

**KOREA NATIONAL OIL CORPORATION
AND SUBSIDIARIES**

Consolidated Financial Statements

December 31, 2018

(With Independent Auditors' Report Thereon)

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Independent Auditors' Report

Based on a report originally issued in Korean

The Board of Directors and Shareholder
Korea National Oil Corporation:

Opinion

We have audited the consolidated financial statements of Korea National Oil Corporation and its subsidiaries (the "Group") which comprise the consolidated statements of financial position as of December 31, 2018 and 2017, the consolidated statements of comprehensive loss, changes in equity and cash flows for the years then ended, and notes, comprising significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2018 and 2017, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with Korean International Financial Reporting Standards ("K-IFRS").

Basis for Opinion

We conducted our audits in accordance with Korean Standards on Auditing (KSAs). Our responsibilities under those standards are further described in the Auditors' 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.

Emphasis of matters

Without qualifying our opinion, we draw attention to following:

(1) Uncertainty of Deterioration in Operating Condition of Oil Market

As described in Note 48, imbalance between supply and demand continues to drive low oil prices in the international crude oil market and oil prices are unlikely to increase in a short period of time. There is a significant uncertainty with respect to the Group's future business results depending on the recovery of oil prices. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

(2) Correction of Errors

As described in Note 49, the consolidated financial statements for the year ended December 31, 2017 have been restated due to a subsidiary's accounting error in relation to investments in associates. Accordingly, the Group's net asset amounting to ₩ 53,183 million decreased and loss for the year amounting to ₩ 3,031 million increased for the year ended December 31, 2017.

Other matter

The procedures and practices utilized in the Republic of Korea to audit such consolidated financial statements may differ from those generally accepted and applied in other countries.

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

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

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

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

Auditors' 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 auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with KSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

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

- Identify and assess the risks of material misstatement of the 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 in the preparation of the consolidated financial statements 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 auditors' 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 auditors' 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.

CPMG Samjong Accounting Corp.

Seoul, Korea
March 9, 2019

This report is effective as of March 9, 2019, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying consolidated financial statements and notes thereto. Accordingly, the readers of the audit report should understand that the above audit report has not been updated to reflect the impact of such subsequent events or circumstances, if any.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Consolidated Statements of Financial Position
As of December 31, 2018 and 2017

<i>In thousands of Korean won</i>	Notes	2018	2017 (Restated)
Assets			
Cash and cash equivalents	8,41,43	₩ 778,120,149	791,075,068
Current financial assets	9,10,13,14,15,41,42,43	87,103,034	27,339,489
Trade and other receivables, net	11,41,43	444,109,507	556,269,282
Inventories, net	16	95,619,590	88,273,335
Current income tax assets		53,461,320	37,055,001
Current non-financial assets	18	66,830,233	117,277,633
Assets held for sale	6,17	-	3,471,555
Current assets		1,525,243,833	1,620,761,363
Non-current financial assets, net	9,10,12,13,14,41,42,43	785,335,300	622,446,995
Long-term trade and other receivables	11,41,43,49	33,836,113	97,767,935
Property, plant and equipment, net	20,49	8,674,307,451	9,023,670,970
Goodwill	21	143,792,883	147,854,169
Intangible assets other than goodwill, net	22	2,063,367,676	2,934,334,387
Investments in associates and joint ventures	19	275,957,500	298,328,697
Deferred tax assets	39,49	1,006,600,264	1,218,914,526
Non-current non-financial assets	18	3,730,560,030	3,547,621,283
Non-current assets		16,713,757,217	17,890,938,962
Total assets		₩ 18,239,001,050	19,511,700,325

See accompanying notes to the consolidated financial statements.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Consolidated Statements of Financial Position, Continued
As of December 31, 2018 and 2017

<i>In thousands of Korean won</i>	Notes	2018	2017 (Restated)
Liabilities			
Trade and other payables	23,41,43,45	₩ 644,690,362	786,399,194
Current financial liabilities	10,24,25,41,42, 43,45,49	1,521,136,237	3,265,368,380
Current income tax liabilities	49	29,929,264	9,459,404
Current non-financial liabilities	29,49	174,521,678	108,686,434
Current provisions	27	56,418,469	94,440,202
Current liabilities		2,426,696,010	4,264,353,614
Long-term trade and other payables	23,41,43,45	434,319,512	503,799,162
Non-current financial liabilities	10,24,25,28,29,41, 42,43,45,49	12,226,052,926	10,155,681,912
Non-current non-financial liabilities	29	68,522,555	42,607,876
Employee benefits, net	26	8,749,812	8,293,543
Deferred tax liabilities	39	185,533,918	132,817,193
Non-current provisions	27	2,125,061,338	2,020,256,660
Non-current liabilities		15,048,240,061	12,863,456,346
Total liabilities		₩ 17,474,936,071	17,127,809,960
Equity			
Share capital	30	10,481,533,780	10,434,864,780
Accumulated deficit	31,49	(9,201,495,688)	(8,363,377,364)
Other components of equity	33	(1,032,764,257)	(589,302,687)
Equity attributable to the owner of the Company		247,273,835	1,482,184,729
Non-controlling interests		516,791,144	901,705,636
Total equity		₩ 764,064,979	2,383,890,365
Total equity and liabilities		₩ 18,239,001,050	19,511,700,325

See accompanying notes to the consolidated financial statements.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Consolidated Statements of Comprehensive Loss
For the years ended December 31, 2018 and 2017

In thousands of Korean won

	<u>Notes</u>	<u>2018</u>	<u>2017</u> <u>(Restated)</u>
Continuing Operations			
Revenue	6,34	₩ 3,149,265,266	2,312,485,962
Cost of sales	6,40	<u>2,171,932,854</u>	<u>1,850,289,885</u>
Gross profit	6	<u>977,332,412</u>	<u>462,196,077</u>
Selling and administrative expenses	6,26,40	<u>433,971,588</u>	<u>286,324,859</u>
Operating profit	6	<u>543,360,824</u>	<u>175,871,218</u>
Other non-operating income	6,35	76,488,773	152,268,721
Other non-operating expenses	6,35	37,791,274	207,235,979
Other loss, net	6,36	(849,323,244)	(463,149,784)
Finance income	6,10,37,41	231,241,417	304,558,480
Finance costs	6,10,38,41	783,490,645	713,173,619
Loss on investments in associates and joint ventures, net	6,19	<u>(112,547,149)</u>	<u>(127,756,892)</u>
Loss before income tax	6	<u>(932,061,298)</u>	<u>(878,617,855)</u>
Income tax expense (benefit)	39,49	<u>228,333,934</u>	<u>(194,163,332)</u>
Loss from continuing operations		<u>(1,160,395,232)</u>	<u>(684,454,523)</u>
Discontinued operations			
Profit (loss) from discontinued operations, net of tax		<u>854,210</u>	<u>(52,337,450)</u>
Loss for the year		<u>₩ (1,159,541,022)</u>	<u>(736,791,973)</u>
Other comprehensive income (loss)			
Items that will never be reclassified subsequently to profit or loss			
Actuarial gains (losses) on defined benefit plans, net of tax	26,31	(1,679,984)	3,141,590
Retained earnings adjustments in equity method, net of tax		(46,222)	(48,043)
Net change in fair value of financial assets measured at fair value through other comprehensive income		(177,207,309)	-
Items that are or may be reclassified subsequently to profit or loss			
Net change in the unrealized fair value of available-for-sale financial assets, net of tax	12,41	-	(5,920,445)
Net change in fair value of available-for-sale financial assets reclassified to profit or loss, net of tax	12,41	-	(58,177,009)
Equity adjustments arising from investments in equity-method investees, net of tax	19	2,811,814	5,278,959
Net change in the unrealized fair value of derivative using cash flow hedge accounting, net of tax	10,41	99,356,555	(48,425,006)
Net change in fair value of derivative using cash flow hedge accounting reclassified to profit or loss, net of tax	10,41	-	1,093,830
Foreign currency translation differences for foreign operations		<u>40,863,017</u>	<u>(278,714,661)</u>
Other comprehensive loss for the year, net of tax		<u>(35,902,129)</u>	<u>(381,770,785)</u>
Total comprehensive loss for the year		<u>₩ (1,195,443,151)</u>	<u>(1,118,562,758)</u>
Income (loss) attributable to:			
Owners of the Company		(1,205,946,786)	(851,371,547)
Non-controlling interests		<u>46,405,764</u>	<u>114,579,574</u>
Loss for the year		<u>(1,159,541,022)</u>	<u>(736,791,973)</u>
Total comprehensive income (loss) attributable to:			
Owners of the Company		(1,274,009,424)	(1,123,125,566)
Non-controlling interests		<u>78,566,273</u>	<u>4,562,808</u>
Total comprehensive loss for the year		<u>₩ (1,195,443,151)</u>	<u>(1,118,562,758)</u>

See accompanying notes to the consolidated financial statements.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Consolidated Statements of Changes in Equity
For the years ended December 31, 2018 and 2017

	Attributable to owners of the Company				Non-controlling interests	Total equity
	Share capital	Accumulated deficit	Other components of equity	Subtotal		
<i>In thousands of Korean won</i>						
Balance as of January 1, 2017 before adjustment	₩ 10,346,851,780	(7,633,552,073)	(314,455,121)	2,398,844,586	1,109,887,776	3,508,732,362
Correction of Errors	-	118,452,709	-	118,452,709	(175,201,927)	(56,749,218)
Balance as of January 1, 2017 after adjustment	<u>10,346,851,780</u>	<u>(7,515,099,364)</u>	<u>(314,455,121)</u>	<u>2,517,297,295</u>	<u>934,685,849</u>	<u>3,451,983,144</u>
Total comprehensive income (loss) for the year						
Income (loss) for the year	-	(851,371,547)	-	(851,371,547)	114,579,574	(736,791,973)
Items that will not be reclassified subsequently to profit or loss						
Defined benefit plan actuarial gains, net of tax	-	3,141,590	-	3,141,590	-	3,141,590
Retained earnings adjustments in equity method, net of tax	-	(48,043)	-	(48,043)	-	(48,043)
Items that may be reclassified subsequently to profit or loss						
Net change in the unrealized fair value of available-for-sale financial assets, net of tax	-	-	(5,920,445)	(5,920,445)	-	(5,920,445)
Net change in fair value of available-for-sale financial assets reclassified to profit or loss, net of tax	-	-	(58,177,009)	(58,177,009)	-	(58,177,009)
Equity adjustments arising from investments in equity-method investees, net of tax	-	-	5,278,959	5,278,959	-	5,278,959
Net change in the unrealized fair value of derivative using cash flow hedge accounting, net of tax	-	-	(48,425,006)	(48,425,006)	-	(48,425,006)
Net change in fair value of derivative using cash flow hedge accounting reclassified to profit or loss, net of tax	-	-	1,093,830	1,093,830	-	1,093,830
Foreign currency translation differences for foreign operations	-	-	(168,697,895)	(168,697,895)	(110,016,766)	(278,714,661)
Total comprehensive income (loss) for the year	-	(848,278,000)	(274,847,566)	(1,123,125,566)	4,562,808	(1,118,562,758)
Transactions with owners of the Company, recognized directly in equity						
Issuance of share capital	88,013,000	-	-	88,013,000	-	88,013,000
Dividends paid	-	-	-	-	(35,007,112)	(35,007,112)
Distribution to non-controlling interests	-	-	-	-	(2,535,909)	(2,535,909)
Total transactions with owners of the Company	<u>88,013,000</u>	-	-	<u>88,013,000</u>	<u>(37,543,021)</u>	<u>50,469,979</u>
Balance as of December 31, 2017	₩ <u>10,434,864,780</u>	<u>(8,363,377,364)</u>	<u>(589,302,687)</u>	<u>1,482,184,729</u>	<u>901,705,636</u>	<u>2,383,890,365</u>

See accompanying notes to the consolidated financial statements.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Consolidated Statements of Changes in Equity, Continued
For the years ended December 31, 2018 and 2017

	Attributable to owners of the Company				Non-controlling interests	Total equity
	Share capital	Accumulated deficit	Other components of equity	Subtotal		
<i>In thousands of Korean won</i>						
Balance as of January 1, 2018 before adjustment	₩ 10,434,864,780	(8,363,377,364)	(589,302,687)	1,482,184,729	901,705,636	2,383,890,365
Adjustment on initial adoption of K-IFRS No. 1109	-	369,554,668	(377,105,179)	(7,550,511)	-	(7,550,511)
Balance as of January 1, 2018 after adjustment	<u>10,434,864,780</u>	<u>(7,993,822,696)</u>	<u>(966,407,866)</u>	<u>1,474,634,218</u>	<u>901,705,636</u>	<u>2,376,339,854</u>
Total comprehensive income (loss) for the year						
Income (loss) for the year	-	(1,205,946,786)	-	(1,205,946,786)	46,405,764	(1,159,541,022)
Items that will not be reclassified subsequently to profit or loss						
Defined benefit plan actuarial gains, net of tax	-	(1,679,984)	-	(1,679,984)	-	(1,679,984)
Retained earnings adjustments in equity method, net of tax	-	(46,222)	-	(46,222)	-	(46,222)
Net change in fair value of financial assets measured at fair value through other comprehensive income	-	-	(177,207,309)	(177,207,309)	-	(177,207,309)
Items that may be reclassified subsequently to profit or loss						
Equity adjustments arising from investments in equity-method investees, net of tax	-	-	2,811,814	2,811,814	-	2,811,814
Net change in the unrealized fair value of derivative using cash flow hedge accounting, net of tax	-	-	99,356,555	99,356,555	-	99,356,555
Foreign currency translation differences for foreign operations	-	-	8,702,507	8,702,507	32,160,510	40,863,017
Total comprehensive income (loss) for the year	<u>-</u>	<u>(1,207,672,992)</u>	<u>(66,336,433)</u>	<u>(1,274,009,425)</u>	<u>78,566,274</u>	<u>(1,195,443,151)</u>
Transactions with owners of the Company, recognized directly in equity						
Issuance of share capital	46,669,000	-	-	46,669,000	-	46,669,000
Dividends paid	-	-	-	-	(37,431,457)	(37,431,457)
Distribution to non-controlling interests	-	-	(19,958)	(19,958)	(2,433,809)	(2,453,767)
Change in the scope of consolidation	-	-	-	-	(423,615,500)	(423,615,500)
Total transactions with owners of the Company	<u>46,669,000</u>	<u>-</u>	<u>(19,958)</u>	<u>46,649,042</u>	<u>(463,480,766)</u>	<u>(416,831,724)</u>
Balance as of December 31, 2018	<u>₩ 10,481,533,780</u>	<u>(9,201,495,688)</u>	<u>(1,032,764,257)</u>	<u>247,273,835</u>	<u>516,791,144</u>	<u>764,064,979</u>

See accompanying notes to the consolidated financial statements.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Consolidated Statements of Cash Flows
For the years ended December 31, 2018 and 2017

In thousands of Korean won

	2018	2017
Cash flows from operating activities		
Loss for the year	₩ (1,159,541,022)	(736,791,973)
Adjustment for:		
Severance and retirement benefits	8,817,689	10,013,447
Depreciation	1,068,719,905	806,411,988
Amortization of intangible assets other than goodwill	66,267,992	98,482,908
Reversal of other bad debt allowance	(8,356,086)	(7,937,647)
Gains on exemption of debts	-	(76,743,985)
Loss on cancellation of debt exemption	11,034	2,701,210
Non-operating income from overseas oil fields (other income)	(1,538,147)	(3,914,767)
Other income	(1,379,735)	-
Transfer to other provision (other expenses)	13,039,493	-
Other bad debt expense	765,168	180,185,957
Gains on disposal of property, plant and equipment	(7,660,786)	(2,130,079)
Gains on disposal of intangible assets other than goodwill	(6,764)	-
Reversal of impairment losses on property, plant and equipment	(23,146,480)	(163,644,901)
Gains on foreign currency translation (other profit or loss)	(26,654,136)	(39,594,669)
Losses on disposal of property, plant and equipment	154,437	182,050
Losses on disposal of intangible assets other than goodwill	-	3,524,172
Losses on valuation of inventories	-	6,820,816
Impairment losses on property, plant and equipment	272,828,899	363,206,306
Impairment losses on intangible assets other than goodwill	609,346,913	227,051,386
Impairment losses on goodwill	-	87,470,422
Losses on foreign currency translation (other profit or loss)	19,636,929	45,109,552
Income tax expense (benefit)	228,333,934	(199,940,426)
Interest income	(22,655,697)	(50,601,455)
Dividends income	(10,296)	(9,991)
Gains on transaction of derivative (finance income)	(4,421,358)	(1,168,345)
Gains on valuation of derivative (finance income)	(23,218,443)	-
Gains on repayment of financial liabilities	-	(1,583,427)
Gains on foreign currency translation (finance income)	(55,441,206)	(143,659,143)
Interest expense	426,020,667	401,018,825
Impairment losses on available-for-sale financial assets	-	71,585,757
Losses on transaction of derivative (finance cost)	1,088,098	11,604,928
Loss on valuation of derivative (finance cost)	-	25,305,094
Losses on valuation of financial instruments at fair value through profit or loss	-	2,761,972
Losses on valuation of financial asset measured at fair value through profit or loss (finance cost)	5,058,941	-
Gains on valuation of financial asset measured at fair value through profit or loss (finance income)	(87,037,043)	-
Losses on foreign currency translation (finance cost)	209,389,524	93,114,772
Financial guarantee expenses (finance cost)	14,593,662	-
Other finance costs (interest expense)	27,124,686	26,610,339
Interest costs on provision for decommissioning	73,675,104	73,316,028
Transfer to other provision (sales commissions)	122,362,849	-
Gains on disposal of asset held for sale	(2,058,658)	-
Share of gain in associates and joint ventures	(6,049,649)	(6,684,312)
Share of loss in associates and joint ventures	117,335,392	128,914,973
Impairment losses on investments in associates and joint ventures	1,261,406	5,526,231
	3,016,198,238	1,973,305,986

See accompanying notes to the consolidated financial statements.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Consolidated Statements of Cash Flows
For the years ended December 31, 2018 and 2017

In thousands of Korean won

	2018	2017
Changes in:		
Inventories	₩ (7,534,144)	21,542,265
Trade and other receivables	93,793,171	(84,476,210)
Other receivables from operating activities	47,237,271	(67,541,088)
Trade and other payables	(247,322,811)	89,645,401
Other payables from operating activities	76,421,609	17,104,940
Defined benefit liability	(5,298,202)	(4,700,902)
Provisions	(75,578,295)	(61,140,231)
	<u>(118,281,401)</u>	<u>(89,565,825)</u>
Cash generated from operating activities	1,738,375,815	1,146,948,188
Dividend received	3,026,197	24,242,702
Interest paid	(511,015,935)	(472,962,743)
Interest received	110,942,172	68,773,996
Income tax paid	(75,232,301)	(71,619,869)
Net cash provided by operating activities	₩ 1,266,095,948	695,382,274
Cash flows from investing activities:		
Acquisition of investments in associates and joint ventures	(43,614,436)	(19,932,880)
Proceeds from disposal of property, plant and equipment	6,187,227	216,130,892
Acquisition of property, plant and equipment	(598,040,058)	(801,791,485)
Proceeds from disposal of intangible assets other than goodwill	17,129	11,920
Acquisition of intangible assets other than goodwill	(27,259,002)	(27,933,109)
Proceeds from disposal of asset held for sale	5,623,855	-
Acquisition of non-current non-financial assets	(27,458,035)	(92,476,135)
Acquisition of available-for-sale financial investments	-	(17,744)
Increase in leasehold deposits provided	(2,853,866)	(21,506,145)
Decrease in leasehold deposits provided	3,074,997	1,066,154
Increase in long-term and short-term financial assets	(149,791,630)	(206,429,516)
Decrease in long-term and short-term financial assets	151,609,019	206,192,617
Increase in short-term and long-term loans	(120,228,582)	(59,686,502)
Decrease of short-term and long-term loans	27,536,759	23,259,743
Increase in leasehold deposits received	46,364	476,210
Net cash used in investing activities	₩ (775,150,259)	(782,635,980)

See accompanying notes to the consolidated financial statements.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Consolidated Statements of Cash Flows, Continued
For the years ended December 31, 2018 and 2017

In thousands of Korean won

	<u>2018</u>	<u>2017</u>
Cash flow from financing activities		
Proceeds from increase in share capital	46,669,000	88,013,000
Proceeds from short-term borrowings	200,567,278	152,272,880
Repayments of short-term borrowings	(409,580,273)	(801,762,951)
Proceeds from issue of bond payables	1,821,361,623	2,209,147,968
Repayments of bond payables	(2,381,291,977)	(1,946,543,420)
Proceeds from long-term borrowings	528,487,814	801,623,878
Repayments of long-term borrowings	(276,917,860)	(242,928,670)
Dividends paid	(37,431,456)	(35,007,112)
Repayments of finance lease liability	(8,565,750)	(7,855,845)
Net cash outflow due to other distribution to non-controlling interests	(2,433,809)	(2,535,909)
Net cash provided by (used in) financing activities	₩ (519,135,410)	214,423,819
Net increase (decrease) in cash and cash equivalents before net effect of foreign exchange differences	₩ (28,189,721)	127,170,113
Effect of exchange rate fluctuations on cash held	15,267,778	(152,866,817)
Net decrease in cash and cash equivalents	(12,921,943)	(25,696,704)
Cash and cash equivalents as of January 1	791,119,802	816,816,506
Cash and cash equivalents as of December 31 before deduction of government grants	778,197,859	791,119,802
Government grants	(77,710)	(44,734)
Cash and cash equivalents as of December 31 after deduction of government grants	₩ 778,120,149	791,075,068

See accompanying notes to the consolidated financial statements.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES

Notes to the Consolidated Financial Statements

As of December 31, 2017

1. Reporting Entity

(a) Description of the controlling company

Korea National Oil Corporation (the "Company" or 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 Company's head office is located at 305, Jongga-Ro, Jung-Gu, Ulsan in Korea. The Company also has 9 petroleum stockpile sites, 1 domestic gas field management office, 1 overseas office in Kazakhstan and overseas subsidiaries and affiliates in the United States and other countries.

As of December 31, 2018, the Company's share capital is ₩10,481,534 million, which is wholly owned by the government of the Republic of Korea.

The consolidated financial statements comprise the Company and its subsidiaries (together referred to as the "Group" and individually as "Group entities") and the Group's interests in associates and joint ventures.

The list of subsidiaries as of December 31, 2018 and 2017 is disclosed in Note 5.

2. Basis of Preparation

(a) Statement of compliance

The consolidated financial statements 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.

(b) 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
- ✓ liabilities for defined benefit plans recognized at the net of the total present value of defined benefit obligations less the fair value of plan assets

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

2. Basis of Preparation, Continued

(c) Functional and presentation currency

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 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.

(d) Use of estimates and judgments

The preparation of the consolidated financial statements in conformity with K-IFRS requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates.

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.

(i) 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 5: Scope of consolidation – whether the Group has de facto control

Note 19: Investments in Associates and Joint Ventures – classification of a joint arrangement

(ii) 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 19: Investments in Associates and Joint Ventures – main assumptions for recoverable amounts

Note 20: Property, Plant and Equipment – estimation of factors for depreciation and recoverable amount

Note 21: Goodwill – main assumptions for recoverable amounts

Note 22: Intangible assets other than goodwill – main assumptions for recoverable amounts

Note 26: Employee Benefits – main actuarial assumptions

Note 27 and 46: 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 SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

2. Basis of Preparation, Continued

(d) Use of estimates and judgments, continued

(iii) Measurement of fair value

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.

Information about the assumptions made in measuring fair values is included in the following notes:

- Note 41 – Categories of Financial Instruments
- Note 43 – Risk Management

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

3. Changes in Accounting Policies

The Group has initially adopted K-IFRS No. 1115 "Revenue from Contracts with Customers" and K-IFRS No. 1109 "Financial Instruments" beginning on January 1, 2018. The effect of initially adopting these standards mainly attributed to followings:

(a) K-IFRS No. 1115 "Revenue from Contract with Customers"

K-IFRS No. 1115 "Revenue from Contracts with Customers" provides an unified five-step model for determining the timing, measurement and recognition of revenue. It replaced previous revenue recognition guidance, including K-IFRS No. 1018 "Revenue", K-IFRS No. 1011 "Construction Contracts", K-IFRS No. 2031 "Revenue- Barter Transactions Involving Advertising Services", K-IFRS No. 2113 "Customer Loyalty Programs", K-IFRS No. 2115 "Agreements for the Construction of Real Estate", and K-IFRS No. 2118 "Transfers of Assets from Customers".

The Group applied the modified retrospective approach by recognizing the cumulative impact of initially applying the revenue standard as of January 1, 2018, the date of initial application, and the Group also decided to apply the practical expedients as allowed under K-IFRS No. 1115 by applying the new standard only to those contracts that are not considered as completed contracts at the date of initial application. Accordingly, the consolidated financial statements for comparative periods have not been restated and prepared in accordance with K-IFRS No. 1011 "Construction Contracts" and K-IFRS No. 1018 "Revenue" and interpretations thereof. There are no impact to the beginning and the ending balance of the consolidated statements of financial position of the Group due to application of K-IFRS No. 1115 for the year ended December 31, 2018, and the impact to the consolidated statement of comprehensive losses are as follows:

- Consolidated statement of comprehensive loss for the year beginning on January 1, 2018 and ending December 31, 2018

In millions of Korean won

	Notes	Amount before adoption of K-IFRS No. 1115	Adjustments	Amount after adoption of K-IFRS No. 1115
Sales revenue	(i), (ii) ₩	3,212,399	(63,134)	3,149,265
Cost of sales	(i), (ii)	2,235,067	(63,134)	2,171,933
Loss for the year		(1,159,541)	-	(1,159,541)
Total comprehensive loss	₩	(1,195,443)	-	(1,195,443)

(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 decided to apply practical expedient allowed under K-IFRS No. 1115 in relation to measuring progress. Therefore, the application of K-IFRS No. 1115 has no effect on the timing of revenue recognition.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

3. Changes in Accounting Policies, Continued

(a) K-IFRS No. 1115 "Revenue from Contract with Customers", continued

(i) Sale of goods, continued

- Resale agreements

Some contracts with customers include purchase of goods and resale agreements with the same counterparties. As a result of the application of K-IFRS No. 1115, the Group has adjusted its revenue recognition policy to recognize the net amount (difference between sales and purchases) as revenue, regarding the sales transaction of uncontrolled inventories as providing custodial service. As a result, sales revenue amounting to ~~₩~~62,075 million and cost of sales amounting to ~~₩~~62,075 million have decreased.

- Considerations payable to customers

Considerations payable to customers should be deducted from the amount of revenue earned unless payment is made in relation to goods or service provided by the customer as a separable performance obligation. The Group deducted the cost of gas treatment, which has a characteristic of compensation on customers' expenses arising from the supply of goods, from the transaction price. Accordingly, both sales revenue and cost of sales decreased by ~~₩~~26 million.

(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 decided to apply practical expedient of measuring progress allowed under K-IFRS No. 1115. Therefore, the application of K-IFRS No. 1115 has no effect on the timing of revenue recognition. However, the amount of revenue recognized has following effects:

- Transaction that does not arise from a contract with a customer

The Group has adjusted the revenue related to the operation of the oil fields and wells, which was recognized as sales revenue under the previous revenue standards, as a reduction of the cost of sales because the Group determined it as not a contract with a customer. As a result, sales revenue amounting to ~~₩~~1,033 million and cost of sales amounting to ~~₩~~1,033 million decreased.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

3. Changes in Accounting Policies, Continued

(b) K-IFRS No. 1109 “Financial Instruments”

K-IFRS No. 1109 “Financial Instruments” regulates requirements for measurement and recognition of certain contracts in relation to trading financial assets and liabilities or nonfinancial items. For annual period beginning on or after January 1, 2018, it replaced existing guidance in K-IFRS No. 1039 “Financial Instruments: Recognition and Measurement” including three factors of accounting for financial instrument, which are classification and measurement, impairment and hedging accounting. The Group applied retrospectively application with exemptions where a company is not required to restate the comparative information for prior periods in relation to classification and measurement changes.

The following table summarizes the impact of initial adoption of K-IFRS No. 1109 on accumulated deficit as of January 1, 2018.

In millions of Korean won

	<u>Notes</u>	<u>Adjustments</u>
Accumulated deficit as of January 1, 2018 under K-IFRS No. 1039	₩	(8,363,377)
Reclassification of available-for-sale to financial asset measured at fair value through other comprehensive income	(i)	377,105
Increase in loss allowance of trade receivables	(ii)	<u>(7,551)</u>
Accumulated deficit as of January 1, 2018 under K-IFRS No. 1109	₩	<u><u>(7,993,823)</u></u>

The details of new significant accounting policies and the nature and effect of the changes to previous accounting policies are set out below.

(i) Classification and measurement of financial assets and financial liabilities

When applying K-IFRS No. 1109, the classification of financial assets will be driven by the Group’s business model for managing the financial assets and contractual cash flow nature.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

3. Changes in Accounting Policies, Continued

(b) K-IFRS No. 1109 “Financial Instruments”, continued

(i) Classification and measurement of financial assets and financial liabilities, continued

The following table shows the classification of financial assets measured subsequently at amortized cost, at fair value through other comprehensive income and at fair value through profit or loss. If a hybrid contract contains a host that is a financial asset, the classification of the hybrid contract shall be determined for the entire contract without separating the embedded derivative.

<u>Business model</u>	<u>Contractual cash flows are solely payments of principal and interests</u>	<u>All other cases</u>
To collect contractual cash flows	Amortized cost(*1)	
Both to collect contractual cash flows and sell financial assets	Fair value through other comprehensive income(*1)	Fair value through profit or loss(*2)
For trading, and others	Fair value through profit or loss	

(*1) The Group may irrevocably designate as at fair value through profit or loss to eliminate or significantly reduce an accounting mismatch.

(*2) The Group may irrevocably designate equity investments that is not held for trading as at fair value through other comprehensive income.

Under K-IFRS No. 1109, the Group includes the transaction cost of financial assets not measured at fair value through profit or loss in fair value of initial recognition. Under K-IFRS No. 1109, debt instruments are subsequently measured at fair value through profit or loss (FVPL), amortized cost, or fair value through other comprehensive income (FVOCI). The classification is based on two criteria of contractual cash flow characteristics which indicates whether financial instruments consist ‘solely payments of principal and interest’ (SPPI condition) and business model for ways in which the financial assets are managed.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

3. Changes in Accounting Policies, Continued

(b) K-IFRS No. 1109 "Financial Instruments," continued

(i) Classification and measurement of financial assets and financial liabilities, continued

The result of new classification and measurement of the Group's debt instruments are as follows:

- Debt instruments measured at amortized cost which meet SPPI condition and within a business model whose objective is to hold financial assets in order to collect contractual cash flow. This category includes the Group's trade and other receivables, some long-term trade and other receivables, other current financial assets of current financial assets, and some long-term loans included in non-current financial assets.
- Debt instruments measured at fair value through profit or loss within a business model whose objective is to hold financial assets in order to collect contractual cash flow but which does not meet SPPI conditions. This category includes some loans and long-term accrued income for loans.

Current and non-current financial assets are classified as follows and subsequently measured:

- Equity instruments measured at fair value through other comprehensive income whose gains or losses on derecognition are not recycled to profit or loss. This category only includes equity instruments which the Group has intention to hold for anticipated future period and made irrevocable election at the time of recognition or transaction. The Group classifies listed and unlisted equity instruments as equity instruments measured at fair value through other comprehensive income. Equity instruments measured at fair value through other comprehensive income are not subject to impairment assessment under K-IFRS No. 1109. Under K-IFRS No. 1039, related listed and unlisted equity instruments of the Group were classified as available-for-sale financial assets.
- Equity instruments measured at fair value through profit or loss. This category includes derivative and debt instruments whose contractual cash flow characteristics do not meet SPPI condition or not within a business model whose objective is to collect contractual cash flow or to collect contractual cash flow and to sell.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

3. Changes in Accounting Policies, Continued

(b) K-IFRS No. 1109 "Financial Instruments", continued

(i) Classification and measurement of financial assets and financial liabilities, continued

The Group assessed business model applying to financial assets as of January 1, 2018, the date of initial application, and classified the financial assets in accordance with K-IFRS No. 1109. The effect of reclassification is as follows:

In millions of Korean won

Financial assets as of January 1, 2018	Fair value through profit or loss	Fair value through other comprehensive income(*2)	Amortized costs(*2)	Total
Under K-IFRS No. 1039(*1)	₩ 51,834	90,807	1,952,258	2,094,899
Reclassification of loans and other receivables to financial assets measured at fair value through profit or loss	383,501	-	(383,501)	-
Under K-IFRS No. 1109(*1)	₩ 435,335	90,807	1,568,757	2,094,899

(*1) Amount before adjustments related to impairment of financial assets.

(*2) As of January 1, 2018, available-for-sales financial assets are presented as fair value through other comprehensive income and loans and receivables are presented as amortized costs.

The effect on the Group's equity due to the changes above is as follows:

In millions of Korean won

Balance as of January 1, 2018	Other component of equity		
	Net change in fair value of available-for-sale financial assets	Fair value through other comprehensive income	Accumulated deficit
Under K-IFRS No. 1039	₩ 12,088	-	(8,363,377)
Reclassification of available-for-sale to financial asset measured at fair value through other comprehensive income	(12,088)	(365,017)	377,105
Under K-IFRS No. 1109	₩ -	(365,017)	(7,986,272)

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

3. Changes in Accounting Policies, Continued

(b) K-IFRS No. 1109 "Financial Instruments," continued

(i) Classification and measurement of financial assets and financial liabilities, continued

As of January 1, 2018, the date of initial application, the measurement categories and carrying amounts of financial assets in accordance with K-IFRS No. 1039 "Financial Instruments: Recognition and Measurement" and K-IFRS No. 1109 "Financial Instruments" are as follows:

In millions of Korean won

	Classification under K-IFRS No. 1039	Carrying amount under K-IFRS No. 1039	Classification under K-IFRS No. 1109	Carrying amount under K-IFRS No. 1109
Cash and cash equivalents	Loans and receivables	₩ 791,075	Amortized cost	₩ 791,075
Short-term loans	Loans and receivables	5,814	Amortized cost	5,814
Short-term financial instruments	Loans and receivables	2,074	Amortized cost	2,074
Derivative assets	Derivative designated as hedging instruments	51,834	Fair value through profit or loss Hedging instrument	51,834
Other current assets	Loans and receivables	14,919	Amortized cost	14,919
Equity instruments(*1)	Available-for-sale financial assets	90,807	Fair value through other comprehensive income	90,807
Long-term loans(*2)	Loans and receivables	479,465	Amortized cost	160,196
Long-term financial instruments	Loans and receivables	4,873	Fair value through profit or loss	319,269
Trade receivables and other receivables(*2)	Loans and receivables	654,038	Amortized cost	4,873
			Fair value through profit or loss	589,806
				64,232

(*1) As a result of the adoption of K-IFRS No. 1109, the Group determined to measure equity securities at fair value through profit or loss, and as of the date of initial application (January 1, 2018), accumulated other comprehensive income and accumulated deficit both amounting to ₩377,105 million have decreased.

(*2) Includes long-term loans and accrued income for loans measured at fair value through profit loss, because the criteria for determining whether business model for way in which the financial assets are managed and financial instruments consist of 'solely payment of principal and interest' (SPPI condition) were not met.

K-IFRS No. 1109 "Financial Instruments" retains most of the existing requirements of K-IFRS No. 1039 "Financial Instruments: Recognition and Measurement" for the classification and measurement of financial liabilities. Accordingly, the application of K-IFRS No. 1109 "Financial Instruments" has no significant effect on the Group's accounting policies related to financial liabilities.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

3. Significant Accounting Policies, Continued

(b) K-IFRS No. 1109 "Financial Instruments," continued

(ii) Impairment of financial assets

K-IFRS No. 1109 replaces the incurred loss model in the existing standard with a forward-looking expected credit loss model for debt instruments measured at amortized cost or fair value through other comprehensive income, lease receivables, contractual assets, loan commitments, and financial guarantee contracts.

Under K-IFRS No. 1109, impairment losses are likely to be recognized earlier than using the incurred loss model under the existing guidance in K-IFRS No. 1039 as loss allowances will be measured either 12-month or lifetime expected credit loss based on the extent of increase in credit risk.

If credit risk has increased significantly since the initial recognition, a loss allowance for lifetime expected credit loss is required to be measured at the end of every reporting period. If credit risk has not increased significantly since the initial recognition, a loss allowance is measured based on 12-month expected credit loss. If the financial instrument has low credit risk at the end of the reporting period, the Group may assume that the credit risk has not increased significantly since initial recognition. However, a loss allowance for lifetime expected credit losses is required for contract assets or trade receivables that do not contain a significant financing component.

As of January 1, 2018, the date of initial application, the Group recognized an increase in loss allowances and accumulated deficit amounting to ₩7,551 million, respectively.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

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 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.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

4. Significant Accounting Policies, Continued

(a) Basis of consolidation, continued

(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.

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) Discontinued operations

The Group classifies its business segment or subsidiary as discontinued operation when it disposes a separate 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.

(c) 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.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

4. Significant Accounting Policies, Continued

(d) 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.

(e) Non-derivative financial assets

(i) Classification and initial measurement

Trade receivables and issued debt securities are initially recognized at the point in time of issuance. Other financial assets and financial liabilities are recognized when, and only when, the Group becomes a party to the contractual provisions of the instrument.

Except for trade receivables containing a significant financing component, at initial recognition, the Group measures a financial asset or financial liability at its fair value plus or minus, in the case of a financial asset or financial liability not at fair value through profit or loss, transaction cost that are directly attributable to the acquisition or issue of the financial asset or financial liability.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

4. Significant Accounting Policies, Continued

(e) Non-derivative financial assets, continued

(ii) Classification and subsequent measurement

① Financial assets

At the point in time of initial recognition, the Group classify financial assets as amortized cost, debt instrument measured at fair value through other comprehensive income, equity instrument measured at fair value through other comprehensive income or fair value through profit or loss. Unless the Group changes the business model for managing financial assets, financial assets are not reclassified subsequent to the initial recognition. In the case above, all of affected financial assets are reclassified on the first day of first reporting period after the change of the business model.

A financial asset is measured at amortized cost if it meets both of the following conditions and is not designated as at fair value through profit or loss.

- It is held within a business model whose objective is to hold assets to collect contractual cash flows, and
- its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

A debt instrument is measured at fair value through other comprehensive income if it meets both of the following conditions and is not designated as at fair value through profit or loss.

- It is held within a business model whose objective is achieved by both collection of contractual cash flows and selling financial assets, and
- its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

4. Significant Accounting Policies, Continued

(f) Non-derivative financial assets, continued

(ii) Classification and subsequent measurement, continued

① Financial assets, continued

The Group may make an irrevocable election at initial recognition for particular investments in equity instruments not held for trading that would otherwise be measured at fair value through profit or loss to present subsequent changes in fair value in other comprehensive income. This election is made on an instrument-by-instrument basis.

All financial assets not classified as measured at amortized cost or fair value through other comprehensive income as described above are measured at fair value through profit or loss. These financial assets include all derivative financial assets (see Note 39). On initial recognition, the Group may irrevocably designate a financial asset that otherwise meets the requirements to be measured at amortized cost or at fair value through other comprehensive income as at fair value through profit or loss if doing so eliminates or significantly reduces an accounting mismatch that would otherwise arise.

② Financial assets: business model

The Group evaluates the purpose of the business model on a portfolio level of financial assets because it best reflects the way in which the business is managed and information is provided to its management. These information consider the following:

- The stated accounting policies and objectives of the portfolio and actual operation of these policies. These include management's strategy to obtain contractual interest income, to maintain a particular interest yield profile, to match the duration of the financial assets to the duration of the liabilities that those assets are funding, to collect expected contractual cash flows and selling financial assets, or to exercise.
- how the performance of the financial assets held within that business model are evaluated and reported to the key management personnel;
- the risks that affect the performance of the business model (and the financial assets held within that business model) and, in particular, the way in which those risks are managed;
- how managers of the business are compensated (for example, whether the compensation is based on the fair value of the assets managed or on the contractual cash flows collected);
- the frequency, value and timing of sales in prior periods, the reasons for those sales and expectations about future sales activity.

The transaction that transfers a financial asset to a third party in a transaction that does not meet the derecognition criteria is not considered as a sale.

A portfolio which meets the definition of held for trading or whose performance of a portfolio is evaluated on a fair value basis is measured at fair value through profit or loss.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
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4. Significant Accounting Policies, Continued

(e) Non-derivative financial assets, continued

(ii) Classification and subsequent measurement, continued

- ③ Financial assets: Evaluation on whether contractual cash flow is comprised of solely principal and interest

Principal is defined as a fair value of the financial asset at initial recognition. Interest is comprised of a consideration for the time value of money, for the credit risk associated with the principal amount outstanding during a particular period of time and for other basic lending risks and costs (i.e. liquidity risk and operating cost), as well as a profit margin.

When determining whether the contractual cash flow consist of solely payment of principal and interest, the Group considers the contractual terms of the instrument. If a financial asset contains a contractual term that could change the timing or amount of contractual cash flows, the Group must determine whether the contractual cash flows that could arise over the life of the instrument due to that contractual term are solely payments of principal and interest on the principal amount outstanding.

When evaluating the matter above, the Group considers the following:

- contingent nature which changes the amount or timing of the cash flow,
- clause which adjusts coupon interest rate including variable interest rate nature,
- prepayable nature and rollover nature, and
- contractual term in which limits the Group's claim on cash flow arising from specified assets (for example, a 'non-recourse' financial asset)

If prepayment amount substantially represents the contractual unpaid principal and accrued (but unpaid) contractual interest, including reasonable additional compensation for the early termination of the contract, the prepayment nature is same as the condition which pays the principal and interest on a particular day.

In addition, for a financial asset acquired at a significant discount or premium on a contractual face value, prepayment amount substantially represents the contractual face value and accrued contractual interest (but unpaid), which may include reasonable additional compensation for the early termination of the contract. The Group determines that the conditions are met when the fair value of the prepayment feature on initial recognition of the financial asset is insignificant.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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4. Significant Accounting Policies, Continued

(e) Non-derivative financial assets, continued

(ii) Classification and subsequent measurement, continued

④ Financial assets: subsequent measurement and gains and losses

Financial assets measured at fair value through profit or loss	The assets are subsequently measured at their fair value. Net gains or losses including interest and dividend income are recognized in profit or loss. For derivative instruments designated as hedging instruments, however, please refer to Note 4. (f).
Financial assets measured at amortized costs	The assets are measured at amortized costs by using the effective interest method. Amortized costs are decreased by impairment loss. Interest income, gains or losses on foreign currency translation, and impairment losses are recognized in profit or loss. Gains or losses arising from derecognition are recognized in profit or loss.
Debt instruments measured at fair value through other comprehensive income	The assets are subsequently measured at fair value. Interest income is calculated by using the effective interest rate method, and gains or losses on foreign currency translation are recognized in profit or loss. Gains or losses on derecognition are reclassified from other comprehensive income to profit or loss.
Equity instruments measured at fair value through other comprehensive income	The assets are subsequently measure at fair value. Dividends on such investment are recognized in profit or loss unless the dividend clearly represents a recovery of part of the cost of the investment. Other net gains or losses are recognized in other comprehensive income and never reclassified to profit or loss.

(iii) Derecognition of non-derivative financial assets

Financial assets

The Group derecognizes non-derivative financial assets when the contractual rights to the cash flows from the financial asset expire, or the Group transfers the rights to receive the contractual cash flows from the financial asset as well as substantially all the risks and rewards of ownership of the financial asset. Any interest in a transferred financial asset that is created or retained by the Group is recognized as a separate asset or liability.

If the Group retains substantially all the risks and rewards of ownership of the transferred financial assets, the Group continues to recognize the transferred financial assets and recognizes financial liabilities for the consideration received.

(iv) Offsetting a financial asset and a financial liability

Financial assets and financial liabilities are offset and the net amount is presented in the separate statement of financial position only when the Group currently has a legally enforceable right to offset the recognized amounts, and there is the intention to settle on a net basis or to realize the asset and settle the liability simultaneously.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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4. Significant Accounting Policies, Continued

(f) Derivative financial instruments

Derivative are initially recognized at fair value. Subsequent to initial recognition, derivative are measured at fair value, and changes therein are recognized as describe below.

(i) 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.

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.

The Group discontinues fair value hedge accounting if the hedging instrument expires or is sold, terminated or exercised, 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.

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, net of tax, and presented in the hedging reserve in equity. Any ineffective portion of changes in the fair value of the derivative is recognized immediately in profit or loss. If the hedging instrument no longer meets the criteria for hedge accounting, expires or is sold, terminated, exercised, or the designation is revoked, then hedge accounting is discontinued prospectively. The cumulative gain or loss on the hedging instrument that has been recognized in other comprehensive income is reclassified to profit or loss in the periods during which the forecasted transaction occurs. If the forecasted transaction is no longer expected to occur, then the balance in other comprehensive income is recognized immediately in profit or loss.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
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4. Significant Accounting Policies, Continued

(f) Derivative financial instruments, continued

(ii) 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 separate 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.

(iii) 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.

(g) Impairment of financial assets

(i) Financial assets and contract assets

The Group recognizes loss allowances for expected credit losses on:

- financial assets measured at amortized cost, and
- contract assets defined under K-IFRS No. 1115.

The Group measures the loss allowance based on the amount of lifetime expected credit loss except the following financial assets measured based on 12-month expected credit loss.

- debt securities and bank deposit that credit risk (i.e. risk of a default throughout the expected life of a financial asset) has not increased significantly since the initial recognition.

Loss allowances on trade receivables and contract asset are always measured based on the lifetime expected credit loss.

When determining whether the credit risk of a financial asset has increased significantly since initial recognition and when estimating expected credit losses, the Group considers reasonable and supportable information that is relevant and available without undue cost or effort. This includes both quantitative and qualitative information and analysis, based on the Group's historical experience and informed credit assessment and including forward-looking information.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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4. Significant Accounting Policies, Continued

(g) Impairment of financial assets, continued

The Group considers a financial asset to be in default under following circumstances:

- when the borrower is unlikely to pay its credit obligations to the Group in full, without recourse by the Group to action, and
- when financial assets is past due more than certain period of time.

Lifetime expected credit losses are the expected credit losses that result from all possible default events over the expected life of a financial instrument. 12-month expected credit losses are the portion of lifetime expected credit losses that result from default that are possible within the 12 months after the reporting date. The maximum period considered when estimating expected credit losses is the maximum contractual period over which the Group is exposed to credit risk.

(ii) Measurement of expected credit losses

Expected credit losses are a probability-weighted estimate of credit losses. Credit losses are measured as the present value of all cash shortfalls such as the difference between the cash flows due to the entity in accordance with the contract and the cash flows that the Group expects to receive. Expected credit losses are discounted by the financial asset's effective interest rate.

(iii) Credit-impaired financial assets

At each reporting date, the Group assesses whether financial assets measured at amortized cost and debt instrument measured at fair value through other comprehensive income are credit-impaired. A financial asset is 'credit-impaired' when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred.

Objective evidence that a financial asset or group of financial assets are impaired includes:

- significant financial difficulty of the issuer or borrower
- a breach of contract, such as a default or delinquency in interest or principal payments
- the lender, for economic or legal reasons relating to the borrower's financial difficulty, granting to the borrower a concession that the lender would not otherwise consider it
- becoming probable that the borrower will enter bankruptcy or other financial reorganization
- the disappearance of an active market for that financial asset because of financial difficulties

(iv) Presentation of loss allowance on the consolidated statement of financial position

Loss allowance on the financial assets measured at amortized costs are deducted from the carrying amount of a financial asset.

(v) Write-off

The gross carrying amount of a financial asset is written off when the Group has no reasonable expectations of recovering a financial asset in entirety or a portion. The Group expects no significant recovery from the amount written off. However, financial assets that are written off could still be subject to enforcement activities in order to comply with the Group's procedures for recovery of amounts due.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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4. Significant Accounting Policies, Continued

(h) 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.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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4. Significant Accounting Policies, Continued

(h) Property, plant and equipment, continued

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-filed basis) through drilling activities.

Subsequent costs are recognized in the carrying amount of property, plant and equipment at cost or, if appropriate, as separate 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.

	<u>Useful lives (years)</u>
Buildings	20 ~ 40 years
Structures	20 ~ 40 years
Machineries	5 ~ 20 years
Tools and fixtures	5 years
Vehicles	5 years

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.

(i) Intangible assets

Intangible assets with finite useful lives acquired separately are carried at cost. Intangible assets 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 SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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4. Significant Accounting Policies, Continued

(i) Intangible assets, continued

The useful lives of intangible assets are assessed as either finite or indefinite. Intangible assets with finite lives are amortized over the useful economic life and assessed for impairment whenever there is an indication that the intangible asset may be impaired. The amortization period and the amortization method for intangible assets 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 with finite lives is recognized in the statement of comprehensive income in the expense category consistent with the function of the intangible asset.

Intangible assets with indefinite useful lives such as membership are not amortized, but are tested for impairment annually. Intangible assets with definite useful lives are amortized on a straight-line basis over estimated useful lives of 5 to 20 years.

Gains or losses arising from derecognition of an intangible asset, measured as the difference between the net disposal proceeds and the carrying amount of the asset, and are recognized in income or loss when the asset is derecognized.

(j) 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.

(k) 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.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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4. Significant Accounting Policies, Continued

(l) 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 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.

An impairment loss is recognized in profit or loss if the carrying amount of an asset or a CGU exceeds its recoverable amount.

(m) Lease

The Group classifies and accounts for leases as either a finance or operating lease, depending on the terms. Leases where the Group assumes substantially all of the risks and rewards of ownership are classified as finance leases. All other leases are classified as operating leases.

(i) Finance leases

At the commencement of the lease term, the Group recognizes as finance assets and finance liabilities in its consolidated statements of financial position, the lower amount of the fair value of the leased property and the present value of the minimum lease payments, each determined at the inception of the lease. Any initial direct costs are added to the amount recognized as an asset.

Minimum lease payments are apportioned between the finance charge and the reduction of the outstanding liability. The finance charge is allocated to each period during the lease term so as to produce a constant periodic rate of interest on the remaining balance of the liability. Contingent rents are charged as expenses in the periods in which they are incurred.

The depreciable amount of a leased asset is allocated to each accounting period during the period of expected use on a systematic basis consistent with the depreciation policy the lessee adopts for depreciable assets that are owned. If there is no reasonable certainty that the lessee will obtain ownership by the end of the lease term, the asset is fully depreciated over the shorter of the lease term and its useful life. Also, The Group reviews to determine whether the leased asset may be impaired.

(ii) Operating leases

Leases where the lessor retains a significant portion of the risks and rewards of ownership are classified as operating leases. Payments made under operating leases (net of any incentives received from the lessor) are recognized in profit or loss on a straight-line basis over the period of the lease.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
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4. Significant Accounting Policies, Continued

(m) Lease, continued

(iii) Determining whether an arrangement contains a lease

Determining whether an arrangement is, or contains, a lease shall be based on the substance of the arrangement and requires an assessment of whether fulfillment of the arrangement is dependent on the use of a specific asset or assets (the asset) and the arrangement conveys a right to use the asset.

At inception or reassessment of the arrangement containing a lease, the Group separates payments and other consideration required by such an arrangement into those for the lease and those for other elements on the basis of their relative fair values. If the Group concludes for a financial lease that it is impracticable to separate the payments reliably, the Group recognizes an asset and a liability at an amount equal to the fair value of the underlying asset that was identified as the subject of the lease. Subsequently, the liability shall be reduced as payments are made and an imputed finance charge on the liability recognized using the purchaser's incremental borrowing rate of interest

(n) Non-current assets held for sale

Non-current assets, or disposal groups comprising assets and liabilities, that are expected to be recovered primarily through sale rather than through continuing use, are classified as held for sale. In order to be classified as held for sale, the asset (or disposal group) must be available for immediate sale in its present condition and its sale must be highly probable. The assets or disposal group that are classified as non-current assets held for sale are measured at the lower of their carrying amount and fair value less cost to sell.

The Group recognizes an impairment loss for any initial or subsequent write-down of an asset (or disposal group) to fair value less costs to sell, and a gain for any subsequent increase in fair value less costs to sell, up to the cumulative impairment loss previously recognized in accordance with K-IFRS No. 1036, 'Impairment of Assets'.

A non-current asset that is classified as held for sale or part of a disposal group classified as held for sale is not depreciated (or amortized).

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
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4. Significant Accounting Policies, Continued

(o) Non-derivative financial liabilities

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

Financial liabilities at fair value through profit or loss include financial liabilities held for trading or designated as such upon initial recognition. Subsequent to initial recognition, financial liabilities at fair value through profit or loss are measured at fair value, and changes therein are recognized in profit or loss. Upon initial recognition, transaction costs that are directly attributable to the acquisition are recognized in profit or loss as incurred.

(ii) Other financial liabilities

Non-derivative financial liabilities other than financial liabilities at fair value through profit or loss are classified as other financial liabilities. At the date of initial recognition, other financial liabilities are measured at fair value minus transaction costs that are directly attributable to the acquisition. Subsequent to initial recognition, other financial liabilities are measured at amortized cost using the effective interest method.

(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). When cash flow of a financial liability substantially changes due to contract amendment, the Group derecognizes a financial liability and newly recognizes financial liability at fair value based on the amended contract. The difference between carrying amount and consideration paid (including any transferred non-cash assets or liabilities assumed) is recognized through profit or loss when derecognizing a financial liability.

(p) 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.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
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4. Significant Accounting Policies, Continued

(p) Employee benefits, continued

(iii) Retirement benefits: defined benefit plans

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 SUBSIDIARIES
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4. Significant Accounting Policies, Continued

(q) 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 separate 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.

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.

(r) 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.

(s) Foreign currencies

Transactions in foreign currencies are translated to the respective functional currencies of 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 SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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4. Significant Accounting Policies, Continued

(t) 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.

(u) 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.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

4. Significant Accounting Policies, Continued

(v) 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 SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

4. Significant Accounting Policies, Continued

(w) New standards and interpretations not yet adopted

The following new standards have been published and are mandatory for the Group for annual period beginning after January 1, 2018 and the Group has not early adopted them.

(i) K-IFRS No. 1116 "Leases"

K-IFRS No. 1116 "Leases" will replace K-IFRS No. 1017 "Leases" and K-IFRS No. 2104 "Determining whether an Arrangement contains a Lease". It is effective for annual periods beginning on or after January 1, 2019, with early adoption permitted. The Group plans to apply K-IFRS No. 1116 for the year beginning January 1, 2019.

K-IFRS No. 1116 introduces a single accounting model that requires a lessee to recognize lease related asset and liability in the financial statements. 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. The lessee may elect not to apply the requirements to short-term lease with a term of 12 months or less at the commencement date or low value assets.

To assess the financial impact of the initial adoption of K-IFRS No. 1116, the Group is analyzing the impact on the separate financial statements for 2019 based on the current situation and available information as of December 31, 2018. However it is practically difficult to provide a reasonable estimate of the financial impact.

The following new standards and amendments are expected not to have a significant impact on the separate financial statements of the Group.

- K-IFRS No. 2123 "Uncertainty over Tax Treatments"
- Amendment to K-IFRS No.1109 "Financial Assets" (Prepayment Features with Negative Compensation)
- Amendment to K-IFRS No.1028 "Investments in Associates and Joint Ventures" (Long-term Interests in Associates and Joint Ventures)
- Amendment to K-IFRS No.1019 "Employee Benefits"
- Annual Improvements to K-IFRS (2015 – 2017 cycle)
- Amendment to Conceptual Framework for Financial Reporting
- K-IFRS No. 1117 "Insurance Contracts"

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

5. Subsidiaries

(a) The list of subsidiaries directly owned by the Company as of December 31, 2018 and 2017 are as follows:

Subsidiary name	Principal activity	Country of incorporation	Ownership (%)	
			December 31, 2018	December 31, 2017
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 Exploracao e Producao de Petro do Brasil Ltda(*)	E&P	Brazil	100.00	100.00
KNOC NEMONE Ltd.(*)	E&P	Indonesia	100.00	100.00
KNOC NEMTWO Ltd.(*)	E&P	Indonesia	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

(*) The liquidation process has been completed as of December 31, 2018.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

5. Subsidiaries, Continued

(b) Financial information of subsidiaries

(i) Financial information of subsidiaries as of and for the year ended December 31, 2018 is as follows:

In millions of Korean won

<u>Company</u>	<u>Assets</u>	<u>Liabilities</u>	<u>Revenue</u>	<u>Net profit (loss)</u>
ANKOR E&P Holdings Corp.	₩ 466,125	229,614	121,845	(37,799)
Dana Petroleum Limited(*1)	2,962,433	1,653,661	1,490,813	160,352
KNOC Eagle Ford Corporation	2,626,975	635,210	451,620	153,665
Harvest Operations Corp.	2,441,861	2,900,997	242,824	(322,993)
KNOC Kaz B.V.(*1)	756,302	574,616	272,417	(4,141)
KNOC Exploracao e Producao de Petro do Brasil Ltda(*2)	-	-	-	(10)
KNOC NEMONE Ltd.(*2)	-	-	-	-
KNOC NEMTWO Ltd.(*2)	-	-	-	-
KNOC Sumatra Ltd.	661	-	-	-
KNOC Yemen Ltd.(*3)	14	-	-	-
KNOC Trading Singapore Pte. Ltd.	375	10	358	(44)

(*1) The amounts presented are after reflecting the difference between the fair value and the book value that arose during the business combination.

(*2) The liquidation process has been completed as of December 31, 2018.

(*3) Entity is in the process of liquidation as of December 31, 2018.

(ii) Financial information of subsidiaries as of and for the year ended December 31, 2017 is as follows:

In millions of Korean won

<u>Company</u>	<u>Assets</u>	<u>Liabilities</u>	<u>Revenue</u>	<u>Net profit (loss)</u>
ANKOR E&P Holdings Corp.	₩ 494,537	236,829	88,378	(80,029)
Dana Petroleum Limited(*1)	3,398,242	2,290,141	712,145	10,755
KNOC Eagle Ford Corporation	2,401,577	217,888	375,150	48,696
Harvest Operations Corp.	2,657,014	2,804,010	248,619	(246,056)
KNOC Kaz B.V.(*1)	844,974	570,320	196,132	(127,015)
KNOC Exploracao e Producao de Petro do Brasil Ltda(*2)	10	305	-	224
KNOC NEMONE Ltd.(*2)	-	-	-	-
KNOC NEMTWO Ltd.(*2)	-	-	-	-
KNOC Sumatra Ltd.	634	-	-	(165)
KNOC Yemen Ltd.(*2)	13	-	-	155,817
KNOC Trading Singapore Pte. Ltd.	407	6	409	88

(*1) The amounts presented are after reflecting the difference between the fair value and the book value that arose during the business combination.

(*2) Entities are in the process of liquidation as of December 31, 2017.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

5. Subsidiaries, Continued

(b) Financial information of subsidiaries, continued

(iii) The financial information of the subsidiaries that are related to the Group's non-controlling interests as of December 31, 2018 is as follows:

In millions of Korean won

Company	Eagle Ford MS LLC and Eagle Ford Energy LLC
Non-controlling interests	20%
Non-current assets	₩ 2,343,955
Current assets	97,045
Non-current liabilities	(41,459)
Current liabilities	(9,981)
Net assets	2,389,560
Book value of the non-controlling interests	516,791
Revenue	468,495
Net income	180,539
Total comprehensive income	180,539
Net income distributed to non-controlling interests (*)	36,053
Total comprehensive income distributed to non-controlling interests	68,214

(*) Excludes net income distributed to non-controlling interest which has been excluded due to the change in the scope of consolidation.

(iv) The financial information of the subsidiaries that are related to the Group's non-controlling interests as of December 31, 2017 is as follows:

In millions of Korean won

Company	Eagle Ford MS LLC and Eagle Ford Energy LLC	KNOC EF Star LLC(*)
Non-controlling interests	20%	-
Non-current assets	₩ 2,170,701	412,489
Current assets	136,441	30,442
Non-current liabilities	(31,395)	-
Current liabilities	(3,959)	(50)
Net assets	2,271,788	442,881
Book value of the non-controlling interests	454,358	412,489
Revenue	441,982	15,045
Net income	55,759	14,921
Total comprehensive income	55,759	-
Net income distributed to non-controlling interests	11,152	-
Total comprehensive income distributed to non-controlling interests	11,152	-

(*) A non-controlling interest has no voting right as non-cumulative and non-participating redeemable preferred shares (see Note 46).

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

5. Subsidiaries, Continued

(c) The changes in the scope of consolidation are as follows:

	<u>Changes</u>	<u>Cause of the change</u>
KNOC EF Star LLC and its subsidiaries(*1)	Excludes from consolidation	Reassessment of control
KNOC Exploracao e Producao de Petro do Brasil Ltda(*2)	Excludes from consolidation	Completion of liquidation
KNOC NEMONE Ltd.(*2)	Excludes from consolidation	Completion of liquidation
KNOC NEMTWO Ltd.(*2)	Excludes from consolidation	Completion of liquidation

(*1) KNOC EF Star LLC is a subsidiary of KNOC Eagle Ford Corporation, a subsidiary of the Company. Due to lose of control during the year ended December 31, 2018, it has been excluded from the scope of consolidation and classified as an associate.

(*2) Liquidation process has been completed for the year ended December 31, 2018.

6. Segment and Other Information

(a) 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) financing, 5) drillship chartering and 6) others.

<u>Segments</u>	<u>Goods and services</u>	<u>Location of business</u>
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	Purchase and lending of oil stockpiles, management, operation and lending of oil stockpiling facilities	Domestic
Financing (*)	Financing for companies engaged in energy and natural resources development activities	Domestic
Drillship chartering (*)	Drillship chartering business	Domestic and overseas
Others	Oil information services, other research services, etc.	Domestic and overseas

(*) Financing and drillship chartering segments have been classified as discontinued operations during the year ended December 31, 2017 (see Note 7).

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

6. Segment and Other Information, Continued

(b) Segment results for the year

(i) For the year ended December 31, 2018

<i>In millions of Korean won</i>	Oil and gas	Petroleum distribution	Oil stockpiling	Others	Reportable segment total	Recon- ciling items(*)	Drillship chartering (Dis- continued)	Group total
Revenue	₩ 2,924,848	41,723	178,327	4,367	3,149,265	-	-	3,149,265
Cost of sales	1,958,194	35,995	175,626	2,118	2,171,933	-	1,515	2,173,448
Gross profit (loss)	966,654	5,728	2,701	2,249	977,332	-	(1,515)	975,817
Selling and administrative expenses	361,147	340	-	-	361,487	72,485	-	433,972
Reportable segment operating profit (loss)	605,507	5,388	2,701	2,249	615,845	(72,485)	(1,515)	541,845
Other income					76,489	-	-	76,489
Other expenses					37,791	-	-	37,791
Other gain (loss), net					(849,323)	-	2,369	(846,954)
Finance income					231,242	-	-	231,242
Finance costs					783,491	-	-	783,491
Loss on investments in associates and joint ventures, net					(112,547)	-	-	(112,547)
Profit (loss) before income tax	₩				(859,576)	(72,485)	854	(931,207)
Depreciation and amortization	₩ 1,046,995	7	75,269	9	1,122,280	12,707	1	1,134,988
Impairment losses on property, plant and equipment	272,829	-	-	-	272,829	-	-	272,829
Reversal of impairment losses on property, plant and equipment	23,146	-	-	-	23,146	-	-	23,146
Impairment losses on intangible assets other than goodwill	609,347	-	-	-	609,347	-	-	609,347

(*) Primarily consists of operating profit (loss) including depreciation and amortization that are not allocated to the segments.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

6. Segment and Other Information, Continued

(b) Segment results for the year, continued

(ii) For the year ended December 31, 2017

<i>In millions of Korean won</i>	Oil and gas	Petroleum distribution	Oil stockpiling	Others	Reportable segment total	Recon- ciling items(*)	Financing (Dis- continued)	Drillship chartering (Dis- continued)	Group total
Revenue	₩ 2,004,759	187,984	112,146	7,597	2,312,486	-	314	-	2,312,800
Cost of sales	1,495,275	179,369	171,824	3,822	1,850,290	-	-	9,132	1,859,422
Gross profit (loss)	509,484	8,615	(59,678)	3,775	462,196	-	314	(9,132)	453,378
Selling and administrative expenses	208,658	369	-	-	209,027	77,298	244	-	286,569
Reportable segment operating profit (loss)	300,826	8,246	(59,678)	3,775	253,169	(77,298)	70	(9,132)	166,809
Other income					152,269	-	-	-	152,269
Other expenses					207,236	-	-	-	207,236
Other gain (loss), net					(463,150)	-	-	(49,053)	(512,203)
Finance income					304,558	-	-	-	304,558
Finance costs					713,174	-	-	-	713,174
Loss on investments in associates and joint ventures, net					(127,757)	-	-	-	(127,757)
Profit (loss) before income tax	₩				<u>(801,321)</u>	<u>(77,298)</u>	<u>70</u>	<u>(58,185)</u>	<u>(936,734)</u>
Depreciation and amortization	₩ 812,180	10	75,282	10	887,482	13,452	-	3,961	904,895
Impairment losses on property, plant and equipment	320,267	-	-	-	320,267	-	-	42,940	363,207
Reversal of impairment losses on property, plant and equipment	163,645	-	-	-	163,645	-	-	-	163,645
Impairment losses on intangible assets other than goodwill	227,051	-	-	-	227,051	-	-	-	227,051
Impairment losses on goodwill	87,470	-	-	-	87,470	-	-	-	87,470

(*) Primarily consists of operating profit (loss) including depreciation and amortization that are not allocated to the segments.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

6. Segment and Other Information, Continued

(c) Segment assets and liabilities

(i) As of December 31, 2018

<i>In millions of Korean won</i>	Oil and gas	Petroleum distribution	Oil stockpiling	Reportable segment total	Reconciling items(*2)	Group total
Assets	₩ 11,389,050	96,188	5,905,504	17,390,742	-	17,390,742
Adjustments:						
Headquarters' land, buildings, tools & fixtures	-	-	-	-	217,840	217,840
Headquarters' software and memberships	-	-	-	-	11,593	11,593
Headquarters' loans to employees	-	-	-	-	105,486	105,486
Headquarters' deferred tax assets	-	-	-	-	401,012	401,012
Headquarters' derivative assets	-	-	-	-	26,419	26,419
Headquarters' financial assets and etc.	-	-	-	-	85,909	85,909
	₩ 11,389,050	96,188	5,905,504	17,390,742	848,259	18,239,001
Liabilities	₩ 16,799,431	153,203	60,825	17,013,459	-	17,013,459
Adjustments:						
Headquarters' derivative liabilities	-	-	-	-	113,194	113,194
Headquarters' financial liabilities and etc.	-	-	-	-	348,283	348,283
	₩ 16,799,431	153,203	60,825	17,013,459	461,477	17,474,936
Investments in associates and others(*1)	₩ 744,483	53,338	-	797,821	-	797,821
Acquisitions of property, plant and equipment	541,446	-	66,855	608,301	-	608,301
Acquisitions of intangible assets other than goodwill	26,731	-	-	26,731	528	27,259

(*1) Investments in associates and others consist of investments in associates and joint ventures and loans to related parties, accrued interest and financial assets measured at fair value through profit or loss.

(*2) Primarily consists of loans for employees, deferred tax assets and others which are not allocated to the reportable segments

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

6. Segment and Other Information, Continued

(c) Segment assets and liabilities, continued

(ii) As of December 31, 2017

<i>In millions of Korean won</i>	Oil and gas	Petroleum distribution	Oil stockpiling	Reportable segment total	Reconciling items(*2)	Drillship chartering (Discontinued)(*3)	Group total
Assets	₩ 12,585,859	90,160	5,597,713	18,273,732	-	3,472	18,277,204
Adjustments:							
Headquarters' land, buildings, tools & fixtures	-	-	-	-	278,750	-	278,750
Headquarters' software and memberships	-	-	-	-	13,059	-	13,059
Headquarters' loans to employees	-	-	-	-	102,842	-	102,842
Headquarters' deferred tax assets	-	-	-	-	580,524	-	580,524
Headquarters' derivative assets	-	-	-	-	48,379	-	48,379
Headquarters' financial assets and etc.	-	-	-	-	210,942	-	210,942
	<u>₩ 12,585,859</u>	<u>90,160</u>	<u>5,597,713</u>	<u>18,273,732</u>	<u>1,234,496</u>	<u>3,472</u>	<u>19,511,700</u>
Liabilities	₩ 16,539,496	95,249	80,331	16,715,076	-	-	16,715,076
Adjustments:							
Headquarters' derivative liabilities	-	-	-	-	82,712	-	82,712
Headquarters' financial liabilities and etc.	-	-	-	-	330,022	-	330,022
	<u>₩ 16,539,496</u>	<u>95,249</u>	<u>80,331</u>	<u>16,715,076</u>	<u>412,734</u>	<u>-</u>	<u>17,127,810</u>
Investments in associates and others(*1)	₩ 660,535	50,430	-	710,965	-	-	710,965
Acquisitions of property, plant and equipment	486,072	-	113,642	599,714	232,648	-	832,362
Acquisitions of intangible assets other than goodwill	27,223	-	-	27,223	1,625	-	28,848

(*1) Investments in associates and others consist of investments in associates and joint ventures and loans to related parties and accrued interest.

(*2) Primarily consists of loans for employees, deferred tax assets and others which are not allocated to the reportable segments.

(*3) Assets in drillship chartering segment amounting to ₩3,472 million have been classified as assets held for sale.

(d) Information about main customers

Customers whose revenue is 10% or more of consolidated revenue for the year ended December 31, 2018 are BP P.L.C. and Shell Co. amounting to ₩522,857 million and ₩567,294 million, respectively. No customer's revenue is more than 10% of consolidated revenue for the year ended December 31, 2017. Furthermore, revenues from these customers for the years ended December 31, 2018 are related to oil and gas segment.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

6. Segment and Other Information, Continued

(e) Information about geographical areas

(i) Revenue by geographic area for the years ended December 31, 2018 and 2017 is as follows:

<i>In millions of Korean won</i>		2018	2017
Domestic	₩	592,870	694,935
Canada		242,824	248,619
United Kingdom		1,490,813	712,145
United States		573,465	463,528
Kazakhstan		249,293	192,850
Others		-	409
Reportable segment operating revenue	₩	<u>3,149,265</u>	<u>2,312,486</u>
Financing segment (discontinued)		-	314
	₩	<u>3,149,265</u>	<u>2,312,800</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.

(ii) Non-current assets by geographic area as of December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>		December 31, 2018	December 31, 2017
Domestic	₩	6,510,278	6,326,504
Canada		1,789,099	1,966,834
United Kingdom		2,465,429	2,994,323
United States		2,750,173	2,581,594
Kazakhstan		275,187	325,109
Iraq		740,315	1,333,008
Yemen		4,120	3,948
Peru		48,352	45,297
Libya		42,329	43,668
Vietnam		262,690	331,524
Others		14	1
	₩	<u>14,887,986</u>	<u>15,951,810</u>

Non-current assets by geographic area include property, plant and equipment, goodwill, intangible assets other than goodwill, investments in associates and joint ventures, and non-financial assets.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

7. Discontinued Operations

In 2017, financing and drillship chartering segments, which have been part of the Company, were classified as discontinued operations as 1) the Company transferred its responsibilities related to financing for companies engaged in energy and natural resources development activities to another government agency in 2017 and 2) management committed to a plan to sell the primary assets of drillship chartering segment. For the year ended December 31, 2018, the Company recognized profit and loss due to disposal of drillship and others, which had been classified as asset held for sale as of December 31, 2017.

(a) Details of profit or loss from discontinued operations are as follows:

(i) For the year ended December 31, 2018

<i>In millions of Korean won</i>		Drillship chartering
Revenue (*)	₩	2,369
Expenses		1,515
Profit from discontinued operations	₩	854

(*) Includes gain from disposal of vessel classified as asset held for sale as of December 31, 2017, amounting to ₩2,059 million.

(ii) For the year ended December 31, 2017

<i>In millions of Korean won</i>		Financing	Drillship chartering	Total
Revenues	₩	314	-	314
Expenses (*)		244	58,184	58,428
Profit (loss) before income tax		70	(58,184)	(58,114)
Income tax expense (benefit)		17	(5,794)	(5,777)
Profit (loss) from discontinued operations	₩	53	(52,390)	(52,337)

(*) Impairment loss on property, plant and equipment in drillship chartering segment amounting to ₩42,940 million and loss from valuation of supplies amounting to ₩6,821 million are included.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

7. Discontinued Operations, Continued

(b) Details of cash flows from discontinued operations are as follows:

(i) For the year ended December 31, 2018

<i>In millions of Korean won</i>		<u>Drillship chartering</u>
Cash flow from operating activities	₩	(1,204)
Cash flow from investing activities		<u>5,624</u>
Total cash flow, net	₩	<u><u>4,420</u></u>

(ii) For the year ended December 31, 2017

<i>In millions of Korean won</i>		<u>Financing</u>	<u>Drillship chartering</u>	<u>Total</u>
Cash flow from operating activities	₩	70	(4,462)	(4,392)

(c) There is no balance of asset and liability in relation to discontinued operations as of December 31, 2018.

8. 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, 2018 and 2017 are comprised of the following items in the consolidated statements of financial position.

<i>In millions of Korean won</i>		<u>December 31, 2018</u>	<u>December 31, 2017</u>
Cash in hands	₩	88	100
Other on demand deposits		276,720	211,415
Short-term deposits classified as cash equivalents		202,523	312,706
Short-term investments classified as cash equivalents		298,867	266,899
Government grants		<u>(78)</u>	<u>(45)</u>
	₩	<u><u>778,120</u></u>	<u><u>791,075</u></u>

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9. Restricted Deposits

Details of restricted deposits as of December 31, 2018 and 2017 are as follows:

		December 31, 2018		December 31, 2017	
		Current	Non-current	Current	Non-current
<i>In millions of Korean won</i>					
Compensations for fishermen	₩	-	-	2,056	-
Asset retirement obligation		-	2,490	-	2,317
Deposits for foreign workers		-	3	-	4
	₩	-	2,493	2,056	2,321

10. Financial Assets Measured at Fair Value through Profit or Loss (Including Derivative)

(a) Details of financial assets measured at fair value through profit or loss as of December 31, 2018 and 2017 are as follows:

		December 31, 2018		December 31, 2017	
		Current	Non-current	Current	Non-current
<i>In millions of Korean won</i>					
Fair value through profit or loss					
Debt securities	₩	-	534,983	-	-

(*) Debt instruments are comprised of loans to related parties and accrued interests. For the year ended December 31, 2018, gain and loss on valuation of financial assets measured at fair value through profit or loss amounting to ₩40,926 million and ₩5,059 million, respectively.

(b) Details of derivatives as of December 31, 2018 and 2017 are as follows:

		December 31, 2018		December 31, 2017	
		Current	Non-current	Current	Non-current
<i>In millions of Korean won</i>					
Derivative assets					
Currency swaps	₩	5,520	20,405	-	44,269
Interest rate swaps		-	6,014	1,161	2,949
Currency forwards		-	-	2,596	-
Other derivatives (*)		65,292	35,969	775	84
	₩	70,812	62,388	4,532	47,302
Derivative liabilities					
Currency swaps	₩	67,766	40,267	18,830	45,832
Interest swaps		5,954	5,161	-	-
Currency forwards		233	-	-	-
Other derivatives		4	122	74,682	2,397
	₩	73,957	45,550	93,512	48,229

(*) The Company holds right to purchase shares of Korea GS E&P Pte. Ltd. and, accordingly, recognized non-current derivative assets amounting to ₩18,999 million (see Note 46).

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
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10. Financial Assets Measured at Fair Value through Profit or Loss (Including Derivative), Continued

(c) Details of currency swap contracts as of December 31, 2018 are as follows:

In millions of Korean won and thousands of foreign currencies

Type	Counter party	Maturity	Contract amount				Contract interest rate per annum (%)	
			Currency	Sell	Currency	Buy	Sell	Buy
	HSBC	2021-02-08	HKD	500,000	USD	64,185	4.38	5.03
	BNP	2021-03-04	HKD	390,000	USD	50,081	4.50	5.20
	HSBC	2022-02-10	HKD	390,000	USD	50,282	3.95	4.45
	BNP	2022-03-28	EUR	50,000	USD	65,075	4.00	4.55
	HSBC	2023-01-26	HKD	400,000	USD	51,600	2.85	3.17
	DBS	2023-02-04	EUR	37,000	USD	49,765	2.40	3.19
	HSBC	2025-06-24	EUR	60,000	USD	80,070	3.00	4.06
	HSBC	2023-07-03	EUR	50,000	USD	65,670	3.09	4.31
Cash flow hedge	HSBC	2019-10-08	AUD	125,000	USD	109,563	4.25	2.11
	HSBC	2019-10-08	AUD	75,000	USD	65,738	2.79	2.18
	ANZ	2019-10-08	AUD	150,000	USD	131,475	2.79	2.14
	SC	2020-01-29	HKD	310,000	USD	39,985	2.18	2.42
	HSBC	2020-08-26	KRW	150,000	USD	125,565	2.03	2.41
	CITI	2019-02-05	AUD	325,000	USD	230,555	2.98	2.15
	DBS	2021-01-30	SGD	400,000	USD	350,951	1.86	2.96
	BNP/SC/KDB	2023-06-01	CHF	500,000	USD	499,940	0.38	3.69
	CIBC	2019-01-25	CAD	260,999	USD	350,000	1.34	1.34
	BNS	2019-02-05	CAD	14,914	USD	20,000	1.34	1.34

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10. Financial Assets Measured at Fair Value through Profit or Loss (Including Derivative), Continued

(d) Details of interest rate swap contracts as of December 31, 2018 are as follows:

In thousands of foreign currencies and thousands of US dollar

Type	Counterparty	Terms	Contract amount	Contract interest rate per annum(%)	
				Sell	Buy
Cash flow hedge	BOA	2020-03-27	USD 500,000	U3L+60bp	2.46
	SG	2023-07-16	USD 400,000	U3L+90bp	3.70
	HSBC	2023-05-11	CAD 300,000	1.95	2.82

(e) Details of the currency forward contracts as of December 31, 2018 are as follows:

In thousands of foreign currencies

Type	Counter party	Contract date	Maturity	Contract amount				Contract currency rate
				Currency	Sell	Currency	Buy	
Cash flow hedge	ABN AMRO	2018-12-03	2019-01-10	USD	1,275	GBP	1,000	1.2750
	CIBC	2018-08-08	2019-01-15	USD	10,381	GBP	8,000	1.2976
	CIBC	2018-12-06	2019-01-22	USD	8,922	GBP	7,000	1.2746
	CBA	2018-11-15	2019-02-04	USD	1,283	GBP	1,000	1.2832
	LLOYDS	2018-12-04	2019-02-11	USD	8,915	GBP	7,000	1.2736
	BNPP	2018-08-08	2019-02-15	USD	9,092	GBP	7,000	1.2988
	DNB	2018-12-05	2019-03-11	USD	2,560	GBP	2,000	1.2799
	ING	2018-12-10	2019-03-14	USD	3,820	GBP	3,000	1.2732
	CIBC	2018-08-08	2019-03-15	USD	6,497	GBP	5,000	1.2994
	BNPP	2018-11-15	2019-03-22	USD	10,280	GBP	8,000	1.2850
	DNB	2018-11-27	2019-04-11	USD	3,853	GBP	3,000	1.2842
	ABN AMRO	2018-11-15	2019-04-15	USD	10,384	GBP	8,000	1.2980
	BNPP	2018-12-10	2019-04-16	USD	3,825	GBP	3,000	1.2750
	RBS	2018-11-27	2019-05-07	USD	5,136	GBP	4,000	1.2840
	ABN AMRO	2018-11-15	2019-05-15	USD	12,928	GBP	10,000	1.2928
	CBA	2018-12-10	2019-06-07	USD	11,469	GBP	9,000	1.2743
	ING	2018-11-15	2019-06-17	USD	10,383	GBP	8,000	1.2979
	ABN AMRO	2018-12-10	2019-07-08	USD	5,100	GBP	4,000	1.2750
	CIBC	2018-11-15	2019-07-15	USD	7,799	GBP	6,000	1.2999
	LLOYDS	2018-12-10	2019-08-08	USD	11,444	GBP	9,000	1.2715
	CBA	2018-11-15	2019-08-16	USD	11,688	GBP	9,000	1.2987
	DNB	2018-12-10	2019-09-09	USD	16,519	GBP	13,000	1.2707
	LLOYDS	2018-10-30	2019-09-16	USD	3,893	GBP	3,000	1.2975
	ING	2018-12-10	2019-10-08	USD	7,627	GBP	6,000	1.2712
	LLOYDS	2018-10-30	2019-10-15	USD	3,900	GBP	3,000	1.3000
	BNPP	2018-12-10	2019-11-08	USD	12,738	GBP	10,000	1.2738
	LLOYDS	2018-12-12	2019-12-09	USD	12,732	GBP	10,000	1.2732

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10. Financial Assets Measured at Fair Value through Profit or Loss (Including Derivative), Continued

(f) Details of other derivatives (crude oil swaps) as of December 31, 2018 are as follows:

In BBL, MBTU, US dollar

<u>Type</u>	<u>Counterparty</u>	<u>Terms</u>	<u>Contract amount</u>	<u>Exercise price</u>
Held for trading	CITI	2019-03-31	192,000	62.25
	CITI	2019-06-30	144,000	62.25
	CITI	2019-09-30	96,000	60.78
	CITI	2019-12-31	48,000	60.78
	BNP	2020-03-31	67,000	59.47
	BNP	2020-06-30	33,000	59.47
	SG	2020-06-30	33,000	57.13
	SG	2020-09-30	33,000	57.13
	SG	2020-12-31	32,000	57.13
	Cash flow hedge	SC	2019-04-01	9,000
SC		2020-07-14	35,000	59.50
CITI		2020-09-30	17,000	57.14
CITI		2020-12-31	16,000	57.14
GS		2019-03-31	15,000	51.00
GS		2019-03-31	15,000	52.00
DNB		2019-12-31	600,000	62.63
CIBC		2019-08-19	318,548	63.72
DNB		2019-03-19	119,346	64.39
DNB		2019-12-31	360,000	64.98
CIBC		2019-12-31	360,000	66.24
SG		2019-03-29	72,000	51.59
SG		2019-06-28	66,000	51.34
SG		2019-09-30	33,000	51.07
GS		2020-01-14	902,000	2.81(*)
SC		2019-04-01	142,000	2.91(*)
SG		2019-03-29	193,000	2.94(*)
SG		2019-03-30	166,000	2.97(*)
SG		2019-03-31	1,603,000	3.40(*)

(*) The contracts above are derivatives settled based on Henry Hub gas price with exercise prices determined in USD/MBTU.

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10. Financial Assets Measured at Fair Value through Profit or Loss (Including Derivative), Continued

(g) Details of other derivatives (zero cost collar options) as of December 31, 2018 are as follows:

In BBL, US dollar

Type	Counterparty	Terms	Contract amount	Exercise Price	
				Call	Put
Held for trading	GS	2019-03-31	48,000	68.65	60.00
	GS	2019-06-30	48,000	68.65	60.00
	GS	2019-09-30	48,000	67.00	60.00
	GS	2019-12-31	48,000	66.85	60.00
Cash flow hedge	Citi	2019-03-29	38,000	57.05	52.25
	GS	2019-06-28	38,000	55.30	51.80
	GS	2019-06-28	38,000	55.30	51.80
	GS	2019-09-30	38,000	63.50	53.00
	GS	2019-09-30	38,000	63.50	53.00
	GS	2019-09-30	38,000	63.50	53.00
	BNP	2019-03-19	21,000	69.10	59.00
	BNP	2019-06-30	28,000	69.10	59.00
	BNP	2019-09-30	38,000	65.00	59.00
	BNP	2019-12-31	48,000	65.00	59.00
	BNP	2020-03-31	27,000	72.00	59.00
	SC	2019-03-31	15,000	53.60	51.50
	GS	2019-06-30	30,000	54.65	51.90
	GS	2019-09-30	16,000	53.55	51.90
	GS	2019-03-31	52,000	64.30	59.10
	GS	2019-06-30	43,000	61.20	59.10
	SC	2019-09-30	15,000	71.00	63.50
	SC	2019-12-31	24,000	69.25	63.50
	GS	2020-03-31	17,000	69.90	60.00
	GS	2020-06-30	11,000	68.25	60.00
	GS	2020-09-30	6,000	66.60	60.00
	GS	2019-03-29	26,000	53.15	51.50
	GS	2019-03-29	166,000	63.42	57.00
	GS	2019-06-28	146,000	61.50	57.00
	GS	2019-06-28	96,000	75.00	63.50
	GS	2019-09-30	127,000	59.40	57.00
	GS	2019-06-28	96,000	69.75	63.50
	GS	2020-06-30	77,000	68.85	60.00
SC	2019-04-01	96,000	76.60	63.50	
SC	2020-04-01	116,000	70.50	60.00	
SG	2019-09-30	96,000	72.00	63.50	
SG	2019-12-31	108,000	57.40	57.00	
SG	2020-09-30	39,000	66.91	60.00	
DNB	2019-12-31	600,000	65.50	56.00	
DNB	2019-12-31	486,662	69.10	56.00	
CIBC	2019-12-31	305,000	73.60	56.00	

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10. Financial Assets Measured at Fair Value through Profit or Loss (Including Derivative), Continued

(g) Details of other derivatives (zero cost collar options) as of December 31, 2018 are as follows, continued:

In BBL, US dollar

Type	Counterparty	Terms	Contract amount	Exercise Price	
				Call	Put
Cash flow hedge	DNB	2019-12-31	261,218	86.72	56.00
	CBA	2019-12-31	280,000	84.50	65.00
	BNPP	2019-12-31	280,000	88.30	65.00
	BNPP	2019-12-31	298,212	91.90	65.00

(h) Details of other derivative (right to purchase shares) as of December 31, 2018 are as follows:

In millions of Korean won

Type	Counterparty	Maturity	Transaction details	Exercise price	Valuation price
Right to purchase shares	Korea GS E&P	2020-02-27	30% shares	In accordance with exercise price clause	18,999

(i) Gains and losses on valuation and transaction of derivative for the years ended December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>		Net income effects of valuations		Net income effects of transactions		Other comprehensive income (loss) (*)	
		2018	2017	2018	2017	2018	2017
		Currency swaps	₩	4,354	(10,749)	3,333	(11,605)
Interest rate swaps		-	-	-	-	(8,493)	2,468
Currency forwards		-	-	(2,738)	-	(2,724)	(4,444)
Other derivatives		18,864	(14,556)	(167)	(2,477)	115,240	(51,290)
	₩	23,218	(25,305)	428	(14,082)	99,357	(47,331)

(*) Changes in accumulated other comprehensive income (loss) are net of tax effect amounting to (-)₩36,199 million and ₩15,308 million for the years ended December 31, 2018 and 2017, respectively.

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11. Trade and Other Receivables

Details of trade and other receivables as of December 31, 2018 and 2017 are as follows:

		December 31, 2018				December 31, 2017			
		Gross amounts	Allowance for doubtful accounts	Present value discount	Book value	Gross amounts	Allowance for doubtful accounts	Present value discount	Book value
Current									
Trade receivables	₩	210,641	(8,928)	-	201,713	267,828	(693)	-	267,135
Other receivables		242,397	-	-	242,397	289,145	(11)	-	289,134
		453,038	(8,928)	-	444,110	556,973	(704)	-	556,269
Non-current									
Other receivables		56,653	(4,956)	(17,861)	33,836	115,807	-	(18,039)	97,768
	₩	509,691	(13,884)	(17,861)	477,946	672,780	(704)	(18,039)	654,037

12. Financial Assets Measured at Fair Value Through Other Comprehensive Income (Available-for-sale Financial Instruments)

(a) Details of financial assets measured at fair value through other comprehensive income as of December 31, 2018 and 2017 are as follows:

In millions of Korean won	Ownership interest(%)	Carrying amount		Fair value	
		December 31, 2018	December 31, 2017	December 31, 2018	December 31, 2017
Non-marketable					
Yemen LNG Company Limited	1.06	₩ 4,306	4,669	4,306	4,669
Petronado S.A.	5.64	-	-	-	-
Micronic Korea(*1)(*2)	16.70	855	820	855	820
Troika Resource Investment PEF	14.47	2,579	3,244	2,579	3,244
Global Dynasty Natural Resource PEF	15.67	-	2,991	-	2,991
Marketable					
EP Energy	12.82	24,479	79,083	24,479	79,083
		₩ 32,219	90,807	32,219	90,807

(*1) The dividend incomes associated with Micronic Korea for the years ended December 31, 2018 and 2017 are both ₩10 million.

(*2) The carrying amount of non-marketable securities without a quoted price in an active market or a reliable fair value measurement held by the Group that were measured at cost as of December 31, 2017 is ₩820 million.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
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12. Financial Assets Measured at Fair Value Through Other Comprehensive Income (Available-for-sale Financial Instruments), Continued

(b) Changes in financial assets measured at fair value through other comprehensive income for the years ended December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>2018</u>	<u>2017</u>
Beginning balance	₩ 90,807	269,278
Acquisitions	-	18
Valuation adjustments(*1)	(61,550)	(84,561)
Impairment losses(*2)	-	(71,586)
Effect of movements in exchange rates	<u>2,962</u>	<u>(22,342)</u>
	₩ <u>32,219</u>	<u>90,807</u>

(*1) Related income tax effect is not recognized for the year ended December 31, 2018 due to unrecognized deferred tax asset as the amount is not expected to be realized in a foreseeable future. The amount for the year ended December 31, 2017 is presented without the tax effect amounting to ₩20,464 million which have been recognized directly in equity.

(*2) The Group recognized valuation losses on EP Energy, Yemen LNG Company Limited, Troika Resource Investment PEF and Global Dynasty Resource PEF amounting to ₩57,127 million, ₩557 million, ₩794 million and ₩3,072 million, respectively, for the year ended December 31, 2018. Also, the Group recognized impairment losses on EP Energy, Troika Resource Investment PEF and Global Dynasty Resource PEF amounting to ₩71,445 million, ₩7 million and ₩134 million, respectively, for the year ended December 31, 2017.

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13. Loans

Details of loans as of December 31, 2018 and 2017 are as follows:

In millions of Korean won	December 31, 2018			December 31, 2017		
	Face value	Provision for loans	Carrying amount	Face value	Provision for loans	Carrying amount
Short term Loans						
Loans to related parties (*1)	₩ -	-	-	5,814	-	5,814
	-	-	-	5,814	-	5,814
Long term Loans						
Loans for tuitions (*2)	₩ 375	-	375	295	-	295
Loans for housing (*3)	105,096	-	105,096	102,627	-	102,627
Loans for vehicle (*4)	274	-	274	300	-	300
General loans	6,409	(977)	5,432	108,554	(45,098)	63,456
Loans to related parties (*1)	650,545	(611,062)	39,483	1,008,855	(696,068)	312,787
	762,699	(612,039)	150,660	1,220,631	(741,166)	479,465
	₩ 762,699	(612,039)	150,660	1,226,445	(741,166)	485,279

(*1) The Group provided Offshore International Group and 14 other related parties with loans at interest rates of 3.00 ~ 7.80%. 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 and bad debt expenses on loans to related parties amounting to ₩47,280 million and loss under equity method amounting to ₩18,706 million for the years ended December 31, 2017 (see Note 44). In addition, part of loans to related parties has been classified as financial assets measured at fair value through profit or loss due to adoption of K-IFRS No. 1109 at January 1, 2018 (see Note 10).

(*2) 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.

(*3) 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.

(*4) 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.

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14. Financial Instruments

Details of financial Instruments as of December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	December 31, 2018		December 31, 2017	
	Current	Non-current	Current	Non-current
Term deposit	₩ -	5,085	2,074	4,873

15. Other Financial Assets

Details of other current financial assets as of December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	December 31, 2018	December 31, 2017
Overseas field operations quick assets	₩ 16,291	14,919

16. Inventories

Details of inventories as of December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	December 31, 2018			December 31, 2017		
	Acquisition cost	Provision for losses on valuation	Carrying amount	Acquisition cost	Provision for losses on valuation	Carrying amount
Raw materials(*1)	₩ 4,790	(368)	4,422	3,113	(441)	2,672
Merchandises	11,622	(194)	11,428	8,842	-	8,842
Work-in-progress	97	-	97	71	-	71
Finished goods	9,522	-	9,522	7,738	-	7,738
Supplies(*2)	66,931	-	66,931	66,013	-	66,013
Goods in-transit	3,220	-	3,220	2,937	-	2,937
	₩ <u>96,182</u>	<u>(562)</u>	<u>95,620</u>	<u>88,714</u>	<u>(441)</u>	<u>88,273</u>

(*1) The reversal of the losses on the valuation of inventories recognized in cost of sales for the year ended December 31, 2018 is ₩73 million, and the reversal of losses on the valuation of inventories recognized in cost of sales for the year ended December 31, 2017 is ₩77 million.

(*2) As drillship chartering segment has been classified as discontinued operations, loss on valuation has been recognized amounting to ₩6,821 million and carrying amount of supplies related to the vessels has been classified as assets held for sale for the year ended December 31, 2017. (see Note 17)

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
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17. Assets Held for Sale

For the year ended December 31, 2017, management committed to a plan to sell the primary asset, Doo Sung (a vessel), within drillship chartering segment. The assets held for sale were measured at the lower of the carrying amount and fair value less cost to sell based on an appraisal value, and the Group recognized the gain on disposal amounting to ₩2,059 million upon the disposal of the asset for the year ended December 31, 2018.

Details of assets held for sale as of December 31, 2017 are as follows:

In millions of Korean won

		<u>Acquisition Cost</u>	<u>Accumulated Depreciation</u>	<u>Accumulated Impairment loss</u>	<u>Carrying Amount</u>
Vessels	₩	114,625	(70,925)	(40,228)	3,472
Tools and fixtures		4,629	(4,174)	(455)	-
Supplies		6,462	-	(6,462)	-
	₩	<u>125,716</u>	<u>(75,099)</u>	<u>(47,145)</u>	<u>3,472</u>

18. Non-Financial Assets

Details of non-financial assets as of December 31, 2018 and 2017 are as follows:

In millions of Korean won

		<u>December 31, 2018</u>		<u>December 31, 2017</u>	
		<u>Current</u>	<u>Non-current</u>	<u>Current</u>	<u>Non-current</u>
Advance payments	₩	48,021	-	98,531	-
Prepaid expenses		18,809	8,488	18,747	7,629
Oil stockpiles		-	3,722,072	-	3,539,992
	₩	<u>66,830</u>	<u>3,730,560</u>	<u>117,278</u>	<u>3,547,621</u>

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

19. Investments in Associates and Joint Ventures

(a) Details of investments in associates and joint ventures as of December 31, 2018 and 2017 are as follows:

(i) As of December 31, 2018

In millions of Korean won

Entity	Principal activity	Country	Equity interest (%)	Acquisition cost	Book value
<Investments in associates>					
Kernhem B.V.	Exploration and Production("E&P")	Netherlands	36.67	₩ 11,424	-
Oilhub Korea Yeosu Co., Ltd.	Storing of oil	Korea	29.00	37,799	53,338
ADA Oil LLP(*1)	E&P	Kazakhstan	12.50	19,623	-
Parallel Petroleum LLC(*2)	E&P	United States	10.00	42,897	-
KNOC EF Star LLC(*4)	E&P	United States	100.00	29,071	54,127
				140,814	107,465
<Investments in joint ventures>					
KNOC Inam Ltd.	Exploration	Malaysia	40.00	-	-
KNOC Kamchatka Petroleum Ltd.(*3)	Exploration	Cyprus	55.00	1	-
KC karpovsky B.V.(*5)	Exploration	Netherlands	35.00	10	-
KNOC Bazian Ltd.(*3)	Exploration	Malaysia	66.72	-	-
KNOC Nigerian West Oil Company Ltd.(*3)	Exploration	Nigeria	75.00	67	-
KNOC Nigerian East Oil Company Ltd.(*3)	Exploration	Nigeria	75.00	67	-
KNOC Aral Ltd.(*3)(*5)	Exploration	Malaysia	51.00	-	-
Korea kamchatka Co., Ltd.	Exploration	Cyprus	50.00	7,599	-
KC kazakh B.V.	Exploration	Netherlands	35.00	253	-
Offshore International Group, Inc.	E&P	United States	50.00	710,132	132,985
KNOC Ferghana Ltd.	Exploration	Malaysia	50.00	1	-
KNOC Ferghana2 Ltd.(*3)	Exploration	Malaysia	65.00	-	-
KADOC Ltd.(*3)	E&P	Malaysia	75.00	1	-
Korea Oil Terminal Co., Ltd.(*3)	Storing of oil	Korea	82.26	4,138	-
Deep Basin Partnership(*3)	E&P	Canada	83.40	241,701	-
HKMS Partnership(*3)	Gas processing plant operation	Canada	68.15	60,716	35,507
				1,024,686	168,492
				₩ 1,165,500	275,957

(*1) Classified as an investment in associate as the Group's associate, Kernhem B.V. holds 75% of the equity interest and by effective equity interest, the Group has the ability to exercise significant influence over the entity.

(*2) 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.

(*3) 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.

(*4) Despite the percentage of ownership of the Group is 100%, it is excluded from the scope of consolidation due to reassessment of control.

(*5) The entities completed the liquidation for the year ended December 31, 2018.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

19. Investments in Associates and Joint Ventures, Continued

(a) Details of investments in associates and joint ventures as of December 31, 2018 and 2017 are as follows, continued:

(ii) As of December 31, 2017

In millions of Korean won

Entity	Principal activity	Country	Equity interest (%)	Acquisition cost	Book value
<Investments in associates>					
Kernhem B.V.	Exploration and Production("E&P")	Netherlands	36.67	₩ 10,947	-
Oilhub Korea Yeosu Co., Ltd.	Storing of oil	Korea	29.00	36,221	50,430
ADA Oil LLP(*1)	E&P	Kazakhstan	12.50	18,803	-
Parallel Petroleum LLC(*2)	E&P	United States	10.00	41,106	17,070
				<u>107,077</u>	<u>67,500</u>
<Investments in joint ventures>					
KNOC Inam Ltd.	Exploration	Malaysia	40.00	-	-
KNOC Kamchatka Petroleum Ltd.(*3)	Exploration	Cyprus	55.00	1	-
KC karpovsky B.V.	Exploration	Netherlands	35.00	10	-
KNOC Bazian Ltd.(*3)	Exploration	Malaysia	66.72	-	-
KNOC Nigerian West Oil Company Ltd.(*3)	Exploration	Nigeria	75.00	64	-
KNOC Nigerian East Oil Company Ltd.(*3)	Exploration	Nigeria	75.00	64	-
KNOC Aral Ltd.(*3)	Exploration	Malaysia	51.00	-	-
Korea kamchatka Co., Ltd.	Exploration	Cyprus	50.00	7,282	-
KC kazakh B.V.	Exploration	Netherlands	35.00	243	-
Offshore International Group, Inc.	E&P	United States	50.00	680,471	182,782
KNOC Ferghana Ltd.	Exploration	Malaysia	50.00	1	-
KNOC Ferghana2 Ltd.(*3)	Exploration	Malaysia	65.00	-	-
KADOC Ltd.(*3)	E&P	Malaysia	75.00	1	-
Korea Oil Terminal Co., Ltd.(*3)	Storing of oil	Korea	82.26	3,965	-
Deep Basin Partnership(*3)	E&P	Canada	82.59	199,759	-
HKMS Partnership(*3)	Gas processing plant operation	Canada	70.47	63,667	48,047
				<u>955,528</u>	<u>230,829</u>
				₩ <u>1,062,605</u>	<u>298,329</u>

(*1) Classified as an investment in associate as the Group's associate, Kernhem B.V. holds 75% of the equity interest and by effective equity interest, the Group has the ability to exercise significant influence over the entity.

(*2) 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.

(*3) 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.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

19. Investments in Associates and Joint Ventures, Continued

(b) Changes in carrying value of investments in associates and joint ventures for the years ended December 31, 2018 and 2017 are as follows:

(i) For the year ended December 31, 2018

In millions of Korean won

Entity	Beginning balance	Acquisition	Disposal	Dividends received	Share of profit or loss in equity method (*1)	Retained earnings under equity method	Changes in equity adjustments in equity method	Impairment losses (*2)	Other changes (*3)	Ending balance
<Investment in associates>										
Kernhem B.V.	₩ -	-	-	-	(3,527)	-	3,527	-	-	-
Oilhub Korea Yeosu Co., Ltd.	50,430	-	-	(3,039)	6,050	(46)	(2,266)	-	2,209	53,338
ADA Oil LLP	-	-	-	-	(1,519)	-	1,519	-	-	-
Parallel Petroleum LLC	17,070	-	-	-	(17,530)	-	-	-	460	-
KNOC EF Star LLC	-	-	-	-	-	-	-	-	54,127	54,127
	67,500	-	-	(3,039)	(16,526)	(46)	2,780	-	56,796	107,465
<Investment in joint ventures>										
KNOC Inam Ltd.	-	-	-	-	-	-	-	-	-	-
KNOC Kamchatka Petroleum Ltd.	-	-	-	-	-	-	-	-	-	-
KC karpovsky B.V.	-	-	-	-	-	-	-	-	-	-
KNOC Bazian Ltd.	-	-	-	-	-	-	-	-	-	-
KNOC Nigerian West Oil Company Ltd.	-	-	-	-	-	-	-	-	-	-
KNOC Nigerian East Oil Company Ltd.	-	-	-	-	-	-	-	-	-	-
KNOC Aral Ltd.	-	-	-	-	-	-	-	-	-	-
Korea kamchatka Co., Ltd.	-	-	-	-	-	-	-	-	-	-
KC kazakh B.V.	-	-	-	-	-	-	-	-	-	-
Offshore International Group, Inc.	182,782	-	-	-	(55,582)	-	-	(1,261)	7,046	132,985
KNOC Ferghana Ltd.	-	-	-	-	-	-	-	-	-	-
KNOC Ferghana2 Ltd.	-	-	-	-	-	-	-	-	-	-
KADOC Ltd.	-	-	-	-	-	-	-	-	-	-
Korea Oil Terminal Co., Ltd.	-	-	-	-	(32)	-	32	-	-	-
Deep Basin Partnership	-	32,706	-	-	(32,706)	-	-	-	-	-
HKMS Partnership	48,047	-	(5,635)	(13,533)	8,073	-	-	-	(1,445)	35,507
	230,829	32,706	(5,635)	(13,533)	(80,247)	-	32	(1,261)	5,601	168,492
	₩ 298,329	32,706	(5,635)	(16,572)	(96,773)	(46)	2,812	(1,261)	62,397	275,957

(*1) 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, losses of ₩11,098 million under equity method have been accounted to loans for the year ended December 31, 2018. Loss under equity method amounting to ₩3,415 million related to Group's additional obligation on Deep Basin Partnership has been accounted for as provision.

(*2) Details of the impairment loss as of December 31, 2018 are as follows:

In millions of Korean won

CGU	Recoverable amounts	Valuation of recoverable Method	Discount rate	Primary Assumption	Impairment loss	Reason for impairment
Offshore International Group, Inc.	132,985	Value in use	8.59%	Estimated production quantities based on reserve reports and long-term oil price forecast by major forecasting Institutions	(1,261)	Increase in forecasted cash outflow due to litigation

(*3) Include the effect of changes in exchange rates.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

19. Investments in Associates and Joint Ventures, Continued

(b) Changes in carrying value of investments in associates and joint ventures for the years ended December 31, 2018 and 2017 are as follows, continued:

(ii) For the year ended December 31, 2017

In millions of Korean won

Entity	Beginning balance	Acquisition	Dividends received	Share of profit or loss in equity method (*1)	Changes in equity adjustments in equity method	Impairment losses (*2)	Other changes (*3)	Ending balance
<Investment in associates>								
Kernhem B.V.	₩ -	-	-	477	(477)	-	-	-
Oilhub Korea Yeosu Co. Ltd.	44,239	-	-	6,054	5,836	-	(5,699)	50,430
ADA Oil LLP	1,169	-	-	(1,083)	(11)	-	(75)	-
Parallel Petroleum LLC	23,557	-	-	(4,027)	-	-	(2,460)	17,070
	<u>68,965</u>	<u>-</u>	<u>-</u>	<u>1,421</u>	<u>5,348</u>	<u>-</u>	<u>(8,234)</u>	<u>67,500</u>
<Investment in joint ventures>								
KNOC Inam Ltd.	-	-	-	-	-	-	-	-
KNOC Kamchatka Petroleum Ltd.	-	-	-	-	-	-	-	-
KC karpovsky B.V.	-	-	-	-	-	-	-	-
KNOC Bazian Ltd.	-	-	-	-	-	-	-	-
KNOC Nigerian West Oil Company Ltd.	-	-	-	-	-	-	-	-
KNOC Nigerian East Oil Company Ltd.	-	-	-	-	-	-	-	-
KNOC Aral Ltd.	-	-	-	-	-	-	-	-
Korea kamchatka Co., Ltd.	-	-	-	-	-	-	-	-
KC kazakh B.V.	-	-	-	-	-	-	-	-
Offshore International Group, Inc.	247,660	-	-	(33,297)	-	(5,526)	(26,055)	182,782
KNOC Ferghana Ltd.	-	-	-	-	-	-	-	-
KNOC Ferghana2 Ltd.	-	-	-	-	-	-	-	-
KADOC Ltd.	-	-	-	-	-	-	-	-
Korea Oil Terminal Co., Ltd.	-	473	-	(404)	(69)	-	-	-
Deep Basin Partnership	40,217	18,738	(9,611)	(47,205)	-	-	(2,139)	-
HKMS Partnership	56,141	722	(14,934)	8,634	-	-	(2,516)	48,047
	<u>344,018</u>	<u>19,933</u>	<u>(24,545)</u>	<u>(72,272)</u>	<u>(69)</u>	<u>(5,526)</u>	<u>(30,710)</u>	<u>230,829</u>
	<u>₩ 412,983</u>	<u>19,933</u>	<u>(24,545)</u>	<u>(70,851)</u>	<u>5,279</u>	<u>(5,526)</u>	<u>(38,944)</u>	<u>298,329</u>

(*1) 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, losses of ₩18,706 million under equity method have been accounted to loans for the year ended December 31, 2017. Loss under equity method amounting to ₩35,449 million related to Group's additional obligation on Deep Basin Partnership has been accounted for as provision.

(*2) Details of the impairment loss as of December 31, 2017 are as follows:

In millions of Korean won

CGU	Recoverable amounts	Valuation of recoverable Method	Discount rate	Primary Assumption	Impairment loss	Reason for impairment
Offshore International Group, Inc.	182,782	Value in use	8.28%	Estimated production quantities based on reserve reports and long-term oil price forecasts by major forecasting Institutions	(5,526)	Decrease in international oil prices, changes in reserves and others

(*3) Include the effect of changes in exchange rates.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

19. Investments in Associates and Joint Ventures, Continued

(c) The summaries of financial information of major associates and joint ventures for the years ended December 31, 2018 and 2017 are as follows:

(i) For the year ended December 31, 2018

<i>In millions of Korean won</i>		<u>Total assets</u>	<u>Total liabilities</u>	<u>Revenue</u>	<u>Net income (loss)</u>
<Investment in associates>					
Kernhem B.V.	₩	179,936	258,458	47,662	(35,759)
Oilhub Korea Yeosu Co., Ltd.		497,822	311,981	70,609	19,374
ADA Oil LLP		76,573	164,699	47,662	(44,123)
Parallel Petroleum LLC		309,553	312,320	48,851	(209,521)
KNOC EF Star LLC		484,597	1	14,332	36,379
<Investment in joint ventures>					
KNOC Nigerian West Oil Company Ltd.		71,249	137,663	-	12,398
KNOC Nigerian East Oil Company Ltd.		79,650	152,017	-	18,985
Offshore International Group, Inc.		755,223	413,548	207,169	(102,847)
KADOC Ltd.		534,874	602,400	-	(14,797)
Korea Oil Terminal Co., Ltd.		3,489	4,529	-	(226)
Deep Basin Partnership		99,001	136,399	33,859	(36,121)
HKMS Partnership		179,013	175,546	22,578	2,699

(ii) For the year ended December 31, 2017

<i>In millions of Korean won</i>		<u>Total assets</u>	<u>Total liabilities</u>	<u>Revenue</u>	<u>Net income (loss)</u>
<Investment in associates>					
Kernhem B.V.	₩	180,599	230,387	31,885	(5,435)
Oilhub Korea Yeosu Co., Ltd.		511,353	337,455	74,838	20,877
ADA Oil LLP		78,933	132,246	31,885	(6,911)
Parallel Petroleum LLC		367,166	258,795	7,118	(19,528)
<Investment in joint ventures>					
KNOC Nigerian West Oil Company Ltd.		147,185	227,588	-	(9,481)
KNOC Nigerian East Oil Company Ltd.		241,808	329,639	-	(10,614)
Offshore International Group, Inc.		771,078	335,429	144,109	(66,594)
KADOC Ltd.		355,192	405,489	-	(12,359)
Korea Oil Terminal Co., Ltd.		3,693	4,507	-	(721)
Deep Basin Partnership		99,629	135,074	44,474	(82,654)
HKMS Partnership		94,140	93,246	24,147	811

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

20. Property, Plant and Equipment

(a) Details of property, plant and equipment as of December 31, 2018 and 2017 are as follows:

(i) As of December 31, 2018

<i>In millions of Korean won</i>	Acquisition cost	Contributions for construction	Government grants	Accumulated depreciation	Accumulated impairment losses	Book value
Land	₩ 464,744	-	-	-	-	464,744
Buildings	74,296	-	-	(27,313)	-	46,983
Structures	1,909,645	(114)	-	(710,169)	-	1,199,362
Machinery	731,508	(3,310)	-	(414,528)	-	313,670
Vehicles	9,987	-	-	(7,815)	-	2,172
Tools & fixtures	59,167	-	-	(51,608)	(294)	7,265
Finance lease asset	230,027	-	-	(12,187)	-	217,840
Construction-in-progress	148,151	-	-	-	-	148,151
Others	54,594	-	-	(42,364)	(2,001)	10,229
Oil & gas properties (*)	20,568,349	-	(3,312)	(11,349,675)	(2,951,471)	6,263,891
	₩ <u>24,250,468</u>	<u>(3,424)</u>	<u>(3,312)</u>	<u>(12,615,659)</u>	<u>(2,953,766)</u>	<u>8,674,307</u>

(ii) As of December 31, 2017

<i>In millions of Korean won</i>	Acquisition cost	Contributions for construction	Government grants	Accumulated depreciation	Accumulated impairment losses	Book value
Land	₩ 445,333	-	-	-	-	445,333
Buildings	70,223	-	-	(24,419)	-	45,804
Structures	1,786,554	(113)	-	(634,577)	-	1,151,864
Machinery	563,786	(3,471)	-	(371,523)	-	188,792
Vehicles	9,289	-	-	(7,106)	-	2,183
Tools & fixtures	56,501	-	-	(46,530)	(306)	9,665
Finance lease asset	220,420	-	-	(5,839)	-	214,581
Construction-in-progress	254,104	-	-	-	-	254,104
Others	53,412	-	-	(39,568)	(2,086)	11,758
Oil & gas properties	19,718,592	-	(3,969)	(10,076,816)	(2,938,220)	6,699,587
	₩ <u>23,178,214</u>	<u>(3,584)</u>	<u>(3,969)</u>	<u>(11,206,378)</u>	<u>(2,940,612)</u>	<u>9,023,671</u>

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

20. Property, Plant and Equipment, Continued

(b) Changes in property, plant and equipment for the years ended December 31, 2018 and 2017 are as follows:

(i) For the year ended December 31, 2018

<i>In millions of Korean won</i>	Beginning balance	Acquisitions	Disposals	Depreciation	Impairment losses	Reversal of impairment losses	Reclassifi- cations	Others (*)	Ending balance
Land	₩ 445,333	-	-	-	-	-	-	19,411	464,744
Buildings	45,804	251	-	(1,869)	-	-	851	1,946	46,983
Structures	1,151,977	301	-	(47,169)	-	-	37,495	56,872	1,199,476
(Contributions to construction)	(113)	-	-	4	-	-	-	(5)	(114)
Machinery	192,263	2,252	(41)	(26,782)	-	-	139,527	9,761	316,980
(Contributions to construction)	(3,471)	-	-	308	-	-	-	(147)	(3,310)
Vehicles	2,183	837	(4)	(850)	-	-	18	(12)	2,172
Tools & fixtures	9,665	2,065	(3)	(4,777)	-	-	88	227	7,265
Finance lease asset	214,581	-	-	(5,996)	-	-	-	9,255	217,840
Construction-in-progress	254,104	67,593	-	-	-	-	(182,483)	8,937	148,151
Others	11,758	1,365	(15)	(2,891)	-	-	215	(203)	10,229
Oil & gas properties	6,703,556	533,637	(6,444)	(979,525)	(272,829)	23,146	191,153	74,509	6,267,203
(Government grants)	(3,969)	-	-	817	-	-	-	(160)	(3,312)
	₩ <u>9,023,671</u>	<u>608,301</u>	<u>(6,507)</u>	<u>(1,068,730)</u>	<u>(272,829)</u>	<u>23,146</u>	<u>186,864</u>	<u>180,391</u>	<u>8,674,307</u>

(*) Include the effect of changes in exchange rates and others.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

20. Property, Plant and Equipment, Continued

(b) Changes in property, plant and equipment for the years ended December 31, 2018 and 2017 are as follows, continued:

(ii) For the year ended December 31, 2017

<i>In millions of Korean won</i>	Beginning balance	Acquisitions	Disposals (*2)	Depreciation	Impairment losses	Reversal of impairment losses	Reclassifications	Others (*3)	Ending balance
Land	₩ 550,989	-	(45,542)	-	-	-	-	(60,114)	445,333
Buildings	170,561	974	(108,429)	(1,907)	-	-	(1,929)	(13,466)	45,804
Structures	1,300,380	67,644	(3,999)	(46,454)	-	-	(1,630)	(163,964)	1,151,977
(Contributions to construction)	(131)	-	-	4	-	-	-	14	(113)
Machinery	248,662	13,744	(19,839)	(27,467)	-	-	4,601	(27,438)	192,263
(Contributions to construction)	(4,254)	-	-	316	-	-	-	467	(3,471)
(Government grants)	(2)	-	2	-	-	-	-	-	-
Vessels(*1)	53,183	-	-	(3,641)	(42,460)	-	(3,664)	(3,418)	-
Vehicles	3,054	268	(36)	(866)	-	-	-	(237)	2,183
Tools & fixtures(*1)	17,197	708	(59)	(6,324)	(480)	-	90	(1,467)	9,665
Finance lease asset	-	232,648	-	(6,163)	-	-	-	(11,904)	214,581
Construction-in-progress	274,357	33,977	(45)	-	-	-	(29,008)	(25,177)	254,104
Others	8,658	857	(5)	(3,629)	-	-	38	5,839	11,758
Oil & gas properties	7,558,076	481,542	(432)	(711,533)	(320,266)	163,645	29,615	(497,091)	6,703,556
(Government grants)	(5,802)	-	-	1,240	-	-	-	593	(3,969)
	₩ 10,174,928	832,362	(178,384)	(806,424)	(363,206)	163,645	(1,887)	(797,363)	9,023,671

(*1) Impairment loss on vessels and tools & fixtures due to discontinued drillship chartering segment has been recognized during the year ended December 31, 2017. Details are as follows:

In millions of Korean won

	Characteristics of asset	Valuation method of recoverable amount	Recoverable amount	Discount rate after tax	Primary assumptions	Impairment losses	Cause of impairment
Drillship chartering	Vessels and tools & fixtures	Fair value less cost to sell	3,472	-	Appraisal value when scrapped	(42,940)	Discontinued operation

(*2) For the years ended December 31, 2017, the Group sold the headquarters' land, building, and fixtures and leased back. The contracted sale price is ₩220,000 million, and the Group holds a right to purchase corresponding assets within 5 years from the commencement date. The Group has accounted the sale-and-leaseback transaction above as finance lease, and deferred gain on disposal of property, plant and equipment amounting to ₩34,364 million and recognized over the lease term. (see Note 23)

(*3) Include the effect of changes in exchange rates and others.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

20. Property, Plant and Equipment, Continued

(c) Details of impairments recognized by segments for the years ended December 31, 2018 and 2017 are as follows :

(i) For the year ended December 31, 2018

<i>In millions of Korean won</i>		Oil and Gas(*1)
General information		
Type of assets		Oil and gas properties
Recognition of impairment losses		28 CGUs and individual assets
Valuation Method		Value in use
Assumptions		
Discount rate after tax(*2)		8.00~14.54%
Oil prices(*3)		International indices
Production quantities		Estimated production quantities based on reserve reports
Recoverable amounts	₩	638,755
Impairment losses		272,829
Reason for impairment		Decrease in forecasted oil prices and probable reserves, and returning mining rights

(*1) The CGUs of the oil and gas segment are fields or areas.

(*2) Weighted average costs of capital reflecting its own risk of a CGU and an individual asset.

(*2) The oil prices are based on the long-term forecasts from globally recognized research institutions.

(ii) For the year ended December 31, 2017

<i>In millions of Korean won</i>		Oil and Gas(*1)
General information		
Type of assets		Oil and gas properties
Recognition of impairment losses		26 CGUs and individual assets
Valuation method		Value in use, fair value less cost to sell(*2)
Assumptions		
Discount rate after tax(*3)		8.00~20.30%
Oil prices(*4)		International indices
Production quantities		Estimated production quantities based on reserve reports
Recoverable amounts	₩	658,155
Impairment losses		320,266
Reason for impairment		Decrease in forecasted oil prices and probable reserves

(*1) The CGUs of the oil and gas segment are fields or areas.

(*2) Each individual asset in Canada has been measured at fair value less cost to sell based on disposal contracts.

(*3) Weighted average costs of capital reflecting its own risk of a CGU and an individual asset.

(*4) The oil prices are based on the long-term forecasts from globally recognized research institutions.

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20. Property, Plant and Equipment, Continued

(d) Details of reversal of impairment losses recognized by segments for the year ended December 31, 2018 are as follows :

(i) For the year ended December 31, 2018

<i>In millions of Korean won</i>	Oil and Gas(*1)
General information	
Type of assets	Oil and gas properties
Recognition of reversal of impairment losses	6 CGUs and individual assets
Valuation Method	Value in use
Assumptions	
Discount rate after tax(*2)	14.54%
Oil prices(*3)	International indices
Production quantities	Estimated production quantities based on reserve reports
Reversal of impairment losses ₩	23,146
Reason for reversal of impairment losses	Increase in probable reserves and others

(*1) The CGUs of the oil and gas segment are fields or areas.

(*2) Weighted average costs of capital reflecting its own risk of a CGU and an individual asset.

(*3) The oil prices are based on the long-term forecasts from globally recognized research institutions.

(ii) For the year ended December 31, 2017

:

<i>In millions of Korean won</i>	Oil and Gas(*1)
General information	
Type of assets	Oil and gas properties
Recognition of reversal of impairment losses	10 CGUs and individual assets
Valuation Method	Value in use, fair value less cost to sell (*2)
Assumptions	
Discount rate after tax(*3)	8.50~20.30%
Oil prices(*4)	International indices
Production quantities	Estimated production quantities based on reserve reports
Reversal of impairment losses ₩	163,645
Reason for reversal of impairment losses	Increase in probable reserves and others

(*1) The CGUs of the oil and gas segment are fields or areas.

(*2) Each individual asset in Canada has been measured at fair value less cost to sell based on disposal contracts.

(*3) Weighted average costs of capital reflecting its own risk of a CGU and an individual asset.

(*4) The oil prices are based on the long-term forecasts from globally recognized research institutions.

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21. Goodwill

(a) Details of goodwill as of December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>December 31, 2018</u>	<u>December 31, 2017</u>
Acquisition cost	₩ 1,107,579	1,131,748
Accumulated impairment losses	(963,786)	(983,894)
	<u>₩ 143,793</u>	<u>147,854</u>

(b) Changes in goodwill for the years ended December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>2018</u>	<u>2017</u>
Beginning balance	₩ 147,854	244,329
Impairment losses (*1)	-	(87,470)
Other changes (*2)	(4,061)	(9,005)
	<u>₩ 143,793</u>	<u>147,854</u>

(*1) The Group recognized impairment on goodwill of Harvest Operations Corp. amounting ₩87,470 million due to decrease in the price of gas and oil and others.

(*2) Include the effect of exchange rate changes.

(c) Changes in accumulated impairment losses for the years ended December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>2018</u>	<u>2017</u>
Beginning balance	₩ (983,894)	(927,875)
Impairment losses	-	(87,470)
Other changes (*)	20,108	31,451
	<u>₩ (963,786)</u>	<u>(983,894)</u>

(*) Include the effect of exchange rate changes.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
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21. Goodwill, Continued

(d) For the purpose of impairment testing, carrying amounts of goodwill allocated to Group's CGUs and groups of CGUs as of December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	December 31, 2018	December 31, 2017
Oil and gas properties segment		
Oil and gas properties of Dana Petroleum Limited by country (*1)	₩ 120,820	122,454
Altius Holdings Inc. (a subsidiary of KNOC Kaz B.V.) (*2)	22,973	25,400
	<u>₩ 143,793</u>	<u>147,854</u>

(*1) 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, 2018.

(*2) 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 8.39%, 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, 2018.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
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22. Intangible Assets Other Than Goodwill

(a) Details of intangible assets other than goodwill as of December 31, 2018 and 2017 are as follows:

(i) As of December 31, 2018

<i>In millions of Korean won</i>	Acquisition cost	Accumulated amortization	Accumulated impairment losses	Book value
Exploration and evaluation assets ₩	2,983,794	-	(2,635,251)	348,543
Software	30,176	(27,057)	-	3,119
Mining rights	4,099,958	(1,562,112)	(835,045)	1,702,801
Development cost	40,972	(34,454)	-	6,518
Land use right	234	(80)	-	154
Others	89,564	(1,072)	(86,260)	2,232
	<u>₩ 7,244,698</u>	<u>(1,624,775)</u>	<u>(3,556,556)</u>	<u>2,063,367</u>

(ii) As of December 31, 2017

<i>In millions of Korean won</i>	Acquisition cost	Accumulated amortization	Accumulated impairment losses	Book value
Exploration and evaluation assets ₩	3,085,261	-	(2,572,182)	513,079
Software	28,315	(23,782)	-	4,533
Mining rights	3,941,282	(1,438,868)	(95,095)	2,407,319
Development cost	38,070	(31,018)	-	7,052
Land use right	224	(70)	-	154
Others	85,870	(1,009)	(82,664)	2,197
	<u>₩ 7,179,022</u>	<u>(1,494,747)</u>	<u>(2,749,941)</u>	<u>2,934,334</u>

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
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22. Intangible Assets Other Than Goodwill, Continued

(b) Changes in intangible assets other than goodwill for the years ended December 31, 2018 and 2017 are as follows:

(i) For the year ended December 31, 2018

In millions of Korean won

	<u>Beginning balance</u>	<u>Acquisitions</u>	<u>Disposals</u>	<u>Amortization</u>	<u>Impairment losses(*1)</u>	<u>Reclassifications</u>	<u>Others (*2)</u>	<u>Ending balance</u>
Exploration and evaluation assets	₩ 513,079	25,350	-	-	(72,109)	-	(117,777)	348,543
Software	4,533	553	-	(2,219)	-	136	116	3,119
Mining rights	2,407,319	130	(120)	(61,917)	(537,238)	(187,040)	81,667	1,702,801
Development cost	7,052	1,183	-	(2,050)	-	40	293	6,518
Land use right	154	-	-	(6)	-	-	6	154
Others	2,197	43	(10)	(76)	-	-	78	2,232
	<u>₩ 2,934,334</u>	<u>27,259</u>	<u>(130)</u>	<u>(66,268)</u>	<u>(609,347)</u>	<u>(186,864)</u>	<u>(35,617)</u>	<u>2,063,367</u>

(*1) The Group recognized impairment loss amounting to ₩72,109 million due to relinquishment of explorations in continental shelf and decrease in estimated reserve amount of exploration in United Kingdom. In addition, the Group recognized impairment loss amounting to ₩537,238 million due to returning exploration right of Kurdish oil field in Iraq and others.

In millions of Korean won

Segments	Characteristics of asset	Valuation method of recoverable amount	Recoverable amount	Discount rate after tax	Primary assumptions	Impairment losses	Cause of impairment
Oil and Gas	Mining rights	Value in use	735,943	12.59%	Negotiations with the Kurdish government of Iraq	534,709	Change in future cash flow due to returning mining rights

(*2) Include the effect of changes in exchange rates and others.

(ii) For the year ended December 31, 2017

In millions of Korean won

	<u>Beginning balance</u>	<u>Acquisitions</u>	<u>Disposals</u>	<u>Amortization</u>	<u>Impairment losses(*1)</u>	<u>Reclassifications</u>	<u>Others (*2)</u>	<u>Ending balance</u>
Exploration and evaluation assets	₩ 746,284	27,171	(3,356)	-	(221,323)	(1,940)	(33,757)	513,079
Software	7,074	91	(4)	(2,657)	-	736	(707)	4,533
Mining rights	2,822,938	-	(8)	(93,346)	(5,728)	-	(316,537)	2,407,319
Development cost	8,349	1,573	-	(2,372)	-	429	(927)	7,052
Land use right	182	-	-	(6)	-	-	(22)	154
Others	2,573	13	-	(103)	-	-	(286)	2,197
	<u>₩ 3,587,400</u>	<u>28,848</u>	<u>(3,368)</u>	<u>(98,484)</u>	<u>(227,051)</u>	<u>(775)</u>	<u>(352,236)</u>	<u>2,934,334</u>

(*1) Include the write-off of ₩227,051 million, which have been recognized due to relinquishment of explorations in continental shelf and decrease in estimated reserve amount of exploration in United Kingdom. Also, gains on debt exemption of ₩17,119 million from loans and accrued interest based on Accounting for Energy and Resources have been recognized.

(*2) Include the effect of changes in exchange rates and others.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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23. Trade and Other Payables

(a) Details of trade and other payables as of December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	December 31, 2018		December 31, 2017	
	Current	Non-current	Current	Non-current
Trade account payables	₩ 128,395	-	140,950	-
Other account payables	353,032	37,481	502,444	46,474
Accrued expenses	105,931	168,140	98,358	196,583
Deposit received	-	4,675	-	4,480
Other deposits received	-	13	-	14
Finance lease liability	8,327	213,940	8,327	212,721
Other payables	49,005	10,071	36,320	43,527
	<u>₩ 644,690</u>	<u>434,320</u>	<u>786,399</u>	<u>503,799</u>

(b) Details of finance lease liability are as follows:

(i) Lease Contract

As of January 31, 2017, the Group has entered in to a contract with KOCREF CR-REIT 38 to sell the headquarters building in Ulsan and lease back for use. The Group holds bargain purchase option which is exercisable after 5 years, and lease payments are renewed every 5 years. In compliance to the obligation to domicile in Ulsan under the legislation, the Group has accounted the contract for right to use the headquarters building as finance lease. Meanwhile, lessor holds the legal title of finance lease asset amounting to ₩217,840 million (see Note 20).

(ii) Details of finance lease liability as of December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	December 31, 2018		December 31, 2017	
	Minimum lease payments	Present value of minimum lease payments	Minimum lease payments	Present value of minimum lease payments
Within a year	₩ 8,527	8,327	8,527	8,327
1~5 years	36,151	31,591	35,085	30,682
More than 5 years	472,984	182,349	482,577	182,039
	<u>₩ 517,662</u>	<u>222,267</u>	<u>526,189</u>	<u>221,048</u>

(iii) Details of liquidity classification of finance lease liability as of December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	December 31, 2018		December 31, 2017	
Current	₩	8,327		8,327
Non-current		213,940		212,721
	<u>₩</u>	<u>222,267</u>		<u>221,048</u>

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
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24. Financial Liabilities Measured at Fair Value through Profit or Loss

Details of financial liabilities measured at fair value through profit or loss excluding derivative instruments as of December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	December 31, 2018		December 31, 2017	
	Current	Non-current	Current	Non-current
Financial liabilities measured at fair value through profit or loss(*) ₩	7,775	50,189	-	-
Non-derivative liabilities				
Financial liabilities recognized through profit or loss				
Non-derivative liabilities	-	-	13,272	59,610

(*) Gain on valuation of financial liabilities measured at fair value through profit or loss amounting to ₩46,111 million has been recognized for the year ended December 31, 2018.

25. Borrowings and Bond Payables

(a) Details of borrowings and bond payables as of December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	December 31, 2018		December 31, 2017	
Current Liabilities				
Short-term borrowings	₩	69,322		53,570
Current portion of long-term borrowings		-		782,304
Less: current portion of present discounted value		-		(4)
Current portion of bond payables		1,370,347		2,324,147
Less: current portion of discount on bond payables		(317)		(1,433)
Add: current portion of premium on bond payables		53		-
		<u>1,439,405</u>		<u>3,158,584</u>
Non-current Liabilities				
Long-term borrowings		2,322,966		1,035,265
Less: present discounted value		(548)		(243)
Bond payables		9,829,123		9,044,863
Less: discount on bond payables		(30,040)		(32,899)
Add: premium on bond payables		-		857
		<u>12,121,501</u>		<u>10,047,843</u>
	₩	<u>13,560,906</u>		<u>13,206,427</u>

(b) Details of payment schedule as of December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	December 31, 2018		December 31, 2017	
	Borrowings	Bond payables	Borrowings	Bond payables
Within a year	₩	69,322	835,874	2,324,147
1~5 years		2,098,785	819,860	4,709,238
More than 5 years		224,181	215,405	4,335,625
	₩	<u>2,392,288</u>	<u>1,871,139</u>	<u>11,369,010</u>

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
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25. Borrowings and Bond payables, Continued

(c) Details of short-term borrowings as of December 31, 2018 and 2017 are as follows:

In millions of Korean won

Type	Financial Institutions	Interest rate (%)	Maturity		December 31, 2018	December 31, 2017
Short-term borrowings in foreign currencies	The Export-Import Bank of Korea	Libor+0.63	2019-06-26	₩	67,086	-
	JP Morgan	Libor+0.70	2019-07-29		2,236	-
	The Export-Import Bank of Korea	-	-		-	53,570
				₩	<u>69,322</u>	<u>53,570</u>

(d) Details of long-term borrowings as of December 31, 2018 and 2017 are as follows:

In millions of Korean won and thousands of foreign currencies

Type	Financial Institution	Interest rate (%)	Maturity	December 31, 2018		December 31, 2017	
				Amount	Equivalent to Korean won	Amount	Equivalent to Korean won
Long-term borrowings in foreign currencies	Development Bank of Singapore	-	-	-	-	USD 50,000	53,570
	Mizuho Corporate Bank	3M Libor+0.75	2020-04-03	USD 200,000	223,620	USD 200,000	214,280
	The Export-Import Bank of Korea	3M Libor+0.67	2021-11-28	USD 250,000	279,525	-	-
	SAER	Treasury 3Y -1.25	N/A(*1)	USD 95,027	106,249	USD 95,939	102,788
	SAER	Treasury 3Y -2.25	N/A(*1)	USD 105,475	117,932	USD 105,111	112,616
	BNP Paribas and others	-	-	-	-	USD 660,170	707,306
	BNP Paribas and others	Libor, Nibor, Euribor + 1.75~2.25	2023-06-30	USD 136,108	152,182	-	-
	CIBC and others	3.28	2020-02-24	USD 283,451	316,927	USD 150,983	161,764
	The Export Import Bank of Korea	2.27	2020-02-24	USD 366,644	409,945	USD 397,522	425,905
	JP Morgan	-	-	-	-	USD 10,000	10,714
	Bank of America	-	-	-	-	USD 10,000	10,714
	SMBC	3.21	2023-05-11	USD 219,383	245,292	-	-
	Kernhem International B.V.	8.13	2021-12-04	USD 16,718	18,692	USD 16,718	17,912
EF Star LLC	3.18	2021-11-25	USD 404,796	452,602	-	-	
				<u>2,322,966</u>		<u>1,817,569</u>	
Less: present value discount					(548)	(247)	
					<u>2,322,418</u>	<u>1,817,322</u>	
Less: current portion					-	(782,304)	
Less: current portion of present value discount					-	4	
					<u>2,322,418</u>	<u>1,035,022</u>	

(*1) SAER stands for Special Accounting for Energy and Resources. Loans from SAER included in borrowings 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 exploration is proven to be successful.

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25. Borrowings and Bond payables, Continued

(e) Details of bond payables as of December 31, 2018 and 2017 are as follows:

In millions of Korean won and thousands of foreign currencies

Type	Interest rate (%)	Maturity	December 31, 2018		December 31, 2017	
			Amount	Equivalent to Korean won	Amount	Equivalent to Korean won
Floating interest rate bond payables	-	-	-	-	USD 200,000	214,280
	-	-	-	-	USD 300,000	321,420
	-	-	-	-	AUD 55,000	45,933
	-	-	-	-	USD 330,000	353,562
	A3B+1.08	2019-10-08	AUD 225,000	177,257	AUD 225,000	187,911
	-	-	-	-	USD 50,000	53,570
	-	-	-	-	USD 250,000	267,850
	A3B+1.28	2019-02-05	AUD 325,000	256,038	AUD 325,000	271,427
	3M Libor+0.60	2020-03-27	USD 500,000	559,050	USD 500,000	535,700
	3M Libor+0.88	2023-07-16	USD 400,000	447,240	-	-
	3M Libor+0.68	2021-12-20	USD 50,000	55,905	-	-
Fixed interest rate bond payables	4.38	2021-02-08	HKD 500,000	71,385	HKD 500,000	68,535
	4.50	2021-03-04	HKD 390,000	55,680	HKD 390,000	53,457
	3.95	2022-02-10	HKD 390,000	55,680	HKD 390,000	53,457
	4.00	2022-03-28	EUR 50,000	63,958	EUR 50,000	63,963
	-	-	-	-	HKD 400,000	54,828
	2.85	2023-01-24	HKD 400,000	57,108	HKD 400,000	54,828
	-	-	-	-	USD 70,000	74,998
	2.40	2023-02-04	EUR 37,000	47,329	EUR 37,000	47,332
	3.00	2025-06-24	EUR 60,000	76,750	EUR 60,000	76,755
	3.09	2023-07-03	EUR 50,000	63,958	EUR 50,000	63,963
	-	-	-	-	CHF 240,000	262,733
	2.75	2019-01-23	USD 500,000	559,050	USD 500,000	535,700
	4.00	2024-01-23	USD 500,000	559,050	USD 500,000	535,700
	3.25	2024-07-10	USD 550,000	614,955	USD 550,000	589,270
	2.75	2019-01-23	USD 250,000	279,525	USD 250,000	267,850
	4.25	2019-10-08	AUD 125,000	98,477	AUD 125,000	104,395
	3.10	2027-01-21	USD 50,000	55,904	USD 50,000	53,570
	3.10	2027-01-21	USD 70,000	78,267	USD 70,000	74,998
	2.39	2020-01-28	USD 50,000	55,905	USD 50,000	53,570
	2.18	2020-01-29	HKD 310,000	44,259	HKD 310,000	42,492
	2.11	2020-03-16	KRW 100,000	100,000	KRW 100,000	100,000
	3.21	2030-03-19	USD 85,000	95,039	USD 85,000	91,069
	2.99	2025-03-19	USD 90,000	100,629	USD 90,000	96,426
	1.99	2020-04-23	KRW 50,000	50,000	KRW 50,000	50,000
	2.82	2025-04-29	USD 65,000	72,677	USD 65,000	69,641
	3.02	2030-04-29	USD 60,000	67,086	USD 60,000	64,284
	2.03	2020-08-26	KRW 150,000	150,000	KRW 150,000	150,000
	3.25	2025-10-01	USD 600,000	670,860	USD 600,000	642,840
	3.22	2030-11-10	USD 100,000	111,810	USD 100,000	107,140
	2.13	2021-04-14	USD 500,000	559,050	USD 500,000	535,700
	2.63	2024-04-14	USD 500,000	559,050	USD 500,000	535,700
	2.00	2021-10-24	USD 350,000	391,335	USD 350,000	374,990
	2.50	2026-10-24	USD 650,000	726,765	USD 650,000	696,410
	2.88	2022-03-27	USD 500,000	559,050	USD 500,000	535,700
	3.38	2027-03-27	USD 500,000	559,050	USD 500,000	535,700
	1.86	2021-01-30	SGD 400,000	327,312	-	-

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25. Borrowings and Bond payables, Continued

(e) Details of bond payables as of December 31, 2018 and 2017 are as follows, continued:

<i>In millions of Korean won and thousands of foreign currencies</i>			December 31, 2018		December 31, 2017	
Type	Interest rate (%)	Maturity	Amount	Equivalent to Korean won	Amount	Equivalent to Korean won
Fixed interest rate bond payables	0.37	2023-06-01	CHF 500,000	568,110	-	-
	-	-	-	-	USD 629,991	674,972
	2.33	2021-04-14	USD 195,757	218,875	USD 195,686	209,659
	3.00	2022-09-21	USD 481,550	538,421	USD 480,430	514,732
	4.20	2023-06-01	USD 394,975	441,621	-	-
				11,199,470		11,369,010
Less: discount on bond payables				(30,357)		(34,332)
Add: premium on bond payables				53		857
				11,169,166		11,335,535
Less: current portion				(1,370,347)		(2,324,147)
Add: current portion of discount of bond payables				317		1,433
Less: current portion of premium of bond payables				(53)		-
				<u>9,799,083</u>		<u>9,012,821</u>

26. Employee Benefits

The Group sponsors defined contribution plans and defined benefit plans which are subject to the employees' option.

(a) Defined contribution pension plan

The Group operates a defined contribution plan ("DC plan") which is subject to the employees' option. 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, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>		2018	2017
Cost of sales	₩	542	1,057
Selling and administrative expenses		767	1,613
Loss from discontinued operations		-	64
	₩	<u>1,309</u>	<u>2,734</u>

Total expenses of ₩1,309 million and ₩2,734 million for the years ended December 31, 2018 and 2017, respectively are contributions paid by the Group based on the payment rate defined in employee benefits. No contributions remain unpaid as of December 31, 2018.

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26. Employee Benefits, Continued

(b) Defined benefit pension plan

The latest actuarial calculation on both plan assets and defined benefit obligation was performed as of December 31, 2018. The Group uses the projected unit credit method to determine the present value of its defined benefit obligations and the related current service costs.

(i) The components of defined benefits liabilities as of December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>December 31, 2018</u>	<u>December 31, 2017</u>
Present value of defined benefit obligation from funded plans	₩ 92,283	85,105
Fair value of plan assets	<u>(83,533)</u>	<u>(76,811)</u>
	₩ <u>8,750</u>	<u>8,294</u>

(ii) Changes in the present value of defined benefit obligations for the years ended December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>2018</u>	<u>2017</u>
Beginning balance	₩ 85,105	82,997
Current service cost	8,487	9,041
Interest cost	3,641	3,335
Remeasurement components	381	(5,509)
Actual payments	<u>(5,331)</u>	<u>(4,759)</u>
	₩ <u>92,283</u>	<u>85,105</u>

(iii) Changes in the fair value of plan assets for the years ended December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>2018</u>	<u>2017</u>
Beginning balance	₩ 76,811	68,267
Expected return on plan assets(*)	3,311	2,765
Remeasurement components	(1,835)	(1,364)
Benefit paid by the plan	(5,353)	(4,759)
Contributions paid into the plan	<u>10,599</u>	<u>11,902</u>
	₩ <u>83,533</u>	<u>76,811</u>

(*) Actual returns on plan assets for the years ended December 31, 2018 and 2017 are ₩1,715 million and ₩1,401 million, respectively.

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Notes to the Consolidated Financial Statements, Continued
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26. Employee Benefits, Continued

(b) Defined benefit pension plan, continued

(iv) Details of the fair value of plan assets as of December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	Expected rate of return(*2)			Fair value of plan assets	
	December 31, 2018	December 31, 2017		December 31, 2018	December 31, 2017
Others(*1)	4.31%	4.05%	₩	83,533	76,811

(*1) Others are comprised of 87.69% of deposit and 12.31% of local and overseas securities as of December 31, 2018.

(*2) 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.

(v) Principal actuarial assumptions as of December 31, 2018 and 2017 are as follows:

	December 31, 2018	December 31, 2017
Discount rate	3.80%	4.31%
Expected rate of return on plan assets	4.31%	4.05%
Future salary growth	4.47%	4.99%

(vi) Details of expenses relating to defined benefit plans for the years ended December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	2018	2017
Current service cost	₩ 8,487	9,041
Interest cost	3,641	3,335
Expected return on plan assets	(3,311)	(2,765)
Transfer to other account	(206)	(294)
	₩ 8,611	9,317

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

<i>In millions of Korean won</i>	2018	2017
Cost of sales	₩ 2,996	2,884
Selling and administrative expenses	5,615	6,151
Others	206	294
Loss on discontinued operations	-	282
	₩ 8,817	9,611

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26. Employee Benefits, Continued

(b) Defined benefit pension plan, continued

(vii) Remeasurement components recognized in other comprehensive income for the years ended December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>		<u>2018</u>	<u>2017</u>
Defined benefit obligations	₩	(381)	5,509
Return on plan assets		(1,835)	(1,364)
Income tax effect		536	(1,003)
	₩	<u>(1,680)</u>	<u>3,142</u>

27. Provisions

(a) Details of provisions as of December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>		<u>December 31, 2018</u>			<u>December 31, 2017</u>		
		<u>Current</u>	<u>Non-current</u>	<u>Total</u>	<u>Current</u>	<u>Non-current</u>	<u>Total</u>
Decommissioning cost(*1)(*3)	₩	16,211	1,956,857	1,973,068	14,669	1,969,374	1,984,043
Social Overhead Capital(*2)		12,466	-	12,466	77,111	-	77,111
Allowance for salaries		49	-	49	667	-	667
Provision for litigations		-	8,866	8,866	-	-	-
Onerous contract		1,410	4,156	5,566	1,249	6,363	7,612
Others(*3)		<u>26,283</u>	<u>155,182</u>	<u>181,465</u>	<u>744</u>	<u>44,520</u>	<u>45,264</u>
	₩	<u>56,419</u>	<u>2,125,061</u>	<u>2,181,480</u>	<u>94,440</u>	<u>2,020,257</u>	<u>2,114,697</u>

(*1) 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.

(*2) 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 (see Note 46). This commitment has been classified as a provision due to its uncertain timing of related cash outflows.

(*3) The reclassifications from non-current to current amounted to ₩13,680 million and ₩10,710 million for the years ended December 31, 2018 and 2017, respectively.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

27. Provisions, Continued

(b) Changes in provisions for the years ended December 31, 2018 and 2017 are as follows :

(i) For the year ended December 31, 2018

<i>In millions of Korean won</i>	Beginning balance	Provision	Accretion expenses	Transfer(*1)	Payment	Others(*4)	Ending Balance
Decommissioning cost	₩ 1,984,043	4,169	73,675	(2,988)	(20,368)	(65,463)	1,973,068
Social Overhead Capital	77,111	-	719	-	(58,564)	(6,800)	12,466
Allowance for salaries	667	-	-	-	(637)	19	49
Provision for litigations(*2)	-	11,958	-	-	-	(3,092)	8,866
Onerous contract	7,612	-	892	-	(1,332)	(1,606)	5,566
Others(*3)	45,264	143,074	-	-	(9,008)	2,135	181,465
	₩ <u>2,114,697</u>	<u>159,201</u>	<u>75,286</u>	<u>(2,988)</u>	<u>(89,909)</u>	<u>(74,807)</u>	<u>2,181,480</u>

(*1) The Group transferred restoring obligations to contract party regarding disposal of an oil and gas property.

(*2) The Group recognized provision in relation to litigation amount and statutory interest on the partial loss of litigation on the return of normal wage (see Note 46).

(*3) 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.

(*4) Include the effect of changes in exchange rates and others.

(ii) For the year ended December 31, 2017

<i>In millions of Korean won</i>	Beginning balance	Provision	Accretion expenses	Transfer(*1)	Payment	Others(*2)	Ending Balance
Decommissioning cost	₩ 2,030,237	9,124	73,316	(460)	(10,162)	(118,012)	1,984,043
Social Overhead Capital	133,175	-	1,131	-	(43,600)	(13,595)	77,111
Allowance for salaries	2,043	233	-	-	-	(1,609)	667
Provision for litigations	4,474	-	-	-	(6,643)	2,169	-
Onerous contract	-	-	923	-	(1,253)	7,942	7,612
Others(*3)	16,808	42,008	-	-	(924)	(12,628)	45,264
	₩ <u>2,186,737</u>	<u>51,365</u>	<u>75,370</u>	<u>(460)</u>	<u>(62,582)</u>	<u>(135,733)</u>	<u>2,114,697</u>

(*1) The Group transferred restoring obligations to contract party regarding disposal of an oil and gas property.

(*2) Include the effect of changes in exchange rates and others.

(*3) Additional obligation of Deep Basin Partnership to the Group amounting to ₩35,449 million has been accounted for as other provision.

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28. Other Financial Liabilities

Details of other financial guarantee liabilities as of December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>December 31, 2018</u>	<u>December 31, 2017</u>
Financial guarantee liabilities	₩ 8,813	-

29. Non-Financial Liabilities

Details of non-financial liabilities as of December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>December 31, 2018</u>		<u>December 31, 2017</u>	
	<u>Current</u>	<u>Non-current</u>	<u>Current</u>	<u>Non-current</u>
Advance received	₩ 23,036	-	13,866	-
Unearned revenue	68,936	34,496	25,207	9,123
Withholdings	80,149	-	68,303	-
Others (*)	2,401	34,027	1,310	33,485
	<u>₩ 174,522</u>	<u>68,523</u>	<u>108,686</u>	<u>42,608</u>

(*) Others include current portion and non-current portion of deferred gain on disposal of property, plant and equipment in connection to the sale of headquarters building of the Company amounting to ₩918 million and ₩34,027 million, respectively, for the year ended December 31, 2018, and ₩879 million and ₩33,485 million, respectively, for the year ended December 31, 2017.

30. Share Capital

The Group's total share capital is invested solely by the Korean government in accordance with the Korea National Oil Corporation Act and the authorized share capital is ₩13 trillion as of December 31, 2018. The changes in share capital for the year ended December 31, 2017 are as follows:

<i>In millions of Korean won</i>	<u>Description</u>	<u>Amount</u>
Beginning balance		₩ 10,434,865
2018-03-29	Contribution for oil stockpiling business	7,286
2018-03-30	Contribution for oil field development	16,400
2018-06-22	Contribution for oil stockpiling business	13,904
2018-11-29	Contribution for oil stockpiling business	9,079
Ending balance		<u>₩ 10,481,534</u>

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
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31. Accumulated Deficit

(a) Details of accumulated deficit as December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>December 31, 2018</u>	<u>December 31, 2017</u>
Undisposed accumulated deficit	₩ (9,201,496)	(8,363,377)

(b) Changes in accumulated deficit for the years ended December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>2018</u>	<u>2017</u>
Beginning balance	₩ (8,363,377)	(7,633,552)
Correction of errors	-	118,453
Adjustment on the adoption of K-IFRS No. 1109	369,554	-
Net loss for the year attributed to owner of the Company	(1,205,947)	(851,372)
Changes in equity method retained earnings	(46)	(48)
Remeasurement components of defined benefits plan	(1,680)	3,142
Ending balance	₩ <u>(9,201,496)</u>	<u>(8,363,377)</u>

(c) Changes in remeasurement components for the years ended December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>2018</u>	<u>2017</u>
Beginning balance	₩ (18,526)	(21,668)
Changes during the current year	(2,216)	4,145
Income tax effects	536	(1,003)
Ending balance	₩ <u>(20,206)</u>	<u>(18,526)</u>

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
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32. Consolidated Statements of Disposition of Accumulated Deficit

Separate statements of disposition of accumulated deficit for the years ended December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>2018</u>	<u>2017</u>
I. Undisposed deficit		
Undisposed accumulated deficit carried over from prior years	₩ (8,172,145)	(6,581,259)
Change in accounting policy	377,105	-
Net loss	(830,723)	(1,594,028)
Remeasurement components	<u>(1,680)</u>	<u>3,142</u>
II. Undisposed deficit to be carried forward to the subsequent year	<u>₩ (8,627,443)</u>	<u>(8,172,145)</u>

These statements of disposition of accumulated deficit were based on the separate financial statements of the Parent Company.

Dates of appropriation for the years ended December 31, 2018 and 2017 are February 27, 2019, and June 12 2018, respectively.

33. Other Components of Equity

(a) Details of other components of equity as of December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>December 31, 2018</u>	<u>December 31, 2017</u>
Other capital surpluses(*)	₩ 24,934	24,954
Accumulated other comprehensive loss	<u>(1,057,698)</u>	<u>(614,257)</u>
	<u>₩ (1,032,764)</u>	<u>(589,303)</u>

(*) Details of other capital surpluses as of December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>December 31, 2018</u>	<u>December 31, 2017</u>
Assets contributed	₩ 24,954	24,954
Loss on capital reduction	<u>(20)</u>	<u>-</u>
	<u>₩ 24,934</u>	<u>24,954</u>

(b) Details of accumulated other comprehensive loss as of December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>December 31, 2018</u>	<u>December 31, 2017</u>
Loss on valuation of financial assets measured at fair value through other comprehensive income	₩ (542,224)	-
Gains on available-for-sale financial instruments	-	12,088
Equity adjustments in equity method	26,652	23,840
Foreign currency translation differences for foreign operations	(657,769)	(666,472)
Gains on valuation of derivative instruments	<u>115,643</u>	<u>16,287</u>
	<u>₩ (1,057,698)</u>	<u>(614,257)</u>

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34. Revenue

Details of revenues (based on customer locations) except for other income, other profit and financial income (see Note 35, 36, and 37) for the years ended December 31, 2018 and 2017 are as follows:

	2018			2017		
	Domestic	Overseas	Total	Domestic	Overseas	Total
Sales of goods and finished goods	₩ 162,650	2,749,124	2,911,774	160,926	1,997,153	2,158,079
Revenues from services provided	39,348	138,979	178,327	23,140	89,006	112,146
Income on government grants	1,327	-	1,327	5,131	-	5,131
Others	1,275	56,562	57,837	1,918	35,212	37,130
	₩ 204,600	2,944,665	3,149,265	191,115	2,121,371	2,312,486

35. Other Income and Expenses

(a) Details of other income for the years ended December 31, 2018 and 2017 are as follows:

	2018	2017
Reversal of other provisions (*)	₩ -	31,518
Reversal of other bad debt allowance	8,356	7,938
Gains on exemption of debts	-	76,744
Compensation and indemnity	11	12
Rental income	422	506
Other income from overseas fields	3,309	4,559
Others	64,391	30,992
	₩ 76,489	152,269

(*) For the year ended December 31, 2017, the Company recovered full amount of ₩29,967 million paid in the first trial against Hyundai Heavy Industries as a result of the ruling in the second trial in favor of the Company, and recognized it as a reversal of other provision. (see Note 46)

(b) Details of other expenses for the years ended December 31, 2018 and 2017 are as follows:

	2018	2017
Transfer to other provision	₩ 13,039	-
Other bad debt expense	765	180,186
Donations	2,000	882
Losses on valuation of supplies	346	588
Other expenses from overseas fields	167	1,853
Others	21,474	23,727
	₩ 37,791	207,236

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36. Other Profit and Loss

Details of other profit and loss for the years ended December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>2018</u>	<u>2017</u>
Gains on disposal of property, plant and equipment	₩ 7,661	2,130
Gains on disposal of intangible assets other than goodwill	7	-
Gains on transactions of derivative	-	1,695
Reversal of impairment losses on property, plant and equipment	23,146	163,645
Gains on foreign currency translation	26,654	39,595
Gains on foreign currency transactions	33,080	41,699
Other gains	8,491	16,681
Losses on disposal of property, plant and equipment	(154)	(179)
Losses on disposal of intangible assets other than goodwill	-	(3,524)
Losses on transactions of derivative	(2,906)	(1,695)
Impairment losses on property, plant and equipment	(272,829)	(320,267)
Impairment losses on intangible assets	(609,347)	(314,522)
Losses on foreign currency translation	(19,637)	(45,110)
Losses on foreign currency transactions	(41,456)	(40,259)
Other losses	(2,033)	(3,039)
	<u>₩ (849,323)</u>	<u>(463,150)</u>

37. Finance Income

(a) Details of finance income for the years ended December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>2018</u>	<u>2017</u>
Interest income	₩ 22,656	50,601
Dividend income	10	10
Gains on valuation of financial assets measured at fair value through profit or loss	87,037	-
Gains on valuation of derivative financial instruments	23,219	-
Gains on transactions of derivative financial instruments	4,421	1,168
Gains on repayment of financial liabilities	-	1,583
Gains on foreign currency translation	55,441	143,660
Gains on foreign currency transactions	38,457	107,536
	<u>₩ 231,241</u>	<u>304,558</u>

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37. Finance Income, Continued

- (b) Details of interest income by sources included in finance income for the years ended December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>2018</u>	<u>2017</u>
Cash and cash equivalents	₩ 11,621	12,066
Loans and receivables	3,125	38,535
Financial assets measured at fair value through profit or loss	7,910	-
	<u>₩ 22,656</u>	<u>50,601</u>

38. Finance Costs

- (a) Details of finance costs for the years ended December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>2018</u>	<u>2017</u>
Interest expenses	₩ 426,021	401,019
Losses on valuation of financial assets measured at fair value through profit or loss	5,059	-
Losses on valuation of financial assets at fair value through profit or loss	-	2,762
Impairment losses on available-for-sale financial instruments	-	71,586
Losses on valuation of derivative financial instruments	-	25,305
Losses on transactions of derivative financial instruments	1,088	15,251
Losses on foreign currency translation	209,390	93,115
Losses on foreign currency transactions	26,540	4,210
Other financial costs	115,393	99,926
	<u>₩ 783,491</u>	<u>713,174</u>

- (b) Details of interest expenses by sources included in finance costs for the years ended December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>2018</u>	<u>2017</u>
Short-term borrowings	₩ 5,259	7,363
Long-term borrowings	65,408	62,069
Bond payables	328,636	342,992
Derivative liabilities	14,929	6,010
Finance lease liability	9,746	8,888
Other financial liabilities	2,043	2,140
	<u>426,021</u>	<u>429,462</u>
Less: capitalized costs of borrowings	-	(28,443)
	<u>₩ 426,021</u>	<u>401,019</u>

There is no weighted average capitalized interest rate for the year ended December 31, 2018 and weighted average capitalized interest rate is 4.56% for the year ended December 31, 2017.

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39. Income Tax Expense (Benefit)

- (a) The components of income tax expense (benefit) for the years ended December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>2018</u>	<u>2017</u>
Current income tax	₩ 168,415	111,491
Tax directly charged to equity	(151,322)	34,769
Changes in deferred taxes arising from temporary differences	307,399	(338,594)
Adjustment for prior periods	(96,158)	(7,606)
Income tax expense (benefit)	<u>₩ 228,334</u>	<u>(199,940)</u>
Income tax expense (benefit) from continuing operations	228,334	(194,163)
Income tax expense (benefit) from discontinued operations	₩ -	(5,777)

- (b) Reconciliations of expected income tax benefit computed by applying the statutory income tax rate to loss before income tax to the actual income tax benefit for the years ended December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>2018</u>	<u>2017</u>
Loss before income tax	₩ (931,207)	(936,732)
Benefits computed at the statutory rate (*)	(225,352)	(226,689)
Adjustments		
Adjustments to prior year tax payment (return)	(930)	224
Non-taxable income	(762)	(1)
Non-deductible expenses	(15,914)	45,752
Effect from tax deduction and exemption	-	(96,328)
Temporary differences not recognized in deferred tax assets	309,723	44,096
Effect from temporary differences not recognized in prior years	(47,925)	(14,809)
Differences in tax rates in overseas entities	227,487	46,313
Effect of changes in tax rates	<u>(17,993)</u>	<u>1,502</u>
Income tax expense (benefit)	<u>₩ 228,334</u>	<u>(199,940)</u>
Effective tax rate	-	21.34%

(*) The expected applicable statutory tax rate for the years ended December 31, 2018 and 2017 is both 24.2%, which is the Korea statutory corporate income tax rate where the Company is domiciled.

- (c) Income tax recognized as accumulated other comprehensive income for the years ended December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>2018</u>	<u>2017</u>
Financial assets measured at fair value through other comprehensive income	₩ (115,659)	-
Available-for-sale financial assets	-	20,464
Net change in the unrealized fair value of derivative using cash flow hedge accounting	(36,199)	15,308
Remeasurement components	<u>536</u>	<u>(1,003)</u>
	<u>₩ (151,322)</u>	<u>34,769</u>

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39. Income Tax Expense (Benefit), Continued

(d) Changes in deferred income tax assets (liabilities) recognized in the consolidated statements of financial position for the years ended December 31, 2018 and 2017 are as follows:

(i) For the year ended December 31, 2018

<i>In millions of Korean won</i>	Beginning balance	Amounts recognized in profit or loss	Amounts recognized in other comprehensive income	Others	Ending balance
Deferred income tax on temporary differences					
Contributions for construction	₩ 867	(213)	-	35	689
Investment in associates and others	33,024	6,690	-	1,548	41,262
Financial guarantee liabilities	11,638	(12,845)	-	300	(907)
Allowance for doubtful accounts	149,986	(92,431)	-	5,043	62,598
Available-for-sale financial assets	160,560	(70,304)	(115,658)	3,990	(21,412)
Intangible assets	193,869	113,539	-	10,287	317,695
Accrued expenses	44,504	(30,252)	-	1,451	15,703
Asset retirement obligation	43,430	(8,922)	-	1,749	36,257
Property, plant and equipment	9,818	(11,628)	-	240	(1,570)
Land	(62,065)	(189)	-	(2,709)	(64,963)
Loss on valuation of derivative	(4,655)	(8,126)	(293)	(338)	(13,412)
Defined benefit obligations	2,663	1,414	536	149	4,762
Others	(3,113)	27,127	-	295	24,309
Deferred assets of subsidiaries	638,390	(23,756)	(35,907)	26,862	605,589
Differences in fair value and book value from business combination and others	(47,821)	49,110	-	(1,289)	-
Deferred tax liabilities of subsidiaries	(84,997)	(95,291)	-	(5,246)	(185,534)
	<u>₩ 1,086,098</u>	<u>(156,077)</u>	<u>(151,322)</u>	<u>42,367</u>	<u>821,066</u>
Deferred tax assets	<u>₩ 1,218,915</u>				<u>1,006,600</u>
Deferred tax liabilities	<u>₩ (132,817)</u>				<u>(185,534)</u>

Temporary differences not recognized in deferred tax assets, tax loss carryforwards and tax deduction are ₩13,464,696 million and ₩14,216 million as of December 31, 2018.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

39. Income Tax Expense (Benefit), Continued

(d) Changes in deferred income tax assets (liabilities) recognized in the consolidated statements of financial position for the years ended December 31, 2018 and 2017 are as follows, continued:

(ii) For the year ended December 31, 2017

<i>In millions of Korean won</i>	Beginning balance	Amounts recognized in profit or loss	Amounts recognized in other comprehensive income	Others	Ending balance
Deferred income tax on temporary differences					
Contributions for construction	₩ 1,061	(77)	-	(117)	867
Investment in associates and others	52,324	(14,106)	-	(5,194)	33,024
Financial guarantee liabilities	2,615	9,836	-	(813)	11,638
Allowance for doubtful accounts	198,308	(27,257)	-	(21,065)	149,986
Available-for-sale financial instruments	89,237	65,501	20,464	(14,642)	160,560
Intangible assets	118,198	94,022	-	(18,351)	193,869
Accrued expense	50,888	(644)	-	(5,740)	44,504
Asset retirement obligation	41,881	6,650	-	(5,101)	43,430
Property, plant and equipment	105,446	(88,307)	-	(7,321)	9,818
Land	(70,006)	(1)	-	7,942	(62,065)
Gain (loss) on valuation of derivative	(8,422)	3,522	(555)	800	(4,655)
Defined benefit obligations	(2,846)	6,477	(1,003)	35	2,663
Others	(82,261)	73,687	-	5,461	(3,113)
Deferred assets of subsidiaries	658,119	42,118	15,863	(77,710)	638,390
Differences in fair value and book value from business combination and others	(156,812)	96,262	-	12,729	(47,821)
Deferred tax liabilities of subsidiaries	(134,498)	36,143	-	13,358	(84,997)
	₩ <u>863,232</u>	<u>303,826</u>	<u>34,769</u>	<u>(115,729)</u>	<u>1,086,098</u>
Deferred tax assets	₩ <u>1,154,542</u>				<u>1,218,915</u>
Deferred tax liabilities	₩ <u>(291,310)</u>				<u>(132,817)</u>

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

40. Expenses Classified by Nature

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

<i>In millions of Korean won</i>	Changes in inventories	Selling and administrative expenses	Cost of sales	Total
Changes in inventories - merchandise	₩ (2,166)	-	-	(2,166)
Changes in inventories - finished goods	(1,423)	-	-	(1,423)
Changes in inventories - others	146	-	-	146
Purchases of inventories	-	-	34,182	34,182
Raw materials used	-	-	3,766	3,766
Salaries	-	92,111	178,494	270,605
Severance and retirement benefits	-	6,588	3,802	10,390
Other employee benefits	-	13,676	8,090	21,766
Insurance	-	2,976	20,046	23,022
Depreciation	-	14,537	1,054,182	1,068,719
Amortization	-	4,266	62,002	66,268
Commissions and fees	-	23,610	46,026	69,636
Advertising	-	448	67	515
Education and training	-	1,388	881	2,269
Vehicle maintenance	-	1,237	656	1,893
Books and printing	-	506	19	525
Business development	-	135	53	188
Rent	-	5,490	46,706	52,196
Communications	-	855	517	1,372
Transport	-	1	74,768	74,769
Taxes and dues	-	4,152	51,844	55,996
Supplies	-	1,210	3,204	4,414
Utilities	-	1,197	56,999	58,196
Repairs	-	5,717	140,775	146,492
Research and development	-	1,962	461	2,423
Travel	-	2,035	512	2,547
Clothing expenses	-	16	114	130
Investigation and analysis	-	-	86	86
Association fee	-	287	16	303
Sales promotion	-	149	638	787
Sales commissions	-	239,696	-	239,696
Others	-	9,727	386,470	396,197
	<u>₩ (3,443)</u>	<u>433,972</u>	<u>2,175,376</u>	<u>2,605,905</u>

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

40. Expenses Classified by Nature, Continued

(b) Expenses classified by nature for the year ended December 31, 2017 are as follows:

<i>In millions of Korean won</i>	<u>Changes in inventories</u>	<u>Selling and administrative expenses</u>	<u>Cost of sales</u>	<u>Total</u>
Changes in inventories - merchandise ₩	3,981	-	-	3,981
Changes in inventories - finished goods	8,639	-	-	8,639
Changes in inventories - others	11,284	-	-	11,284
Purchases of inventories	-	-	170,046	170,046
Raw materials used	-	-	4,857	4,857
Salaries	-	89,570	141,420	230,990
Severance and retirement benefits	-	7,764	3,941	11,705
Other employee benefits	-	13,712	7,088	20,800
Insurance	-	2,920	19,354	22,274
Depreciation	-	16,672	785,779	802,451
Amortization	-	5,015	93,468	98,483
Commissions and fees	-	21,736	42,957	64,693
Advertising	-	192	29	221
Education and training	-	3,522	631	4,153
Vehicle maintenance	-	1,394	545	1,939
Books and printing	-	592	14	606
Business development	-	119	37	156
Rent	-	6,718	46,449	53,167
Communications	-	930	528	1,458
Transport	-	-	140,373	140,373
Taxes and dues	-	2,197	33,218	35,415
Supplies	-	1,089	2,582	3,671
Utilities	-	1,460	43,830	45,290
Repairs	-	7,568	134,061	141,629
Research and development	-	260	2,382	2,642
Travel	-	1,753	350	2,103
Clothing expenses	-	13	80	93
Investigation and analysis	-	-	208	208
Association fee	-	159	13	172
Sales promotion	-	57	617	674
Sales commissions	-	90,768	-	90,768
Others	-	10,145	151,528	161,673
	<u>₩ 23,904</u>	<u>286,325</u>	<u>1,826,385</u>	<u>2,136,614</u>

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

41. Categories of financial instruments

(a) Details of current financial assets by category as of December 31, 2018 and 2017 are as follows:

(i) As of December 31, 2018

<i>In millions of Korean won</i>	Amortized costs	Fair value - Hedging instruments	Total
Cash and cash equivalents	₩ 778,120	-	778,120
Derivative assets	-	70,812	70,812
Others	16,291	-	16,291
Trade and other receivables	444,110	-	444,110
	₩ <u>1,238,521</u>	<u>70,812</u>	<u>1,309,333</u>

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

(ii) As of December 31, 2017

<i>In millions of Korean won</i>	Loans and receivables	Derivatives designated as hedging instruments	Total
Cash and cash equivalents	₩ 791,075	-	791,075
Short-term loans	5,814	-	5,814
Short-term financial instruments	2,074	-	2,074
Derivative assets	-	4,532	4,532
Others	14,919	-	14,919
Trade and other receivables	556,270	-	556,270
	₩ <u>1,370,152</u>	<u>4,532</u>	<u>1,374,684</u>

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 SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

41. Categories of Financial Instruments, Continued

(b) Details of non-current financial assets by category as of December 31, 2018 and 2017 are as follows:

(i) As of December 31, 2018

<i>In millions of Korean won</i>		Fair value through profit or loss	Fair value through other comprehen- sive income	Amortized costs	Fair value – Hedging instruments	Total
Fair value through other comprehensive income	₩	-	32,219	-	-	32,219
Fair value through profit or loss (*)		534,983	-	-	-	534,983
Loans		-	-	150,660	-	150,660
Long-term financial instruments		-	-	5,085	-	5,085
Derivative assets		18,999	-	-	43,389	62,388
Trade and other receivables		-	-	33,836	-	33,836
	₩	<u>553,982</u>	<u>32,219</u>	<u>189,581</u>	<u>43,389</u>	<u>819,171</u>

(*) 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.

(ii) As of December 31, 2017

<i>In millions of Korean won</i>		Loans and receivables	Available-for-sale financial instruments	Derivatives designated as hedging instruments	Total
Available-for-sale financial assets	₩	-	90,807	-	90,807
Long-term loans		479,465	-	-	479,465
Long-term financial instruments		4,873	-	-	4,873
Derivative assets		-	-	47,302	47,302
Trade and other receivables		97,768	-	-	97,768
	₩	<u>582,106</u>	<u>90,807</u>	<u>47,302</u>	<u>720,215</u>

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 SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

41. Categories of financial instruments, Continued

(c) Details of current financial liabilities by category as of December 31, 2018 and 2017 are as follows:

(i) As of December 31, 2018

<i>In millions of Korean won</i>	Fair value through profit or loss	Amortized costs	Fair value – Hedging instruments	Total
Fair value through profit or loss ₩	7,775	-	-	7,775
Trade and other payables	-	644,690	-	644,690
Short-term borrowings	-	69,322	-	69,322
Current portion of bond payables	-	1,370,082	-	1,370,082
Derivative liabilities	-	-	73,957	73,957
	<u>₩ 7,775</u>	<u>2,084,094</u>	<u>73,957</u>	<u>2,165,826</u>

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

(ii) As of December 31, 2017

<i>In millions of Korean won</i>	Financial liabilities at fair value	Financial liabilities measured at amortized cost	Derivatives designated as hedging instruments	Total
Trade and other payables ₩	-	786,399	-	786,399
Short-term borrowings	-	53,570	-	53,570
Current portion of long-term borrowings	-	782,300	-	782,300
Current portion of bond payables	-	2,322,715	-	2,322,715
Financial liabilities at fair value through profit or loss	13,272	-	-	13,272
Derivative liabilities	-	-	93,512	93,512
	<u>₩ 13,272</u>	<u>3,944,984</u>	<u>93,512</u>	<u>4,051,768</u>

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 SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

41. Categories of financial instruments, Continued

(d) Details of non-current financial liabilities by category as of December 31, 2018 and 2017 are as follows:

(i) As of December 31, 2018

<i>In millions of Korean won</i>		Fair value through profit or loss	Amortized costs	Fair value – Hedging instruments	Total
Trade and other payables	₩	-	434,320	-	434,320
Fair value through profit or loss		50,189	-	-	50,189
Long-term borrowings		-	2,322,418	-	2,322,418
Bond payables		-	9,799,083	-	9,799,083
Derivative liabilities		-	-	45,550	45,550
Others		-	8,813	-	8,813
	₩	<u>50,189</u>	<u>12,564,634</u>	<u>45,550</u>	<u>12,660,373</u>

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

(ii) As of December 31, 2017

<i>In millions of Korean won</i>		Financial liabilities at fair value	Financial liabilities measured at amortized cost	Derivatives designated as hedging instruments	Total
Trade and other payables	₩	-	503,799	-	503,799
Long-term borrowings		-	1,035,022	-	1,035,022
Bond payables		-	9,012,821	-	9,012,821
Financial liabilities at fair value through profit or loss		59,610	-	-	59,610
Derivative liabilities		-	-	48,229	48,229
	₩	<u>59,610</u>	<u>10,551,642</u>	<u>48,229</u>	<u>10,659,481</u>

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 SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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41. Categories of financial instruments, Continued

(e) Net gains or losses by financial instruments for the years ended December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>2018</u>	<u>2017</u>
Financial assets measured at fair value through profit of loss		
Gain on valuation, net	₩ 54,564	-
Interest income	7,910	-
Financial assets measured at amortized costs		
Interest income	14,746	-
Gain on foreign currency transactions, net	26,031	-
Loss on foreign currency translation, net	(15,735)	-
Loans and receivables		
Interest income	-	50,601
Gain on foreign currency transactions, net	-	72,429
Loss on foreign currency translation, net	-	(39,367)
Financial assets measured at fair value through other comprehensive income		
Dividend income	10	-
Other comprehensive loss, net of tax	(177,207)	-
Available-for-sale financial investments		
Dividend income	-	10
Impairment loss	-	(71,586)
Other comprehensive loss, net of tax	-	(64,097)
Financial assets designated as hedging instruments		
Gain on transactions	4,421	-
Gain on valuation	4,522	-
Gain (Loss) on foreign currency translation, net	(6,207)	39,243
Other comprehensive income, net of tax	81,655	-
Financial liabilities measured at fair value through profit or loss		
Gain on valuation	46,111	-
Financial liabilities at fair value through profit or loss		
Loss on valuation, net	-	(2,762)
Financial liabilities measured at amortized cost		
Interest cost	(426,021)	(401,019)
Gain (loss) on foreign currency transactions, net	(7,348)	27,787
Loss on foreign currency translation, net	(51,241)	(17,456)
Gain on repayment of financial liabilities	-	1,583
Other financial cost (*)	(41,718)	(26,611)
Financial liabilities designated as hedging instruments		
Loss on transactions, net	(1,088)	(14,083)
Loss on valuation, net	-	(25,305)
Gain (loss) on foreign currency transactions, net	(6,767)	3,110
Gain (loss) on foreign currency translation, net	(80,765)	68,124
Other comprehensive income (loss), net of tax	17,701	(47,331)
	<u>₩ (556,426)</u>	<u>(446,730)</u>

(*) Excludes increase in other provisions amounting to ₩73,675 million and ₩73,315 million for the years ended December 31, 2018 and 2017, respectively

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
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42. Netting Agreements

- (a) Offsetting of financial assets and financial liabilities

As of December 31, 2018 and 2017, financial assets and financial liabilities subject to offsetting, enforceable master netting arrangements and similar agreements are as follows:

- (i) As of December 31, 2018

In millions of Korean won

		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 Amounts
					Financial instruments	Collateral received or pledged	
Financial assets							
Derivative(*)	₩	114,201	-	114,201	(114,201)	-	-
Financial liabilities							
Derivative(*)		119,507	-	119,507	(114,201)	-	5,306

(*) 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.

- (ii) As of December 31, 2017

In millions of Korean won

		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 Amounts
					Financial instruments	Collateral received or pledged	
Financial assets							
Derivative(*)	₩	51,834	-	51,834	(51,834)	-	-
Financial liabilities							
Derivative(*)		141,741	-	141,741	(51,834)	-	89,907

(*) 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.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

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 which consist of equity and net debt, net of cash and cash equivalents and borrowing and debt securities. No changes were made in the objectives, policies or processes for managing capital for the year ended December 31, 2018.

The Group's debt-to-equity ratios as of December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>December 31, 2018</u>	<u>December 31, 2017</u>
Total borrowings and debt securities (A)	₩ 13,560,905	13,206,427
Cash and cash equivalents (B)	<u>778,120</u>	<u>791,075</u>
Net borrowings and debt securities (A – B = C)	12,782,785	12,415,352
Total equity (D)	₩ <u>764,065</u>	<u>2,383,890</u>
Total invested capital (C + D = E)	₩ <u>13,546,850</u>	<u>14,799,242</u>
Net borrowings and debt securities-to-total invested capital ratio (C/E)	94.36%	83.89%

(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 SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

43. Risk Management, Continued

(b) Financial risk management, continued

(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, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>December 31, 2018</u>	<u>December 31, 2017</u>
Cash and cash equivalents	₩ 778,120	791,075
Derivative assets	114,201	51,834
Financial assets at amortized costs (*)	649,982	1,161,183
Financial assets at fair value through profit or loss	534,983	-
Financial guarantee contracts	36,046	34,541

(*) Comprised of financial assets measured at amortized costs and non-trade receivables and others. The amounts as of December 31, 2017 include the excluded amount from the initial adoption of K-IFRS No. 1109 at January 1, 2018.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

43. Risk Management, Continued

(b) Financial risk management, continued

(ii) Credit risk, continued

Details of maturities for financial assets measured at amortized costs and their impaired amounts as of December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	December 31, 2018		December 31, 2017	
	Balance	Impairment	Balance	Impairment
Not past due	₩ 1,159,845	(550,488)	1,823,586	(741,763)
0 ~ 30 days	12,924	-	22,112	-
31 ~ 60 days	11,920	-	9,981	-
More than 60 days	91,216	(75,435)	47,373	(106)
	₩ <u>1,275,905</u>	<u>(625,923)</u>	<u>1,903,052</u>	<u>(741,869)</u>

Details of changes in allowance for impairment of financial assets measured at amortized costs for the years ended December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	2018	2017
Beginning balance	₩ 741,869	732,017
Initial adoption of K-IFRS No. 1109	(118,737)	-
Impairment loss	765	180,186
Reversal of impairment loss	(8,356)	(7,938)
Write-off	(12)	(769)
Others (*)	10,394	(161,627)
Ending balance	₩ <u>625,923</u>	<u>741,869</u>

(*) Include the effect of changes in exchange rates and others.

Aging of past due but not impaired financial assets as of December 31, 2018 and 2017 are as follows:

① As of December 31, 2018

<i>In millions of Korean won</i>	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	₩ 40,625	19,577	13,858	4,281	2,909	-

② As of December 31, 2017

<i>In millions of Korean won</i>	Book value	Less than 6 months	6~12 Months	1~2 years	2~5 years	More than 5 years
Loans and receivables	₩ 79,360	36,287	387	42,424	262	-

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

43. Risk Management, Continued

(b) Financial risk management, continued

(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. With all other variables held constant, the changes in Group's profit before tax for the years ended December 31, 2018 and 2017 from crude oil price fluctuations are as follows:

<i>In millions of Korean won</i>	2018		2017	
	Increase by 10%	Decrease by 10%	Increase by 10%	Decrease by 10%
Increase (decrease) of profit before tax	₩ 242,710	(242,710)	147,766	(147,766)

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, 2018 and 2017, 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 derivative 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 millions of Korean won</i>	2018		2017	
	Increase by 1%	Decrease by 1%	Increase by 1%	Decrease by 1%
Increase (decrease) of profit before tax	₩ (19,508)	19,508	(34,033)	34,033

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

43. Risk Management, Continued

(b) Financial risk management, continued

(iii) Market risk, continued

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 derivative contracts.

Without considering the effect of the derivative aforementioned, the Group's exposures to foreign currency risk as of December 31, 2018 and 2017 are as follows:

In thousands of foreign currencies and millions of Korean won

	Currency unit	December 31, 2018		December 31, 2017	
		Foreign currencies	Equivalent to Korean won	Foreign currencies	Equivalent to Korean won
Financial assets					
denominated in foreign currencies	KRW	333,941 ₩	333,941	357,539 ₩	357,539
Financial liabilities					
denominated in foreign currencies	KRW	525,723	525,723	593,153	593,153
	EUR	201,023	254,094	201,026	257,162
	SGD	403,108	325,946	303	243
	HKD	2,044,016	288,366	2,447,211	335,346
	CHF	501,083	562,593	240,351	263,126
	AUD	679,424	528,913	734,511	613,431
	AED	-	-	13	4
			₩ 2,485,635		₩ 2,062,465

The exchange rates applied for the years ended and as of December 31, 2018 and 2017 are as follows:

In US dollar per one foreign currency

	Average rates		Reporting date spot rate	
	2018	2017	December 31, 2018	December 31, 2017
KRW	0.0009	0.0009	0.0009	0.0009
EUR	1.1810	1.1294	1.1440	1.1940
SGD	0.7414	0.7244	0.7318	0.7473
HKD	0.1276	0.1283	0.1277	0.1279
CHF	1.0221	1.0159	1.0162	1.0218
AUD	0.7479	0.7666	0.7046	0.7795
AED	0.2722	0.2723	0.2722	0.2723

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

43. Risk Management, Continued

(b) Financial risk management, continued

(iii) Market risk, continued

③ Foreign currency risk, continued

The Company and its subsidiaries use various functional currencies depending on their primary economic environment in which the entities operate. A sensitivity analysis below indicates the effect on the Group's profit before tax from the fluctuations in each functional currency exchange rate. As of December 31, 2018 and 2017 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:

<i>In millions of Korean won</i>			2018		2017	
			Increase by 5%	Decrease by 5%	Increase by 5%	Decrease by 5%
Increase (decrease) of profit before tax	KRW ₩	(9,325)	9,325	(12,434)	12,434	
	HKD	(14,189)	14,189	(17,698)	17,698	
	CHF	(27,682)	27,682	(13,886)	13,886	
	EUR	(23,540)	23,540	(23,808)	23,808	
	AUD	(26,025)	26,025	(32,373)	32,373	
	Others	(15,847)	15,847	(717)	717	

(iv) Liquidity risk

The details of contractual maturities of financial liabilities and other contractual obligations as of December 31, 2018 are as follows:

<i>In millions of Korean won</i>		Book value	Contractual cash flows(*1)	Less than 1 year	1 ~ 2 years	2 ~ 5 years	More than 5 years(*2)
Short-term borrowings	₩	69,322	70,555	70,555	-	-	-
Bond payables		11,169,165	12,565,673	1,661,324	1,220,005	5,100,526	4,583,818
Long-term borrowings		2,322,418	2,497,329	68,738	1,015,297	1,189,113	224,181
Trade and other payables		1,079,010	1,079,010	644,690	49,958	39,345	345,017
Derivative liabilities		119,507	119,507	73,957	352	38,791	6,407
Financial liabilities measured at fair value through profit or loss		57,964	57,964	7,775	9,026	30,294	10,869
Financial guarantee liabilities		8,813	8,813	-	-	8,813	-
Financial guarantee contracts (*3)		-	36,046	36,046	-	-	-
	₩	<u>14,826,199</u>	<u>16,434,897</u>	<u>2,563,085</u>	<u>2,294,638</u>	<u>6,406,882</u>	<u>5,170,292</u>

(*1) Contractual cash flows include the estimated interest payments but exclude the effects of offsetting contracts.

(*2) 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 exploration is proven to be successful.

(*3) Financial guarantee is allocated at the earliest period that the maximum amount could be requested.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

43. Risk Management, Continued

(b) Financial risk management, continued

(iv) Liquidity risk, continued

The Group had a working capital (current assets minus current liabilities) deficit of ₩901,452 million as of December 31, 2018. 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.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

43. Risk Management, Continued

(c) Fair value measurement

- (i) Fair value and book value of financial assets and liabilities as of December 31, 2018 and 2017 are as follows:

In millions of Korean won

	December 31, 2018		December 31, 2017	
	Book value	Fair value	Book value	Fair value
Assets recognized at fair value				
Available-for-sale financial assets	₩ -	-	89,987	89,987
Financial assets measured at fair value through other comprehensive income	32,219	32,219	-	-
Financial assets measured at fair value through profit or loss	534,983	534,983	-	-
Currency forwards	-	-	2,596	2,596
Currency swap	25,925	25,925	44,269	44,269
Interest rate swap	6,014	6,014	4,110	4,110
Other derivative	101,261	101,261	859	859
Investments in associates and joint ventures (*)	35,507	35,507	48,047	48,047
	<u>735,909</u>	<u>735,909</u>	<u>189,868</u>	<u>189,868</u>
Assets recognized at amortized costs				
Cash and cash equivalent	778,120	778,120	791,075	791,075
Available-for-sale financial assets	-	-	820	820
Long-term loans	150,660	150,660	485,279	485,279
Short-term financial instruments	-	-	2,074	2,074
Long-term financial instruments	5,085	5,085	4,873	4,873
Other financial assets	16,291	16,291	14,919	14,919
Trade receivables and other receivables	477,946	477,946	654,038	654,038
	<u>1,428,102</u>	<u>1,428,102</u>	<u>1,953,078</u>	<u>1,953,078</u>
Liabilities recognized at fair value				
Currency forwards	233	233	-	-
Currency swap	108,033	108,033	64,662	64,662
Interest swap	11,115	11,115	-	-
Financial liabilities measured at fair value through profit or loss	57,964	57,964	-	-
Financial liabilities at fair value through profit or loss	-	-	72,882	72,882
Other derivative	126	126	77,079	77,079
	<u>177,471</u>	<u>177,471</u>	<u>214,623</u>	<u>214,623</u>
Liabilities recognized at amortized costs				
Bond payables without collateral	11,169,165	11,169,165	11,335,535	11,335,535
Bank borrowings without collateral	2,391,740	2,391,740	1,870,892	1,870,892
Trade and payables	1,079,010	1,079,010	1,290,198	1,290,198
Financial guarantee liabilities	8,813	8,813	-	-
	<u>₩ 14,648,728</u>	<u>14,648,728</u>	<u>14,496,625</u>	<u>14,496,625</u>

(*) The investments in joint ventures for Deep Basin Partnership and HKMS Partnership held by the Group are measured at the fair value at each financial statement date using the hypothetical liquidation book value method to estimate the Group's interests in the net assets of the joint ventures.

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

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

43. Risk Management, Continued

(c) Fair value measurement, continued

(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, 2018 are as follows:

In millions of Korean won

		December 31, 2018			
		Level 1	Level 2	Level 3	Total
Financial assets at fair value					
Through other comprehensive income	₩	24,479	-	7,740	32,219
Through profit or loss		-	-	534,983	534,983
Investments in associates and joint ventures		-	-	35,507	35,507
Derivative assets		-	114,201	18,999	133,200
		24,479	114,201	597,229	735,909
Financial liabilities at fair value					
Derivative liabilities		-	119,507	-	119,507
Measured at fair value through profit or loss		-	-	57,964	57,964
		-	119,507	57,964	177,471

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

44. Related Parties

(a) The Group's major related parties as of December 31, 2018 are as follows:

Type	Related parties
Associates	Oilhub Korea Yeosu Co., Ltd. Kernhem B.V. ADA Oil LLP Parallel Petroleum LLC KNOC EF Star LLC and its subsidiaries (*1)
Joint ventures	KNOC Inam Ltd. KNOC Kamchatka Petroleum Ltd. KC Karpovsky B.V.(*2) KNOC Bazian Ltd. KNOC Nigerian West Oil Company Ltd. KNOC Nigerian East Oil Company Ltd. KNOC Aral Ltd.(*2) Korea kamchatka Co., Ltd. KC kazakh B.V. Offshore International Group, Inc. KNOC Ferghana Ltd. KNOC Ferghana2 Ltd. KADOC Ltd. Korea Oil Terminal Co., Ltd. Deep Basin Partnership HKMS Partnership
Other related parties	KNOC Trading Corporation

(*1) Due to lose of control during the year ended December 31, 2018, it has been excluded from the scope of consolidation and classified as an associate.

(*2) Liquidation process has been completed for the year ended December 31, 2018.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

44. Related Parties, Continued

(b) Significant transactions with related parties for the years ended December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	Transaction	Sales and others		Purchases and others	
		2018	2017	2018	2017
Oilhub Korea Yeosu Co., Ltd.	Revenues from rental services	₩ 1,458	1,470	-	-
	Dividend income	3,016	-	-	-
	Expenses from rental services	-	-	13,943	13,646
Kernhem B.V.	Interest on loans	-	1,879	-	-
	Reversal of bad debt allowance	4,208	-	-	-
	Other bad debt expenses	-	-	-	41,685
ADA Oil LLP	Interest on loans	-	433	-	-
	Revenues from services	1,577	1,557	-	-
	Reversal of bad debt allowance	1,755	-	-	-
	Other bad debt expenses	-	-	-	12,692
KNOC Nigerian West Oil Company Ltd.	Interest on loans	-	2,544	-	-
	Gain on valuation of financial instruments measure at fair value through profit of loss	18,588	-	-	-
	Other bad debt expenses	-	-	-	297
KNOC Nigerian East Oil Company Ltd.	Interest on loans	-	2,804	-	-
	Gain on valuation of financial instruments measure at fair value through profit or loss	22,338	-	-	-
	Other bad debt expenses	-	-	-	297
KNOC Aral Ltd.	Reversal of bad debt allowance	77	-	-	-
Korea kamchatka Co., Ltd.	Other bad debt expenses	-	-	-	156
	Reversal of bad debt allowance	-	7,934	-	-
Offshore International Group, Inc.	Interest on loans	2,523	3,215	-	-
KNOC Ferghana2 Ltd.	Other bad debt expenses	-	-	-	196
	Loss on valuation of financial instruments measure at fair value through profit or loss	-	-	863	-
KADOC Ltd.	Interest on loans	7,910	6,381	-	-
Parallel Petroleum LLC	Interest on loans	308	323	-	-
	Other finance expenses	-	-	5,921	-
Deep Basin Partnership	Other expenses	-	-	1,803	1,585
HKMS Partnership	Other expenses	-	-	355	280
		₩ 63,758	28,540	22,885	70,834

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

44. Related Parties, Continued

- (c) The outstanding receivables and payables, except for loans, arising from the transactions with related parties as of December 31, 2018 and 2017 are as follows:

In millions of Korean won

Transaction	Receivables		Payables	
	2018	2017	2018	2017
Oilhub Korea Yeosu Co., Ltd.				
Other account payables	-	-	1,861	1,073
	₩			
KNOC Nigerian West Oil Company Ltd.	21,859	20,946	-	-
KNOC Nigerian East Oil Company Ltd.	24,252	23,239	-	-
KADOC Ltd.	28,958	20,046	-	-
Offshore International Group, Inc.	67	108	-	-
Deep Basin Partnership	-	-	9,540	12,316
HKMS Partnership	-	-	709	386
	₩			
	<u>75,136</u>	<u>64,339</u>	<u>12,110</u>	<u>13,775</u>

The Group recognized reversal of other bad debt expenses of ₩5,963 million on receivables arising from the transaction with related parties for the year ended December 31, 2018.

- (d) Loans to related parties as of December 31, 2018 and 2017 are as follows:

In millions of Korean won

	December 31, 2018	December 31, 2017
Associates		
Parallel Petroleum LLC	-	5,814
Joint ventures		
KNOC Nigerian West Oil Company Ltd.	48,554	27,977
KNOC Nigerian East Oil Company Ltd.	55,842	31,280
Offshore International Group, Inc.	39,483	52,967
KADOC Ltd.	302,849	200,563
	₩	
	<u>446,728</u>	<u>318,601</u>

The Group provided associates and joint ventures with additional loans of ₩105,276 million and received ₩15,976 million as the repayment of loans for the year ended December 31, 2018. The Group recognized financial guarantee expense of ₩5,921 million, reversal of other bad debt allowance of ₩77 million and gain on valuation of ₩40,063 million. Also loss on valuation under equity method amounting to ₩11,098 million and increased amount due to change in foreign currency amounting to ₩15,706 million have been recognized.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

44. Related Parties, Continued

- (e) There are no borrowings from the related parties as of December 31, 2018 and 2017.
- (f) As of December 31, 2018, the Group does not provide any guarantees to the related parties.
- (g) As of December 31, 2018, the Group is not provided with any guarantees from the related parties.
- (h) The Company entered into a USD 70 million loan agreement available to February 19, 2021 with Offshore International Group Inc., an investment in joint venture. As of December 31, 2018, Offshore International Group Inc. had ₩39,483 million drawn under the loan agreement.
- (i) The Company 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 terminated on March 31, 2021.
- (j) The compensations to the key management personnel of the Group for the years ended December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>	<u>2018</u>	<u>2017</u>
Salaries	₩ 351	552
Severance and retirement benefits	25	43
	<u>₩ 376</u>	<u>595</u>

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

45. Additional Cash Flow Statement Information

(a) Non-Cash Transactions

Significant non-cash investment and finance transactions excluded from statements of cash flows for the years ended December 31, 2018 and 2017 are as follows:

<i>In millions of Korean won</i>		<u>2018</u>	<u>2017</u>
Bond payables transferred to current portion	₩	1,403,666	2,435,235
Long-term borrowings transferred to current portion		-	825,658
Construction in progress transferred to other accounts		182,483	29,008
Non-current liabilities transferred to current portion		13,680	10,710

(b) Details of change in liabilities in financing activities are as follows:

<i>In millions of Korean won</i>		<u>Beginning balance</u>	<u>Cash flow</u>	<u>Non-cash transaction</u>			<u>Ending balance</u>
				<u>Change in exchange rate</u>	<u>Change in fair value</u>	<u>Others (*1)</u>	
Current finance lease liability	₩	8,327	(8,566)	357	-	8,209	8,327
Non-current finance lease liability		212,721	-	(318)	-	1,537	213,940
Short-term borrowings		53,570	(209,013)	(353,835)	-	578,600	69,322
Current portion of long-term borrowings		53,566	(55,015)	1,445	-	4	-
Long term borrowings		1,763,756	306,585	465,297	-	(213,220)	2,322,418
Bond payables		9,012,821	1,821,362	446,095	-	(1,481,195)	9,799,083
Current portion of bond payables(*2)		2,322,714	(2,381,292)	45,944	-	1,382,717	1,370,083
Liabilities held to hedge risk of bond payable(*2)		64,662	-	84,406	(22,371)	(7,549)	119,148
Assets held to hedge risk of bond payable(*2)		48,379	-	(4,393)	(10,529)	(1,518)	31,939

(*1) Includes liquidity transfer and amortization to present value etc.

(*2) The assets and liabilities above are comprised of currency swap and interest swap derivative and cash flows of derivative are included in the cash flow of related bond payables.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

46. Contingencies and Commitments

(a) Details of the Group's significant pending litigations as of December 31, 2018 are as follows:

In millions of Korean won

Plaintiff	Defendant	Description(*1)	Amount	Process
Hanhwa Corp.	The Company	Claiming refunds of the premium paid to the Group acquire interests in Yemen 4 oil field(*2)	5,979	In third trial
Hyundai Heavy Industries	The Company	Claiming refunds of the acquisition costs and premium paid to the Group acquire interests in Yemen 4 oil field(*3)	20,906	In third trial
SK Engineering & Construction Co.,Ltd. and POSCO Engineering & Construction Co., Ltd.	The Company	Claiming additional construction charge due to price escalation	7,568	In first trial
SK Engineering & Construction Co.,Ltd. and POSCO Engineering & Construction Co., Ltd.	The Company	Claiming adjustment of contracted amount due to design change and extension of construction period and additional construction charge thereto.	11,204	In first trial

(*1) There are 4 cases against the Company other than the litigations listed above amounting to total of ₩535 million, and there are 3 cases as the Company as plaintiff amounting total of ₩2,400 million.

(*2) The Company 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, 2018 by appealing to the decision of the second trial.

(*3) The Company 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, 2018 by appealing to the decision.

Also, the Company 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 these lawsuits as of December 31, 2018.

(b) The Group has provided loan guarantees to non-related parties as of December 31, 2018 and 2017 as follows:

In thousands of US dollar

Description of guarantee	Guaranteed Party	Effective Date	Guarantee period	December 31, 2018	December 31, 2017
Payment guarantee for Parallel business	Samsung C&T Corporation and others	2014-07-10 2016-06-20	Until loans fully repaid	7,882 23,780	8,459 23,780

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

46. Contingencies and Commitments, Continued

- (c) As of December 31, 2018, the Company's significant commitments with the financial institutions are as follows:

In thousands of US dollar

<u>Detail of contract</u>	<u>Financial institutions</u>	<u>Credit line amount</u>	<u>Executed amount</u>
Trade finance	Deutsche Bank	250,000	-
	Development Bank of Singapore(*)	100,000	-
	Bank of America(*)	210,000	-
	ING Bank(*)	100,000	-
	Standard Chartered bank(*)	150,000	-
		810,000	-
Credit line	BNP Paribas	400,000	-
	Development Bank of Singapore(*)	100,000	-
	Mizuho Corporate Bank	150,000	-
	Bank of America(*)	210,000	-
	ING Bank(*)	100,000	-
	Credit Agricole	100,000	-
	Standard Chartered Bank(*)	150,000	-
	The Export-Import Bank of Korea	400,000	184,000
Woori Bank	8,944	-	
		1,618,944	184,000

(*) 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 USD 560 million.

- (d) As of December 31, 2018, the Company has not receive guarantees provided by non-related parties for the Company's obligations and indebtedness.
- (e) In 2007 and 2008, the Company and Korean Consortium entered into an agreement (Production Sharing Contract) for the exploration and production of oil fields located in Iraq, with the Kurdish regional government ("KRG"), in accordance with the local Kurdish oil exploration laws. In 2008, the Iraqi federal government announced that such agreement in the region without obtaining proper approval from the federal government would be invalid to the Company and other participating companies in the region. The Company was advised by legal consultants in the UK and in Iraq that there is no legal basis on the alleged nullity of the agreement by the Iraqi government.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES

Notes to the Consolidated Financial Statements, Continued

As of December 31, 2018

46. Contingencies and Commitments, Continued

- (f) In 2009, the Company entered into an exclusive agreement with the Kurdish regional government ("KRG") to obtain rights on five exploratory areas. In consideration of obtaining these rights, the Company committed to pay USD 1.9 billion of construction services for the government's Social Overhead Capital (SOC) and made payment of USD 25 million and signature bonus of USD 0.2 billion.

However, the agreement was amended twice until 2012. The Company's rights on three exploratory areas, including Qush Tappa, were terminated and the Company's USD 1.9 billion commitment was reduced to USD 1.175 billion. In addition, the quantity of return-guaranteed crude oil was reduced.

Meanwhile, in the process of amending the agreement in the early 2019, KRG is negotiating with the Company on the return of the Hawler block in exchange for paying SOC approved investment to the Company. The Company recorded mining rights in relation to this agreement and the carrying amount as of December 31, 2018 is ₩735,943 million. In addition, the Company recorded a current provision in relation to this agreement and the carrying amounts as of December 31, 2018 are ₩12,466 million which represent that the Company's estimated obligation of expected payments for KRG's SOC construction.

- (g) The Company 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 Company recognized derivative assets amounting to ₩18,999 million.

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2018

46. Contingencies and Commitments, Continued

(h) As of December 31, 2018, other significant commitments and contingencies of the Company's subsidiaries are as follows:

(i) Harvest Operations Corp. ("Harvest") and its subsidiaries

The Company provided a payment guarantee on senior notes issued by Harvest, its subsidiary in June 2016 for the principal amount of USD 196 million and their corresponding interest. The payment guarantee is effective until the maturity date (April 14, 2021) of the bonds.

In February 2017, Harvest entered into a credit facility for CAD 500 million which payment guaranteed by Export-Import Bank of Korea and the Company. The payment guarantee is effective until February 24, 2020.

Harvest entered into a credit facility maturing on February 24, 2020 for CAD 500 million with the Canadian Imperial Bank of Commerce and other financial institutions.

The Company provided a payment guarantee on senior notes issued by Harvest, its subsidiary, in May 2018 for the principal amount of USD 398 million and the corresponding interest. The payment guarantee is effective until the maturity date (June 1, 2023) of the bonds.

In May 2018, Harvest entered into a credit facility for CAD 300 million which payment guaranteed by Sumitomo Mitsui Banking Corporation and the Company. The payment guarantee is effective until February 24, 2020.

The Company provided a payment guarantee on senior notes issued by Harvest, its subsidiary, in September and November 2017 for the principal amount of USD 285 million and USD 200 million respectively and their corresponding interest. The payment guarantee is effective until the maturity date (September 21, 2022) of the bonds.

(ii) Dana Petroleum Limited ("Dana") and its subsidiaries

Dana Petroleum Limited, a subsidiary, completed refinancing of USD 600 million in the form of Reserve Based Lending ("RBL") in September 2018 (maturity date: June 30, 2023). The agreement replaced a revolving credit facility agreement with total amount of USD 1,000 million (maturity date: December 13, 2018) and a credit facility agreement approved by the Company with total amount of USD 600 million (maturity date: December 31, 2018), and the exercised amount as of December 31, 2018 is USD 136 million. 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 applying the assumptions of the bank.

The Company provided a performance guarantee of GBP 77 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 Company provided a performance guarantee of NOK 117 million (limit: NOK 1,139 million) to ExxonMobile E&P Norway AS for transferring restoring obligation.

The Company, 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.

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46. Contingencies and Commitments, Continued

(h) As of December 31, 2018, other significant commitments and contingencies of the Company's subsidiaries are as follows, continued:

(iii) ANKOR E&P Holdings Corp. ("ANKOR") and its subsidiaries

The Company provided a payment guarantee for ANKOR, its subsidiary, in relation to the borrowings from The Expert-Import Bank of Korea and others up to the limit of USD 99 million.

The Company provided a performance guarantee of USD 121 million to Chubb Limited and others for the future restoration of oil and gas sites held by ANKOR.

(iv) KNOC Yemen Ltd.

The Company is in the process of arranging the liquidation of KNOC Yemen Ltd. with YICOM, an acquirer. According to the arrangement, the Company 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 Company 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 thousands of US dollar

Agreement	Financial Institution	Credit line amount	Executed amount
Credit line	Bank of America	25,000	-
	Sumitomo Mitsui Banking Corporation	70,000	-
	Societe Generale Bank	30,000	-
		125,000	-

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47. Date of Authorization of Issue

The separate financial statements will be authorized for issue by the Board of Directors on February 27, 2019.

48. Uncertainty of Deterioration in Operating Condition of Oil Market

Imbalance between supply and demand continues to drive low oil prices in the international crude oil market and oil prices are unlikely to increase in a short period of time. Low oil prices has continuously led to deterioration of Group's profitability and financial soundness.

The Group is carrying forward a scheme to improve the profitability and financial soundness against the unstable oil market. There is a significant uncertainty with respect to the Group's future business results depending on the recovery of oil prices.

49. Correction of Errors

Due to change in the consolidated financial statements of Ankor E&P Holdings Corp. ("AEPH), a subsidiary of the Group, and change in accounting for PLL Holding LLC ("PLL"), an associate of AEPH, the consolidated financial statements for the year ended December 31, 2017 has been restated. The Group measured the future dividends of KOA Energy LP, which was originally recognized as non-controlling interest as of December 31, 2017, and recognized the amount as financial liability of AEPH. Also, for the year ended December 31, 2017, the Group reversed the loss on valuation of investments in associates in relation to PPL which had been excessively recognized for the year ended 31, 2016.

- (a) Details of the impact of the changes above on the Group's consolidated statement of financial position are as follows:

In millions of Korean won

	December 31, 2017		January 1, 2017	
	Before adjustment	After adjustment	Before adjustment	After adjustment
Current assets				
Short-term loan and other receivables	₩ 3,185	5,814	-	-
	3,185	5,814	-	-
Non-current assets				
Investment in associates	50,430	67,500	46,458	68,966
	50,430	67,500	46,458	68,966
Current liabilities				
Current portion of financial liabilities at fair value through profit or loss	-	13,272	-	16,287
	-	13,272	-	16,287
Non-current liabilities				
Financial liabilities at fair value through profit or loss	-	59,610	-	62,969
	-	59,610	-	62,969
Equity				
Accumulated deficit	(8,463,173)	(8,363,377)	(7,633,552)	(7,515,099)
Accumulated other comprehensive income	(601,800)	(614,257)	-	-
Non-controlling interests	1,042,227	901,706	1,109,888	934,686
	₩ (8,022,746)	(8,075,928)	(6,523,664)	(6,580,413)

KOREA NATIONAL OIL CORPORATION AND SUBSIDIARIES
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49. Correction of Errors, Continued

- (b) Details of the impact of the changes above on the Group's consolidated statement of comprehensive loss are as follows:

<i>In millions of Korean won</i>	2017	
	<u>Before adjustment</u>	<u>After adjustment</u>
Finance cost		
Loss on valuation of financial asset at fair value through profit or loss	₩ -	2,762
	-	2,762
Gain or loss on associates and joint ventures		
Loss on valuation of investments in associates and joint ventures	128,646	128,915
	128,646	128,915
Net loss attributed to controlling interests	(832,714)	(851,371)
Net profit attributed to controlling interests	98,954	114,580
	<u>₩ (733,760)</u>	<u>(736,791)</u>

As a result of the accounting changes, the Group's net asset decreased (-)₩53,183 million and loss for the year increased (-)₩3,031 million.