remain the same, the hedging ratio of the hedge relationship should be adjusted ('re-adjustments').

##### iv) Cash flow hedge

When a derivative is designated to hedge the variability in cash flows attributable to a particular risk associated with a recognized asset or liability or a highly probable forecasted transaction that could affect profit or loss, the effective portion of changes in the fair value of the derivative is recognized in other comprehensive income, and accumulated in the hedging reserve. Any ineffective portion of changes in the fair value of the derivative is recognized immediately in profit or loss and is recognized as 'finance income and cost' in the consolidated statement of comprehensive income.

Amounts previously recognized in other comprehensive income and accumulated in equity are reclassified to profit or loss in the periods when the hedged item is recognized in profit or loss, in the same line of the consolidated statement of comprehensive income as the recognized hedged item. However, when the forecast transaction that is hedged results in the recognition of a non-financial asset or a non-financial liability, the gains and losses previously accumulated in equity are transferred from equity and included in the initial measurement of the cost of the non-financial asset or non-financial liability.

If the hedging instrument no longer meets the criteria for hedge accounting, expires or is sold, terminated or exercised, then hedge accounting is discontinued prospectively. The cumulative gain or loss on the hedging instrument that has been recognized in other comprehensive income and accumulated in equity remains in equity. Any gains or losses is reclassified to profit or loss when the forecast transaction is ultimately recognized in profit or loss. If the forecasted transaction is no longer expected to occur, the gains or losses accumulated in equity is reclassified immediately to profit or loss.



# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2019 and 2018

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#### 2.4 Significant accounting policies (cont'd)

##### v) Hedges of net investments in foreign operations

Hedges of net investments in foreign operations are accounted for similarly to cash flow hedges. Any gains or losses on the hedging instrument relating to the effective portion of the hedge are recognized in foreign currency translation reserve in other comprehensive income. The gains or losses relating to the ineffective portion is recognized immediately in profit or loss, and is included in the 'finance income and costs'. When a foreign operation is disposed of, gains and losses on the hedging instrument relating to the effective portion of the hedge accumulated in the foreign currency translation reserve are reclassified to profit or loss.

##### vi) Other derivative

Changes in the fair value of a derivative that is not designated as a hedging instrument are recognized immediately in profit or loss.

#### *(v) Other accounting policies*

##### i) Discontinued operations

The Group classifies its business segment or subsidiary as discontinued operation when it disposes a separated line of business or a segment, meets the criteria for assets held for sale, or acquires a subsidiary for sole purpose of sale. The consolidated statements of comprehensive income should be restated as if the operations have been discontinued from the beginning of the comparative fiscal period.

##### ii) Cash and cash equivalents

Cash and cash equivalents comprise cash on hand, demand deposits, and short-term investments in highly liquid securities that are readily convertible to known amounts of cash with maturities of three months or less from the acquisition date and which are subject to an insignificant risk of changes in value. Equity investments are excluded from cash and cash equivalents unless they are, in substance, cash equivalents, for example in the case of preferred shares when it has a short maturity with a specified redemption date.

##### iii) Share capital

Common stock is classified as equity and the incremental costs arising directly attributable to the issuance of common stock less their tax effects are deducted from equity.

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2019 and 2018

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#### 2.4 Significant accounting policies (cont'd)

##### iv) Finance income and finance costs

The Group's finance income and finance costs include:

- interest income;
- interest expense;
- dividend income;
- the foreign currency gain or loss on financial assets and financial liabilities;
- the net gain or loss on financial assets measured at fair value through profit or loss;
- hedge ineffectiveness recognized in profit or loss; and
- the net gain or loss on the disposal of investments in debt securities measured at fair value through other comprehensive income.

Interest income or expense is recognized using the effective interest method. Dividend income is recognized in profit or loss on the date on which the Group's right to receive payment is established. The 'effective interest rate' is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument to:

- the gross carrying amount of the financial asset; or
- the amortized cost of the financial liability.

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

### 3. Critical Accounting Estimates and Assumptions

The preparation of consolidated financial statements requires the Group to make estimates and assumptions concerning the future. Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. The resulting accounting estimates will, by definition, seldom equal the related actual results. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities after the end of the reporting period are discussed below.

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2019 and 2018

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#### 3. Critical Accounting Estimates and Assumptions (cont'd)

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

##### *(a) Estimated goodwill impairment*

The Group assesses annually whether there is any indication of impairment in accordance with the accounting policy stated in Note 2.4 (e). The recoverable amounts of cash-generating units have been determined based on value-in-use calculations. These calculations require the use of estimates.

##### *(b) Impairment of non-financial assets*

The Group assesses whether there is any indication of impairment at the end of the reporting period in accordance with the accounting policy stated in Note 2.4 (p). If any such indication exists, then the asset's recoverable amount is estimated to determine the impairment amount. The recoverable amounts of cash-generating units have been determined based on value-in-use calculations. These calculations require the use of estimates.

##### *(c) Income taxes*

The Group is operating in numerous countries and the income generated from these operations is subject to income taxes based on tax laws and interpretations of tax authorities in numerous jurisdictions. Judgement is required as there are many transactions and calculations for which the ultimate tax determination is uncertain. The Group recognizes assets and liabilities for anticipated tax audit issues based on the best estimates of whether additional taxes will be due as a result of operation activities up to present. Where the final tax outcome of these matters is different from the amounts that were initially recorded, such differences will impact the current and deferred income tax assets and liabilities in the period in which such determination is made.

##### *(d) Fair value of financial instruments*

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

##### *(e) Provisions*

As of December 31, 2019, the Group recognizes provisions for estimated restoration costs of mining as explained in Note 2.4 (r). These provisions are estimated based on past experience. Based on the annual management performance, the Ministry of Strategy and Finance conducts an institutional evaluation. Performance incentives are reasonably estimated and presented as provisions for employee benefits.

**Korea National Oil Corporation and its subsidiaries**  
**Notes to the consolidated financial statements**  
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**3. Critical Accounting Estimates and Assumptions (cont'd)**

*(f) Defined benefit obligations*

The present value of the defined benefit obligations depends on a number of factors that are determined on an actuarial basis using a number of assumptions. The assumptions used in determining the net cost (income) for pensions include the discount rate. Any changes in these assumptions will impact the carrying amount of the defined benefit obligations. The Group determines the appropriate discount rate at the end of each year. This is the interest rate that is used to determine the present value of estimated future cash outflows expected to be required to settle the defined benefit obligations. In determining the appropriate discount rate, the Group considers the interest rates of high-quality corporate bonds that are denominated in the currency in which the pension benefits will be paid, and that have terms to maturity approximating to the terms of the related pension liability. Other key assumptions for defined benefit liability are based in part on current market conditions. Additional information is disclosed in Note 24.

*(g) Management's judgment*

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

Note 1: Reporting Entity– whether the Group has de facto control

Note 15: Investments in Associates and Joint Ventures – classification of a joint arrangement

*(h) Assumptions and estimation uncertainties*

Information about assumptions and estimation uncertainties that have a significant risk of resulting in a material adjustment within the next financial year are included in the following notes:

Note 15: Investments in Associates and Joint Ventures – main assumptions for recoverable amounts

Note 16: Property, Plant and Equipment – estimation of factors for depreciation and recoverable amount

Note 17: Intangible assets – main assumptions for recoverable amounts

Note 18: Intangible assets other than goodwill – estimation of factors for depreciation and recoverable amounts

Note 24: Employee Benefits – main actuarial assumptions

Note 25 and 47: Provisions and Contingencies – assumptions for possibility of cash outflows and their amounts

Note 39: Income tax expense (benefit) – possibility of realization of deferred tax assets

**Korea National Oil Corporation and its subsidiaries**  
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**4. Segment and Other Information**

For management purposes, the Group is organized into business units based on their goods and services. The Group's operating segments are 1) oil and gas, 2) petroleum distribution, 3) oil stockpiling, 4) drillship chartering and 5) others.

Segments	Goods and services	Location of business
Oil and gas	Exploration, development and production of domestic and overseas resources and sales of crude oil	Domestic and overseas
Petroleum distribution	Distribution business of gasoline and gas oil and oil trading	Domestic and overseas
Oil stockpiling	Trading of crude oil and petroleum product, lending and sales of oil stockpiles, management, operation and lending of oil stockpiling facilities	Domestic
Drillship chartering <sup>1</sup>	Drillship chartering business	Domestic and overseas
Others	Oil information services, other research services, etc.	Domestic and overseas

<sup>1</sup> Drillship chartering segments have been classified as discontinued operations during the year ended December 31, 2018.

(a) Segment results for the year ended December 31, 2019

(in Korean won)

	2019						
	Oil and gas	Petroleum distribution	Oil stockpiling	Others	Reportable segment total	Reconciling items <sup>1</sup>	Group total
Revenue	₩ 2,662,815,845,497	₩ 60,894,664,988	₩ 199,546,442,627	₩ 6,736,006,488	₩ 2,929,992,959,600	₩ -	₩ 2,929,992,959,600
Cost of sales	1,801,810,225,004	70,903,269,672	177,440,324,744	2,259,251,733	2,052,413,071,153	-	2,052,413,071,153
Gross profit	861,005,620,493	(10,008,604,684)	22,106,117,883	4,476,754,755	877,579,888,447	-	877,579,888,447
Selling and administrative expenses	236,226,246,615	364,198,693	-	-	236,590,445,308	69,519,995,626	306,110,440,934
Reportable segment operating profit (loss)	624,779,373,878	(10,372,803,377)	22,106,117,883	4,476,754,755	640,989,443,139	(69,519,995,626)	571,469,447,513
Other income	-	-	-	-	93,597,344,082	-	93,597,344,082
Other expenses	-	-	-	-	8,259,254,071	-	8,259,254,071
Other loss, net	-	-	-	-	(2,095,013,255)	-	(2,095,013,255)
Finance income	-	-	-	-	402,068,273,215	-	402,068,273,215
Finance costs	-	-	-	-	(731,432,586,748)	-	(731,432,586,748)
Loss on investments in associates and joint ventures, net	-	-	-	-	53,712,409,399	-	53,712,409,399
Profit (loss) before income tax	₩ -	₩ -	₩ -	₩ -	₩ 448,580,615,761	₩ (69,519,995,626)	₩ 379,060,620,135
Depreciation and amortization of intangible assets other than goodwill	₩ 933,639,067,189	₩ 9,399,809,655	₩ 91,971,649,480	₩ 11,402,911,595	₩ 1,046,413,437,919	₩ -	₩ 1,046,413,437,919
Impairment losses on property, plant and equipment	176,250,820,929	-	-	-	176,250,820,929	-	176,250,820,929
Reversal of impairment losses on property, plant and equipment	25,224,458,258	-	-	-	25,224,458,258	-	25,224,458,258
Impairment losses on intangible assets other than goodwill	18,106,642,179	-	-	-	18,106,642,179	-	18,106,642,179
Reversal of impairment losses on intangible assets other than goodwill	53,230,301,443	-	-	-	53,230,301,443	-	53,230,301,443

<sup>1</sup> Primarily consists of operating profit (loss) including depreciation and amortization of intangible assets other than goodwill that are not allocated to the segments.

**Korea National Oil Corporation and its subsidiaries**  
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**4. Segment and Other Information (cont'd)**

(b) Segment results for the year ended December 31, 2018

	2018							
	Oil and gas	Petroleum distribution	Oil stockpiling	Others	Reportable Segment total	Reconciling items <sup>1</sup>	Drillship chartering (Discontinued)	Group total
Revenue	₩ 2,924,847,664,831	₩ 41,723,075,959	₩ 178,326,799,795	₩ 4,367,725,705	₩ 3,149,265,266,290	₩ -	₩ -	₩ 3,149,265,266,290
Cost of sales	1,958,193,645,082	35,995,351,605	175,625,591,628	2,118,265,937	2,171,932,854,252	-	1,514,633,666	2,173,447,487,918
Gross profit (loss)	966,654,019,749	5,727,724,354	2,701,208,167	2,249,459,768	977,332,412,038	-	(1,514,633,666)	975,817,778,372
Selling and administrative expenses	361,146,278,423	339,848,748	-	-	361,486,127,171	72,485,460,500	-	433,971,587,671
Reportable segment operating profit (loss)	605,507,741,326	5,387,875,606	2,701,208,167	2,249,459,768	615,846,284,867	(72,485,460,500)	(1,514,633,666)	541,846,190,701
Other income	-	-	-	-	76,488,772,599	-	-	76,488,772,599
Other expenses	-	-	-	-	37,791,273,655	-	-	37,791,273,655
Other gain (loss), net	-	-	-	-	(849,323,244,196)	-	2,368,843,440	(846,954,400,756)
Finance income	-	-	-	-	231,241,417,396	-	-	231,241,417,396
Finance costs	-	-	-	-	783,490,645,306	-	-	783,490,645,306
Loss on investments in associates and joint ventures, net	-	-	-	-	(112,547,149,313)	-	-	(112,547,149,313)
Profit (loss) before income tax	₩ -	₩ -	₩ -	₩ -	₩ (859,575,837,608)	₩ (72,485,460,500)	₩ 854,209,774	₩ (931,207,088,334)
Depreciation and amortization of other than goodwill	₩ 1,046,994,244,397	₩ 7,443,893	₩ 75,268,676,326	₩ 9,351,406	₩ 1,122,279,716,022	₩ 12,708,178,515	₩ 1,479,188	₩ 1,134,989,373,725
Impairment losses on property, plant and equipment	272,828,899,217	-	-	-	272,828,899,217	-	-	272,828,899,217
Reversal of impairment losses on property, plant and equipment	23,146,479,941	-	-	-	23,146,479,941	-	-	23,146,479,941
Impairment losses on intangible assets other than goodwill	609,346,912,576	-	-	-	609,346,912,576	-	-	609,346,912,576

<sup>1</sup> Primarily consists of operating profit (loss) including depreciation and amortization that are not allocated to the segments.

**Korea National Oil Corporation and its subsidiaries**  
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**4. Segment and Other Information (cont'd)**

Revenue by geographic area for the years ended December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<b>2019</b>		<b>2018</b>	
Domestic	₩	598,411,295,978	₩	592,869,854,421
Canada		310,288,485,225		242,824,429,913
United Kingdom		1,277,072,045,730		1,490,812,820,612
United States		465,981,626,484		573,464,579,902
Kazakhstan		278,100,479,141		249,293,581,442
Others		139,027,042		-
	₩	<u>2,929,992,959,600</u>	₩	<u>3,149,265,266,290</u>

In presenting information about geographical areas, segment revenue is based on the geographical location of the Group's entities which recorded the related revenue.

Customers whose revenue is 10% or more of consolidated revenue for the year ended December 31, 2019 are BP P.L.C. and Shell Co. (2018: BP P.L.C. and Shell Co.) amounting to ₩ 371,225 million and ₩ 530,883 million (2018: ₩ 522,857 million and ₩ 567,294 million, respectively), respectively. Furthermore, revenues from these customers for the year ended December 31, 2019, are related to oil and gas segment (2018: oil and gas segment).

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**Notes to the consolidated financial statements**  
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**5. Cash and Cash Equivalents**

Cash and cash equivalents in the consolidated statements of cash flows include cash and bank deposit and exclude government grants. Cash and cash equivalents in the consolidated statements of cash flows for the years ended December 31, 2019 and 2018 are comprised of the following items in the consolidated statements of financial position.

<i>(in Korean won)</i>	<b>2019</b>	<b>2018</b>
Cash in hands	₩ 484,172,474	₩ 88,273,347
Other on demand deposits	221,102,996,815	276,719,728,000
Short-term deposits classified as cash equivalents	255,017,200,894	202,523,409,038
Short-term investments classified as cash equivalents	248,463,141,625	298,866,448,534
Government grants	(11,100,917)	(77,710,041)
	<u>₩ 725,056,410,891</u>	<u>₩ 778,120,148,878</u>

**6. Restricted Cash and Cash Equivalents**

Details of restricted cash and cash equivalents and financial assets provided as collateral for liabilities or contingent liabilities as of December 31, 2019 and 2018, are as follows. There are no restricted cash and cash equivalents as of December 31, 2019.

<i>(in Korean won)</i>	<b>2019</b>	<b>2018</b>
<b>Long-term financial instruments</b>		
Asset retirement obligation	₩ 2,704,540,912	₩ 2,490,937,539
Deposits for foreign workers	-	2,505,629
	<u>₩ 2,704,540,912</u>	<u>₩ 2,493,443,168</u>



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**7. Financial Assets Measured at Fair Value through Profit or Loss And Derivative Instruments**

Details of financial assets measured at fair value through profit or loss as of December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<b>2019</b>				<b>2018</b>			
	<b>Current</b>		<b>Non-current<sup>1</sup></b>		<b>Current</b>		<b>Non-current<sup>1</sup></b>	
Debt securities	₩	268,670,204,196	₩	1,495,749,044,152	₩	-	₩	534,982,771,949
	₩	268,670,204,196	₩	1,495,749,044,152	₩	-	₩	534,982,771,949

<sup>1</sup> Includes loans classified as financial assets measured at fair value through profit or loss.

The amounts recognized in profit or loss in relation to financial assets measured at fair value through profit or loss for the years ended December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<b>2019</b>		<b>2018</b>	
Gain on valuation of financial asset measured at fair value through profit or loss	₩	167,773,467,775	₩	87,037,043,388
Loss on valuation of financial asset measured at fair value through profit or loss		(82,191,492,544)		(5,058,940,998)
Gain on transaction of financial asset measured at fair value through profit or loss		2,072,434,884		-
	₩	87,654,410,115	₩	81,978,102,390

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

<i>(in Korean won)</i>	<b>2019</b>				<b>2018</b>			
	<b>Current</b>		<b>Non-current</b>		<b>Current</b>		<b>Non-current</b>	
<b>Derivative assets</b>								
Currency forwards	₩	17,253,809,664	₩	9,634,659,643	₩	-	₩	-
Currency swap		5,208,863,958		8,643,513,255		5,520,012,567		20,405,018,540
Interest swap		161,161,777		-		-		6,014,151,165
Other derivatives <sup>1</sup>		18,092,980,877		18,608,341,061		65,292,288,539		35,968,421,687
	₩	40,716,816,276	₩	36,886,513,959	₩	70,812,301,106	₩	62,387,591,392
<b>Derivative liabilities</b>								
Currency forwards	₩	-	₩	-	₩	233,258,134	₩	-
Currency swap		226,707,484		72,262,073,819		67,766,305,742		40,266,383,049
Interest swap		7,378,119,697		18,829,527,657		5,954,068,093		5,160,880,272
Other derivatives		3,888,054,732		90,948,685		3,290,569		122,316,785
	₩	11,492,881,913	₩	91,182,550,161	₩	73,956,922,538	₩	45,549,580,106

<sup>1</sup> The Group holds right to purchase shares of Korea GS E&P Pte. Ltd. and, accordingly, recognized non-current derivative assets amounting to ₩ 17,172 million (Note 47).

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**7. Financial Assets Measured at Fair Value through Profit or Loss And Derivative Instruments (cont'd)**

Details of currency swap contracts as of December 31, 2019, are as follows:

(in Korean won, foreign currencies)

Type	Counter party	Maturity	Contract amount		Contract interest rate per annum (%)	
			Sell	Buy	Sell	Buy
Cash flow hedge	HSBC	2021-02-08	HKD 500,000,000	USD 64,184,852	4.38	5.03
	BNP PARIBAS	2021-03-04	HKD 390,000,000	USD 50,080,900	4.50	5.20
	HSBC	2022-02-10	HKD 390,000,000	USD 50,281,707	3.95	4.45
	BNP PARIBAS	2022-03-28	EUR 50,000,000	USD 65,075,000	4.00	4.55
	HSBC	2023-01-24	HKD 400,000,000	USD 51,599,587	2.85	3.17
	Development Bank of Singapore	2023-02-04	EUR 37,000,000	USD 49,765,000	2.40	3.19
	HSBC	2025-06-24	EUR 60,000,000	USD 80,070,000	3.00	4.06
	HSBC	2023-07-03	EUR 50,000,000	USD 65,670,000	3.09	4.31
	Standard Chartered	2020-01-29	HKD 310,000,000	USD 39,984,522	2.18	2.42
	HSBC	2020-08-26	KRW 150,000,000,000	USD 125,565,043	2.03	2.41
	Development Bank of Singapore	2021-01-30	SGD 400,000,000	USD 305,950,741	1.86	2.64
	BNP PARIBAS	2023-06-01	CHF 200,000,000	USD 199,976,003	0.37	3.69
	Korea Development Bank	2023-06-01	CHF 200,000,000	USD 199,976,003	0.37	3.69
	Standard Chartered	2023-06-01	CHF 100,000,000	USD 99,988,001	0.37	3.68
	CREDIT AGRICOLE	2022-01-22	JPY 30,000,000,000	USD 276,586,917	0.24	3.37
	MIZUHO	2022-01-22	JPY 20,000,000,000	USD 184,391,278	0.24	3.39
	BNP PARIBAS	2022-01-22	JPY 20,000,000,000	USD 184,391,278	0.24	3.39
	BNP PARIBAS	2024-10-04	CHF 200,000,000	USD 201,940,000	0.00	2.55
	Korea Development Bank	2024-10-04	CHF 100,000,000	USD 100,970,000	0.00	2.55

Details of interest rate swap contracts as of December 31, 2019, are as follows:

(in USD and CAD)

Type	Counterparty	Terms	Contract amount	Contract interest rate per annum(%)	
				Sell	Buy
Cash flow hedge	Bank of America	2020-03-27	USD 500,000,000	3ML+0.6	2.46
	Societe Generale	2023-07-16	USD 400,000,000	3ML+0.9	3.70
	HSBC	2023-05-11	CAD 300,000,000	1.95	2.82

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**7. Financial Assets Measured at Fair Value through Profit or Loss And Derivative Instruments (cont'd)**

Details of the currency forward contracts as of December 31, 2019, are as follows:

(in USD, GBP and, Korean won)

Type	Counter party	Contract date	Maturity	Contract amount		Contract currency rate <sup>1</sup>
				Sell	Buy	
Cash flow hedge	BNP PARIBAS	2019-07-09	2020-01-08	USD 7,546,200	GBP 6,000,000	1.2577
	WELLS FARGO	2019-05-30	2020-01-15	USD 1,273,400	GBP 1,000,000	1.2734
	DNB	2019-06-18	2020-01-15	USD 10,112,800	GBP 8,000,000	1.2641
	ING	2019-08-08	2020-02-07	USD 3,672,600	GBP 3,000,000	1.2242
	BNP PARIBAS	2019-09-03	2020-02-07	USD 1,212,100	GBP 1,000,000	1.2121
	WELLS FARGO	2019-05-30	2020-02-14	USD 16,575,000	GBP 13,000,000	1.2750
	DNB	2019-08-08	2020-03-06	USD 1,226,400	GBP 1,000,000	1.2264
	ING	2019-05-31	2020-03-12	USD 12,742,000	GBP 10,000,000	1.2742
	DNB	2019-06-18	2020-03-16	USD 3,799,350	GBP 3,000,000	1.2665
	DNB	2019-07-09	2020-03-16	USD 1,261,000	GBP 1,000,000	1.2610
	Royal Bank of Scotland	2019-09-03	2020-03-19	USD 4,853,200	GBP 4,000,000	1.2133
	CIBC	2019-07-09	2020-04-08	USD 3,786,000	GBP 3,000,000	1.2620
	WELLS FARGO	2019-05-22	2020-04-15	USD 7,708,200	GBP 6,000,000	1.2847
	COMMONWEALTH BANK OF AUSTRALIA	2019-05-31	2020-04-15	USD 3,824,700	GBP 3,000,000	1.2749
	WELLS FARGO	2019-09-03	2020-04-23	USD 1,212,900	GBP 1,000,000	1.2129
	COMMONWEALTH BANK OF AUSTRALIA	2019-10-15	2020-04-23	USD 6,371,000	GBP 5,000,000	1.2742
	Royal Bank of Scotland	2019-08-08	2020-05-07	USD 3,682,800	GBP 3,000,000	1.2276
	WELLS FARGO	2019-05-23	2020-05-14	USD 8,976,800	GBP 7,000,000	1.2824
	COMMONWEALTH BANK OF AUSTRALIA	2019-06-18	2020-05-14	USD 3,807,000	GBP 3,000,000	1.2690
	WELLS FARGO	2019-06-18	2020-05-21	USD 1,213,600	GBP 1,000,000	1.2136
	Royal Bank of Scotland	2019-10-15	2020-05-21	USD 3,819,300	GBP 3,000,000	1.2731
	Royal Bank of Scotland	2019-06-18	2020-06-08	USD 8,887,900	GBP 7,000,000	1.2697
	ABN AMRO	2019-06-18	2020-06-15	USD 8,886,500	GBP 7,000,000	1.2695
	ABN AMRO	2019-09-03	2020-06-19	USD 4,860,400	GBP 4,000,000	1.2151
	ABN AMRO	2019-10-15	2020-06-23	USD 2,548,600	GBP 2,000,000	1.2743
	ING	2019-07-09	2020-07-08	USD 7,593,000	GBP 6,000,000	1.2655
	WELLS FARGO	2019-07-09	2020-07-15	USD 8,862,875	GBP 7,000,000	1.2661
	DNB	2019-08-08	2020-07-17	USD 2,462,600	GBP 2,000,000	1.2313
	CREDIT AGRICOLE	2019-10-15	2020-07-17	USD 5,100,000	GBP 4,000,000	1.2750
	COMMONWEALTH BANK OF AUSTRALIA	2019-08-08	2020-08-07	USD 9,847,200	GBP 8,000,000	1.2309
CIBC	2019-08-08	2020-08-14	USD 8,619,100	GBP 7,000,000	1.2313	
BNP PARIBAS	2019-09-03	2020-09-03	USD 7,319,400	GBP 6,000,000	1.2199	
ING	2019-09-03	2020-09-10	USD 8,528,100	GBP 7,000,000	1.2183	
WELLS FARGO	2019-09-03	2020-09-17	USD 7,317,300	GBP 6,000,000	1.2196	
Fair value hedge	Standard Chartered	2019-08-05	2021-11-23	USD 96,250,000	KRW 113,151,500,000	0.0009
	Bank of America	2019-08-05	2021-11-23	USD 96,250,000	KRW 113,151,500,000	0.0009
	Standard Chartered	2019-08-14	2021-11-23	USD 38,500,000	KRW 45,645,600,000	0.0008

<sup>1</sup> The contract currency rate is presented in USD and the contract currency rate is applied to the buy contract amount.

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**7. Financial Assets Measured at Fair Value through Profit or Loss And Derivative Instruments (cont'd)**

Details of other derivatives (crude oil swaps) as of December 31, 2019, are as follows:

(in BBL, MBTU, US dollar)

Type	Counterparty	Terms	Contract amount	Exercise price
Held for trading	BNP PARIBAS	2020-03-31	67,000	59.47
	BNP PARIBAS	2020-06-30	33,000	59.47
	Societe Generale	2020-06-30	33,000	57.13
	Societe Generale	2020-09-30	33,000	57.13
	Societe Generale	2020-12-31	32,000	57.13
	Standard Chartered	2020-07-14	9,000	59.50
	Standard Chartered	2020-07-14	35,000	59.50
Cash flow hedge	Citi	2020-09-30	17,000	57.14
	Citi	2020-12-31	16,000	57.14
	BNP PARIBAS	2020-03-31	135,000	65.15
	BNP PARIBAS	2020-03-31	135,000	65.20
	BNP PARIBAS	2020-03-31	106,817	65.06

Details of other derivatives (zero cost collar options) as of December 31, 2019, are as follows:

(in BBL, MBTU, US dollar)

Type	Counterparty	Terms	Contract amount	Exercise Price	
				Call	Put
Held for trading	Goldman Sachs	2020-06-30	36,000	65.50	54.00
	Goldman Sachs	2020-09-30	35,000	65.50	54.00
	Goldman Sachs	2020-12-31	36,000	65.50	54.00
	BNP PARIBAS	2020-03-31	35,000	64.00	54.00
	Citi	2021-03-31	34,000	65.17	56.00
	Citi	2021-06-30	34,000	65.17	56.00
	Goldman Sachs	2020-03-31	22,000	64.30	54.00
	BNP PARIBAS	2020-03-31	27,000	72.00	59.00
	BNP PARIBAS	2020-06-30	23,000	65.10	54.00
	BNP PARIBAS	2020-09-30	22,000	65.10	54.00
Cash flow hedge	BNP PARIBAS	2020-12-31	23,000	65.10	54.00
	BNP PARIBAS	2021-03-31	21,000	65.03	56.00
	BNP PARIBAS	2021-06-30	21,000	65.03	56.00
	Standard Chartered	2020-03-31	81,000	60.60	59.50
	Standard Chartered	2020-06-30	11,000	61.15	58.80
	Goldman Sachs	2020-03-31	17,000	69.90	60.00
	Goldman Sachs	2020-06-30	11,000	68.25	60.00

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**7. Financial Assets Measured at Fair Value through Profit or Loss And Derivative Instruments**  
**(cont'd)**

*(in BBL, MBTU, US dollar)*

Type	Counterparty	Terms	Contract amount	Exercise Price	
				Call	Put
Cash flow hedge	Goldman Sachs	2020-09-30	6,000	66.60	60.00
	Goldman Sachs	2020-03-31	12,000	63.00	58.80
	Goldman Sachs	2020-09-30	11,000	59.40	58.80
	Standard Chartered	2020-09-30	14,000	59.25	58.00
	Standard Chartered	2021-03-31	21,000	57.25	57.00
	Standard Chartered	2020-03-31	7,000	55.25	50.00
	Standard Chartered	2020-09-30	35,000	51.20	50.00
	Standard Chartered	2020-03-31	116,000	70.50	60.00
	Goldman Sachs	2020-06-30	77,000	68.85	60.00
	Goldman Sachs	2020-06-30	29,000	52.85	57.50
	Societe Generale	2020-09-30	35,000	58.30	57.50
	Societe Generale	2020-09-30	39,000	66.91	60.00
	COMMONWEALTH BANK OF AUSTRALIA	2020-09-30	280,000	84.50	65.00
	BNP PARIBAS	2020-09-30	280,000	88.30	65.00
BNP PARIBAS	2020-09-30	298,212	91.90	65.00	
BNP PARIBAS	2020-06-30	125,300	65.89	56.00	

Details of other derivative (right to purchase shares) as of December 31, 2019, are as follows:

*(in Korean won)*

Type	Counterparty	Maturity	Transaction details	Excercise price	Valuation price
Right to purchase shares	Korea GS E&P Pte. Ltd.	2020-02-27	30% shares	In accordance with exercise price clause	₩17,172,238,357

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**7. Financial Assets Measured at Fair Value through Profit or Loss And Derivative Instruments (cont'd)**

Gains and losses on valuation and transaction of derivative for the years ended December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	Gains on valuation of derivative instruments		Gains (losses) on transaction of derivative instruments		Gains (losses) on valuation of derivative instruments (other comprehensive income (loss)) <sup>1</sup>	
	2019	2018	2019	2018	2019	2018
Currency forwards	₩ -	₩ -	₩ -	₩ (2,738,401,289)	₩ -	₩ (2,723,935,575)
Currency swaps	-	4,354,445,359	11,338,703,001	3,333,260,527	(44,400,266,517)	(4,666,323,912)
Interest rate swaps	-	-	-	-	(15,742,866,666)	(8,492,670,637)
Other derivatives	16,111,435,699	18,863,997,866	-	(167,137,771)	(50,512,168,189)	115,239,485,378
	₩ 16,111,435,699	₩ 23,218,443,225	₩ 11,338,703,001	₩ 427,721,467	₩ (110,655,301,372)	₩ 99,356,555,254

<sup>1</sup> Changes in accumulated other comprehensive income (loss) are net of tax effect amounting to (+) ₩ 30,093 million and (-) ₩ 36,199 million for the years ended December 31, 2019 and 2018, respectively.

**8. Trade and Other Receivables**

Details of trade and other receivables as of December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	2019			
	Gross amounts	Allowance for doubtful accounts	Present value discount	Book value
<b>Current</b>				
Trade receivables	₩ 223,306,827,341	₩ (9,732,663,082)	₩ -	₩ 213,574,164,259
Other receivables	210,877,607,930	-	-	210,877,607,930
Accrued income	1,002,741,230	(375,601,898)	-	627,139,332
Finance lease receivables	7,566,303,154	-	(367,497,900)	7,198,805,254
Other current receivables	52,396,900,254	-	-	52,396,900,254
	₩ 495,150,379,909	₩ (10,108,264,980)	₩ (367,497,900)	₩ 484,674,617,029
<b>Non-current</b>				
Other receivables	1,827,674,448	-	-	1,827,674,448
Accrued income	7,121,330,581	(7,121,330,581)	-	-
Deposit received	50,111,179,032	-	(17,680,017,054)	32,431,161,978
Finance lease receivables	11,054,185,658	-	(1,150,195,593)	9,903,990,065
	₩ 70,114,369,719	₩ (7,121,330,581)	₩ (18,830,212,647)	₩ 44,162,826,491
	₩ 565,264,749,628	₩ (17,229,595,561)	₩ (19,197,710,547)	₩ 528,837,443,520

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**8. Trade and Other Receivables (cont'd)**

(in Korean won)

	2018			Book value
	Gross amounts	Allowance for doubtful accounts	Present value discount	
<b>Current</b>				
Trade receivables	₩ 210,640,916,830	₩ (8,927,800,430)	₩ -	₩ 201,713,116,400
Other receivables	199,614,558,613	-	-	199,614,558,613
Accrued income	4,263,186,316	(343,108,216)	-	3,920,078,100
Other current receivables	38,861,753,957	-	-	38,861,753,957
	<u>453,380,415,716</u>	<u>(9,270,908,646)</u>	<u>-</u>	<u>444,109,507,070</u>
<b>Non-current</b>				
Other receivables	2,607,995,084	-	-	2,607,995,084
Accrued income	4,955,949,179	(4,955,949,179)	-	-
Deposit received	49,089,306,157	-	(17,861,187,961)	31,228,118,196
	<u>56,653,250,420</u>	<u>(4,955,949,179)</u>	<u>(17,861,187,961)</u>	<u>33,836,113,280</u>
	<u>₩ 510,033,666,136</u>	<u>₩ (14,226,857,825)</u>	<u>₩ (17,861,187,961)</u>	<u>₩ 477,945,620,350</u>

Details of other current receivables as of December 31, 2019 and 2018, are as follows:

(in Korean won)

	2019	
	Gross amounts	Book value
Prepaid value added tax	₩ 24,477,691,765	₩ 24,477,691,765
Overseas prepaid value added tax	531,634,089	531,634,089
Due from financial institutions	436,623,643	436,623,643
Other current assets	26,950,950,757	26,950,950,757
	<u>₩ 52,396,900,254</u>	<u>₩ 52,396,900,254</u>

(in Korean won)

	2018	
	Gross amounts	Book value
Prepaid value added tax	₩ 5,495,780,036	₩ 5,495,780,036
Overseas prepaid value added tax	6,224,612,380	6,224,612,380
Due from financial institutions	745,762,928	745,762,928
Other current assets	26,395,598,613	26,395,598,613
	<u>₩ 38,861,753,957</u>	<u>₩ 38,861,753,957</u>

The trade and other receivables include those receivables without allowance provision as they are considered collectible, including accrued interest on the receivables and have no significant changes in their credit rating as of December 31, 2019. Above trade and other receivables are classified as loans and receivables and measured at amortized cost. If objective evidence of impairment for a portfolio of receivables has occurred but no loss has been realized, based on the Group's past experience of collecting payments as well as observable changes in national or local economic conditions that correlate with default on receivables, an allowance account is recognized. The Group has no right to offset against any related liabilities with the counterparties.

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**8. Trade and Other Receivables (cont'd)**

The aging analysis of trade receivables as of December 31, 2019 and 2018, is as follows:

<i>(in Korean won)</i>	<b>2019</b>		<b>2018</b>	
Receivables not past due and impaired	₩	156,698,004,965	₩	160,478,979,017
Past due but not impaired		56,876,159,294		41,234,137,383
- Up to 2 months		8,787,511,906		8,457,941,007
- 2 to 3 months		2,422,497,266		1,927,866,908
- 3 to 4 months		2,967,311,807		2,053,339,128
- 4 to 12 months		38,489,304,606		21,686,379,611
-Over 12 months		4,209,533,709		7,108,610,729
Impaired		9,732,663,082		8,927,800,430
- 2 to 3 months		6,450,366,088		5,423,586,980
- 4 to 12 months		3,282,296,994		-
-Over 12 months		-		3,504,213,450
		<u>223,306,827,341</u>		<u>210,640,916,830</u>
Less: allowance for doubtful accounts		<u>(9,732,663,082)</u>		<u>(8,927,800,430)</u>
	₩	<u>213,574,164,259</u>	₩	<u>201,713,116,400</u>

The aging analysis of other receivables as of December 31, 2019 and 2018, is as follows:

<i>(in Korean won)</i>	<b>2019</b>		<b>2018</b>	
Receivables not past due and impaired	₩	331,001,476,901	₩	290,635,663,583
Past due but not impaired		3,459,512,907		3,458,028,328
- Up to 2 months		397,014,344		26,359,890
- 2 to 3 months		-		108,585,959
- 3 to 4 months		19,353,403		9,258,013
- 4 to 12 months		70,122,335		26,480,913
-Over 12 months		2,973,022,825		3,287,343,553
Impaired		7,496,932,479		4,955,949,179
- Up to 2 months		476,100,517		-
- 2 to 3 months		247,598,174		-
- 3 to 4 months		253,380,273		-
- 4 to 12 months		2,188,000,433		661,538,611
-Over 12 months		4,331,853,082		4,294,410,568
		<u>341,957,922,287</u>		<u>299,049,641,090</u>
Less: allowance for doubtful accounts		<u>(7,496,932,479)</u>		<u>(4,955,949,179)</u>
Less: present value discounts		<u>(19,197,710,547)</u>		<u>(17,861,187,961)</u>
	₩	<u>315,263,279,261</u>	₩	<u>276,232,503,950</u>



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**8. Trade and Other Receivables (cont'd)**

Movements in the allowance for doubtful accounts of trade and other receivables for the years ended December 31, 2019 and 2018, are as follows:

(in Korean won)

	2019		2018	
	Trade receivables	Other receivables	Trade receivables	Other receivables
Beginning balance	₩ 8,927,800,430	₩ 5,299,057,395	₩ 8,229,242,966	₩ 11,152,760
Amount recognized in profit or loss	-	3,186,538,955	950,870,942	(185,702,462)
Write-off	-	-	(97,605,809)	(11,453,595)
Reversal	-	(3,495,036,527)	-	(8,356,085,894)
Others <sup>1</sup>	804,862,652	2,506,372,656	(154,707,669)	13,841,146,586
Ending balance	<u>₩ 9,732,663,082</u>	<u>₩ 7,496,932,479</u>	<u>₩ 8,927,800,430</u>	<u>₩ 5,299,057,395</u>

<sup>1</sup> Include the effect of changes in exchange rates.

**9. Financial Assets Measured at Fair Value Through Other Comprehensive Income**

Movements in the financial assets at fair value through other comprehensive income for the years ended December 31, 2019 and 2018, are as follows:

(in Korean won)

	2019			
	Beginning balance	Valuation <sup>1,2</sup>	Others <sup>3</sup>	Ending balance
<b>Marketable</b>	₩ 24,479,355,138	₩ (25,396,444,728)	₩ 1,040,211,049	₩ 123,121,459
<b>Non-marketable</b>	7,740,142,479	(1,691,045,371)	286,215,048	6,335,312,156
	<u>₩ 32,219,497,617</u>	<u>₩ (27,087,490,099)</u>	<u>₩ 1,326,426,097</u>	<u>₩ 6,458,433,615</u>

<sup>1</sup> The Group recognized valuation losses on EP Energy and Troika Resource Investment PEF to ₩ 25,396 million and ₩ 1,691 million, respectively, for the year ended December 31, 2019.

<sup>2</sup> Related income tax effect is not recognized for the year ended December 31, 2019 due to unrecognized deferred tax asset as the amount is not expected to be realized in a foreseeable future.

<sup>3</sup> Include other changes and the effect of changes in exchange rates and others.

(in Korean won)

	2018			
	Beginning balance	Valuation <sup>1,2</sup>	Others <sup>3</sup>	Ending balance
<b>Marketable</b>	₩ 79,083,326,798	₩ (57,126,877,487)	₩ 2,522,905,827	₩ 24,479,355,138
<b>Non-marketable</b>	11,723,413,253	(4,422,720,755)	439,449,981	7,740,142,479
	<u>₩ 90,806,740,051</u>	<u>₩ (61,549,598,242)</u>	<u>₩ 2,962,355,808</u>	<u>₩ 32,219,497,617</u>

<sup>1</sup> The Group recognized valuation losses on EP Energy, Yemen LNG Company Limited, Troika Resource Investment PEF and Global Dynasty Natural Resource PEF to ₩ 57,127 million, ₩ 557 million, ₩ 794 million and ₩ 3,072 million, respectively, for the year ended December 31, 2018.

<sup>2</sup> Related income tax effect is not recognized for the year ended December 31, 2019 due to unrecognized deferred tax asset as the amount is not expected to be realized in a foreseeable future.

<sup>3</sup> Include other changes and the effect of changes in exchange rates and others.

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**9. Financial Assets Measured at Fair Value Through Other Comprehensive Income (cont'd)**

Details of financial assets measured at fair value through other comprehensive income as of December 31, 2019 and 2018, are as follows:

(in Korean won)

	Ownership interest (%)	Carrying amount		Fair value	
		2019	2018	2019	2018
<b>Marketable</b>					
EP Energy	12.82	₩ 123,121,459	₩ 24,479,355,138	₩ 123,121,459	₩ 24,479,355,138
<b>Non-marketable</b>					
Yemen LNG Company Limited	1.06	₩ 4,458,690,092	₩ 4,305,805,314	₩ 4,458,690,092	₩ 4,305,805,314
Petronado S.A.	5.64	-	-	-	-
Micronic Korea <sup>1</sup>	16.70	885,780,447	855,407,772	885,780,447	855,407,772
Troika Resource Investment PEF	14.47	990,841,617	2,578,929,393	990,841,617	2,578,929,393
Global Dynasty Natural Resource PEF	15.67	-	-	-	-
		<u>₩ 6,458,433,615</u>	<u>₩ 32,219,497,617</u>	<u>₩ 6,458,433,615</u>	<u>₩ 32,219,497,617</u>

<sup>1</sup> The dividend incomes associated with Micronic Korea for the years ended December 31, 2019 and 2018, are both ₩ 10 million.

**10. Loans**

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

(in Korean won)

	Face value	2019	Carrying amount
		Provision for loans	
<b>Short-term loans</b>			
Loans to related parties <sup>4</sup>	₩ 2,586,817,903	₩ -	₩ 2,586,817,903
	<u>2,586,817,903</u>	<u>-</u>	<u>2,586,817,903</u>
<b>Long-term loans</b>			
Loans for tuitions <sup>1</sup>	441,556,913	-	441,556,913
Loans for housing <sup>2</sup>	99,434,890,964	-	99,434,890,964
Loans for vehicle <sup>3</sup>	252,819,744	-	252,819,744
General loans	8,460,404,108	(1,147,458,530)	7,312,945,578
Loans to related parties <sup>4</sup>	646,455,977,842	(613,748,127,739)	32,707,850,103
	<u>755,045,649,571</u>	<u>(614,895,586,269)</u>	<u>140,150,063,302</u>
	<u>₩ 757,632,467,474</u>	<u>₩ (614,895,586,269)</u>	<u>₩ 142,736,881,205</u>

<sup>1</sup> The Group provides employees who worked over a year with interest-free loans for their children's tuitions. The loans are repaid from their monthly wages.

<sup>2</sup> The Group provides employees without housing with loans for housing at market interest rates. The loans are due 5~10 years and repaid by lump sum at maturity.

<sup>3</sup> The Group provides non-interest bearing loans to overseas secondees who newly purchase or lease a vehicle. The loans are due when the secondees return to the Headquarters.

<sup>4</sup> The Group provided Offshore International Group and 14 other related parties with loans at interest rates of 3.00 ~ 7.99%. The loans are due to be repaid in 1 year.

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**10. Loans (cont'd)**

(in Korean won)

	2018		
	Face value	Provision for loans	Carrying amount
<b>Long-term loans</b>			
Loans for tuitions <sup>1</sup>	₩ 375,445,278	₩ -	₩ 375,445,278
Loans for housing <sup>2</sup>	105,095,519,677	-	105,095,519,677
Loans for vehicle <sup>3</sup>	274,214,025	-	274,214,025
General loans	6,409,446,699	(977,280,896)	5,432,165,803
Loans to related parties <sup>4</sup>	650,544,904,530	(611,061,998,302)	39,482,906,228
	₩ 762,699,530,209	₩ (612,039,279,198)	₩ 150,660,251,011

<sup>1</sup> The Group provides employees who worked over a year with interest-free loans for their children's tuitions. The loans are repaid from their monthly wages.

<sup>2</sup> The Group provides employees without housing with loans for housing at market interest rates. The loans are due 5~10 years and repaid by lump sum at maturity.

<sup>3</sup> The Group provides non-interest bearing loans to overseas secondees who newly purchase or lease a vehicle. The loans are due when the secondees return to the Headquarters.

<sup>4</sup> The Group provided Offshore International Group and 14 other related parties with loans at interest rates of 3.00 ~ 7.80%. The loans are due to be repaid in 2 years. The Group recognized reversal of bad debt allowance amounting to ₩ 77 million and financial guarantee expenses amounting to ₩ 5,921 million for the year ended December 31, 2018.

**11. Long-term Financial Instruments**

Details of long-term financial instruments as of December 31, 2019 and 2018, are as follows:

(in Korean won)

	2019		2018	
<b>Non-current</b>				
Asset retirement obligation	₩	5,676,009,105	₩	5,085,188,402
	₩	5,676,009,105	₩	5,085,188,402

**12. Other Financial Assets**

Details of other current financial assets as of December 31, 2019 and 2018, are as follows:

(in Korean won)

	2019		2018	
Overseas field operations quick assets	₩	503,309,681	₩	16,290,733,056
	₩	503,309,681	₩	16,290,733,056

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**13. Inventories**

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

(in Korean won)

	2019		
	Acquisition cost	Provision for losses on valuation <sup>1</sup>	Carrying amount
Raw materials <sup>1</sup>	₩ 4,166,555,201	₩ (629,880,018)	₩ 3,536,675,183
Merchandises <sup>1</sup>	4,810,645,732	(336,388,393)	4,474,257,339
Work-in-progress	126,555,181	-	126,555,181
Finished goods	17,905,334,509	-	17,905,334,509
Supplies	71,576,332,485	-	71,576,332,485
Goods in-transit	381,965,514	-	381,965,514
	<u>₩ 98,967,388,622</u>	<u>₩ (966,268,411)</u>	<u>₩ 98,001,120,211</u>

(in Korean won)

	2018		
	Acquisition cost	Provision for losses on valuation <sup>1</sup>	Carrying amount
Raw materials <sup>1</sup>	₩ 4,789,739,668	₩ (368,010,540)	₩ 4,421,729,128
Merchandises <sup>1</sup>	11,622,249,265	(194,066,694)	11,428,182,571
Work-in-progress	96,523,113	-	96,523,113
Finished goods	9,522,015,860	-	9,522,015,860
Supplies	66,931,419,466	-	66,931,419,466
Goods in-transit	3,219,719,625	-	3,219,719,625
	<u>₩ 96,181,666,997</u>	<u>₩ (562,077,234)</u>	<u>₩ 95,619,589,763</u>

<sup>1</sup> The losses on the valuation of inventories recognized in cost of sales for the year ended December 31, 2019 is ₩ 404 million (2018: ₩ 121 million).

**14. Non-Financial Assets**

Details of non-financial assets as of December 31, 2019 and 2018, are as follows:

(in Korean won)

	2019		2018	
	Current	Non-current	Current	Non-current
Advance payments	₩ 56,315,321,907	₩ -	₩ 48,020,733,011	₩ -
Prepaid expenses	31,362,044,815	325,745,942	18,809,500,048	8,487,935,831
Oil stockpiles	-	3,910,638,405,954	-	3,722,072,093,738
Others	-	6,620,763,184	-	-
	<u>₩ 87,677,366,722</u>	<u>₩ 3,917,584,915,080</u>	<u>₩ 66,830,233,059</u>	<u>₩ 3,730,560,029,569</u>

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**15. Investments in Associates and Joint Ventures**

Details of investments in associates and joint ventures as of December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>			2019			2018		
Entity	Principal activity	Country	Equity interest (%)	Acquisition cost	Book value	Equity interest (%)	Acquisition cost	Book value
<Investments in associates>								
Kernhem B.V.	Exploration and Production("E&P")	Netherlands	36.67	W 11,830,145,546	W -	36.67	W 11,424,499,684	W -
Oilhub Korea Yeosu Co., Ltd.	Storing of oil	Korea	29.00	39,141,538,685	58,480,114,370	29.00	37,799,407,846	53,338,116,553
ADA Oil LLP <sup>1</sup>	E&P	Kazakhstan	12.50	20,319,532,757	-	12.50	19,622,792,862	-
Parallel Petroleum LLC <sup>2,5</sup>	E&P	United States	10.00	44,420,609,815	-	10.00	42,897,464,013	-
KNOC EF Star LLC <sup>3</sup>	E&P	United States	100.00	30,102,800,000	40,194,986,889	100.00	29,070,600,000	54,127,002,853
				<u>145,814,626,803</u>	<u>98,675,101,259</u>		<u>140,814,764,405</u>	<u>107,465,119,406</u>
<Investments in joint ventures>								
KNOC Inam Ltd	Exploration	Malaysia	40.00	46,312	-	40.00	44,724	-
KNOC Kamchatka Petroleum Ltd. <sup>4</sup>	Exploration	Cyprus	55.00	1,273,580	-	55.00	1,229,910	-
KNOC Bazian Ltd. <sup>4</sup>	Exploration	Malaysia	66.72	65,995	-	66.72	63,732	-
KNOC Nigerian East Oil Company Ltd. <sup>4</sup>	Exploration	Nigeria	75.00	69,468,000	-	75.00	67,086,000	-
KNOC Nigerian West Oil Company Ltd. <sup>4</sup>	Exploration	Nigeria	75.00	69,468,000	-	75.00	67,086,000	-
Korea kamchatka Co. Ltd	Exploration	Cyprus	50.00	7,868,813,741	-	50.00	7,598,998,655	-
KC kazakh B.V	Exploration	Netherlands	35.00	262,202,867	-	35.00	253,212,149	-
Offshore International Group, Inc.	E&P	United States	50.00	735,346,010,333	91,189,025,586	50.00	710,131,606,627	132,985,475,273
KNOC Ferghana Ltd	Exploration	Malaysia	50.00	578,900	-	50.00	559,050	-
KNOC Ferghana2 Ltd <sup>4</sup>	Exploration	Malaysia	65.00	75,755	-	65.00	73,157	-
KADOC Ltd <sup>4</sup>	E&P	Malaysia	75.00	868,350	-	75.00	838,575	-
Korea Energy Terminal Ltd <sup>4</sup>	Storing of oil	Korea	95.00	4,455,105,231	-	82.26	4,137,949,702	-
Deep Basin Partnership <sup>4,6</sup>	Exploration	Canada	83.47	258,876,914,781	17,322,008,564	83.40	241,701,273,413	-
HKMS Partnership <sup>4,6</sup>	Gas processing plant operation	Canada	68.19	62,874,731,116	32,734,367,939	68.15	60,716,149,863	35,506,905,275
KNOC-VOGO Eagle Ford LLC <sup>7</sup>	E&P	United States	50.00	-	-	50.00	-	-
				<u>1,069,825,622,961</u>	<u>141,245,402,089</u>		<u>1,024,676,171,557</u>	<u>168,492,380,548</u>
				<u>W 1,215,640,249,764</u>	<u>W 239,920,503,348</u>		<u>W 1,165,490,935,962</u>	<u>W 275,957,499,954</u>

<sup>1</sup> Classified as an investment in associate as the Group's associate, Kernhem B.V. holds 75.00% of the equity interest and by effective equity interest, the Group has the ability to exercise significant influence over the entity.

<sup>2</sup> Classified as an investment in associate as the Group can designate one director in its board of directors. Despite the percentage of ownership is below 20%, the Group has the ability to exercise significant influence over the entity.

<sup>3</sup> Despite the percentage of ownership of the Group is 100%, it is excluded from the scope of consolidation due to reassessment of entity's control.

<sup>4</sup> Despite the percentage of ownership of over 50%, the investment is classified as an investment in joint ventures as the Group is unable to exercise control over investees solely.

<sup>5</sup> Parallel Petroleum LLC is an investment in associate held by ANKOR E&P Holdings Corp.

<sup>6</sup> Deep Basin Partnership and HKMS Partnership are investment in joint ventures held by Harvest Operations Corp.

<sup>7</sup> KNOC-VOGO Eagle Ford LLC is an investment in joint venture with 50% of the shares in KNOC Eagleford Corp., as the Group.

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#### 15. Investments in Associates and Joint Ventures (cont'd)

Changes in carrying value of investments in associates and joint ventures for the years ended December 31, 2019 and 2018, are as follows:

(in Korean won)

	2019			
	Beginning balance	Acquisition	Disposal	Dividends received
<b>Investment in associates</b>				
Kernhem B.V. <sup>1</sup>	₩ -	₩ -	₩ -	₩ -
Oilhub Korea Yeosu Co. Ltd	53,338,116,553	-	-	(1,519,599,996)
ADA Oil LLP <sup>1</sup>	-	-	-	-
Parallel Petroleum LLC <sup>1</sup>	-	-	-	-
KNOC EF Star LLC	54,127,002,853	-	-	-
	<u>107,465,119,406</u>	<u>-</u>	<u>-</u>	<u>(1,519,599,996)</u>
<b>Investment in joint ventures</b>				
Offshore International Group, Inc. <sup>2</sup>	132,985,475,273	-	-	-
KADOC Ltd <sup>1,3</sup>	-	-	-	-
Korea Energy Terminal Ltd <sup>1</sup>	-	401,913,626	(230,528,700)	-
Deep Basin Partnership	-	8,651,901,397	-	(1,414,645,371)
HKMS Partnership	35,506,905,275	2,772,044	-	(14,322,871,081)
KNOC-VOGO Eagle Ford LLC <sup>1,5</sup>	-	-	-	-
	<u>168,492,380,548</u>	<u>9,056,587,067</u>	<u>(230,528,700)</u>	<u>(15,737,516,452)</u>
	<u>₩ 275,957,499,954</u>	<u>₩ 9,056,587,067</u>	<u>₩ (230,528,700)</u>	<u>₩ (17,257,116,448)</u>

(in Korean won)

	2019			
	Share of profit or loss in equity method	Changes in equity adjustments	Other changes <sup>4</sup>	Ending balance
<b>Investment in associates</b>				
Kernhem B.V. <sup>1</sup>	₩ -	₩ -	₩ -	₩ -
Oilhub Korea Yeosu Co. Ltd	6,704,467,065	(1,914,705,083)	1,871,835,831	58,480,114,370
ADA Oil LLP <sup>1</sup>	-	-	-	-
Parallel Petroleum LLC <sup>1</sup>	-	-	-	-
KNOC EF Star LLC	(15,961,376,341)	-	2,029,360,377	40,194,986,889
	<u>(9,256,909,276)</u>	<u>(1,914,705,083)</u>	<u>3,901,196,208</u>	<u>98,675,101,259</u>
<b>Investment in joint ventures</b>				
Offshore International Group, Inc. <sup>2</sup>	(7,208,684,954)	(372,598,507)	(34,215,166,226)	91,189,025,586
KADOC Ltd <sup>1,3</sup>	-	-	-	-
Korea Energy Terminal Ltd <sup>1</sup>	(202,657,111)	31,272,185	-	-
Deep Basin Partnership	48,063,462,142	-	(37,978,709,604)	17,322,008,564
HKMS Partnership	8,733,946,604	-	2,813,615,097	32,734,367,939
KNOC-VOGO Eagle Ford LLC <sup>1,5</sup>	-	-	-	-
	<u>49,386,066,681</u>	<u>(341,326,322)</u>	<u>(69,380,260,733)</u>	<u>141,245,402,089</u>
	<u>₩ 40,129,157,405</u>	<u>₩ (2,256,031,405)</u>	<u>₩ (65,479,064,525)</u>	<u>₩ 239,920,503,348</u>

<sup>1</sup> The Group does not apply the equity method as the book value of the investment in associates and joint ventures is less than zero due to the cumulative equity method loss.

<sup>2</sup> The recoverable amount based on value in use calculations was measured and evaluated for Offshore International Group, Inc, which is an investment in joint ventures for the year ended December 31, 2019. Impairment losses on investments in joint ventures amounted to ₩ 39,252 million (Recoverable amount: ₩ 9,119 million, Discount rate: 6.59%, Reason for impairment: decrease in estimated production quantities), and included in other changes.

<sup>3</sup> As the collectability of loans from investments in associates and joint ventures have increased, equity method is not applied to investments in associates and joint ventures for which the investment balance has been reduced to zero. As a result, the Group reclassified the loans previously recognized as net investments in equity method to financial assets at fair value through profit or loss through the judgment of the management. Reversal of loss under equity method of ₩ 52,799 million related to the loans was recognized.

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#### 15. Investments in Associates and Joint Ventures (cont'd)

<sup>4</sup> Other changes include the effect of changes in exchange rates and impairment losses that were not recognized as the book value of Deep Basin Partners, an investment in joint ventures, until the previous year was less than zero.

<sup>5</sup> KNOC-VOGO Eagle Ford LLC is SPC with 50% of the shares in KNOC Eagleford Corp. KNOC Eagleford Corp. invested in EF Energy LLC through KNOC-VOGO EagleFord LLC. EF Energy LLC is 40% of shares owned by KNOC-VOGO EagleFord LLC and 60% owned by KNOC EagleFord Corp. Since KNOC Eagleford Corp. recognizes EF Energy LLC as the Group, its investment in KNOC-VOGO EagleFord LLC is recognized as '0' because it is offset by the consolidation adjustment process.

(in Korean won)	2018			
	Beginning balance	Acquisition	Disposal	Dividends received
<b>Investment in associates</b>				
Kernhem B.V.	₩ -	₩ -	₩ -	₩ -
Oilhub Korea Yeosu Co. Ltd	50,430,368,454	-	-	(3,039,200,005)
ADA Oil LLP	-	-	-	-
Parallel Petroleum LLC	17,069,280,770	-	-	-
KNOC EF Star LLC	-	-	-	-
	<u>67,499,649,224</u>	<u>-</u>	<u>-</u>	<u>(3,039,200,005)</u>
<b>Investment in joint ventures</b>				
Offshore International Group, Inc. <sup>3</sup>	182,781,621,158	-	-	-
KADOC Ltd	-	-	-	-
Korea Energy Terminal Ltd	-	-	-	-
Deep Basin Partnership	-	32,706,190,585	-	-
HKMS Partnership	48,047,426,915	-	(5,634,598,747)	(13,533,141,710)
	<u>230,829,048,073</u>	<u>32,706,190,585</u>	<u>(5,634,598,747)</u>	<u>(13,533,141,710)</u>
	<u>₩ 298,328,697,297</u>	<u>₩ 32,706,190,585</u>	<u>₩ (5,634,598,747)</u>	<u>₩ (16,572,341,715)</u>

(in Korean won)	2018			
	Share of profit or loss in equity method <sup>2</sup>	Changes in equity adjustments	Other changes <sup>1</sup>	Ending balance
<b>Investment in associates</b>				
Kernhem B.V.	₩ (3,527,077,855)	₩ 3,527,077,855	₩ -	₩ -
Oilhub Korea Yeosu Co. Ltd	6,049,649,038	(2,265,926,582)	2,163,225,648	53,338,116,553
ADA Oil LLP	(1,518,969,376)	1,518,969,376	-	-
Parallel Petroleum LLC	(17,529,708,453)	-	460,427,683	-
KNOC EF Star LLC	-	-	54,127,002,853	54,127,002,853
	<u>(16,526,106,646)</u>	<u>2,780,120,649</u>	<u>56,750,656,184</u>	<u>107,465,119,406</u>
<b>Investment in joint ventures</b>				
Offshore International Group, Inc. <sup>3</sup>	(55,582,211,471)	-	5,786,065,586	132,985,475,273
KADOC Ltd	-	-	-	-
Korea Energy Terminal Ltd	(31,691,567)	31,691,567	-	-
Deep Basin Partnership	(32,706,190,585)	-	-	-
HKMS Partnership	8,073,081,802	-	(1,445,862,985)	35,506,905,275
	<u>(80,247,011,821)</u>	<u>31,691,567</u>	<u>4,340,202,601</u>	<u>168,492,380,548</u>
	<u>₩ (96,773,118,467)</u>	<u>₩ 2,811,812,216</u>	<u>₩ 61,090,858,785</u>	<u>₩ 275,957,499,954</u>

<sup>1</sup> Include the effect of changes in exchange rates and increase in changes in the scope of consolidation.

<sup>2</sup> Equity method is not applied to investments in associates and joint ventures for which the investment balance has been reduced to zero. As a result, loss on valuation of investments in associates and joint ventures of ₩ 11,098 million have been accounted to loans for the year ended December 31, 2018. Loss on valuation of investments in associates and joint ventures amounting to ₩ 3,415 million related to Group's additional obligation on Deep Basin Partnership has been accounted for as provision.

<sup>3</sup> The recoverable amount based on value in use calculations was measured and evaluated for Offshore International Group, Inc, which is an investment in joint ventures for the year ended December 31, 2018. Impairment losses on investments in joint ventures amounted to ₩ 1,261 million thousand (Recoverable amount: ₩ 132,985 million, Discount rate: 8.59%, Reason for impairment: increase in forecasted cash outflow due to litigation), and included in other changes.

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**15. Investments in Associates and Joint Ventures (cont'd)**

The summaries of financial information of major associates and joint ventures for the years ended December 31, 2019 and 2018, are as follows:

(in Korean won)

	<b>2019</b>			
	<b>Total assets</b>	<b>Total liabilities</b>	<b>Revenue</b>	<b>Profit (loss) for the year</b>
<b>&lt;Investment in associates&gt;</b>				
Kernhem B.V.	₩ 179,309,180,761	₩ 260,048,559,166	₩ 32,237,000,755	₩ 8,834,181,877
Oilhub Korea Yeosu Co., Ltd	531,040,914,585	329,385,347,773	74,652,060,604	23,118,851,959
Parallel Petroleum LLC	313,038,649,529	334,104,047,894	67,420,967,894	(12,892,203,409)
ADA Oil LLP	73,984,301,364	162,562,113,239	42,982,667,673	14,076,214,354
KNOC EF Star LLC	484,854,271,594	5,023,845	14,197,883,153	(15,961,376,341)
<b>&lt;Investment in joint ventures&gt;</b>				
Offshore International Group, Inc.	₩ 736,527,934,938	₩ 397,781,811,491	₩ 188,667,982,844	₩ (14,417,369,913)
KADOC Ltd	757,246,728,169	860,552,941,077	60,568,655,544	(33,608,406,610)
Korea Energy Terminal Ltd	12,918,053,721	14,485,498,771	-	(527,110,986)
Deep Basin Partnership	248,543,992,697	233,155,551,826	35,333,765,217	48,063,462,165
HKMS Partnership	90,587,310,269	82,645,076,528	23,116,036,086	4,157,673,897
KNOC-VOGO Eagle Ford LLC	1,006,980,858,160	599,645,487,886	-	29,547,896,696

(in Korean won)

	<b>2018</b>			
	<b>Total assets</b>	<b>Total liabilities</b>	<b>Revenue</b>	<b>Profit (loss) for the year</b>
<b>&lt;Investment in associates&gt;</b>				
Kernhem B.V.	₩ 179,935,543,166	₩ 258,458,199,107	₩ 47,662,436,702	₩ (35,759,219,402)
Oilhub Korea Yeosu Co., Ltd	497,821,524,961	311,891,354,579	70,609,113,337	19,373,667,711
Parallel Petroleum LLC	309,553,483,940	312,319,600,928	48,850,898,868	(209,520,734,611)
ADA Oil LLP	76,573,374,439	164,698,987,215	47,662,436,702	(44,123,213,703)
KNOC EF Star LLC	484,596,869,177	1,366,318	14,331,975,134	36,378,500,327
<b>&lt;Investment in joint ventures&gt;</b>				
Offshore International Group, Inc.	₩ 755,222,547,260	₩ 413,547,701,914	₩ 207,168,821,383	₩ (102,847,328,205)
KADOC Ltd	534,873,868,479	602,400,367,514	-	(14,797,444,712)
Korea Energy Terminal Ltd	3,488,898,522	4,529,232,587	-	(226,065,481)
Deep Basin Partnership	99,001,492,097	136,399,035,113	33,858,637,664	(36,120,961,248)
HKMS Partnership	179,012,874,613	175,545,758,983	22,578,100,479	2,698,975,780



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**16. Property, Plant and Equipment**

Details of property, plant and equipment as of December 31, 2019 and 2018, are as follows:

(in Korean won)

	2019					
	Acquisition cost	Contributions for construction	Government grants	Accumulated depreciation	Accumulated impairment losses	Book value
Land	₩ 480,854,588,938	₩ -	₩ -	₩ -	₩ -	₩ 480,854,588,938
Buildings	77,407,452,207	-	-	(30,119,158,950)	-	47,288,293,257
Structures	1,977,284,407,773	(114,218,857)	-	(785,637,518,393)	-	1,191,532,670,523
Machinery	761,686,352,387	(3,103,564,826)	-	(458,080,500,487)	-	300,502,287,074
Vehicles	10,824,603,088	-	-	(8,883,179,143)	-	1,941,423,945
Tools & fixtures	63,438,214,314	-	-	(56,814,195,882)	(317,964,599)	6,306,053,833
Construction-in-progress	228,623,473,504	-	-	-	-	228,623,473,504
Right-of-use assets	438,425,619,585	-	-	(42,748,588,333)	-	395,677,031,252
Others	57,163,260,738	-	-	(46,508,768,550)	(2,157,949,691)	8,496,542,497
Oil & gas properties	21,996,797,205,688	-	(2,573,235,532)	(12,770,926,682,644)	(3,166,800,170,572)	6,056,497,116,940
	₩ 26,092,505,178,222	₩ (3,217,783,683)	₩ (2,573,235,532)	₩ (14,199,718,592,382)	₩ (3,169,276,084,862)	₩ 8,717,719,481,763

(in Korean won)

	2018					
	Acquisition cost	Contributions for construction	Government grants	Accumulated depreciation	Accumulated impairment losses	Book value
Land	₩ 464,743,696,853	₩ -	₩ -	₩ -	₩ -	₩ 464,743,696,853
Buildings	74,296,211,123	-	-	(27,313,341,310)	-	46,982,869,813
Structures	1,909,644,930,155	(113,979,136)	-	(710,168,880,168)	-	1,199,362,070,851
Machinery	731,507,534,134	(3,310,095,134)	-	(414,527,849,253)	-	313,669,589,747
Vehicles	9,986,724,462	-	-	(7,815,224,660)	-	2,171,499,802
Tools & fixtures	59,166,589,138	-	-	(51,607,944,568)	(294,229,178)	7,264,415,392
Finance lease asset	230,027,194,700	-	-	(12,186,871,831)	-	217,840,322,869
Construction-in-progress	148,150,981,966	-	-	-	-	148,150,981,966
Others	54,595,464,162	-	-	(42,364,129,307)	(2,000,897,264)	10,230,437,591
Oil & gas properties <sup>1</sup>	20,568,349,233,113	-	(3,312,019,239)	(11,349,674,501,719)	(2,951,471,145,635)	6,263,891,566,520
	₩ 24,250,468,559,806	₩ (3,424,074,270)	₩ (3,312,019,239)	₩ (12,615,658,742,816)	₩ (2,953,766,272,077)	₩ 8,674,307,451,404

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2019 and 2018

#### 16. Property, Plant and Equipment (cont'd)

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

(in Korean won)

	2019							
	Beginning balance	Changes in accounting policies	Acquisition / Capital expenditures	Disposal	Depreciation	Reversal of impairment losses <sup>1</sup>	Others <sup>2</sup>	Ending balance
Land	₩ 464,743,696,853	₩ -	₩ -	₩ (393,254,128)	₩ -	₩ -	₩ 16,504,146,213	₩ 480,854,588,938
Buildings	46,982,869,813	-	41,609,299	(1,108,533,558)	(2,010,194,312)	-	3,382,542,015	47,288,293,257
Structures	1,199,476,049,987	-	260,833,899	(20,498,853)	(51,333,323,536)	-	43,263,827,883	1,191,646,889,380
(Contributions to construction)	(113,979,136)	-	-	-	3,833,112	-	(4,072,833)	(114,218,857)
Machinery	316,979,684,881	-	8,027,834,546	(117,266,395)	(33,715,300,069)	-	12,430,898,937	303,605,851,900
(Contributions to construction)	(3,310,095,134)	-	-	-	326,257,905	-	(119,727,597)	(3,103,564,826)
Vehicles	2,171,499,802	-	535,198,643	(4,045,144)	(844,123,152)	-	82,893,796	1,941,423,945
Tools & fixtures	7,264,415,392	-	2,630,265,191	(10,804,744)	(4,163,739,838)	-	585,917,832	6,306,053,833
Finance lease asset	217,840,322,869	(217,840,322,869)	-	-	-	-	-	-
Construction-in-progress	148,150,981,966	-	85,884,351,812	(1,763,802,505)	-	-	(3,648,057,769)	228,623,473,504
Right-of-use assets	-	419,659,531,842	7,758,591,284	(22,285,137,201)	(30,228,178,974)	-	20,772,224,301	395,677,031,252
Others	10,230,437,591	-	1,179,973,225	(12,079,800)	(2,296,211,289)	-	(605,577,230)	8,496,542,497
Oil & gas properties	6,267,203,585,759	-	392,660,591,332	(16,729,605,422)	(842,633,538,287)	(151,026,362,671)	409,595,681,770	6,059,070,352,481
(Government grants)	(3,312,019,239)	-	-	-	862,188,805	-	(123,405,107)	(2,573,235,541)
	₩ 8,674,307,451,404	₩ 201,819,208,973	₩ 498,979,249,231	₩ (42,445,027,750)	₩ (966,032,329,635)	₩ (151,026,362,671)	₩ 502,117,292,211	₩ 8,717,719,481,763

<sup>1</sup> Impairment loss is a net amount, taking into account reversal amounts.

<sup>2</sup> Include the effect of changes in exchange rates and others.

(in Korean won)

	2018						
	Beginning balance	Acquisition / Capital expenditures	Disposal	Depreciation	Reversal of impairment losses <sup>1</sup>	Others <sup>2</sup>	Ending balance
Land	₩ 445,332,614,979	₩ -	₩ -	₩ -	₩ -	₩ 19,411,081,874	₩ 464,743,696,853
Buildings	45,803,510,187	250,926,232	-	(1,869,442,291)	-	2,797,875,685	46,982,869,813
Structures	1,151,977,194,753	301,435,734	-	(47,169,231,243)	-	94,366,650,743	1,199,476,049,987
(Contributions to construction)	(112,741,718)	-	-	3,618,216	-	(4,855,634)	(113,979,136)
Machinery	192,263,204,780	2,251,914,042	(40,679,422)	(26,781,650,784)	-	149,286,896,265	316,979,684,881
(Contributions to construction)	(3,471,484,132)	-	-	307,725,258	-	(146,336,260)	(3,310,095,134)
Vehicles	2,183,011,613	837,208,311	(3,752,100)	(849,802,546)	-	4,834,524	2,171,499,802
Tools & fixtures	9,665,009,489	2,064,840,107	(3,374,142)	(4,776,791,956)	-	314,731,894	7,264,415,392
Finance lease asset	214,580,653,933	-	-	(5,996,429,244)	-	9,256,098,180	217,840,322,869
Construction-in-progress	254,103,947,814	67,593,490,940	-	-	-	(173,546,456,788)	148,150,981,966
Others	11,758,512,274	1,365,333,424	(15,252,359)	(2,890,655,509)	-	12,499,761	10,230,437,591
Oil & gas properties	6,703,556,489,430	533,636,842,388	(6,443,691,247)	(979,524,748,269)	(249,682,419,268)	265,661,112,725	6,267,203,585,759
(Government grants)	(3,968,953,333)	-	-	816,719,747	-	(159,785,653)	(3,312,019,239)
	₩ 9,023,670,970,069	₩ 608,301,991,178	₩ (6,506,749,270)	₩ (1,068,730,688,621)	₩ (249,682,419,268)	₩ 367,254,347,316	₩ 8,674,307,451,404

<sup>1</sup> Impairment loss is a net amount, taking into account reversal amounts.

<sup>2</sup> Include the effect of changes in exchange rates and others.

**Korea National Oil Corporation and its subsidiaries**  
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**16. Property, Plant and Equipment (cont'd)**

Details of impairments recognized by segments for the years ended December 31, 2019 and 2018, are as follows:

(in Korean won)

		<b>2019</b>
		<b>Oil and Gas<sup>1</sup></b>
<b>General information</b>		
Type of assets		Oil and gas properties
Valuation Method		Value in use
<b>Assumptions</b>		
Discount rate after tax <sup>2</sup>		9%~14%
Oil prices <sup>3</sup>		International indices
Production quantities		Estimated production quantities based on reserve reports
Recoverable amounts	₩	517,882,275,984
Impairment losses		176,250,829,929
Reason for impairment		Decrease in forecasted oil prices

<sup>1</sup> The CGUs of the oil and gas segment are fields or areas.

<sup>2</sup> Weighted average costs of capital reflecting its own risk of a CGU and an individual asset.

<sup>3</sup> The oil prices are based on the long-term forecasts from globally recognized research institutions.

(in Korean won)

		<b>2018</b>
		<b>Oil and Gas<sup>1</sup></b>
<b>General information</b>		
Type of assets		Oil and gas properties
Valuation Method		Value in use
<b>Assumptions</b>		
Discount rate after tax <sup>2</sup>		8.00~14.54%
Oil prices <sup>3</sup>		International indices
Production quantities		Estimated production quantities based on reserve reports
Recoverable amounts	₩	638,755,429,389
Impairment losses		272,828,899,213
Reason for impairment		Decrease in forecasted oil prices

<sup>1</sup> The CGUs of the oil and gas segment are fields or areas.

<sup>2</sup> Weighted average costs of capital reflecting its own risk of a CGU and an individual asset.

<sup>3</sup> The oil prices are based on the long-term forecasts from globally recognized research institutions.

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**16. Property, Plant and Equipment (cont'd)**

Details of reversal of impairment losses recognized by segments for the years ended December 31, 2019 and 2018, are as follows

(in Korean won)

		<b>2019</b>
		<b>Oil and Gas<sup>1</sup></b>
<b>General information</b>		
Type of assets		Oil and gas properties
Valuation Method		Value in use
<b>Assumptions</b>		
Discount rate after tax <sup>2</sup>		9%~14%
Oil prices <sup>3</sup>		International indices
Production quantities		Estimated production quantities based on reserve reports
Reversal of impairment losses	₩	25,224,458,258
Reason for impairment		Increase in probable reserves and others

<sup>1</sup> The CGUs of the oil and gas segment are fields or areas.

<sup>2</sup> Weighted average costs of capital reflecting its own risk of a CGU and an individual asset.

<sup>3</sup> The oil prices are based on the long-term forecasts from globally recognized research institutions.

(in Korean won)

		<b>2018</b>
		<b>Oil and Gas<sup>1</sup></b>
<b>General information</b>		
Type of assets		Oil and gas properties
Valuation Method		Value in use
<b>Assumptions</b>		
Discount rate after tax <sup>2</sup>		8.00~14.54%
Oil prices <sup>3</sup>		International indices
Production quantities		Estimated production quantities based on reserve reports
Reversal of impairment losses	₩	23,146,479,946
Reason for impairment		Increase in probable reserves and others

<sup>1</sup> The CGUs of the oil and gas segment are fields or areas.

<sup>2</sup> Weighted average costs of capital reflecting its own risk of a CGU and an individual asset.

<sup>3</sup> The oil prices are based on the long-term forecasts from globally recognized research institutions.

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**17. Goodwill**

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

<i>(in Korean won)</i>	<b>2019</b>	<b>2018</b>
Acquisition cost	₩ 1,163,295,063,317	₩ 1,107,578,729,113
Accumulated impairment losses	<u>(1,010,319,143,482)</u>	<u>(963,785,846,848)</u>
Book value	<u>₩ 152,975,919,835</u>	<u>₩ 143,792,882,265</u>

Changes in goodwill for the years ended December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<b>2019</b>	<b>2018</b>
Beginning balance	₩ 143,792,882,265	₩ 147,854,168,663
Other changes <sup>1</sup>	<u>9,183,037,570</u>	<u>(4,061,286,398)</u>
Ending balance	<u>₩ 152,975,919,835</u>	<u>₩ 143,792,882,265</u>

<sup>1</sup> Include the effect of exchange rate changes.

Changes in accumulated impairment losses for the years ended December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<b>2019</b>	<b>2018</b>
Beginning balance	₩ (963,785,846,848)	₩ (983,893,958,014)
Other changes <sup>1</sup>	<u>(46,533,296,634)</u>	<u>20,108,111,166</u>
Ending balance	<u>₩ (1,010,319,143,482)</u>	<u>₩ (963,785,846,848)</u>

<sup>1</sup> Include the effect of exchange rate changes.

For the purpose of impairment testing, carrying amounts of goodwill allocated to the Group's CGUs as of December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<b>2019</b>	<b>2018</b>
Dana Petroleum Limited <sup>1</sup>	₩ 129,187,626,950	₩ 120,820,269,965
Altius Holdings Inc. (a subsidiary of KNOC Kaz B.V.) <sup>2</sup>	<u>23,788,292,885</u>	<u>22,972,612,300</u>
	<u>₩ 152,975,919,835</u>	<u>₩ 143,792,882,265</u>

<sup>1</sup> Dana Petroleum Limited's recoverable amount is estimated based on the value in use. The value in use is estimated from the cash inflows, which are discounted at 8% and 12% derived from the oil production in the long-term production plan indicated in the reserve reports and the long-term oil price forecasts by the research institutions. There is no impairment loss on goodwill recognized based on the value in use estimated for each CGU for the year ended December 31, 2019.

<sup>2</sup> Altius Holding Inc.'s recoverable amount is estimated based on the value in use. The value in use is estimated from the cash inflows, which are discounted at 6.36%, derived from the oil production in the long-term production plan indicated in the reserve reports and the long-term oil price forecasts by the research institutions. There is no impairment loss on goodwill recognized based on the value in use estimated for each CGU for the year ended December 31, 2019.

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**18. Intangible Assets Other Than Goodwill**

Details of intangible assets other than goodwill as of December 31, 2019 and 2018, are as follows:

(in Korean won)

	2019			
	Acquisition cost	Accumulated amortization	Accumulated impairment losses	Book value
Exploration and evaluation assets	₩ 3,191,284,101,953	₩ -	₩ (2,797,975,632,548)	₩ 393,308,469,405
Software	31,811,939,729	(29,276,965,574)	-	2,534,974,155
Mining rights	2,907,549,721,909	(1,651,866,802,705)	(251,933,962,336)	1,003,748,956,868
Development cost	43,026,248,119	(38,097,329,112)	-	4,928,919,007
Land use right	242,444,478	(87,646,618)	-	154,797,860
Others	92,620,669,009	(1,159,225,321)	(89,311,085,182)	2,150,358,506
	<u>₩ 6,266,535,125,197</u>	<u>₩ (1,720,487,969,330)</u>	<u>₩ (3,139,220,680,066)</u>	<u>₩ 1,406,826,475,801</u>

(in Korean won)

	2018			
	Acquisition cost	Accumulated amortization	Accumulated impairment losses	Book value
Exploration and evaluation assets	₩ 2,983,794,385,770	₩ -	₩ (2,635,250,888,832)	₩ 348,543,496,938
Software	30,176,084,478	(27,057,279,818)	-	3,118,804,660
Mining rights	4,099,957,829,727	(1,562,112,426,885)	(835,045,070,350)	1,702,800,332,492
Development cost	40,971,666,463	(34,453,473,302)	-	6,518,193,161
Land use right	234,132,376	(78,785,798)	-	155,346,578
Others	89,563,774,783	(1,071,875,219)	(86,260,397,529)	2,231,502,035
	<u>₩ 7,244,697,873,597</u>	<u>₩ (1,624,773,841,022)</u>	<u>₩ (3,556,556,356,711)</u>	<u>₩ 2,063,367,675,864</u>

**Korea National Oil Corporation and its subsidiaries**  
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**18. Intangible Assets Other Than Goodwill (cont'd)**

Changes in intangible assets other than goodwill for the years ended December 31, 2019 and 2018, are as follows:

(in Korean won)

	2019						
	Beginning balance	Acquisition / Capital expenditures	Disposal <sup>1</sup>	Amortization	Impairment losses (reversal)	Others <sup>2</sup>	Ending balance
Exploration and evaluation assets	₩ 348,543,496,938	₩ 46,459,217,970	₩ -	₩ -	₩ (2,136,533,745)	₩ 442,288,242	₩ 393,308,469,405
Software	3,118,804,660	636,241,292	-	(1,378,563,258)	-	158,491,461	2,534,974,155
Mining rights	1,702,800,332,492	685,994,478	(767,240,772,901)	(77,412,177,985)	37,260,193,009	107,655,387,775	1,003,748,956,868
Development cost	6,518,193,161	184,960,458	-	(2,436,939,409)	-	662,704,797	4,928,919,007
Land use right	155,346,578	-	-	(6,105,605)	-	5,556,887	154,797,860
Others	2,231,502,035	85,068,190	(210,497,973)	-	-	44,286,254	2,150,358,506
	₩ 2,063,367,675,864	₩ 48,051,482,388	₩ (767,451,270,874)	₩ (81,233,786,257)	₩ 35,123,659,264	₩ 108,968,715,416	₩ 1,406,826,475,801

<sup>1</sup> In accordance with the amendment to the CBSA contract in Iraq, the related mining rights of ₩ 767,241 million have been disposed of.

<sup>2</sup> Include the effect of changes in exchange rates and others.

(in Korean won)

	2018						
	Beginning balance	Acquisition / Capital expenditures	Disposal	Amortization	Impairment losses (reversal) <sup>1</sup>	Others <sup>2</sup>	Ending balance
Exploration and evaluation assets	₩ 513,078,513,938	₩ 25,350,226,755	₩ -	₩ -	₩ (72,109,423,655)	₩ (117,775,820,100)	₩ 348,543,496,938
Software	4,533,203,475	552,836,925	-	(2,218,590,565)	-	251,354,825	3,118,804,660
Mining rights	2,407,319,513,715	130,144,639	(119,987,657)	(61,918,119,445)	(537,237,488,909)	(105,373,729,851)	1,702,800,332,492
Development cost	7,051,132,694	1,183,154,472	-	(2,049,902,890)	-	333,808,885	6,518,193,161
Land use right	154,469,620	-	-	(5,763,305)	-	6,640,263	155,346,578
Others	2,197,553,253	42,639,266	(10,365,926)	(75,615,445)	-	77,290,887	2,231,502,035
	₩ 2,934,334,386,695	₩ 27,259,002,057	₩ (130,353,583)	₩ (66,267,991,650)	₩ (609,346,912,564)	₩ (222,480,455,091)	₩ 2,063,367,675,864

<sup>1</sup> Impairment losses on intangible assets of ₩ 72,109 million due to expiration of mining right and relinquishment of exploration have been recognized for the year ended December 31, 2018. In connection with the returning exploration right of Kurdish oil field in Iraq, the Group recognized impairment loss amounting to ₩ 537,238 million for the year ended December 31, 2018.

<sup>2</sup> Include the effect of changes in exchange rates and others.

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**19. Financial Liabilities Measured at Fair Value through Profit or Loss**

Details of financial liabilities measured at fair value through profit or loss as of December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	2019		2018	
	Current	Non-current	Current	Non-current
Non-derivative liabilities	₩ 13,385,977,456	₩ 55,382,409,262	₩ 7,775,280,817	₩ 50,189,100,054
	₩ 13,385,977,456	₩ 55,382,409,262	₩ 7,775,280,817	₩ 50,189,100,054

The amounts recognized in profit or loss in relation to financial liabilities measured at fair value through profit or loss for the years ended December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	2019	2018
Loss on valuation of financial liabilities measured at fair value through profit or loss	₩ 15,615,393,575	₩ -
	₩ 15,615,393,575	₩ -

**20. Trade and Other Payables**

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

<i>(in Korean won)</i>	2019		2018	
	Current	Non-current	Current	Non-current
Trade account payables	₩ 155,458,055,112	₩ -	₩ 128,395,267,866	₩ -
Other account payables	426,838,223,343	31,069,709,323	353,032,471,216	37,480,683,758
Accrued expenses	102,733,436,708	137,434,555,894	105,930,526,172	168,139,964,407
Deposit received	-	5,051,954,246	-	4,675,474,756
Other deposits received	-	14,827,887	-	13,212,621
Lease liability	43,652,767,750	375,064,927,912	-	-
Finance lease liability	-	-	8,327,296,850	213,939,957,566
Other payables <sup>1</sup>	42,974,828,693	773,845,605	49,004,800,181	10,070,218,993
	₩ 771,657,311,606	₩ 549,409,820,867	₩ 644,690,362,285	₩ 434,319,512,101

<sup>1</sup> Details of other payables are as follows:

<i>(in Korean won)</i>	2019		2018	
	Current	Non-current	Current	Non-current
Advances from value added tax	₩ 857,363,867	₩ -	₩ 2,496,888,146	₩ -
Overseas advances from value added tax	-	-	6,102,908,615	-
Liabilities from overseas oil fields	40,531,797,231	-	36,505,184,376	-
Other than payables	1,585,667,595	773,845,605	3,899,819,044	10,070,218,993
	₩ 42,974,828,693	₩ 773,845,605	₩ 49,004,800,181	₩ 10,070,218,993



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**21. Borrowings and Bond Payables**

Details of borrowings and bond payables as of December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<b>2019</b>		<b>2018</b>	
<b>Current Liabilities</b>				
Short-term borrowings	₩	115,780,000,000	₩	69,322,200,000
Current portion of long-term borrowings		443,244,598,733		-
Current portion of bond payables		982,874,600,007		1,370,346,750,001
Less: current portion of discount on bond payables		(131,552,154)		(317,442,153)
Add: current portion of premium on bond payables		-		52,525,543
		<u>1,541,767,646,586</u>		<u>1,439,404,033,391</u>
<b>Non-current Liabilities</b>				
Long-term borrowings		1,852,512,931,074		2,322,966,402,551
Less: present discounted value		(412,706,551)		(548,106,015)
Bond payables		10,466,083,138,075		9,829,122,908,058
Less: discount on bond payables		(25,574,361,292)		(30,039,808,225)
Add: premium on bond payables		4,067,368,894		-
		<u>12,296,676,370,200</u>		<u>12,121,501,396,369</u>
	₩	<u>13,838,444,016,786</u>	₩	<u>13,560,905,429,760</u>

Details of payment schedule as of December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<b>2019</b>		<b>2018</b>	
	<b>Borrowings</b>	<b>Bond payables</b>	<b>Borrowings</b>	<b>Bond payables</b>
Within a year	₩ 559,024,598,733	₩ 982,874,600,007	₩ 69,322,200,000	₩ 1,370,346,750,001
1~5 years	1,647,907,573,778	7,181,131,338,076	2,098,784,967,274	5,481,231,308,056
More than 5 years	204,605,357,296	3,284,951,799,999	224,181,435,277	4,347,891,600,002
	<u>₩ 2,411,537,529,807</u>	<u>₩ 11,448,957,738,082</u>	<u>₩ 2,392,288,602,551</u>	<u>₩ 11,199,469,658,059</u>

Details of short-term borrowings as of December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>				
<b>Type</b>	<b>Financial Institutions</b>	<b>Interest rate (%)</b>	<b>Maturity</b>	<b>2019</b>
Short-term borrowings	The Export-Import Bank of Korea	Libor+0.63	2020-06-25	₩ 57,890,000,000
	DBS	U3L+0.30	2020-03-27	57,890,000,000
				<u>₩ 115,780,000,000</u>

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**21. Borrowings and Bond Payables (cont'd)**

(in Korean won)

Type	Financial Institutions	Interest rate (%)	Maturity		2018
Short-term borrowings in foreign currencies	The Export-Import Bank of Korea	Libor+0.63	2019-06-26	₩	67,086,000,000
	JP Morgan	Libor+0.70	2019-07-29		2,236,200,000
				₩	<u>69,322,200,000</u>

Details of long-term borrowings as of December 31, 2019 and 2018, are as follows:

(in Korean won and foreign currencies)

Type	Financial Institution	Interest rate (%)	Maturity	2019		2018	
				Amount	Equivalent to Korean won	Amount	Equivalent to Korean won
	Mizuho Corporate Bank	-	-	-	₩ -	USD 200,000,000	₩ 223,620,000,000
	The Export-Import Bank of Korea	3ML+0.67	2021-11-28	USD 250,000,000	289,450,000,000	USD 250,000,000	279,525,000,000
	The Export-Import Bank of Korea	3ML +0.78	2022-01-31	USD 100,000,000	115,780,000,000	-	-
	The Export-Import Bank of Korea	1.28	2022-09-06	USD 43,185,352	50,000,000,000	-	-
	The Export-Import Bank of Korea	1.28	2022-09-06	USD 43,185,352	50,000,000,000	-	-
	SAER	Treasury 3Y -1.25	N/A <sup>1</sup>	USD 95,026,813	110,022,044,349	USD 95,026,813	106,249,479,861
	SAER	Treasury 3Y -2.25 <sup>1</sup>	N/A <sup>1</sup>	USD 81,692,272	94,583,313,101	USD 105,475,320	117,931,955,416
Long-term borrowings	CIBC and others	-	-	-	-	USD 283,451,135	316,926,713,265
	BNP Paribas and others	-	-	-	-	USD 136,107,579	152,181,884,080
	KNOC EF STAR LLC	3.18	2021-11-25	USD 390,915,659	452,602,150,002	USD 404,795,771	452,602,151,555
	Kernhem International B.V	8.125	2021-12-04	USD 16,717,950	19,356,042,510	USD 16,717,950	18,692,339,895
	SMBC	3.12	2023-05-11	USD 229,126,310	265,282,441,158	USD 219,382,914	245,292,035,985
	Credit facility	3.00	2022-07-22	USD 350,178,736	405,436,939,954	-	-
	The Export-Import Bank of Korea <sup>2</sup>	2.27	2021-02-24	USD 382,833,476	443,244,598,733	USD 366,644,166	409,944,842,494
					<u>2,295,757,529,807</u>		<u>2,322,966,402,551</u>
	Less: present value discount				(412,706,551)		(548,106,015)
					<u>2,295,344,823,256</u>		<u>2,322,418,296,536</u>
	Less: current portion				(443,244,598,733)		-
					<u>₩ 1,852,100,224,523</u>		<u>₩ 2,322,418,296,536</u>

<sup>1</sup> SAER stands for Special Accounting for Energy and Resources. Borrowing from SAER have no specific maturity as they were borrowed under the condition that the Group is not obligated to make repayment of the principal and interest until the Group successfully complete the oil exploration.

<sup>2</sup> As of December 31, 2019, the borrowings were classified as current portion of long-term borrowings on February 24, 2020, but the maturity date has been extended to February 24, 2021 on February 21, 2020 after the reporting period.

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**21. Borrowings and Bond Payables (cont'd)**

Details of bond payables as of December 31, 2019 and 2018, are as follows:

Type	Interest rate (%)	Maturity	2019		2018	
			Amount	Equivalent to Korean won	Amount	Equivalent to Korean won
Floating interest rate bond payables	-	-	-	₩ -	AUD 225,000,000	₩ 177,257,250,004
	-	-	-	-	AUD 325,000,000	256,038,250,000
	3ML+0.60	2020-03-27	USD 500,000,000	578,900,000,000	USD 500,000,000	559,050,000,000
	3ML+0.875	2023-07-16	USD 400,000,000	463,120,000,000	USD 400,000,000	447,240,000,000
	3ML+0.68	2021-12-20	USD 50,000,000	57,890,000,000	USD 50,000,000	55,905,000,000
	3ML+0.68	2022-01-22	USD 150,000,000	173,670,000,000	-	-
Fixed interest rate bond payables	4.38	2021-02-08	HKD 500,000,000	74,329,999,997	HKD 500,000,000	71,384,999,998
	4.50	2021-03-04	HKD 390,000,000	57,977,399,995	HKD 390,000,000	55,680,300,005
	3.95	2022-02-10	HKD 390,000,000	57,977,399,995	HKD 390,000,000	55,680,300,005
	4.00	2022-03-28	EUR 50,000,000	64,871,499,995	EUR 50,000,000	63,957,999,996
	2.85	2023-01-24	HKD 400,000,000	59,464,000,004	HKD 400,000,000	57,108,000,005
	2.40	2023-02-04	EUR 37,000,000	48,004,910,001	EUR 37,000,000	47,328,919,996
	3.00	2025-06-24	EUR 60,000,000	77,845,799,999	EUR 60,000,000	76,749,600,002
	3.09	2023-07-03	EUR 50,000,000	64,871,499,995	EUR 50,000,000	63,957,999,996
	-	-	-	-	USD 500,000,000	559,050,000,000
	4.00	2024-01-23	USD 500,000,000	578,900,000,000	USD 500,000,000	559,050,000,000
	-	-	-	-	USD 250,000,000	279,525,000,000
	3.25	2024-07-10	USD 550,000,000	636,790,000,000	USD 550,000,000	614,955,000,000
	-	-	-	-	AUD 125,000,000	98,476,249,997
	2.18	2020-01-29	HKD 310,000,000	46,084,599,999	HKD 310,000,000	44,258,700,002
	3.10	2027-01-21	USD 50,000,000	57,890,000,000	USD 50,000,000	55,905,000,000
	3.10	2027-01-21	USD 70,000,000	81,046,000,000	USD 70,000,000	78,267,000,000
	2.39	2020-01-28	USD 50,000,000	57,890,000,000	USD 50,000,000	55,905,000,000
	2.11	2020-03-16	KRW 100,000,000,000	100,000,000,000	KRW 100,000,000,000	100,000,000,000
	3.21	2030-03-19	USD 85,000,000	98,413,000,000	USD 85,000,000	95,038,500,000
	2.99	2025-03-19	USD 90,000,000	104,202,000,000	USD 90,000,000	100,629,000,000
	1.99	2020-04-23	KRW 50,000,000,000	50,000,000,000	KRW 50,000,000,000	50,000,000,000
	2.82	2025-04-29	USD 65,000,000	75,257,000,000	USD 65,000,000	72,676,500,000
	3.02	2030-04-29	USD 60,000,000	69,468,000,000	USD 60,000,000	67,086,000,000
	2.03	2020-08-26	KRW 150,000,000,000	150,000,000,000	KRW 150,000,000,000	150,000,000,000
	3.25	2025-10-01	USD 600,000,000	694,680,000,000	USD 600,000,000	670,860,000,000
	3.22	2030-11-10	USD 100,000,000	115,780,000,000	USD 100,000,000	111,810,000,000
	2.13	2021-04-14	USD 500,000,000	578,900,000,000	USD 500,000,000	559,050,000,000
	2.63	2026-04-14	USD 500,000,000	578,900,000,000	USD 500,000,000	559,050,000,000
	2.00	2021-10-24	USD 350,000,000	405,230,000,000	USD 350,000,000	391,335,000,000
	2.50	2026-10-24	USD 650,000,000	752,570,000,000	USD 650,000,000	726,765,000,000
	2.88	2022-03-27	USD 500,000,000	578,900,000,000	USD 500,000,000	559,050,000,000
	3.38	2027-03-27	USD 500,000,000	578,900,000,000	USD 500,000,000	559,050,000,000
	1.86	2021-01-30	SGD 400,000,000	343,420,000,000	SGD 400,000,000	327,311,999,998
	0.37	2023-06-01	CHF 500,000,000	597,760,000,004	CHF 500,000,000	568,110,000,001
	0.24	2022-01-21	JPY 70,000,000,000	744,428,999,995	-	-
	0.00	2024-10-04	CHF 300,000,000	358,656,000,002	-	-
	2.33	2021-04-14	USD 194,649,689	225,365,410,040	USD 195,756,584	218,875,436,447
	3.00	2022-09-21	USD 479,663,240	555,354,099,828	USD 481,549,620	538,420,629,820
	4.20	2023-06-01	USD 393,202,728	455,250,118,233	USD 394,974,530	441,621,021,787
				11,448,957,738,082		11,199,469,658,059
Less: discount on bond payables				(25,705,913,446)		(30,357,250,378)
Add: premium on bond payables				4,067,368,894		52,525,543
				11,427,319,193,530		11,169,164,933,224
Less: current portion				(982,874,600,007)		(1,370,346,750,001)
Add: current portion of discount of bond payables				131,552,154		317,442,153
Less: current portion of premium of bond payables				-		(52,525,543)
				₩ 10,444,576,145,677		₩ 9,799,083,099,833

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**22. Other Financial Liabilities**

Details of other financial liabilities as of December 31, 2019 and 2018, are as follows:

(in Korean won)

	2019		2018	
	Current	Non-current	Current	Non-current
Financial guarantee liabilities	₩ 9,125,764,549	₩ -	₩ -	₩ 8,812,849,665
	₩ 9,125,764,549	₩ -	₩ -	₩ 8,812,849,665

**23. Lease**

(a) *The Group as a lessee*

In the previous year, the Group only recognized lease assets and liabilities in relation to leases that were classified as 'finance leases' under K-IFRS No. 1017 *Leases*. On adoption of K-IFRS No. 1116 *Leases*, the Group additionally recognized right-of-use assets and lease liabilities in relation to leases which had previously been classified as 'operating leases' under the principles of K-IFRS No. 1017 *Leases*.

In addition, the Group recognized as the lease contract with a lease term of 12 months or less as a short-term lease of ₩ 9,498,762,607, and as a low value contract with underlying assets below \$ 5,000 of ₩ 136,412,045.

Right-of-use assets as of December 31, 2019, consist of:

(in Korean won)

	2019		
	Acquisition cost	Accumulated depreciation	Book value
Land	₩ 5,477,616,837	₩ (852,762,881)	₩ 4,624,853,956
Buildings	277,993,991,583	(23,517,644,035)	254,476,347,548
Structures	9,320,024,960	(9,320,024,960)	-
Machinery	314,956,566	(104,986,525)	209,970,041
Vessels	10,130,185,334	(2,036,548,187)	8,093,637,147
Vehicles	4,890,023,255	(1,276,342,592)	3,613,680,663
Others	130,298,821,050	(5,640,279,153)	124,658,541,897
	₩ 438,425,619,585	₩ (42,748,588,333)	₩ 395,677,031,252

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**23. Lease (cont'd)**

Changes in right-of-use assets for the year ended December 31, 2019, are as follows:

(in Korean won)

	2019			
	Beginning balance	Changes in accounting policies		Increase
Land	₩	-	₩ 6,285,119,230	₩ -
Buildings		-	254,128,278,492	547,789,186
Structures		-	30,376,515,538	-
Machinery		-	304,156,967	-
Vessels		-	3,610,370,377	1,572,994,180
Vehicles		-	1,219,224,272	3,610,217,314
Others		-	123,735,867,033	2,027,590,604
	₩	-	₩ 419,659,531,909	₩ 7,758,591,284

(in Korean won)

	2019			
	Depreciation	Decrease	Others <sup>1</sup>	Ending balance
Land	₩ (858,544,699)	₩ -	₩ (801,720,575)	₩ 4,624,853,956
Buildings	(10,872,524,229)	-	10,672,804,088	254,476,347,537
Structures	(9,383,215,663)	(22,285,137,201)	1,291,837,326	-
Machinery	(105,698,344)	-	11,511,417	209,970,040
Vessels	(2,050,356,188)	-	4,960,628,778	8,093,637,147
Vehicles	(1,279,318,709)	-	63,557,798	3,613,680,675
Others	(5,678,521,545)	-	4,573,605,805	124,658,541,897
	₩ (30,228,179,377)	₩ (22,285,137,201)	₩ 20,772,224,637	₩ 395,677,031,252

<sup>1</sup> Include the effect of changes in exchange rates and others.

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**23. Lease (cont'd)**

Details of maturity analysis for lease liabilities (2018: financial lease liabilities) as of December 31, 2019 and 2018, are as follows:

(in Korean won)

	2019		2018	
	Contractual undiscounted cash flows	Present value of contractual cash flows	Minimum lease payments	Present value of the minimum lease payments
<b>Main office building of K-IFRS No. 1116</b>				
Within 1 years	₩ 8,526,999,996	₩ 8,327,296,335	₩ 8,526,999,996	₩ 8,327,296,850
1-5 years	37,216,802,079	32,541,129,971	36,150,927,075	31,591,191,902
More than 5 years	463,391,284,707	182,672,425,176	472,984,159,707	182,348,765,664
	<u>509,135,086,782</u>	<u>223,540,851,482</u>	<u>517,662,086,778</u>	<u>222,267,254,416</u>
<b>Initial adoption of K-IFRS No. 1116</b>				
Within 1 years	36,491,534,472	35,325,471,415	-	-
1-5 years	69,043,158,712	63,882,403,525	-	-
More than 5 years	126,113,283,689	95,968,969,240	-	-
	<u>231,647,976,873</u>	<u>195,176,844,180</u>	<u>-</u>	<u>-</u>
<b>Total</b>				
Within 1 years	45,018,534,468	43,652,767,750	8,526,999,996	8,327,296,850
1-5 years	106,259,960,791	96,423,533,496	36,150,927,075	31,591,191,902
More than 5 years	589,504,568,396	278,641,394,416	472,984,159,707	182,348,765,664
	<u>₩ 740,783,063,655</u>	<u>₩ 418,717,695,662</u>	<u>₩ 517,662,086,778</u>	<u>₩ 222,267,254,416</u>

**Korea National Oil Corporation and its subsidiaries**  
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**23. Lease (cont'd)**

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

<i>(in Korean won)</i>	<b>2019</b>	<b>2018</b>
Current	₩ 43,652,767,750	₩ 8,327,296,850
Non-current	375,064,927,912	213,939,957,566
	<u>₩ 418,717,695,662</u>	<u>₩ 222,267,254,416</u>

Changes in lease liabilities in relation to lease contracts for the years ended December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<b>2019</b>						
	Beginning balance	Changes in accounting policies	Increase	Interest expense	Decrease	Others	Ending balance
Lease liabilities	₩ 222,267,254,416	₩ 200,697,139,303	₩ 7,758,591,284	₩ 14,918,929,729	₩ (43,579,827,627)	₩ 16,655,608,557	₩ 418,717,695,662

<i>(in Korean won)</i>	<b>2018</b>						
	Beginning balance	Changes in accounting policies	Interest expense	Decrease	Others	Ending balance	
Lease liabilities	₩ 221,048,356,291	₩ -	₩ 9,745,897,347	₩ (8,565,749,523)	₩ 38,750,301	₩ 222,267,254,416	

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

<i>(in Korean won)</i>	<b>2019</b>
Depreciation of right-of-use assets	
Land	₩ (858,544,699)
Buildings	(10,872,524,229)
Structures	(9,383,215,663)
Machinery	(105,698,344)
Vessels	(2,050,356,188)
Vehicles	(1,279,318,709)
Others	(5,678,521,545)
	<u>₩ (30,228,179,377)</u>
Interest expense relating to lease liabilities (included in finance cost)	₩ (14,918,929,729)
Commitments relating to short-term leases	(9,498,762,607)
Commitments relating to leases of low value assets	(136,412,045)
Deferred revenue recognized sale and leaseback transaction	956,613,969
Interest income from leasehold deposits provided	959,528,169
	<u>₩ (52,866,141,620)</u>

**Korea National Oil Corporation and its subsidiaries**  
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**23. Lease (cont'd)**

*(b) The Group as a lessor*

The Group has entered into operating leases on its certain property, plant and equipment. The lease terms are between 1 and 40 years.

Lease income from operating leases where the Group is a lessor, is as follows.

<i>(in Korean won)</i>	<b>2019</b>
Lease income	₩ 64,017,923,241
Related to variable lease payment that does not depend on an index or a rate	<u>6,242,117,425</u>
	<u>₩ 70,260,040,666</u>

The maturity analysis for operating lease payments expected to be received (in undiscounted) as of December 31, 2019, is as follows:

<i>(in Korean won)</i>	<b>2019</b>
Within one year	₩ 23,058,772,589
Between 1 and 5 years	7,274,096,432
Later than five years	<u>38,196,952,884</u>
	<u>₩ 68,529,821,905</u>

Lease income from finance leases where the Group is a lessor, is as follows.

<i>(in Korean won)</i>	<b>2019</b>
Finance income on the net investment in the lease	₩ 181,348,821
	<u>₩ 181,348,821</u>

The maturity analysis for finance lease payments receivable expected to be received (in undiscounted); reconciliation to the net investment in the lease as of December 31, 2019, is as follows:

<i>(in Korean won)</i>	<b>2019</b>
Within one year	₩ 7,317,722,088
Between 1 and 5 years	6,087,878,516
Later than five years	<u>4,960,597,104</u>
	<u>18,366,197,708</u>
Unrealized finance income	<u>(1,263,402,386)</u>
Net investment in the lease	<u>₩ 17,102,795,322</u>



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**24. Employee Benefits**

*Defined contribution pension plan*

The Group operates both defined contribution and defined benefit pension plans based on choice of directors and employees. Contributions to the DC plan are separately managed by the plan's administrator. When employees terminate their employment before the benefits have vested, the Group's obligation to make contribution to the plan decreases on a pro rata basis.

Details of expenses relating to defined contribution plans for the years ended December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<b>2019</b>	<b>2018</b>
Cost of sales	₩ 543,803,596	₩ 541,947,880
Selling and administrative expenses	698,604,876	766,901,200
	<u>₩ 1,242,408,472</u>	<u>₩ 1,308,849,080</u>

Total expense recognized in profit or loss for defined contribution plans is excluded from ₩ 13 million capitalized as other construction costs (property, plant and equipment).

Total expenses of ₩ 1,242 million and ₩ 1,309 million for the years ended December 31, 2019 and 2018, respectively, are contributions paid by the Group based on the payment rate defined in employee benefits. As of December 31, 2019, unpaid contributions amounting to ₩ 533 million.

*Defined benefit pension plan*

The latest actuarial calculation on both plan assets and defined benefit obligation was performed as of December 31, 2019. The Group uses the projected unit credit method to determine the present value of its defined benefit obligations, the related current service costs and past service cost.

The components of defined benefits liabilities as of December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<b>2019</b>	<b>2018</b>
Present value of defined benefit obligation		
from funded plans	₩ 106,177,091,120	₩ 92,282,603,218
Fair value of plan assets	<u>(92,723,152,505)</u>	<u>(83,532,790,891)</u>
	<u>₩ 13,453,938,615</u>	<u>₩ 8,749,812,327</u>

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**24. Employee Benefits (cont'd)**

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

<i>(in Korean won)</i>		<b>2019</b>		<b>2018</b>
Beginning balance	₩	92,282,603,218	₩	85,105,138,066
Current service cost		8,874,687,581		8,487,037,751
Interest cost		3,402,821,953		3,641,230,446
Remeasurement components		2,751,967,063		380,568,575
Actual payments		(4,181,051,016)		(5,331,371,620)
Past service cost resulting from plan amendments, curtailments or settlement		3,046,062,321		-
Ending balance	₩	<u>106,177,091,120</u>	₩	<u>92,282,603,218</u>

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

<i>(in Korean won)</i>		<b>2019</b>		<b>2018</b>
Beginning balance	₩	83,532,790,891	₩	76,811,595,104
Expected return on plan assets <sup>1</sup>		1,666,387,949		1,474,809,997
Benefit paid by the plan		(4,000,055,550)		(5,352,967,300)
Contributions paid into the plan		11,524,029,215		10,599,353,090
Ending balance	₩	<u>92,723,152,505</u>	₩	<u>83,532,790,891</u>

<sup>1</sup> Actual returns on plan assets consist of interest income of ₩ 3,137 million and loss from remeasurement of ₩ 1,470 million, respectively, for the year ended December 31, 2019.

Details of the fair value of plan assets as of December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<u>Expected rate of return<sup>2</sup></u>		<u>Fair value of plan assets</u>	
	<b>2019</b>	<b>2018</b>	<b>2019</b>	<b>2018</b>
Others <sup>1</sup>	3.69%	4.31%	₩ 92,723,152,505	₩ 83,532,790,891

<sup>1</sup> Others are comprised of 9.3% of deposit and 90.7% of local and overseas securities, and debt securities as of December 31, 2019.

<sup>2</sup> The expected rate of return is calculated based on the weighted average of expected rate of returns for each type of assets. The management evaluates the expected rate of returns based on the historical rate of return trends and the analysis of the predicted market during the period when the defined benefits liabilities exist.

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**24. Employee Benefits (cont'd)**

Principal actuarial assumptions as of December 31, 2019 and 2018, are as follows:

<i>(in percentage, %)</i>	<b>2019</b>	<b>2018</b>
Discount rate	3.48	3.80
Expected rate of return on plan assets	3.69	4.31
Future salary growth	4.50	4.47

Details of expenses relating to defined benefit plans for the years ended December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<b>2019</b>	<b>2018</b>
Current service cost	₩ 8,874,687,581	₩ 8,487,037,751
Past service cost	3,046,062,321	-
Interest cost	3,402,821,953	3,641,230,446
Expected return on plan assets	(3,136,622,990)	(3,310,579,749)
Transfer to other account	(246,032,561)	(205,623,734)
	<u>₩ 11,940,916,304</u>	<u>₩ 8,612,064,714</u>

Expenses described above are recognized as the following items in the financial statements.

<i>(in Korean won)</i>	<b>2019</b>	<b>2018</b>
Cost of sales	₩ 4,369,984,316	₩ 2,997,480,931
Selling and administrative expenses	7,570,931,988	5,614,583,783
Others <sup>1</sup>	246,032,561	205,623,734
	<u>₩ 12,186,948,865</u>	<u>₩ 8,817,688,448</u>

<sup>1</sup> Amount is attributed to reclassification and it was reflected in the consolidated statement of financial position as other construction expenses (property, plant and equipment).

Remeasurement components recognized in other comprehensive income for the years ended December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<b>2019</b>	<b>2018</b>
Measurement components	₩ (2,751,967,063)	₩ (380,568,575)
Plan assets	(1,470,235,038)	(1,835,769,752)
Income tax effect	1,021,772,911	536,354,074
	<u>₩ (3,200,429,190)</u>	<u>₩ (1,679,984,253)</u>

On the other hand, the amount is included in retained earnings in the consolidated statement of financial position. The remeasurement components recognized in other comprehensive income for the year ended December 31, 2019 are ₩ 3,200 million (after income tax effect of ₩ 1,022 million) and remeasurement components recognized in other comprehensive income for the year ended December 31, 2018 are ₩ 1,680 million (after income tax effect of ₩ 536 million).

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## Notes to the consolidated financial statements

### December 31, 2019 and 2018

#### 25. Provisions

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

(in Korean won)	2019			2018		
	Current	Non-current	Total	Current	Non-current	Total
Decommissioning cost <sup>1,3</sup>	₩ 20,038,914,374	₩ 2,135,809,540,095	₩ 2,155,848,454,469	₩ 16,210,513,686	₩ 1,956,857,084,519	₩ 1,973,067,598,205
Social Overhead Capital <sup>2</sup>	10,254,072,407	-	10,254,072,407	12,465,831,150	-	12,465,831,150
Allowance for salaries	4,380,766,760	-	4,380,766,760	49,304,084	-	49,304,084
Provision for litigations	-	10,165,423,343	10,165,423,343	-	8,866,454,140	8,866,454,140
Onerous contract	11,310,190,359	88,139,212,702	99,449,403,061	8,784,336,639	121,123,638,146	129,907,974,785
Others <sup>3</sup>	14,398,950,848	2,198,686,537	16,597,637,385	18,908,483,507	38,214,160,813	57,122,644,320
	<u>₩ 60,382,894,748</u>	<u>₩ 2,236,312,862,677</u>	<u>₩ 2,296,695,757,425</u>	<u>₩ 56,418,469,066</u>	<u>₩ 2,125,061,337,618</u>	<u>₩ 2,181,479,806,684</u>

<sup>1</sup> The Group recognized provisions for future dismantling, removing and restoring obligations of wells and related facilities. Most of the costs incur at or after the completion of production and the management recognized its best estimations as provisions.

<sup>2</sup> The Group is committed to providing construction services with regards to the Kurdish regional government's Social Overhead Capital to obtain rights on certain exploratory areas. This commitment has been classified as a provision due to its uncertain timing of related cash outflows.

<sup>3</sup> The reclassifications from non-current to current amounted to ₩ 10,993 million and ₩ 13,680 million for the years ended December 31, 2019 and 2018, respectively.

Changes in provisions for the years ended December 31, 2019 and 2018, are as follows:

(in Korean won)	2019						
	Beginning balance	Changes in accounting policies <sup>4</sup>	Provision <sup>1</sup>	Payment	Reversal	Others <sup>2</sup>	Ending balance
Decommissioning cost	₩ 1,973,067,598,205	₩ -	₩ 53,255,315,050	₩ (37,013,324,879)	₩ (6,945,023,876)	₩ 173,483,889,969	₩ 2,155,848,454,469
Social Overhead Capital	12,465,831,150	-	89,612,001	(2,738,147,589)	-	436,776,845	10,254,072,407
Allowance for salaries	49,304,084	-	4,359,067,934	-	-	(27,605,258)	4,380,766,760
Provision for litigations <sup>3</sup>	8,866,454,140	-	990,824,065	-	-	308,145,138	10,165,423,343
Onerous contract	129,907,974,785	(4,313,513,149)	1,585,885,767	(7,666,908,391)	(24,786,154,683)	4,722,118,732	99,449,403,061
Others	57,122,644,320	-	2,213,593,071	(7,932,703,634)	-	(34,805,896,372)	16,597,637,385
	<u>₩ 2,181,479,806,684</u>	<u>₩ (4,313,513,149)</u>	<u>₩ 62,494,297,888</u>	<u>₩ (55,351,084,493)</u>	<u>₩ (31,731,178,559)</u>	<u>₩ 144,117,429,054</u>	<u>₩ 2,296,695,757,425</u>

<sup>1</sup> Include the provisions.

<sup>2</sup> Include decrease in provisions of ₩ 8,648 million and the effect of changes in exchange rates regarding disposal of assets.

<sup>3</sup> The Group recognized provision in relation to litigation amount and statutory interest on the partial loss of litigation on the return of normal wage.

<sup>4</sup> Amounts were reclassified from the onerous contract to lease liability due to a change in accounting policies.

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**25. Provisions (cont'd)**

(in Korean won)

	2018				
	Beginning balance	Provision <sup>1</sup>	Payment	Others <sup>2</sup>	Ending balance
Decommissioning cost	₩ 1,984,042,672,774	₩ 77,844,592,362	₩ (20,368,032,937)	₩ (68,451,633,994)	₩ 1,973,067,598,205
Social Overhead Capital	77,110,518,133	718,561,367	(58,563,694,602)	(6,799,553,748)	12,465,831,150
Allowance for salaries	667,181,340	-	(636,658,755)	18,781,499	49,304,084
Provision for litigations <sup>3</sup>	-	11,958,166,832	-	(3,091,712,692)	8,866,454,140
Onerous contract <sup>4</sup>	7,612,599,424	123,254,750,902	(1,332,192,978)	372,817,437	129,907,974,785
Others	45,263,890,105	20,710,729,679	(9,008,188,361)	156,212,897	57,122,644,320
	<u>₩ 2,114,696,861,776</u>	<u>₩ 234,486,801,142</u>	<u>₩ (89,908,767,633)</u>	<u>₩ (77,795,088,601)</u>	<u>₩ 2,181,479,806,684</u>

<sup>1</sup> Include the provisions.

<sup>2</sup> Include decrease in provisions of ₩ 2,988 million and the effect of changes in exchange rates regarding disposal of assets.

<sup>3</sup> The Group recognized provision in relation to litigation amount and statutory interest on the partial loss of litigation on the return of normal wage.

<sup>4</sup> The Group recognized provision amounting to ₩ 122,363 million for the year ended December 31, 2018 as a result of having an obligation to pay for the oil pipelines even after the end of production of Vietnam 11-2.

**26. Government Grants**

In accordance with the accounting standards and the provisions in the standard for public enterprise and quasi-government, government grants relating to property, plant and equipment are presented as the deduction from related assets.

Details of assets and liabilities of government grants as of December 31, 2019 and 2018, are as follows:

(in Korean won)

	2019	
	Assets	Liabilities
Cash	₩ 11,100,917	₩ -
Others	2,573,235,532	-
	<u>₩ 2,584,336,449</u>	<u>₩ -</u>

(in Korean won)

	2018	
	Assets	Liabilities
Cash	₩ 77,710,041	₩ -
Others	3,312,019,239	-
	<u>₩ 3,389,729,280</u>	<u>₩ -</u>

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**26. Government Grants (cont'd)**

Changes in assets and liabilities of government grants for the years ended December 31, 2019 and 2018, are as follows:

(in Korean won)

	2019					
	Beginning balance	Additional grants	Offset with depreciation	Revenue recognized	Others <sup>1</sup>	Ending balance
Cash	₩ 77,710,041	₩ 1,421,000,000	₩ -	₩ (5,466,365,576)	₩ 3,978,756,452	₩ 11,100,917
Others	3,312,019,239	-	(862,188,805)	-	123,405,098	2,573,235,532
	<u>₩ 3,389,729,280</u>	<u>₩ 1,421,000,000</u>	<u>₩ (862,188,805)</u>	<u>₩ (5,466,365,576)</u>	<u>₩ 4,102,161,550</u>	<u>₩ 2,584,336,449</u>

<sup>1</sup> Include the effect of changes in exchange rates, return of government grants and others.

(in Korean won)

	2018					
	Beginning balance	Additional grants	Offset with depreciation	Revenue recognized	Others <sup>1</sup>	Ending balance
Cash	₩ 44,734,303	₩ 1,396,000,000	₩ -	₩ (1,327,324,822)	₩ (35,699,440)	₩ 77,710,041
Others	3,968,953,333	-	(816,719,747)	-	159,785,653	3,312,019,239
	<u>₩ 4,013,687,636</u>	<u>₩ 1,396,000,000</u>	<u>₩ (816,719,747)</u>	<u>₩ (1,327,324,822)</u>	<u>₩ 124,086,213</u>	<u>₩ 3,389,729,280</u>

<sup>1</sup> Include the effect of changes in exchange rates, return of government grants and others.

Details of government grants income recognized for the years ended December 31, 2019 and 2018, are as follows:

(in Korean won)

	2019	2018
Government grants income	₩ 5,466,365,576	₩ 1,327,324,822
Offset with depreciation	862,188,805	816,719,747
	<u>₩ 6,328,554,381</u>	<u>₩ 2,144,044,569</u>

Details of the government grants business by category and changes in government grants for the years ended December 31, 2019 and 2018, are as follows:

(in Korean won)

Business	Details	Period	Budget	Carried over from prior year	2019				Others	Carried forward to subsequent year		
					Increase		Decrease					
					Issuance	Interest	Return	Interest				
				Group paid	Government grants	Group paid	Group paid	Government grants	Group paid			
Korea Institute of Energy Technology Evaluation and Planning	A Study on the Development and Empirical Study of the Production Enhancement of the Low-Rise Carbonate Layers in UAE	Building a Model of Integrated Stationary Deposition Rock	2019.2.1 ~ 2019.11.30	92,000,000	-	46,000,000	46,000,000	476,005	46,000,000	476,005	-	-

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**26. Government Grants (cont'd)**

(in Korean won)

						2018						
Business	Details	Period	Budget	Carried over from prior year	Increase		Decrease			Others	Carried forward to subsequent year	
					Issuance		Return					
					Group paid	Government grants	Group paid	Group paid	Government grants			
Korea Institute of Energy Technology Evaluation and Planning	A Study on the Development and Empirical Study of the Production Enhancement of the Low-Rise Carbonate Layers in UAE Building a Model of Integrated Stationary Deposition Rock	2018.4.1 ~ 2019.1.31	42,000,000	-	21,000,000	21,000,000	492,122	21,492,122	21,000,000	-	-	

**27. Contributions for Construction**

Details of contributions for construction as of December 31, 2019 and 2018, are as follows:

(in Korean won)

	2019		2018	
Others <sup>1</sup>	₩	330,091,017	₩	311,343,474
	₩	330,091,017	₩	311,343,474

<sup>1</sup> The amounts were offset against the depreciation of the related assets for the year ended December 31, 2019 and 2018, from cash equivalents transferred from SK Energy in accordance with the expansion construction of connecting line between the Group (Ulsan branch) and SK Energy.

**28. Non-Financial Liabilities**

Details of non-financial liabilities as of December 31, 2019 and 2018, are as follows:

(in Korean won)

	2019				2018			
	Current		Non-current		Current		Non-current	
Advance received	₩	23,136,687,444	₩	-	₩	23,035,625,755	₩	-
Unearned revenue		61,973,658,781		23,461,366,740		68,935,910,750		34,495,217,879
Withholdings		65,160,003,401		-		80,148,817,747		-
Others		110,768,741		34,285,362,446		2,401,323,882		34,027,336,847
	₩	150,381,118,367	₩	57,746,729,186	₩	174,521,678,134	₩	68,522,554,726

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**29. Share Capital**

Details of share capital as of December 31, 2019 and 2018, are as follows:

(in Korean won)	2019			2018		
	Government	Non-government	Total	Government	Non-government	Total
Share capital	₩ 10,515,105,780,075	₩ -	₩ 10,515,105,780,075	₩ 10,481,533,780,075	₩ -	₩ 10,481,533,780,075
	₩ 10,515,105,780,075	₩ -	₩ 10,515,105,780,075	₩ 10,481,533,780,075	₩ -	₩ 10,481,533,780,075

The changes in share capital for the year ended December 31, 2019, are as follows:

(in Korean won)	Description	Amount
Beginning balance		₩ 10,481,533,780,075
2019-04-19	Contribution for oil field development	13,672,000,000
2019-05-23	Contribution for oil stockpiling business	12,390,000,000
2019-08-22	Contribution for oil stockpiling business	1,080,000,000
2019-09-17	Contribution for oil stockpiling business	510,000,000
2019-11-25	Contribution for oil stockpiling business	5,310,000,000
2019-12-11	Contribution for oil stockpiling business	610,000,000
Ending balance		₩ 10,515,105,780,075

**30. Accumulated Deficit and Dividend**

Details of accumulated deficit as of December 31, 2019 and 2018, are as follows:

(in Korean won)	2019	2018
Undisposed accumulated deficit	₩ (9,323,510,676,146)	₩ (8,627,443,113,991)

Changes in accumulated deficit for the years ended December 31, 2019 and 2018, are as follows:

(in Korean won)	2019	2018
Beginning balance	₩ (8,627,443,113,991)	₩ (8,172,145,455,088)
Adjustment on the adoption of K-IFRS No. 1109 (after tax)	-	377,105,179,418
Net loss for the year	(692,867,132,965)	(830,722,853,870)
Remeasurement components of defined benefits plan	(3,200,429,190)	(1,679,984,451)
Ending balance	₩ (9,323,510,676,146)	₩ (8,627,443,113,991)



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**30. Accumulated Deficit and Dividend (cont'd)**

Changes in remeasurement components for the years ended December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<b>2019</b>	<b>2018</b>
Beginning balance	₩ (14,791,909,146)	₩ (13,111,924,695)
Changes during the current year	(4,222,202,101)	(2,216,338,541)
Income tax effects	1,021,772,911	536,354,090
Ending balance	<u>₩ (17,992,338,336)</u>	<u>₩ (14,791,909,146)</u>

**31. Statements of Disposition of Accumulated Deficit**

Consolidated statements of disposition of accumulated deficit for the years ended December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<b>2019</b>	<b>2018</b>
I. Undisposed deficit		
Undisposed accumulated deficit carried over from prior years	₩ (8,627,443,113,991)	₩ (8,172,145,455,088)
Adjustment on the adoption of K-IFRS No. 1109 (after tax)	-	377,105,179,418
Loss for the year	(692,867,132,965)	(830,722,853,870)
Remeasurement components	<u>(3,200,429,190)</u>	<u>(1,679,984,451)</u>
II. Undisposed deficit to be carried forward to the subsequent year	<u>₩ (9,323,510,676,146)</u>	<u>₩ (8,627,443,113,991)</u>

Dates of disposition for the years ended December 31, 2019 and 2018 are February 28, 2020, and February 28, 2019, respectively.

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**32. Other Components of Equity**

Details of other components of equity as of December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<b>2019</b>		<b>2018</b>	
Other capital surpluses <sup>1</sup>	₩	24,934,262,869	₩	24,934,262,869
Accumulated other comprehensive loss		<u>(1,181,162,227,662)</u>		<u>(1,057,698,519,294)</u>
	₩	<u>(1,156,227,964,793)</u>	₩	<u>(1,032,764,256,425)</u>

<sup>1</sup> Details of other capital surpluses as of December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<b>2019</b>		<b>2018</b>	
Assets contributed	₩	24,954,221,211	₩	24,954,221,211
Loss on capital reduction		<u>(19,958,342)</u>		<u>(19,958,342)</u>
	₩	<u>24,934,262,869</u>	₩	<u>24,934,262,869</u>

Details of accumulated other comprehensive loss as of December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<b>2019</b>		<b>2018</b>	
Loss on valuation of equity instruments measured at fair value through other comprehensive income	₩	(569,312,432,955)	₩	(542,224,942,856)
Equity adjustments in equity method		24,395,737,781		26,651,769,429
Foreign currency translation differences for foreign operations		(641,234,610,065)		(657,769,724,816)
Gains on valuation of derivative instruments		<u>4,989,077,577</u>		<u>115,644,378,949</u>
	₩	<u>(1,181,162,227,662)</u>	₩	<u>(1,057,698,519,294)</u>

**33. Revenue**

Details of revenues (based on customer locations) except for other income, other profit and financial income (Notes 35, 36, and 37) for the years ended December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<b>2019</b>					
	<b>Domestic</b>		<b>Overseas</b>		<b>Total</b>	
Sales of goods and finished goods	₩	149,323,867,319	₩	2,530,369,714,845	₩	2,679,693,582,164
Revenues from services provided		36,396,460,697		163,149,981,930		199,546,442,627
Income on government grants		5,466,365,576		-		5,466,365,576
Others		1,165,754,501		44,120,814,732		45,286,569,233
	₩	<u>192,352,448,093</u>	₩	<u>2,737,640,511,507</u>	₩	<u>2,929,992,959,600</u>

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**33. Revenue (cont'd)**

(in Korean won)

	2018		
	Domestic	Overseas	Total
Sales of goods and finished goods	₩ 162,650,841,452	₩ 2,749,122,948,078	₩ 2,911,773,789,530
Revenues from services provided	39,347,716,344	138,979,083,451	178,326,799,795
Income on government grants	1,327,324,822	-	1,327,324,822
Others	1,274,782,185	56,562,569,958	57,837,352,143
	<u>₩ 204,600,664,803</u>	<u>₩ 2,944,664,601,487</u>	<u>₩ 3,149,265,266,290</u>

**34. Selling and Administrative Expenses**

(In Korean won)

	2019	2018
Salaries	₩ 100,704,455,485	₩ 92,110,887,191
Post-employment benefits	9,621,482,551	6,588,051,487
Employee benefits	12,454,874,364	13,675,899,803
Insurance	2,391,010,258	2,975,850,738
Depreciation	18,377,153,596	14,536,500,119
Amortization of intangible assets other than goodwill	3,808,668,508	4,266,326,942
Commission expense	27,296,294,826	23,609,616,358
Advertising expense	667,137,630	447,796,936
Training	1,338,705,884	1,387,749,744
Vehicle	1,169,775,294	1,236,623,022
Publication	249,571,167	506,161,007
Promotional expense	134,210,458	135,313,211
Rental expense	1,530,977,066	5,490,100,474
Communication	478,528,210	855,492,878
Freight expense	-	1,122,163
Taxes and dues	1,918,187,952	4,151,844,986
Supplies expense	1,527,590,550	1,210,498,478
Utilities expense	1,096,977,316	1,197,456,105
Repairs	4,071,598,362	5,716,625,826
Ordinary research and development expense	2,799,743,321	1,962,301,570
Travel expense	1,764,013,756	2,035,026,251
Clothing expense	22,358,624	15,658,061
Association expense	401,683,818	286,940,239
Sales promotional expense	(93,027,403)	149,021,221
Sales commissions	99,826,667,823	239,696,216,574
Others	12,551,801,518	9,726,506,287
	<u>₩ 306,110,440,934</u>	<u>₩ 433,971,587,671</u>

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**35. Other Income and Expenses**

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

<i>(in Korean won)</i>	<b>2019</b>		<b>2018</b>	
Reversal of other provisions	₩	2,454,517,994	₩	-
Reversal of other bad debt allowance		3,495,036,527		8,356,085,894
Gains on exemption of debts		76,223,080,929		-
Compensation and indemnity		9,747,888		11,433,646
Rental income		533,336,117		422,131,195
Other income from overseas fields		3,867,437,620		3,308,510,874
Others		7,014,187,007		64,390,610,990
	₩	<u>93,597,344,082</u>	₩	<u>76,488,772,599</u>

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

<i>(in Korean won)</i>	<b>2019</b>		<b>2018</b>	
Transfer to other provision	₩	938,611,291	₩	13,039,492,808
Other bad debt expense		3,186,538,955		765,168,480
Donations		888,857,187		1,999,823,638
Losses on valuation of supplies		407,928,589		345,743,605
Other expenses from overseas fields		5,863		167,004,590
Others		2,837,312,186		21,474,040,534
	₩	<u>8,259,254,071</u>	₩	<u>37,791,273,655</u>

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**36. Other Profit and Loss**

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

<i>(in Korean won)</i>	<b>2019</b>	<b>2018</b>
Gains on disposal of property, plant and equipment	₩ 12,234,503,767	₩ 7,660,786,299
Gains on disposal of intangible assets other than goodwill	87,120,730,552	6,763,819
Gains on transactions of derivative (other than finance income)	159,775,646	-
Reversal of impairment losses on property, plant and equipment	25,224,458,258	23,146,479,941
Reversal of impairment losses on intangible assets other than goodwill	53,230,301,443	-
Gains on foreign currency translation (other than finance income)	22,942,425,015	26,654,135,840
Gains on foreign currency transactions	47,825,588,716	33,080,183,490
Gains on insurance contracts	15,584,042,427	-
Other gains (other than finance income)	14,461,524,928	8,490,972,496
Losses on disposal of property, plant and equipment	(17,491,127,469)	(154,437,052)
Losses on transactions of derivative (other than finance cost)	(159,775,646)	(2,905,539,060)
Impairment losses on property, plant and equipment	(176,250,820,929)	(272,828,899,217)
Impairment losses on intangible assets other than goodwill	(18,106,642,179)	(609,346,912,576)
Losses on foreign currency translation (other than finance cost)	(21,518,126,092)	(19,636,929,194)
Losses on foreign currency transactions (other than finance cost)	(43,341,210,015)	(41,456,005,785)
Other losses	(4,010,661,677)	(2,033,843,197)
	<u>₩ (2,095,013,255)</u>	<u>₩ (849,323,244,196)</u>

**Korea National Oil Corporation and its subsidiaries**  
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**37. Finance income**

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

<i>(in Korean won)</i>	<b>2019</b>	<b>2018</b>
Interest income	₩ 22,512,597,370	₩ 22,655,696,529
Dividend income	10,232,181	10,295,683
Gains on transactions of financial assets measured at fair value through profit or loss	2,072,434,884	-
Gains on valuation of financial assets measured at fair value through profit or loss	167,773,467,775	87,037,043,388
Gains on valuation of derivative financial instruments	18,630,088,549	23,218,443,225
Gains on transactions of derivative financial instruments	11,338,703,001	4,421,358,354
Gains on foreign currency translation	136,666,853,054	55,441,206,189
Gains on foreign currency transactions	43,063,896,401	38,457,374,028
	<u>₩ 402,068,273,215</u>	<u>₩ 231,241,417,396</u>

Details of interest income by sources included in finance income for the years ended December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<b>2019</b>	<b>2018</b>
Cash and cash equivalents	₩ 16,205,685,110	₩ 11,621,482,822
Loans and receivables	6,306,912,260	3,124,402,957
Financial assets measured at fair value through profit or loss	-	7,909,810,750
	<u>₩ 22,512,597,370</u>	<u>₩ 22,655,696,529</u>

**Korea National Oil Corporation and its subsidiaries**  
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**38. Finance costs**

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

<i>(in Korean won)</i>	<b>2019</b>	<b>2018</b>
Interest expenses	₩ 474,593,305,053	₩ 426,020,666,500
Losses on valuation of financial assets measured at fair value through profit or loss	82,191,492,544	5,058,940,998
Losses on valuation of financial liabilities measured at fair value through profit or loss	15,615,393,575	-
Losses on valuation of derivative financial instruments	2,518,652,850	-
Losses on transactions of derivative financial instruments	-	1,088,097,827
Losses on foreign currency translation	65,411,763,076	209,389,524,458
Losses on foreign currency transactions	13,650,654,166	26,539,963,639
Other financial costs	77,451,325,484	115,393,451,884
	<u>₩ 731,432,586,748</u>	<u>₩ 783,490,645,306</u>

Details of interest expenses by sources included in finance costs for the years ended December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<b>2019</b>	<b>2018</b>
Short-term borrowings	₩ 5,998,164,131	₩ 5,258,874,497
Long-term borrowings	82,006,064,345	65,408,344,720
Bond payables	316,132,779,675	328,635,550,169
Derivative liabilities	54,747,916,675	14,929,367,130
Lease liability	14,918,929,729	-
Finance lease liability	-	9,745,897,347
Other financial liabilities	789,450,498	2,042,632,637
	<u>₩ 474,593,305,053</u>	<u>₩ 426,020,666,500</u>

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**39. Income Tax Expense**

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

<i>(in Korean won)</i>	<u>2019</u>	<u>2018</u>
Current income tax	₩ 165,120,598,417	₩ 168,414,741,348
Tax directly charged to equity	34,114,477,553	(151,321,246,819)
Changes in deferred taxes arising from temporary differences	219,664,333,219	307,398,698,209
Adjustment for prior periods	45,099,027,827	(96,158,259,104)
Income tax expense	<u>₩ 463,998,437,016</u>	<u>₩ 228,333,933,634</u>

Reconciliations of expected income tax expense computed by applying the statutory income tax rate to profit (loss) before income tax to the actual income tax expense for the years ended December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<u>2019</u>	<u>2018</u>
Profit (loss) before income tax	₩ 379,060,620,135	₩ (931,207,088,334)
Income tax expense computed at the statutory rate <sup>1</sup>	91,732,670,073	(225,352,115,377)
Adjustments		
Adjustments to prior year tax return	(957,903,194)	(930,001,068)
Non-taxable income	(18,961,389,592)	(762,260,333)
Non-deductible expenses	24,198,713,324	(15,913,933,780)
Temporary differences not recognized in deferred tax assets	179,802,009,967	309,722,658,943
Differences in tax rates in overseas entities	288,843,951,397	227,486,797,634
Effect of changes in tax rates	<u>(145,758,642,786)</u>	<u>(17,991,916,745)</u>
	418,899,409,189	276,259,229,274
Effect from temporary differences not recognized in prior years	<u>45,099,027,827</u>	<u>(47,925,295,640)</u>
Income tax expense	<u>₩ 463,998,437,016</u>	<u>₩ 228,333,933,634</u>
Effective tax rate	-	-

<sup>1</sup> The expected applicable statutory tax rate for the years ended December 31, 2019 and 2018, is both 24.2%, which is the Korea statutory corporate income tax rate where the Group is domiciled.



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**39. Income Tax Expense(Cont'd)**

Income tax recognized as accumulated other comprehensive income for the years ended December 31, 2019 and 2018, are as follows:

(in Korean won)

	2019	2018
Financial assets measured at fair value through other comprehensive income	₩ -	₩ (115,657,711,569)
Net change in the unrealized fair value of derivative using cash flow hedge accounting	33,092,704,642	(36,199,889,123)
Remeasurement components	1,021,772,911	536,353,877
	<b>₩ 34,114,477,553</b>	<b>₩ (151,321,246,815)</b>

Changes in deferred income tax assets (liabilities) recognized in the consolidated statements of financial position for the years ended December 31, 2019 and 2018, are as follows:

(in Korean won)

	2019				
	Beginning balance	Amounts recognized in profit or loss	Amounts recognized in other comprehensive income	Others	Ending balance
<b>Deferred income tax on temporary differences</b>					
Contributions for construction	₩ 689,076,085	₩ (718,380,770)	₩ -	₩ 29,304,685	₩ -
Investment in associates and others	41,261,540,597	(43,950,309,873)	-	1,761,040,345	(927,728,931)
Financial guarantee liabilities	98,389,028,086	975,657,446	-	(99,334,873,340)	29,812,192
Allowance for doubtful accounts	62,597,695,028	(16,984,418,051)	-	2,337,015,812	47,950,292,789
Financial assets measured at fair value through other comprehensive income	(21,412,227,719)	22,357,343,013	-	(910,840,941)	34,274,353
Intangible assets other than goodwill	317,695,240,079	(304,454,884,414)	-	13,330,631,009	26,570,986,674
Accrued expenses	15,702,777,532	(16,370,577,435)	-	667,799,903	-
Asset retirement obligation	36,256,829,958	(40,873,207,187)	-	1,562,617,208	(3,053,760,021)
Property, plant and equipment	(1,569,762,086)	60,324,785,242	-	(461,990,660)	58,293,032,496
Land	(64,962,508,952)	67,725,202,183	-	(2,762,693,231)	-
Loss on valuation of derivative	(13,412,499,508)	(2,099,529,148)	19,736,552,670	(595,008,578)	3,629,515,436
Defined benefit liabilities	4,761,545,132	(10,851,179,225)	1,021,772,911	235,261,872	(4,832,599,310)
Others	(74,985,082,805)	(12,186,433,631)	-	100,241,367,278	13,069,850,842
	<b>401,011,651,427</b>	<b>(297,105,931,850)</b>	<b>20,758,325,581</b>	<b>16,099,631,362</b>	<b>140,763,676,520</b>
Deferred assets of subsidiaries	605,588,612,356	73,362,833,298	13,356,151,972	20,611,145,816	712,918,743,442
Deferred tax liabilities of subsidiaries	(185,533,918,235)	(29,726,348,460)	-	(6,387,500,016)	(221,647,766,711)
	<b>420,054,694,121</b>	<b>43,636,484,838</b>	<b>13,356,151,972</b>	<b>14,223,645,800</b>	<b>491,270,976,731</b>
	<b>₩ 821,066,345,548</b>	<b>₩ (253,469,447,012)</b>	<b>₩ 34,114,477,553</b>	<b>₩ 30,323,277,162</b>	<b>₩ 632,034,653,251</b>

Temporary differences not recognized in deferred tax assets, tax loss carryforwards and tax deduction are ₩ 15,953,023 million and ₩ 20,095 million as of December 31, 2019.

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**39. Income Tax Expense(Cont'd)**

(in Korean won)

	2018				
	Beginning balance	Amounts recognized in profit or loss	Amounts recognized in other comprehensive income	Others	Ending balance
<b>Deferred income tax on temporary differences</b>					
Contributions for construction	₩ 867,382,656	₩ (212,673,686)	₩ -	₩ 34,367,115	₩ 689,076,085
Investment in associates and others	33,023,590,281	6,690,291,628	-	1,547,658,688	41,261,540,597
Financial guarantee liabilities	11,638,007,477	(12,844,559,104)	-	299,483,830	(907,067,797)
Allowance for doubtful accounts	149,986,168,764	(92,430,755,415)	-	5,042,281,679	62,597,695,028
Financial assets measured at fair value through other comprehensive income	160,559,835,413	(70,304,421,105)	(115,657,712,112)	3,990,070,085	(21,412,227,719)
Intangible assets other than goodwill	193,868,790,222	113,539,357,337	-	10,287,092,520	317,695,240,079
Accrued expenses	44,504,264,277	(30,251,933,178)	-	1,450,446,433	15,702,777,532
Asset retirement obligation	43,429,996,273	(8,921,852,969)	-	1,748,686,654	36,256,829,958
Property, plant and equipment	9,818,180,843	(11,627,788,851)	-	239,845,922	(1,569,762,086)
Land	(62,065,115,534)	(189,051,345)	-	(2,708,342,073)	(64,962,508,952)
Loss on valuation of derivative	(4,655,120,898)	(8,125,587,865)	(292,698,505)	(339,092,240)	(13,412,499,508)
Defined benefit liabilities	2,663,394,376	1,414,151,773	536,353,338	147,645,645	4,761,545,132
Others	(3,115,330,752)	27,123,351,161	-	302,992,669	24,311,013,078
	<u>580,524,043,398</u>	<u>(86,141,471,619)</u>	<u>(115,414,057,279)</u>	<u>22,043,136,927</u>	<u>401,011,651,427</u>
Deferred assets of subsidiaries	638,390,482,186	(23,755,546,561)	(35,907,190,123)	26,860,866,854	605,588,612,356
Differences in fair value and book value from business combination and others	(47,820,529,025)	4,056,653,307	-	(2,018,766,914)	(45,782,642,632)
Deferred tax liabilities of subsidiaries	(84,996,664,031)	(50,237,085,773)	-	(4,517,525,799)	(139,751,275,603)
	<u>505,573,289,130</u>	<u>(69,935,979,027)</u>	<u>(35,907,190,123)</u>	<u>20,324,574,141</u>	<u>420,054,694,121</u>
	<u>₩ 1,086,097,332,528</u>	<u>₩ (156,077,450,646)</u>	<u>₩ (151,321,247,402)</u>	<u>₩ 42,367,711,068</u>	<u>₩ 821,066,345,548</u>

Details of deferred income tax assets (liabilities) recognized in the consolidated statements of financial position as of December 31, 2019 and 2018, are as follows:

(in Korean won)

	2019	2018
Deferred income tax assets	₩ 853,682,419,962	₩ 1,006,600,263,783
Deferred income tax liabilities	<u>(221,647,766,711)</u>	<u>(185,533,918,235)</u>
	<u>₩ 632,034,653,251</u>	<u>₩ 821,066,345,548</u>

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**40. Expenses classified by nature**

Expenses classified by nature for the year ended December 31, 2019, are as follows:

	2019			
	Changes in inventories	Selling and administrative expenses	Cost of sales	Total
Changes in inventories - merchandise	₩ 4,623,193,955	₩ -	₩ -	₩ 4,623,193,955
Changes in inventories - finished goods	(5,440,776,878)	-	-	(5,440,776,878)
Changes in inventories - others	1,838,057,359	-	-	1,838,057,359
Purchases of inventories	-	-	44,886,072,373	44,886,072,373
Raw materials used	-	-	4,903,613,990	4,903,613,990
Salaries	-	100,704,455,485	198,242,784,353	298,947,239,838
Severance and retirement benefits	-	9,621,482,551	5,637,267,678	15,258,750,229
Other employee benefits	-	12,454,874,364	8,544,833,775	20,999,708,139
Insurance	-	2,391,010,258	17,260,150,506	19,651,160,764
Depreciation	-	18,377,153,596	946,841,765,323	965,218,918,919
Amortization of other than goodwill	-	3,808,668,508	77,385,850,492	81,194,519,000
Commissions and fees	-	27,296,294,826	42,916,303,162	70,212,597,988
Advertising	-	667,137,630	85,911,331	753,048,961
Education and training	-	1,338,705,884	983,651,365	2,322,357,249
Vehicle maintenance	-	1,169,775,294	663,342,775	1,833,118,069
Books and printing	-	249,571,167	12,615,305	262,186,472
Business development	-	134,210,458	48,034,268	182,244,726
Rent	-	1,530,977,066	29,579,778,697	31,110,755,763
Communications	-	478,528,210	624,647,286	1,103,175,496
Transport	-	-	166,498,570,132	166,498,570,132
Taxes and dues	-	1,918,187,952	52,823,893,025	54,742,080,977
Supplies	-	1,527,590,550	9,428,055,149	10,955,645,699
Utilities	-	1,096,977,316	63,721,425,138	64,818,402,454
Repairs	-	4,071,598,362	143,317,219,027	147,388,817,389
Research and development	-	2,799,743,321	-	2,799,743,321
Travel	-	1,764,013,756	540,254,856	2,304,268,612
Clothing expenses	-	22,358,624	119,818,551	142,177,175
Investigation and analysis	-	-	98,734,052	98,734,052
Association fee	-	401,683,818	15,973,590	417,657,408
Sales promotion	-	(93,027,403)	884,142,145	791,114,742
Sales commissions	-	99,826,667,823	-	99,826,667,823
Other selling and administrative expenses	-	12,551,801,518	-	12,551,801,518
Others	-	-	235,327,888,373	235,327,888,373
	<u>₩ 1,020,474,436</u>	<u>₩ 306,110,440,934</u>	<u>₩ 2,051,392,596,717</u>	<u>₩ 2,358,523,512,087</u>

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**40. Expenses classified by nature(Cont'd)**

Expenses classified by nature for the year ended December 31, 2018, are as follows:

(in Korean won)

	<b>2018</b>			
	<b>Changes in inventories</b>	<b>Selling and administrative expenses</b>	<b>Cost of sales</b>	<b>Total</b>
Changes in inventories - merchandise	₩ (2,166,130,660)	₩ -	₩ -	₩ (2,166,130,660)
Changes in inventories - finished goods	(1,423,269,453)	-	-	(1,423,269,453)
Changes in inventories - others	146,485,514	-	-	146,485,514
Purchases of inventories	-	-	34,182,167,445	34,182,167,445
Raw materials used	-	-	3,766,232,879	3,766,232,879
Salaries	-	92,110,887,191	178,494,238,476	270,605,125,667
Severance and retirement benefits	-	6,588,051,487	3,801,892,117	10,389,943,604
Other employee benefits	-	13,675,899,803	8,089,982,740	21,765,882,543
Insurance	-	2,975,850,738	20,045,705,872	23,021,556,610
Depreciation	-	14,536,500,119	1,054,183,402,682	1,068,719,902,801
Amortization of other than goodwill	-	4,266,326,942	62,001,664,794	66,267,991,736
Commissions and fees	-	23,609,616,358	46,026,326,472	69,635,942,830
Advertising	-	447,796,936	67,314,561	515,111,497
Education and training	-	1,387,749,744	881,094,086	2,268,843,830
Vehicle maintenance	-	1,236,623,022	656,060,103	1,892,683,125
Books and printing	-	506,161,007	18,992,234	525,153,241
Business development	-	135,313,211	53,165,341	188,478,552
Rent	-	5,490,100,474	46,705,749,168	52,195,849,642
Communications	-	855,492,878	516,253,564	1,371,746,442
Transport	-	1,122,163	74,768,221,914	74,769,344,077
Taxes and dues	-	4,151,844,986	51,843,676,323	55,995,521,309
Supplies	-	1,210,498,478	3,204,195,711	4,414,694,189
Utilities	-	1,197,456,105	56,999,220,911	58,196,677,016
Repairs	-	5,716,625,826	140,774,981,569	146,491,607,395
Research and development	-	1,962,301,570	460,573,477	2,422,875,047
Travel	-	2,035,026,251	512,399,202	2,547,425,453
Clothing expenses	-	15,658,061	113,702,614	129,360,675
Investigation and analysis	-	-	86,338,340	86,338,340
Association fee	-	286,940,239	16,259,441	303,199,680
Sales promotion	-	149,021,221	637,599,753	786,620,974
Sales commissions	-	239,696,216,574	-	239,696,216,574
Other selling and administrative expenses	-	9,726,506,287	-	9,726,506,287
Others	-	-	386,468,357,062	386,468,357,062
	<u>₩ (3,442,914,599)</u>	<u>₩ 433,971,587,671</u>	<u>₩ 2,175,375,768,851</u>	<u>₩ 2,605,904,441,923</u>

**Korea National Oil Corporation and its subsidiaries**  
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**41. Categories of financial instruments**

Details of current financial assets by category as of December 31, 2019 and 2018, are as follows:

(in Korean won)

	2019			
	Fair value through profit or loss	Amortized costs	Fair value – Hedging instruments	Total
Cash and cash equivalents	₩ -	₩ 725,056,410,891	₩ -	₩ 725,056,410,891
Derivative assets	17,172,238,357	-	23,544,577,919	40,716,816,276
Other current financial assets	-	503,309,681	-	503,309,681
Short-term loans	-	2,586,817,903	-	2,586,817,903
Current portion of financial assets at fair value through profit or loss	268,670,204,196	-	-	268,670,204,196
Trade and other receivables	-	484,674,617,029	-	484,674,617,029
	₩ 285,842,442,553	₩ 1,212,821,155,504	₩ 23,544,577,919	₩ 1,522,208,175,976

The above fair values of the financial assets measured at amortized costs do not significantly differ from their book values.

(in Korean won)

	2018		
	Amortized costs	Fair value – Hedging instruments	Total
Cash and cash equivalents	₩ 778,120,148,878	₩ -	₩ 778,120,148,878
Derivative assets	-	70,812,301,106	70,812,301,106
Other current financial assets	16,290,733,056	-	16,290,733,056
Trade and other receivables	444,109,507,070	-	444,109,507,070
	₩ 1,238,520,389,004	₩ 70,812,301,106	₩ 1,309,332,690,110

The above fair values of the financial assets measured at amortized costs do not significantly differ from their book values.

**Korea National Oil Corporation and its subsidiaries**  
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**December 31, 2019 and 2018**

**41. Categories of financial instruments(Cont'd)**

Details of non-current financial assets by category as of December 31, 2019 and 2018, are as follows:

(in Korean won)

	2019				
	Fair value through profit or loss	Fair value through other comprehensive income	Amortized costs	Fair value – Hedging instruments	Total
Financial assets at fair value through profit or loss <sup>1</sup>	₩ 1,495,749,044,152	₩ -	₩ -	₩ -	₩ 1,495,749,044,152
Financial assets at fair value through other comprehensive income	-	6,458,433,615	-	-	6,458,433,615
Long-term loans	-	-	140,150,063,302	-	140,150,063,302
Long-term financial instruments	-	-	5,676,009,105	-	5,676,009,105
Derivative assets	-	-	-	36,886,513,959	36,886,513,959
Long-term trade and other receivables	-	-	44,162,826,491	-	44,162,826,491
	<u>₩ 1,495,749,044,152</u>	<u>₩ 6,458,433,615</u>	<u>₩ 189,988,898,898</u>	<u>₩ 36,886,513,959</u>	<u>₩ 1,729,082,890,624</u>

<sup>1</sup> Loans to related parties and accrued income from related parties are included.

(in Korean won)

	2018				
	Fair value through profit or loss	Fair value through other comprehensive income	Amortized costs	Fair value – Hedging instruments	Total
Financial assets at fair value through profit or loss <sup>1</sup>	₩ 534,982,771,949	₩ -	₩ -	₩ -	₩ 534,982,771,949
Financial assets at fair value through other comprehensive income	-	32,219,497,617	-	-	32,219,497,617
Long-term loans	-	-	150,660,251,045	-	150,660,251,045
Derivative assets	18,999,326,795	-	-	43,388,264,597	62,387,591,392
Long-term financial instruments	-	-	5,085,188,402	-	5,085,188,402
Long-term trade and other receivables	-	-	33,836,113,280	-	33,836,113,280
	<u>₩ 553,982,098,744</u>	<u>₩ 32,219,497,617</u>	<u>₩ 189,581,552,727</u>	<u>₩ 43,388,264,597</u>	<u>₩ 819,171,413,685</u>

<sup>1</sup> Loans to related parties and accrued income from related parties are included.

The above fair values of the financial assets measured at amortized costs do not significantly differ from their book values.

**Korea National Oil Corporation and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2019 and 2018**

**41. Categories of financial instruments(Cont'd)**

Details of current financial liabilities by category as of December 31, 2019 and 2018, are as follows:

(in Korean won)

		2019			
		Fair value through profit or loss	Amortized costs	Fair value – Hedging instruments	Total
Financial liabilities at fair value through profit or loss	₩	13,385,977,456	₩ -	₩ -	₩ 13,385,977,456
Current portion of long-term borrowings		-	443,244,598,733	-	443,244,598,733
Current portion of bond payables		-	982,743,047,853	-	982,743,047,853
Current portion of derivative liabilities		1,270,493,722	-	10,222,388,191	11,492,881,913
Other current financial liabilities		-	9,125,764,549	-	9,125,764,549
Trade and other payables		-	771,657,311,606	-	771,657,311,606
Short-term borrowings		-	115,780,000,000	-	115,780,000,000
	₩	14,656,471,178	₩ 2,322,550,722,741	₩ 10,222,388,191	₩ 2,347,429,582,110

The above fair values of the financial liabilities measured at amortized costs do not significantly differ from their book values.

(in Korean won)

		2018			
		Fair value through profit or loss	Amortized costs	Fair value – Hedging instruments	Total
Financial liabilities at fair value through profit or loss	₩	7,775,280,817	₩ -	₩ -	₩ 7,775,280,817
Current portion of bond payables		-	1,370,081,833,391	-	1,370,081,833,391
Current portion of derivative liabilities		-	-	73,956,922,538	73,956,922,538
Trade and other payables		-	644,690,362,285	-	644,690,362,285
Short-term borrowings		-	69,322,200,000	-	69,322,200,000
	₩	7,775,280,817	₩ 2,084,094,395,676	₩ 73,956,922,538	₩ 2,165,826,599,031

The above fair values of the financial liabilities measured at amortized costs do not significantly differ from their book values.

**Korea National Oil Corporation and its subsidiaries**  
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**December 31, 2019 and 2018**

**41. Categories of financial instruments(Cont'd)**

Details of non-current financial liabilities by category as of December 31, 2019 and 2018, are as follows:

(in Korean won)

		2019			
		Fair value through profit or loss	Amortized costs	Fair value – Hedging instruments	Total
Financial liabilities at fair value through profit or loss	₩	55,382,409,262	₩ -	₩ -	₩ 55,382,409,262
Long-term borrowings		-	1,852,100,224,523	-	1,852,100,224,523
Bond payables		-	10,444,576,145,677	-	10,444,576,145,677
Derivative liabilities		90,948,710	-	91,091,601,451	91,182,550,161
Long-term trade and other payables		-	549,409,820,867	-	549,409,820,867
	₩	55,473,357,972	₩ 12,846,086,191,067	₩ 91,091,601,451	₩ 12,992,651,150,490

The above fair values of the financial liabilities measured at amortized costs do not significantly differ from their book values.

(in Korean won)

		2018			
		Fair value through profit or loss	Amortized costs	Fair value – Hedging instruments	Total
Financial liabilities at fair value through profit or loss	₩	50,189,100,054	₩ -	₩ -	₩ 50,189,100,054
Long-term borrowings		-	2,322,418,296,536	-	2,322,418,296,536
Bond payables		-	9,799,083,099,833	-	9,799,083,099,833
Derivative liabilities		-	-	45,549,580,106	45,549,580,106
Other non-current financial liabilities		-	8,812,849,665	-	8,812,849,665
Long-term trade and other payables		-	434,319,512,101	-	434,319,512,101
	₩	50,189,100,054	₩ 12,564,633,758,135	₩ 45,549,580,106	₩ 12,660,372,438,295

The above fair values of the financial liabilities measured at amortized costs do not significantly differ from their book values.



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**41. Categories of financial instruments(Cont'd)**

Net gains or losses by financial instruments for the years ended December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<u>2019</u>	<u>2018</u>
Financial assets measured at fair value through profit of loss		
Gain on valuation, net	₩ 85,581,975,231	₩ 54,564,402,822
Gain on transactions	2,072,434,884	-
Interest income	-	7,909,810,750
Gain on foreign currency translation, net	16,102,208,624	-
Financial assets measured at amortized costs		
Interest income	22,512,597,370	14,745,885,779
Gain on foreign currency transactions, net	36,889,675,353	26,031,155,565
Loss on foreign currency translation, net	(36,532,658,552)	(15,735,143,688)
Bad debt expenses	(3,186,538,955)	-
Reversal of bad debt allowance	3,495,036,527	-
Financial assets measured at fair value through other comprehensive income		
Dividend income	10,232,367	10,295,683
Other comprehensive loss, net of tax	(27,087,489,925)	(177,207,309,287)
Financial assets designated as hedging instruments		
Gain on transactions	-	4,421,358,354
Gain on valuation	(16,111,435,699)	4,521,583,203
Gain (loss) on foreign currency translation, net	14,995,058,552	(6,207,052,422)
Other comprehensive gain (loss), net of tax	(34,911,286,327)	81,655,150,080
Financial liabilities measured at fair value through profit or loss		
Gain (loss) on valuation	(15,615,393,575)	46,110,559,663
Financial liabilities measured at amortized cost		
Interest cost <sup>1</sup>	(474,248,120,081)	(426,020,666,500)
Loss on foreign currency transactions, net	(2,992,054,091)	(7,347,581,729)
Gain (loss) on foreign currency translation, net	72,007,244,827	(51,240,814,343)
Other financial cost <sup>2</sup>	24,625,957,678	(41,718,347,442)
Financial liabilities designated as hedging instruments		
Gain (loss) on transactions, net	11,338,703,001	(1,088,097,827)
Loss on foreign currency transactions, net	-	(6,766,163,276)
Gain (loss) on foreign currency translation, net	6,107,535,252	(80,765,307,993)
Other comprehensive income (loss), net of tax	(75,744,015,045)	17,701,405,024
	<u>₩ (393,690,332,584)</u>	<u>₩ (556,424,877,584)</u>

<sup>1</sup> Excludes interest cost on provisions amounting to ₩ 345 million and ₩ 1,610 million for the years ended December 31, 2019 and 2018, respectively.

<sup>2</sup> Excludes increase in other provisions amounting to ₩ 52,825 million and ₩ 73,675 million for the years ended December 31, 2019 and 2018, respectively.

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**42. Netting Agreements**

*Offsetting of financial assets and financial liabilities*

As of December 31, 2019 and 2018, financial assets and financial liabilities subject to offsetting, enforceable master netting arrangements and similar agreements are as follows:

(in Korean won)

	2019									
	Gross amounts recognized as financial instruments		Gross amounts of recognized financial instruments set off in the statement of financial position		Net amounts of financial instruments presented in the statement of financial position		Related amounts not set off in the statement of financial position		Net amount	
	W	₩	W	₩	W	₩	W	₩	W	
<b>Financial assets</b>										
Derivative <sup>1</sup>	W 56,612,713,477	₩ -	W 56,612,713,477	₩ -	W (56,612,713,477)	₩ -	W -	₩ -	W -	
	W 56,612,713,477	₩ -	W 56,612,713,477	₩ -	W (56,612,713,477)	₩ -	W -	₩ -	W -	
<b>Financial liabilities</b>										
Derivative <sup>1</sup>	W 102,675,432,074	₩ -	W 102,675,432,074	₩ -	W (56,612,713,477)	₩ -	W -	₩ -	W 46,062,718,597	
	W 102,675,432,074	₩ -	W 102,675,432,074	₩ -	W (56,612,713,477)	₩ -	W -	₩ -	W 46,062,718,597	

<sup>1</sup> Some of derivative contracts are made under International Swaps and Derivative Association (ISDA) master netting agreements. In general, under such agreements the amounts owed by each counter party on a single day in respect of all transactions outstanding in the same currency are aggregated into a single net amount that is payable by one party to the other. In certain circumstances (i.e. when a default occurs), all standing transactions under the agreement are terminated, the termination value is assessed and only a single amount is payable in settlement of all transactions.

(in Korean won)

	2018									
	Gross amounts recognized as financial instruments		Gross amounts of recognized financial instruments set off in the statement of financial position		Net amounts of financial instruments presented in the statement of financial position		Related amounts not set off in the statement of financial position		Net amount	
	W	₩	W	₩	W	₩	W	₩	W	
<b>Financial assets</b>										
Derivative <sup>1</sup>	W 114,200,565,702	₩ -	W 114,200,565,702	₩ -	W (114,200,565,702)	₩ -	W -	₩ -	W -	
	W 114,200,565,702	₩ -	W 114,200,565,702	₩ -	W (114,200,565,702)	₩ -	W -	₩ -	W -	
<b>Financial liabilities</b>										
Derivative <sup>1</sup>	W 119,506,502,644	₩ -	W 119,506,502,644	₩ -	W (114,200,565,702)	₩ -	W -	₩ -	W 5,305,936,942	
	W 119,506,502,644	₩ -	W 119,506,502,644	₩ -	W (114,200,565,702)	₩ -	W -	₩ -	W 5,305,936,942	

<sup>1</sup> Some of derivative contracts are made under International Swaps and Derivative Association (ISDA) master netting agreements. In general, under such agreements the amounts owed by each counter party on a single day in respect of all transactions outstanding in the same currency are aggregated into a single net amount that is payable by one party to the other. In certain circumstances (i.e. when a default occurs), all standing transactions under the agreement are terminated, the termination value is assessed and only a single amount is payable in settlement of all transactions.

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**43. Risk Management**

(a) Capital management

The primary objective of the Group's capital management is to ensure that it maintains a strong credit rating and healthy capital ratios in order to support its business and maximize the owners' value. To maintain the sound capital structure, management periodically reviews the Group's capital structure through short- and long-term borrowings and issuance of share capital. The Group's capital structure consists of equity and net debt, net of cash and cash equivalents and borrowing. No changes were made in the objectives, policies or processes for managing capital for the year ended December 31, 2019.

The Group's debt-to-equity ratios as of December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<b>2019</b>	<b>2018</b>
Total borrowings and debt securities (A)	₩ 13,838,444,016,786	₩ 13,560,905,429,760
Cash and cash equivalents (B)	725,056,410,891	778,120,148,878
Net borrowings and debt securities (A – B = C)	13,113,387,605,895	12,782,785,280,882
Total equity (D)	600,190,391,696	764,064,978,700
Total invested capital (C + D = E)	₩ 13,713,577,997,591	₩ 13,546,850,259,582
Net borrowings and debt securities-to-total invested capital ratio (C/E)	95.62%	94.36%

(b) Financial risk management

The Group is exposed to various risks related to its financial instruments such as credit risk, market risk (currency risk, interest rate risk and price risk) and liquidity risk.

(i) Risk management structure

The board of directors is responsible for implementing and monitoring the Group's risk management structure and the management regularly updates the policies for each risk and confirms the validity of the policies. The purpose of the risk management policies is to identify the risks that could potentially affect the Group's financial results and reduce, to an acceptable level, avoid or eliminate those risks. The policies are reviewed regularly to reflect the current market conditions and the Group's activities. The Group makes constant efforts to improve the policies by monitoring on real time basis and with support from the outside experts. The audit committee oversees the Group's compliance to the risk management policies and procedures and reviews the effectiveness of the structure.

**Korea National Oil Corporation and its subsidiaries**  
**Notes to the consolidated financial statements**  
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**43. Risk Management(Cont'd)**

(ii) Credit risk

Credit risk is the risk of financial loss to the Group if a customer or counterparty to a financial instrument fails to meet its contractual obligations, and arises principally from the Group's receivables from customers, investment securities, derivatives and financial guarantee contracts.

Credit risk also arises from transactions with financial institutions, and such transactions include transactions of cash and cash equivalents, various deposits, and financial instruments such as derivative contracts. The Group manages its exposure to this credit risk by only entering into transactions with banks that have high international credit ratings. The Group implements a credit risk management policy under which the Group only transacts business with counterparties that have a certain level of credit rate evaluated based on financial condition, historical experience, and other factors.

Book values of the financial assets and guarantee amounts by the contract represent the maximum amounts exposed to the credit risk. Details of the Group's level of maximum exposure to credit risk as of December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<u>2019</u>	<u>2018</u>
Cash and cash equivalents	₩ 725,056,410,891	₩ 778,120,148,878
Derivative assets	77,603,330,235	114,200,565,702
Financial assets at amortized costs	677,753,643,511	649,981,792,853
Financial assets measured at fair value through profit or loss	1,764,419,248,348	534,982,771,949
Financial guarantee contracts	36,658,248,549	35,401,267,665

Details of maturities for financial assets measured at amortized costs and their impaired amounts as of December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<u>2019</u>		<u>2018</u>	
	<b>Balance</b>	<b>Impairment</b>	<b>Balance</b>	<b>Impairment</b>
Not past due	₩ 1,156,966,311,934	₩ (565,239,418,546)	₩ 1,160,188,593,121	₩ (550,831,049,264)
0 ~ 30 days	7,495,166,854	-	12,924,155,633	-
31 ~ 60 days	8,139,725,471	-	11,919,620,225	-
More than 60 days	137,277,621,083	(66,885,763,284)	91,215,560,863	(75,435,087,725)
	<u>₩ 1,309,878,825,342</u>	<u>₩ (632,125,181,830)</u>	<u>₩ 1,276,247,929,842</u>	<u>₩ (626,266,136,989)</u>

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**43. Risk Management(Cont'd)**

Details of changes in allowance for impairment of financial assets measured at amortized costs for the years ended December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<u>2019</u>	<u>2018</u>
Beginning balance	₩ 626,266,136,989	₩ 741,870,030,554
Initial adoption of K-IFRS No. 1109	-	(118,737,587,064)
Impairment loss	3,186,538,955	765,168,480
Reversal of impairment loss	(3,495,036,527)	(8,356,085,894)
Write-off	(19,139,537,000)	(11,528,569)
Others <sup>1</sup>	25,307,079,413	10,736,139,482
Ending balance	<u>₩ 632,125,181,830</u>	<u>₩ 626,266,136,989</u>

<sup>1</sup> Include the effect of changes in exchange rates and others.

Aging of past due but not impaired financial assets as of December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<u>2019</u>					
	Book value	Less than 6 months	6~12 Months	1~2 years	2~5 years	More than 5 years
Financial assets measured at amortized cost	₩86,026,750,125	₩61,412,135,028	₩12,451,094,234	₩5,111,812,023	₩6,940,099,146	₩ 111,609,694

<i>(in Korean won)</i>	<u>2018</u>					
	Book value	Less than 6 months	6~12 Months	1~2 years	2~5 years	More than 5 years
Financial assets measured at amortized cost	₩40,624,248,806	₩19,576,505,184	₩13,858,426,959	₩4,280,663,807	₩2,908,652,856	₩ -

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**43. Risk Management(Cont'd)**

(iii) Market risk

① Crude oil price risk

Crude oil price risk is the risk that the profit or cash flows will fluctuate due to changes in the international market prices of crude oil. The Group entered into derivative contracts according to the expected fluctuations of changes in the international market prices of crude oil to avoid the crude oil price risk and secure the product margin. With all other variables held constant, the changes in Company's profit before tax for the years ended December 31, 2019 and 2018, from crude oil price fluctuations are as follows:

<i>(in Korean won)</i>	2019		2018	
	Increase by 10%	Decrease by 10%	Increase by 10%	Decrease by 10%
Increase (decrease) of profit before tax	₩ 240,076,760,867	₩ (240,076,760,867)	₩ 242,710,154,294	₩ (242,710,154,294)

② Interest rate risk

The Group is exposed to interest rate risk due to its borrowings with floating interest rates. Assuming a 100 basis points increase or decrease in interest rates as of December 31, 2019, the Group's total equity and its profit or loss will also increase or decrease. The Group mitigates risks from fluctuation in interest rate through interest rate swap contracts.

Except for the effect of derivative transactions, this analysis considers the Group's total exposed risks associated with the fluctuation in interest rate. This analysis assumes that all other variables are held constant and the same method is applied as the method used in the prior periods. The details of increase or decrease in the total equity and profit or loss are as follows:

<i>(in Korean won)</i>	2019		2018	
	Increase by 10%	Decrease by 10%	Increase by 10%	Decrease by 10%
Increase (decrease) of profit before tax	₩ (20,039,662,441)	₩ 20,039,662,441	₩ (19,508,418,237)	₩ 19,508,418,237

③ Foreign currency risk

Items included in the financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which the entity operates (the 'functional currency'). The Group is exposed to currency risk from the sales, purchases and borrowings not in United States dollar. The Group reduces currency risk from fluctuations in foreign exchange rates by carrying out and interest rate swap and currency swaps.

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**43. Risk Management(Cont'd)**

Without considering the effect of the derivative aforementioned, the Group's exposures to foreign currency risk as of December 31, 2019 and 2018, are as follows:

(in foreign currencies and Korean won)

	Currency unit	2019		2018	
		Foreign currencies	Equivalent to Korean won	Foreign currencies	Equivalent to Korean won
<b>Financial assets</b>					
denominated in foreign currencies	KRW	287,313,762,103	₩ 287,313,762,103	333,940,894,904	₩ 333,940,894,904
	VND	33,545,748,294	1,677,722,133	-	-
	EGP	85,300,000	6,152,769,182	214,400,000	13,352,439,648
			₩ 295,144,253,418		₩ 347,293,334,552
<b>Financial liabilities</b>					
denominated in foreign currencies	KRW	1,208,015,872,660	₩ 1,208,015,872,660	978,325,079,760	₩ 978,325,079,760
	EUR	422,823,600	543,801,454,808	377,123,321	479,344,141,943
	SGD	403,304,284	344,008,236,414	403,107,939	325,945,912,062
	HKD	2,044,091,981	303,874,713,869	2,044,015,739	288,365,596,876
	CHF	801,117,083	957,751,495,463	501,082,736	562,592,736,400
	AUD	-	-	679,423,998	528,913,464,401
	JPY	70,086,700,276	742,489,391,453	-	-
	VND	80,095,685,087	4,005,822,211	-	-
	NOK	62,300,000	8,179,648,596	98,700,000	12,679,958,403
	CAD	1,411,833	1,251,628,112	-	-
			₩ 4,113,378,263,586		₩ 3,176,166,889,845

The exchange rates applied for the years ended and as of December 31, 2019 and 2018, are as follows:

(in US dollar per one foreign currency)

	Average rates		Reporting date spot rate	
	2019	2018	2019	2018
KRW	0.0009	0.0009	0.0009	0.0009
EUR	1.1196	1.1810	1.1108	1.1440
SGD	0.7331	0.7414	0.7367	0.7318
HKD	0.1276	0.1276	0.1284	0.1277
CHF	1.0066	1.0221	1.0326	1.0162
AUD	0.6951	0.7479	0.6879	0.7046
AED	0.2722	0.2723	0.2722	0.2723
JPY	0.0092	0.0091	0.0092	0.0091
EGP	0.0595	0.0561	0.0623	0.0557
NOK	0.1137	0.1230	0.1134	0.1149
CAD	0.7537	0.7719	0.7657	0.7337

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**43. Risk Management(Cont'd)**

The Group and its subsidiaries use various functional currencies depending on their primary economic environment in which the entities operate. The functional currencies of Harvest Operations Corp., Dana Petroleum Limited, and KNOC Kaz B.V. are CAD, GBP and KZT, respectively. A sensitivity analysis below indicates the effect on the Group's profit before tax from the fluctuations in each function currency exchange rate. As of December 31, 2019 and 2018, the effect of a 5% increase or decrease in each functional currency exchange rate on profit before tax assuming all other variables held constant is as follows:

*(in Korean won)*

		2019		2018	
		Increase by 5%	Decrease by 5%	Increase by 5%	Decrease by 5%
Increase (decrease)					
of profit before tax	KRW	₩ (46,347,228,156)	₩ 46,347,228,156	₩ (9,324,609,281)	₩ 9,324,609,281
	HKD	(15,296,750,744)	15,296,750,744	(14,188,742,789)	14,188,742,789
	CHF	(48,212,257,328)	48,212,257,328	(27,681,816,826)	27,681,816,826
	EUR	(27,374,424,158)	27,374,424,158	(23,539,948,718)	23,539,948,718
	AUD	-	-	(26,024,661,698)	26,024,661,698
	JPY	(37,376,177,196)	37,376,177,196	-	-
	SGD	(17,317,032,336)	17,317,032,336	(16,037,844,873)	16,037,844,873
	Others	(282,231,048)	282,231,048	(623,904,759)	623,904,759



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**43. Risk Management(Cont'd)**

(iv) Liquidity risk

The details of contractual maturities of financial liabilities and other contractual obligations as of December 31, 2019, are as follows:

(in Korean won)

		2019					
	Book value	Contractual cash flows <sup>1</sup>	Less than 1 year	1 ~ 2 years	2 ~ 5 years	More than 5 years	
Short-term borrowings	₩ 115,780,000,000	₩ 116,838,200,136	₩ 116,838,200,136	₩ -	₩ -	₩ -	
Current portion of long-term borrowings <sup>2</sup>	443,244,598,733	444,760,737,913	444,760,737,913	-	-	-	
Bond payables	11,427,319,193,530	13,065,960,663,574	1,259,749,094,798	2,055,152,116,934	6,259,859,731,384	3,491,199,720,458	
Long-term borrowings <sup>2</sup>	1,852,100,224,523	1,930,417,517,791	48,227,373,673	1,183,078,297,989	494,721,136,779	204,390,709,350	
Lease liabilities	418,717,695,662	740,782,424,549	45,018,724,868	23,433,173,129	82,825,958,156	589,504,568,396	
Trade and other payables <sup>2</sup>	1,321,067,132,473	1,321,067,132,474	1,179,893,802,904	6,359,277,431	6,548,972,328	128,265,079,811	
Derivative liabilities	102,675,432,074	219,260,710,879	1,996,743,038	34,440,537,930	92,940,391,789	89,883,038,122	
Financial liabilities measured at fair value through profit or loss	68,768,386,718	126,081,417,655	-	22,429,725,416	25,607,921,956	78,043,770,283	
Financial guarantee liabilities <sup>3</sup>	9,125,764,549	9,125,764,525	9,125,764,525	-	-	-	
	₩ 15,758,798,428,262	₩ 17,974,294,569,496	₩ 3,105,610,441,855	₩ 3,324,893,128,829	₩ 6,962,504,112,392	₩ 4,581,286,886,420	

<sup>1</sup> Contractual cash flows include the estimated interest payments but exclude the effects of offsetting contracts.

<sup>2</sup> Loans from Special Accounting for Energy and Resources ("SAER") included in borrowings have no specific maturity as entities were borrowed under the condition that the Group is not obligated to make repayment of the principal and interest until the Group successfully complete the oil exploration.

<sup>3</sup> Financial guarantee is allocated at the earliest period that the maximum amount could be requested.

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

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#### 43. Risk Management(Cont'd)

The Group had a working capital (current assets minus current liabilities) deficit of ₩ 895,790 million as of December 31, 2019. The Group's management currently anticipates that expected future capital contributions from the Government and the cash flows that the Group generates from its operations, together with its existing cash and cash equivalents and credit sources, will be sufficient to meet its currently anticipated needs for working capital, capital expenditures and business expansion throughout the foreseeable future.

##### (v) Other price risk

Other price risk is the risk that the fair value or cash flows of financial instruments will fluctuate because of changes in market prices other than interest rate risk and foreign currency risk. The Group's marketable available-for-sale equity securities are exposed to market price risk arising from the fluctuation in the price of the securities. However, the Group's management believes that the effect of the fluctuation in the price of the securities on the financial statements is not significant.

##### (c) Fair value measurement

A number of the Group's accounting policies and disclosures require the measurement of fair values, for both financial and non-financial assets and liabilities. The Group has an established control framework with respect to the measurement of fair values. This includes a valuation team that has overall responsibility for overseeing all significant fair value measurements, including Level 3 fair values, and reports directly to the CFO.

The valuation team regularly reviews significant unobservable inputs and valuation adjustments. If third party information, such as broker quotes or pricing services, is used to measure fair values, then the valuation team assesses the evidence obtained from the third parties to support the conclusion that such valuations meet the requirements of K-IFRS, including the level in the fair value hierarchy in which such valuations should be classified.

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

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

If the inputs used to measure the fair value of an asset or a liability fall into different levels of the fair value hierarchy, then the fair value measurement is categorized in its entirety in the same level of the fair value hierarchy as the lowest level input that is significant to the entire measurement.

**Korea National Oil Corporation and its subsidiaries**  
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**43. Risk Management(Cont'd)**

(i) Fair value and book value of financial assets and liabilities as of December 31, 2019 and 2018, are as follows:

(in Korean won)	2019		2018	
	Book value	Fair value	Book value	Fair value
<b>Assets recognized at fair value</b>				
Financial assets measured at fair value through other comprehensive income	₩ 6,458,433,615	₩ 6,458,433,615	₩ 32,219,497,617	₩ 32,219,497,617
Financial assets measured at fair value through profit or loss	1,764,419,248,348	1,764,419,248,348	534,982,771,949	534,982,771,949
Currency forwards	26,888,469,307	26,888,469,307	-	-
Currency swap	13,852,377,213	13,852,377,213	25,925,031,107	25,925,031,107
Interest rate swap	161,161,777	161,161,777	6,014,151,165	6,014,151,165
Other derivative	36,701,321,938	36,701,321,938	101,260,710,226	101,260,710,226
	<u>₩ 1,848,481,012,198</u>	<u>₩ 1,848,481,012,198</u>	<u>₩ 700,402,162,064</u>	<u>₩ 700,402,162,064</u>
<b>Assets recognized at amortized costs</b>				
Cash and cash equivalent	₩ 725,056,410,891	₩ 725,056,410,891	₩ 778,120,148,878	₩ 778,120,148,878
Loans	142,736,881,205	142,736,881,205	150,660,251,045	150,660,251,045
Long-term financial instruments	5,676,009,105	5,676,009,105	5,085,188,402	5,085,188,402
Other financial assets	503,309,681	503,309,681	16,290,733,056	16,290,733,056
Trade receivables and other receivables	528,837,443,520	528,837,443,520	477,945,620,350	477,945,620,350
	<u>₩ 1,402,810,054,402</u>	<u>₩ 1,402,810,054,402</u>	<u>₩ 1,428,101,941,731</u>	<u>₩ 1,428,101,941,731</u>
<b>Liabilities recognized at fair value</b>				
Currency forwards	₩ -	₩ -	₩ 233,258,134	₩ 233,258,134
Currency swap	72,488,781,303	72,488,781,303	108,032,688,791	108,032,688,791
Interest swap	26,207,647,354	26,207,647,354	11,114,948,365	11,114,948,365
Financial liabilities measured at fair value through profit or loss	68,768,386,718	68,768,386,718	57,964,380,871	57,964,380,871
Other derivative	3,979,003,417	3,979,003,417	125,607,354	125,607,354
	<u>₩ 171,443,818,792</u>	<u>₩ 171,443,818,792</u>	<u>₩ 177,470,883,515</u>	<u>₩ 177,470,883,515</u>
<b>Liabilities recognized at amortized costs</b>				
Bond payables without collateral	₩ 11,427,319,193,530	₩ 11,427,319,193,530	₩ 11,169,164,933,224	₩ 11,169,164,933,224
Bank borrowings without collateral	2,411,124,823,256	2,411,124,823,256	2,391,740,496,536	2,391,740,496,536
Trade and payables	1,321,067,132,473	1,321,067,132,473	1,079,009,874,386	1,079,009,874,386
Others	9,125,764,549	9,125,764,549	8,812,849,665	8,812,849,665
	<u>₩ 15,168,636,913,808</u>	<u>₩ 15,168,636,913,808</u>	<u>₩ 14,648,728,153,811</u>	<u>₩ 14,648,728,153,811</u>

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**43. Risk Management(Cont'd)**

The fair values of the financial assets and liabilities measured at amortized costs do not significantly differ from their book values.

(ii) Fair value hierarchy

The following table provides an analysis of financial instruments that are measured subsequent to initial recognition at fair value, classified as Level 1, 2, or 3, based on the degree to which the fair value is observable.

- Level 1: Unadjusted quoted prices in active markets for identical assets or liabilities;
- Level 2: Inputs other than quoted prices that are observable for the asset or liability either directly or indirectly; and
- Level 3: Inputs that are not based on observable market data.

Fair values of financial instruments by hierarchy level as of December 31, 2019, are as follows:

(in Korean won)

	<b>2019</b>			
	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Total</b>
<b>Financial assets at fair value</b>				
Through other comprehensive income	₩ 123,121,459	₩ -	₩ 6,335,312,156	₩ 6,458,433,615
Through profit or loss	-	268,670,204,196	1,495,749,044,152	1,764,419,248,348
Derivative assets	-	60,431,091,949	17,172,238,286	77,603,330,235
	<u>₩ 123,121,459</u>	<u>₩ 329,101,296,145</u>	<u>₩ 1,519,256,594,594</u>	<u>₩ 1,848,481,012,198</u>
<b>Financial liabilities at fair value</b>				
Derivative liabilities	₩ -	₩ 102,675,432,074	₩ -	₩ 102,675,432,074
Through profit or loss	-	-	68,768,386,718	68,768,386,718
	<u>₩ -</u>	<u>₩ 102,675,432,074</u>	<u>₩ 68,768,386,718</u>	<u>₩ 171,443,818,792</u>

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**44. Transaction with Government and Public Institution**

Transactions with government and public institution for the years ended December 31, 2019 and 2018, are as follows:

(in Korean won)

Transaction	Income		Expenses	
	2019	2018	2019	2018
KOREA GAS CORPORATION				
Sales	₩ 91,410,158,836	₩ 112,977,540,669	₩ -	₩ -
Ministry of Trade, Industry and Energy				
Gains on exemption of debts	76,223,080,929	-	-	-
Ministry of Trade, Industry and Energy				
Loss on cancellation of debt exemption	-	-	1,065,761,174	11,033,258
Ministry of Trade, Industry and Energy				
Government grants income	5,466,365,576	1,327,324,822	-	-
	<u>₩ 173,099,605,341</u>	<u>₩ 114,304,865,491</u>	<u>₩ 1,065,761,174</u>	<u>₩ 11,033,258</u>

The outstanding assets and liabilities, arising from the transactions with government and public institution at December 31, 2019 and 2018, are as follows:

(in Korean won)

Transaction	Receivables		Payables	
	2019	2018	2019	2018
KOREA GAS CORPORATION				
Trade receivables	₩ 5,920,959,097	₩ 10,909,038,611	₩ -	₩ -
Ministry of Trade, Industry and Energy				
Borrowings based on Accounting for Energy and Resources	-	-	204,605,357,450	224,181,435,276
Ministry of Trade, Industry and Energy				
Government grants for others	-	-	2,573,235,542	3,312,019,237
	<u>₩ 5,920,959,097</u>	<u>₩ 10,909,038,611</u>	<u>₩ 207,178,592,883</u>	<u>₩ 227,493,454,513</u>

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**45. Related Parties**

The Group's major related parties as of December 31, 2019, are as follows:

<u>Type</u>	<u>Related parties</u>
Associates	Oilhub Korea Yeosu Co., Ltd. Kernhem B.V. ADA Oil LLP Parallel Petroleum LLC KNOC EF Star LLC and its subsidiaries
Joint ventures	KNOC Inam Ltd KNOC Kamchatka Petroleum Ltd. KNOC Bazian Ltd. KNOC Nigerian West Oil Company Ltd. KNOC Nigerian East Oil Company Ltd. Korea kamchatka Co. Ltd KC kazakh B.V Offshore International Group, Inc. KNOC Ferghana Ltd. KNOC Ferghana2 Ltd. KADOC Ltd. Korea Energy Terminal Co., Ltd Deep Basin Partnership HKMS Partnership KNOC-VOGO Eagle Ford LLC

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**45. Related Parties(Cont'd)**

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

(in Korean won)		Sales and others				Purchases and others			
		2019		2018		2019		2018	
Transaction									
Oilhub Korea Yeosu Co., Ltd.	Revenues from rental services	₩	1,567,551,293	₩	1,458,025,311	₩	-	₩	-
	Interest expense		-		-		805,576,952		-
	Acquisition of right-of-use assets		-		-		31,668,352,864		-
	Expenses from rental services		-		-		-		13,943,446,770
Kernhem B.V.	Interest on loans		2,633,894,184		-		-		-
	Other bad debt expenses		-		-		2,633,894,184		-
	Reversal of bad debt allowance		2,629,628,173		4,208,439,521		-		-
ADA Oil LLP	Interest on loans		552,644,771		-		-		-
	Other bad debt expenses		-		-		552,644,771		-
	Reversal of bad debt allowance		865,408,354		1,754,654,528		-		-
KNOC Nigerian West Oil Company Ltd.	Gain on valuation of financial asset measured at fair value through profit or loss		-		18,588,468,200		-		-
	Loss on valuation of financial asset measured at fair value through profit or loss		-		-		37,120,683,552		-
KNOC Nigerian East Oil Company Ltd.	Gain on valuation of financial asset measured at fair value through profit or loss		-		22,338,015,525		-		-
	Loss on valuation of financial asset measured at fair value through profit or loss		-		-		39,319,500,482		-
Offshore International Group, Inc.	Interest on loans		1,857,714,950		2,522,635,529		-		-
KNOC Ferghana2 Ltd.	Loss on valuation of financial asset measured at fair value through profit or loss		-		-		5,751,308,509		863,240,365
KADOC Ltd.	Gain on valuation of financial asset measured at fair value through profit or loss		12,090,737,904		7,909,810,750		-		-
KNOC Aral Ltd.	Reversal of bad debt allowance		-		77,122,492		-		-
Parallel Petroleum LLC	Interest on loans		-		307,771,240		-		-
	Other finance expenses		-		-		-		5,921,111,508
Deep Basin Partnership	Other expenses		-		-		351,486,849		1,802,514,893
	Other income		621,375,388		-		-		-
HKMS Partnership	Other expenses		-		-		-		354,977,862
	Other income		216,115,380		-		-		-
KNOC EF STAR LLC	Interest expense		-		-		14,197,883,161		-
		₩	23,035,070,397	₩	59,164,943,096	₩	132,401,331,324	₩	22,885,291,398

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**45. Related Parties(Cont'd)**

The outstanding receivables and payables, except for loans, arising from the transactions with related parties as of December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>		Receivables		Payables	
		2019	2018	2019	2018
Oilhub Korea Yeosu Co., Ltd.	Account payables	₩ -	₩ -	₩ -	₩ 1,860,742,914
	Lease liabilities	-	-	17,756,095,979	-
KNOC Nigerian West Oil Company Ltd.	Accrued interest	-	21,859,324,700	-	-
KNOC Nigerian East Oil Company Ltd.	Accrued interest	-	24,252,145,516	-	-
Offshore International Group, Inc.	Accrued interest	57,573,631	66,545,010	-	-
KADOC Ltd.	Accrued interest	41,995,191,781	28,957,687,376	-	-
ADA Oil LLP	Other payables	-	-	118,003,312	-
	Trade receivables	1,317,507	167,458	-	-
Deep Basin Partnership	Trade payables	-	-	-	9,540,220,317
HKMS Partnership	Trade payables	-	-	-	708,915,160
KNOC EF STAR LLC	Accrued expenses	-	-	1,086,982,062	-
		<u>₩ 42,054,082,919</u>	<u>₩ 75,135,870,060</u>	<u>₩ 18,961,081,353</u>	<u>₩ 12,109,878,391</u>

The Group recognized reversal of other bad debt expenses of ₩ 3,495 million on receivables arising from the transaction with related parties for the year ended December 31, 2019.

Loans to related parties as of December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	2019	2018
<b>Joint ventures</b>		
KNOC Nigerian West Oil Company Ltd.	₩ 118,095,600	₩ 48,553,559,284
KNOC Nigerian East Oil Company Ltd.	106,807,050	55,842,191,996
Offshore International Group, Inc.	32,707,850,000	39,482,906,358
KADOC Ltd.	514,706,627,297	302,848,849,830
Korea Energy Terminal Co., Ltd	2,586,817,903	-
	<u>₩ 550,226,197,850</u>	<u>₩ 446,727,507,468</u>



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**45. Related Parties(Cont'd)**

For the year ended December 31, 2019, the Group provided associates and joint ventures with additional loans of ₩ 158,604 million and received ₩ 40,891 million as the repayment of loans. Also, the Group recognized loss on valuation of ₩ 82,191 million and increased amount due to change in foreign currency amounting to ₩ 15,268 million have been recognized.

Borrowings from the related parties as of December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<u>2019</u>	<u>2018</u>
<b>Associates</b>		
KNOC EF Star LLC	₩ 452,602,150,002	452,602,151,555

The Group entered into Commercial Storage Agreement with Oilhub Korea Yeosu Co., Ltd., its associates, and leased storage with a volume of 240,000cbm per year. The agreement is to be terminated on April 1, 2021.

In accordance with the lease agreement entered into with the associates, the Group recognized right-of-use asset of ₩ 30,377 million and lease liability of ₩ 30,377 million for the year ended January 1, 2019, repayment of lease liability of ₩ 14,552 million, and interest expense of ₩ 806 million for the year ended December 31, 2019.

As of December 31, 2019, the Group does not provide any guarantees to the related parties.

As of December 31, 2019, the Group is not provided with any guarantees from the related parties.

The compensations to the parent company's key management personnel of the Group for the years ended December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<u>2019</u>	<u>2018</u>
Salaries	₩ 444,403,410	₩ 351,387,680
Severance and retirement benefits	43,449,303	25,368,460
	<u>₩ 487,852,713</u>	<u>₩ 376,756,140</u>

JB Patriot Investment Type Private Investment Limited Liability Company entered into an agreement of acquiring redeemable preferred shares with KNOC Eagle Ford Corporation and KNOC EF Star LLC, its subsidiary. The Group entered into the cash deficiency support agreement with KNOC Eagle Ford Corporation and its associates.

The Group entered into a USD 70 million loan agreement with maturity date of Feb 19, 2021 with Offshore International Group Inc., an investment in joint venture. As of December 31, 2019, Offshore International Group Inc. had ₩ 32,708 million drawn under the loan agreement.

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**46. Additional Cash Flow Statement Information**

*Non-Cash Transactions*

Significant non-cash investment and finance transactions excluded from statements of cash flows for the years ended December 31, 2019 and 2018, are as follows:

<i>(in Korean won)</i>	<b>2019</b>	<b>2018</b>
Bond payables transferred to current portion	₩ 989,538,588,269	₩ 1,403,666,484,755
Mining rights transferred to financial assets measured at fair value through profit or loss <sup>1</sup>	854,313,296,086	
Long-term borrowings transferred to current portion	233,130,000,000	-
Effect of changes in accounting policies	196,383,626,154	-
Construction in progress transferred to other accounts	8,398,458,920	182,482,864,079
Provisions transferred to current portion	13,884,326,780	13,679,658,105
Increase (decrease) in other account payables due to acquisition of fixed assets	12,162,807,934	-

<sup>1</sup> In accordance with the amendment to the CBSA contract in Iraq, the related mining rights were transferred to financial assets measured at fair value through profit or loss.

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**46. Additional Cash Flow Statement Information(Cont'd)**

Details of change in liabilities in financing activities are as follows:

(in Korean won)

	2019						
	Beginning balance	Cash flow	Non-cash transaction				Ending balance
			Change in exchange rate	Change in fair value	Changes in accounting policies	Others <sup>1</sup>	
Lease liability	₩ 222,267,254,416	₩ (28,660,897,898)	₩ (5,719,062,327)	₩ -	₩ 196,383,626,154	₩ 34,446,775,317	₩ 418,717,695,662
Short-term borrowings	69,322,200,000	44,294,700,000	2,163,100,000	-	-	-	115,780,000,000
Long term borrowings	2,322,418,296,536	118,867,922,763	87,749,156,982	-	-	(676,935,151,758)	1,852,100,224,523
Current portion of long-term borrowings	-	(234,684,729,761)	(3,005,242,788)	-	-	680,934,571,282	443,244,598,733
Bond payables	9,799,083,099,968	1,270,571,087,904	312,996,778,724	-	-	(938,074,820,919)	10,444,576,145,677
Current portion of bond payables <sup>2</sup>	1,370,081,833,056	(1,428,624,174,169)	41,134,987,292	-	-	1,000,150,401,674	982,743,047,853
Liabilities held to hedge risk of bond payable <sup>2</sup>	59,563,155,142	-	17,001,972,398	(39,883,170,473)	-	40,921,373,168	77,603,330,235
Assets held to hedge risk of bond payable <sup>2</sup>	119,147,637,496	(62,222,394,529)	(1,224,341,078)	59,997,945,375	-	(13,023,415,166)	102,675,432,098

<sup>1</sup> Includes liquidity transfer and amortization to present value etc.

<sup>2</sup> The assets and liabilities above are comprised of currency swap and interest swap derivative and included in the cash flow of related bond payables.

**Korea National Oil Corporation and Subsidiaries**  
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**47. Contingencies and Commitments**

Details of the Group's significant pending litigations as of December 31, 2019, are as follows:

(in Korean won)

Plaintiff	Defendant	Description <sup>1</sup>	Amount	Process
Hanhwa Corp.	The Group	Claiming refunds of the premium paid to the Group acquire interests in Yemen 4 oil field <sup>2</sup>	₩ 5,978,735,700	In third trial
Hyundai Heavy Industries	The Group	Claiming refunds of the acquisition costs and premium paid to the Group acquire interests in Yemen 4 oil field <sup>3</sup>	35,655,165,149	In third trial
SK Engineering & Construction Co.,Ltd. and POSCO Engineering & Construction Co., Ltd.	The Group	Claiming additional construction charge due to price escalation	7,568,394,000	In first trial
SK Engineering & Construction Co.,Ltd. and POSCO Engineering & Construction Co., Ltd.	The Group	Claiming adjustment of contracted amount due to design change and extension of construction period and additional construction charge thereto.	12,577,605,543	In first trial

<sup>1</sup> There are 4 cases against the Group other than the litagations listed above amounting to total of ₩ 15,724 million, 2 of which are recognized as provision for litigations, and are described in Note 25, and there are 9 cases as the Group as plaintiff amounting total of ₩ 12,037 million.

<sup>2</sup> The Group paid all claim amounts in February 2015 based on the loss of the first trial and received portion of statutory interest in January 2016 based on the partial loss of the second trial. The third trial is in the process as of December 31, 2019 by appealing to the decision of the second trial.

<sup>3</sup> The Group received the return of the claim in March 2017 based on the win of the second trial and third trial is in the process as of December 31, 2019 by appealing to the decision.

Also, the Group is in the process of litigation with Dr. Owolabi claiming compensation for cooperation of acquiring Nigerian mining rights. The Group does not believe it has a present obligation and has not recognized any provisions for this lawsuit as of December 31, 2019.

The Group has provided loan guarantees to non-related parties as of December 31, 2019 and 2018, as follows:

(in US dollar)

Description of guarantee	Guaranteed Party	Issued Date	Guarantee period	2019	2018
Payment guarantee for Parallel business	Samsung C&T Corporation and others	2014-07-10	Until loans fully repaid	₩ 7,881,987	₩ 7,881,987
		2016-06-20		23,780,000	23,780,000

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**47. Contingencies and Commitments(Cont'd)**

As of December 31, 2019, the Group's significant commitments with the financial institutions are as follows:

(in US dollar, Korean won)

Detail of contract <sup>1</sup>	Financial institutions	Credit line amount	Executed amount
Trade finance	Development Bank of Singapore <sup>2</sup>	\$ 100,000,000	\$ -
	Bank of America <sup>2</sup>	190,000,000	-
	ING Bank <sup>2</sup>	100,000,000	-
	Standard Chartered Bank <sup>2</sup>	150,000,000	-
		<u>\$ 540,000,000</u>	<u>\$ -</u>
Credit line	BNP Paribas	\$ 400,000,000	\$ -
	Development Bank of Singapore <sup>2</sup>	100,000,000	50,000,000
	Mizuho Corporate Bank	100,000,000	-
	Bank of America <sup>2</sup>	190,000,000	-
	ING Bank <sup>2</sup>	100,000,000	-
	Credit Agricole	100,000,000	-
	Standard Chartered Bank <sup>2</sup>	150,000,000	-
	The Export-Import Bank of Korea	700,000,000	284,000,000
	<u>\$ 1,840,000,000</u>	<u>\$ 334,000,000</u>	
Bank overdraft	Woori Bank	₩ 10,000,000,000	₩ -

<sup>1</sup> The above commitments do not include the commitments for borrowing until the Group successfully complete the oil exploration.

<sup>2</sup> A portion of or all of lines of credit for trade finance and financial loans have been integrated and the integrated line of credit is ₩ 560 million.

As of December 31, 2019, the Group has received guarantees provided by non-related parties for the Group's obligations and indebtedness, as follows:

As of December 31, 2019, the Group has received the payment guarantee amount of ₩ 5,285 million from the Seoul Guarantee Insurance Company on 23 cases of repayment of leasehold deposits provided in relation to a lease contract.

The Group holds one-time right to purchase up to 30% of Korea GS E&P Pte. Ltd. which is owned by GS Energy Co. until February 2020. The exercise price is net of participation of GS Energy Co. in the business, cumulative expense and revenue until the date of the exercise. Accordingly, the Group recognized derivative assets amounting to ₩ 17,172 million.

# Korea National Oil Corporation and Subsidiaries

## Notes to the Consolidated Financial Statements

### December 31, 2019 and 2018

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#### 47. Contingencies and Commitments(Cont'd)

On November 13, 2019, KNOC signed a Joint Venture Agreement with SK Gas Co., LTD and MOL Chemical Tanker to promote Ulsan North Port. Under this agreement, the total investment is expected to be ₩ 616,005 million, and each participant commits to invest to the extent of its participatory interests that could not be procured through external borrowing.

As of December 31, 2019, other significant commitments and contingencies of the Group's subsidiaries are as follows:

(i) Dana Petroleum Limited("Dana") and its subsidiaries

Dana Petroleum Limited, a subsidiary, has adjusted an overdraft limit from ₩ 600 million to ₩ 485.9 million for the agreement of Reserve Based Lending ("RBL"), and there is no exercised amount as of December 31, 2019. Debt capacity of RBL is determined based on the present value of future cash flow generated by production assets and development assets approved by the Field Development Plan (FDP), and the debt capacity is established through the redetermination of applying the banks assumptions.

The Group provided a performance guarantee of GBP 125 million to Nexen and others for the expenses that will incur for restoration of the sites, decommissioning, dismantling and removal of the facilities and structures. Also, the Group provided a performance guarantee of NOK 75 million to ExxonMobile E&P Norway AS for transferring restoring obligation of Jotun.

The Group, in relation to the acquisition of Dana Petroleum Limited's equity interest, has provided a guarantee for any potential environmental and bodily damages during the exploration and production activities by Dana Petroleum Norway AS to the Norwegian government.

(ii) Harvest Operations Corp. and its subsidiaries

Guarantees provided by the Group for Harvest Operations Corp. as of December 31, 2019 are as follows:

<i>(in foreign currencies)</i>			
<b>Beneficiary</b>	<b>Description</b>	<b>Amount</b>	<b>Maturity</b>
Harvest Operations Corp.	Guarantees for borrowing from banks	CAD 500,000,000	2021.02.24 <sup>1</sup>
Harvest Operations Corp.	Guarantees for borrowing from banks	CAD 500,000,000	2022.07.29
Harvest Operations Corp.	Guarantees for issuing of bonds	USD 195,770,000	2021.04.14
Harvest Operations Corp.	Guarantees for issuing of bonds	USD 285,000,000	2022.09.21
Harvest Operations Corp.	Guarantees for issuing of bonds	USD 200,000,000	2022.09.21
Harvest Operations Corp.	Guarantees for borrowing from banks	CAD 300,000,000	2023.05.30
Harvest Operations Corp.	Guarantees for issuing of bonds	USD 397,500,000	2023.06.01

<sup>1</sup> After the reporting period, the maturity date has been extended from February 24, 2020 to February 24, 2021 on February 21, 2020.

**Korea National Oil Corporation and Subsidiaries**  
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**47. Contingencies and Commitments(Cont'd)**

(iii) ANKOR E&P Holdings Corp. ("ANKOR") and its subsidiaries

The Group provided a payment guarantee for ANKOR, its subsidiary, in relation to the borrowings from The Export-Import Bank of Korea and others up to the limit of ₩ 83 million.

The Group provided a performance guarantee of ₩ 121 million to Chubb Limited and others for the future restoration of oil and gas sites held by ANKOR.

(iv) KNOC Yemen Ltd.

The Group is in the process of arranging the liquidation of KNOC Yemen Ltd. with YICOM, an acquirer. According to the arrangement, the Group may have a possibility of settlement, of which the amount cannot be estimated

(v) KNOC Eagle Ford and its subsidiaries

JB Patriot Investment Type Private Investment Limited Liability Company, non-controlling interest of KNOC Eagle Ford Corporation entered into an agreement of acquiring redeemable preferred shares with KNOC Eagle Ford Corporation and KNOC EF Star LLC, its subsidiary. The Group entered into the cash deficiency support agreement with KNOC Eagle Ford Corporation. In the case of a breach of covenants, JB Patriot Investment Type Private Investment Limited Liability Company is entitled to exercise a drag along right to require the KNOC Eagle Ford Corporation to sell the entire common shares held by KNOC Eagle Ford Corporation together with the preferred shares.

Details of agreements with financial facilities of KNOC Eagle Ford and its subsidiaries are as follows:

*(in US dollar)*

<b>Agreement</b>	<b>Financial Institution</b>		<b>Credit line amount</b>		<b>Executed amount</b>
Credit line	Bank of America	₩	25,000,000	₩	-
	Sumitomo Mitsui Banking Corporation		70,000,000		-
	Societe Generale Bank		30,000,000		-
		₩	125,000,000	₩	-

# **Korea National Oil Corporation and Subsidiaries**

## **Notes to the Consolidated Financial Statements**

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#### **48. Events After the Reporting Period**

To participate in the ADNOC Onshore business, the Group decided to exercise the right to purchase shares of GS E&P held by GS Energy Corporation in accordance with the resolution of the board of directors on February 24, 2020. On February 27, 2020, the Group entered into a contract to acquire 3,000 shares of 10,000 shares of common shares and 211,320,000 shares of 704,400,000 shares of preferred shares.

After the reporting period, there is a possibility of volatility in international oil prices resulting from the worldwide spread of Corona19, which may affect the prospects of long-term oil prices used to calculate financial information.

#### **49. Date of Authorization of Issue**

The consolidated financial statements were authorized for issue by the Board of Directors on February 28, 2020.