

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

Consolidated financial statements  
for the years ended December 31, 2021 and 2020  
with the independent auditor's report

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### Independent auditor's report

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## Independent auditor's report

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

#### Opinion

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

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2021 and 2020, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions in the Republic of Korea.

#### Emphasis of matter

We draw attention to Note 2 to the consolidated financial statements, which describes that the Group's consolidated financial statements were prepared in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions in the Republic of Korea. Pursuant to its Article 2-5, the Group applies Korean International Financial Reporting Standards ("KIFRS") where specific accounting treatments are not prescribed by the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions in the Republic of Korea. There are no accounts of which accounting treatment is different compared to KIFRS in order for the Group to be in full compliance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions in the Republic of Korea. Our opinion is not modified in respect of this matter.

#### Basis for opinion

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

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

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions in the Republic of Korea, 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.

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

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

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

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

including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

- Obtain sufficient appropriate audit evidence regarding the financial information of the Group 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.

*Ernst & Young Han Young*

February 28, 2022

This audit report is effective as of February 28, 2022, the independent auditor's report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the independent auditor's report date to the time this report is used. Such events and circumstances could significantly affect the accompanying consolidated financial statements and may result in modifications to this report.

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

Consolidated financial statements  
for the years ended December 31, 2021 and 2020

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

Kim, Dong Sub

Chief Executive Officer

Korea National Oil Corporation

**Korea National Oil Corporation and its subsidiaries**  
**Consolidated statements of financial position**  
**as of December 31, 2021 and 2020**

(in Korean won)

	Notes		2021		2020
<b>Assets</b>					
<b>Current assets</b>					
Cash and cash equivalents	5,626,42,44	₩	793,878,668,132	₩	796,778,898,842
Current financial assets	7,10,12,42,43,44,47		230,275,227,627		617,848,649,667
Trade and other receivables, net	6,8,23,42,44,45		628,746,933,806		433,709,955,321
Inventories, net	13		88,282,087,684		92,710,196,125
Current tax assets	14		19,231,492,775		17,302,153,779
Current non-financial assets			81,195,015,909		74,454,260,789
Assets held for sale	15,16,18,40		101,963,839,880		2,565,848,624
			<u>1,943,573,265,813</u>		<u>2,035,369,963,147</u>
<b>Non-current assets</b>					
Non-current financial assets, net	6,7,9,10,11,42,43,44		933,506,846,788		920,401,331,480
Long-term trade and other receivables, net	6,8,23,42,44		37,229,675,922		44,061,506,620
Property, plant and equipment, net	16,23,26,27,45		8,095,370,095,719		8,017,014,312,194
Goodwill	17		233,657,370,725		221,020,028,546
Intangible assets other than goodwill, net	18,26,45		1,382,149,905,266		1,314,513,699,324
Investments in associates and joint ventures	15		568,377,881,677		479,841,131,972
Deferred tax assets	39		1,015,618,796,444		780,322,777,378
Defined benefit assets, net	24		7,056,721,754		-
Non-current non-financial assets	14		4,194,200,359,512		3,691,491,324,932
			<u>16,467,167,653,807</u>		<u>15,468,666,112,446</u>
<b>Total assets</b>		₩	<u>18,410,740,919,620</u>	₩	<u>17,504,036,075,593</u>
<b>Liabilities</b>					
<b>Current liabilities</b>					
Trade and other payables	20,23,42,44,47	₩	829,443,504,687	₩	619,687,530,974
Current financial liabilities	7,19,21,22,42,43,44,47		3,323,637,478,290		3,084,650,983,541
Current tax liabilities			44,759,599,166		73,154,083,577
Current non-financial liabilities	28		178,674,188,552		85,561,526,809
Current provisions	25,47		128,071,918,228		75,542,124,147
Liabilities included in the asset group held for sale	25,40		47,248,272,679		-
			<u>4,551,834,961,602</u>		<u>3,938,596,249,048</u>
<b>Non-current liabilities</b>					
Long-term trade and other payables	20,23,42,44,47		359,648,702,666		528,379,159,028
Non-current financial liabilities	7,19,21,42,43,44,45,47		12,250,031,067,822		11,304,246,790,091
Non-current non-financial liabilities	28		51,117,634,783		51,752,217,306
Defined benefit liabilities, net	24		-		12,934,670,657
Deferred tax liabilities	39		488,332,181,913		374,960,458,330
Non-current provisions	25,47		2,262,028,203,209		2,434,077,157,879
			<u>15,411,157,790,393</u>		<u>14,706,350,453,291</u>
<b>Total liabilities</b>			<u>19,962,992,751,995</u>		<u>18,644,946,702,339</u>
<b>Equity</b>					
<b>Equity attributable to owner of the Company</b>					
Share capital	1,29		10,623,419,780,075		10,554,372,780,075
Accumulated deficit	30,31		(12,303,772,021,010)		(12,259,384,485,091)
Other components of equity	32		(481,301,411,141)		(8,789,630,188)
			<u>(2,161,653,652,076)</u>		<u>(1,713,801,335,204)</u>
<b>Non-controlling interests</b>			<u>609,401,819,701</u>		<u>572,890,708,458</u>
<b>Total equity</b>			<u>(1,552,251,832,375)</u>		<u>(1,140,910,626,746)</u>
<b>Total liabilities and equity</b>		₩	<u>18,410,740,919,620</u>	₩	<u>17,504,036,075,593</u>

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

**Korea National Oil Corporation and its subsidiaries**  
**Consolidated statements of comprehensive loss**  
**for the years ended December 31, 2021 and 2020**

<i>(in Korean won)</i>	<u>Notes</u>	<u>2021</u>	<u>2020</u>
<b>Revenue</b>	4,26,33,45,46	W 2,154,338,059,162	W 1,931,222,484,176
<b>Cost of sales</b>	4,41	<u>(1,427,760,102,429)</u>	<u>(1,733,602,632,581)</u>
<b>Gross profit</b>	4	726,577,956,733	197,619,851,595
Selling and administrative expenses	4,25,34,41	<u>(279,140,829,411)</u>	<u>(251,727,861,919)</u>
<b>Operating profit (loss)</b>	4	447,437,127,322	(54,108,010,324)
Other income	4,8,35,42,46	43,174,436,264	32,837,024,509
Other expenses	4,8,35,42	(26,099,454,755)	(14,267,357,272)
Other losses, net	4,7,16,17,18,36,42	(23,139,348,222)	(1,734,680,692,336)
Finance income	4,7,9,19,37,42,46	337,520,962,773	266,530,707,585
Finance costs	4,7,19,38,42,46	(601,357,809,849)	(903,418,086,717)
Gain (loss) on investments in associates and joint ventures, net	4,15	<u>50,635,542,399</u>	<u>(27,441,704,887)</u>
Profit (loss) before income tax	4	228,171,455,932	(2,434,548,119,442)
Income tax expense	39	<u>(274,143,180,585)</u>	<u>(4,625,231,016)</u>
<b>Loss from continuing operations</b>		(45,971,724,653)	(2,439,173,350,458)
<b>Loss for the year</b>	30,31	<u>(45,971,724,653)</u>	<u>(2,439,173,350,458)</u>
<b>Other comprehensive income (loss)</b>			
<i>Items that will not be reclassified subsequently to profit or loss</i>			
Gains (losses) on revaluation of property, plant and equipment, net of tax	16	(16,379,841,987)	489,752,621,439
Actuarial gains(losses) on defined benefit plans, net of tax	24,30	14,180,914,489	(5,039,346,163)
Share of other comprehensive income of associates and joint ventures, net of tax		-	(13,747,583)
Net change in fair value of financial assets measured at fair value through other comprehensive income, net of tax	9,42	(266,763,158)	6,682,228,990
<i>Items that are or may be reclassified subsequently to profit or loss</i>			
Equity adjustments arising from investments in equity-method investees, net of tax	15	(11,992,142,574)	12,973,731,671
Net change in the unrealized fair value of derivative using cash flow hedge accounting, net of tax	7,42	(270,478,416,401)	(14,673,039,073)
Foreign currency translation differences for foreign operations, net of tax		<u>(124,502,834,550)</u>	<u>84,130,123,045</u>
<b>Other comprehensive income (loss) for the year, net of tax</b>		<u>(409,439,084,181)</u>	<u>573,812,572,326</u>
<b>Total comprehensive loss for the year</b>		<u>W (455,410,808,834)</u>	<u>W (1,865,360,778,132)</u>
<b>Profit (loss) attributable to:</b>			
Owner of the Company		W (70,998,385,131)	W (2,346,500,826,488)
Non-controlling interests		<u>25,026,660,478</u>	<u>(92,672,523,970)</u>
<b>Loss for the year</b>		<u>W (45,971,724,653)</u>	<u>W (2,439,173,350,458)</u>
<b>Total comprehensive income (loss) attributable to:</b>			
Owner of the Company		W (529,329,251,595)	W (1,734,968,693,538)
Non-controlling interests		<u>73,918,442,761</u>	<u>(130,392,084,594)</u>
<b>Total comprehensive loss for the year</b>		<u>W (455,410,808,834)</u>	<u>W (1,865,360,778,132)</u>

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

**Korea National Oil Corporation and its subsidiaries**  
**Consolidated statements of changes in equity**  
**for the years ended December 31, 2021 and 2020**

(in Korean won)

	Attributable to owner of the Company				Non-controlling interests	Total equity
	Share capital	Accumulated deficit	Other components of equity	Sub total		
<b>Balance as of January 1, 2020</b>	W 10,515,105,780,075	W (9,377,447,616,190)	W (1,155,757,805,551)	W (18,099,641,666)	W 548,946,037,216	W 530,846,395,550
<b>Total comprehensive income (loss) for the year</b>						
Profit (loss) for the year	-	(2,346,500,826,488)	-	(2,346,500,826,488)	(92,672,523,970)	(2,439,173,350,458)
Other comprehensive income (loss)						
<b>Items that will not be reclassified subsequently to profit or loss</b>						
Gains on revaluation of property, plant and equipment, net of tax	-	-	489,752,621,439	489,752,621,439	-	489,752,621,439
Actuarial losses on defined benefit plans, net of tax	-	(5,039,346,163)	-	(5,039,346,163)	-	(5,039,346,163)
Net change in fair value of financial assets measured at fair value through other comprehensive income, net of tax	-	-	6,682,228,990	6,682,228,990	-	6,682,228,990
Reclassification adjustments of financial assets measured at fair value through other comprehensive income	-	(530,382,948,667)	530,382,948,667	-	-	-
Share of other comprehensive income of associates and joint ventures, net of tax	-	(13,747,583)	-	(13,747,583)	-	(13,747,583)
<b>Items that may be reclassified subsequently to profit or loss</b>						
Equity adjustments arising from investments in equity-method investees, net of tax	-	-	12,973,731,671	12,973,731,671	-	12,973,731,671
Net change in the unrealized fair value of derivative using cash flow hedge accounting, net of tax	-	-	(14,673,039,073)	(14,673,039,073)	-	(14,673,039,073)
Foreign currency translation differences for foreign operations, net of tax	-	-	121,849,683,669	121,849,683,669	(37,719,560,624)	84,130,123,045
<b>Total comprehensive loss for the year</b>	-	(2,881,936,868,901)	1,146,968,175,363	(1,734,968,693,538)	(130,392,084,594)	(1,865,360,778,132)
<b>Transactions with owner of the Company, recognized directly in equity</b>						
Issuance of share capital	39,267,000,000	-	-	39,267,000,000	167,219,236,601	206,486,236,601
Dividends paid	-	-	-	-	(41,374,024,522)	(41,374,024,522)
Distribution to non-controlling interests	-	-	-	-	(2,360,117,701)	(2,360,117,701)
Change in the scope of consolidation	-	-	-	-	30,851,661,458	30,851,661,458
<b>Total transactions with owner of the Company</b>	39,267,000,000	-	-	39,267,000,000	154,336,755,836	193,603,755,836
<b>Balance as of December 31, 2020</b>	W 10,554,372,780,075	W (12,259,384,485,091)	W (8,789,630,188)	W (1,713,801,335,204)	W 572,890,708,458	W (1,140,910,626,746)
<b>Balance as of January 1, 2021</b>	W 10,554,372,780,075	W (12,259,384,485,091)	W (8,789,630,188)	W (1,713,801,335,204)	W 572,890,708,458	W (1,140,910,626,746)
<b>Total comprehensive income (loss) for the year</b>						
Profit (loss) for the year	-	(70,998,385,131)	-	(70,998,385,131)	25,026,660,478	(45,971,724,653)
Other comprehensive income (loss)						
<b>Items that will not be reclassified subsequently to profit or loss</b>						
Losses on revaluation of property, plant and equipment, net of tax	-	-	(16,379,841,987)	(16,379,841,987)	-	(16,379,841,987)
Actuarial losses on defined benefit plans, net of tax	-	14,180,914,489	-	14,180,914,489	-	14,180,914,489
Net change in fair value of financial assets measured at fair value through other comprehensive income, net of tax	-	-	(266,763,158)	(266,763,158)	-	(266,763,158)
<b>Items that may be reclassified subsequently to profit or loss</b>						
Equity adjustments arising from investments in equity-method investees, net of tax	-	-	(11,992,142,574)	(11,992,142,574)	-	(11,992,142,574)
Net change in the unrealized fair value of derivative using cash flow hedge accounting, net of tax	-	-	(270,478,416,401)	(270,478,416,401)	-	(270,478,416,401)
Foreign currency translation differences for foreign operations, net of tax	-	-	(173,394,616,833)	(173,394,616,833)	48,891,782,283	(124,502,834,550)
<b>Total comprehensive income (loss) for the year</b>	-	(56,817,470,642)	(472,511,780,953)	(529,329,251,595)	73,918,442,761	(455,410,808,834)
<b>Transactions with owner of the Company, recognized directly in equity</b>						
Issuance of share capital	69,047,000,000	-	-	69,047,000,000	-	69,047,000,000
Distribution to non-controlling interests	-	12,429,934,723	-	12,429,934,723	(37,407,331,518)	(24,977,396,795)
<b>Total transactions with owner of the Company</b>	69,047,000,000	12,429,934,723	-	81,476,934,723	(37,407,331,518)	44,069,603,205
<b>Balance as of December 31, 2021</b>	W 10,623,419,780,075	W (12,303,772,021,010)	W (481,301,411,141)	W (2,161,653,652,076)	W 609,401,819,701	W (1,552,251,832,375)

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

**Korea National Oil Corporation and its subsidiaries**  
**Consolidated statements of cash flows**  
**for the years ended December 31, 2021 and 2020**

(in Korean won)

	2021	2020
<b>Cash flows from operating activities</b>		
Loss for the year	W (45,971,724,653)	W (2,439,173,350,458)
Adjustment for:		
Severance and retirement benefits	10,218,186,287	10,165,523,024
Wages and salaries	(5,339,544,325)	15,315,336,747
Depreciation	527,041,413,293	726,480,602,836
Amortization of intangible assets	51,952,884,936	62,255,220,240
Other bad debt expenses	6,620,113,225	4,661,295,775
Reversal of other bad debt allowances	(7,162,145,956)	(120,459,504)
Non-operating income from overseas oil fields	-	(3,102,995,887)
Non-operating loss from overseas oil fields	-	837,252,449
Gains on disposal of property, plant and equipment	(4,508,218,421)	(325,296,642)
Losses on valuation of inventories	2,924,182,273	19,873,458,473
Losses on revaluation of property, plant and equipment	147,235,149	2,213,358,552
Loss on cancellation of debt exemption	-	2,599,318,556
Other income	(4,248,537,312)	(135,204,229)
Other expenses	9,188,386,302	2,465,908,003
Transfer to other provision	3,815,495,845	371,732,967
Gains on disposal of intangible assets	-	(12,656,237)
Reversal of impairment losses on property, plant and equipment	(151,690,842,264)	(2,442,068,314)
Gains on foreign currency translation (other than finance income)	(3,177,180,518)	(49,243,856,929)
Losses on disposal of property, plant and equipment	2,793,103,965	6,679,846,717
Losses on disposal of intangible assets	2,289	173,442,262
Impairment losses on property, plant and equipment	266,660,032,292	1,424,500,981,351
Impairment losses on intangible assets	52,583,161,537	306,090,695,726
Reversal of impairment losses on intangible assets	(11,029,846,660)	(4,784,241,479)
Losses on foreign currency translation (other than finance cost)	11,993,131,250	48,630,115,580
Income tax expense	274,143,180,585	4,625,231,016
Interest income	(9,183,134,913)	(14,608,760,475)
Dividends income	(20,357,916)	(5,840,386)
Gains on transaction of derivative (finance income)	(483,463,662)	(92,375,935,424)
Gains on transaction of derivative (other than finance income)	(269,961,377)	-
Losses on transaction of derivative (finance cost)	10,314,921	-
Gains on foreign currency translation (finance income)	(141,884,685,492)	(72,133,591,704)
Gains on foreign currency transaction (finance income)	(39,853,135,526)	-
Interest expense	417,670,447,159	467,531,643,267
Losses on valuation of derivative (finance cost)	-	18,860,237,629
Losses on valuation of financial assets measured at fair value through profit or loss	12,629,095,618	117,456,567,243
Gains on valuation of financial assets measured at fair value through profit or loss	(26,577,295,287)	(8,311,881,332)
Losses on valuation of financial liabilities measured at fair value through profit or loss	57,328,618,373	4,862,291,130
Gains on valuation of financial liabilities measured at fair value through profit or loss	-	(37,229,917,380)
Losses on foreign currency translation (finance cost)	28,228,977,998	197,395,882,448
Other finance income	(107,769,680,189)	-
Other finance costs	43,238,443,996	67,133,153,206
Accrual of financial guarantee liabilities	32,768,093,356	-
Transfer to other provisions (sales commissions)	(1,283,689,414)	(28,328,412,466)
Reversal of other provisions	(4,657,107,886)	(6,334,527,540)
Share of profit of associates and joint ventures	(20,053,051,430)	(43,024,976,626)
Gains on disposal of investments in associates and joint ventures	(5,742,948,254)	(136,042,411,338)
Share of loss of associates and joint ventures	59,030,052,982	91,432,069,316
Impairment losses on investments in associates and joint ventures	-	115,077,023,535
Reversal of impairment loss on investments in associates and joint ventures	(83,869,595,697)	-
Gains on disposal of other non-current assets	(115,682,934,237)	-
	1,126,497,196,895	3,219,125,154,156
Changes in:		
Inventories	(5,375,396,462)	(184,548,763)
Trade and other receivables	(180,898,809,258)	42,137,169,182
Other receivables from operating activities	656,573,043,668	(17,870,718,419)
Trade and other payables	98,094,019,272	(220,665,298,806)
Other payables from operating activities	(117,706,481,808)	(63,012,661,744)
Payment of severance and retirement benefits	(11,120,528,921)	(19,058,831,111)
Current other provisions	(13,209,571,992)	(23,395,220,521)
Non-current other provisions	(179,511,432)	(1,722,275,741)
Provisions for decommissioning cost	(50,779,248,844)	(31,805,242,505)
	375,397,514,223	(335,577,628,428)
Cash generated from operating activities	1,455,922,986,465	444,374,175,270
Dividend received	16,450,048,298	35,156,461,685
Interest paid	(401,959,740,519)	(422,978,403,629)
Interest received	6,817,845,872	11,695,832,043
Income tax paid	(240,930,278,836)	(122,285,638,975)
<b>Net cash provided by (used in) operating activities</b>	W 836,300,861,280	W (54,037,573,606)

(continued)

**Korea National Oil Corporation and its subsidiaries**  
**Consolidated statements of cash flows (cont'd)**  
**for the years ended December 31, 2021 and 2020**

(in Korean won)

	<u>2021</u>	<u>2020</u>
<b>Cash flows from investing activities</b>		
Acquisition of investments in associates and joint ventures	W (49,339,891,817)	W (333,189,568,924)
Proceeds from disposal of investments in associates and joint ventures	46,529,148,746	3,890,757,016
Proceeds from disposal of property, plant and equipment	19,448,383,058	4,994,459,397
Acquisition of property, plant and equipment	(358,672,451,453)	(395,017,470,581)
Proceeds from disposal of intangible assets other than goodwill	-	96,141,034
Acquisition of intangible assets other than goodwill	(137,142,860,290)	(28,069,213,421)
Acquisition of non-current non-financial assets	(202,870,931,308)	-
Disposal of non-current financial assets	151,633,914,830	-
Increase in long-term deposits received	(1,510,842,684)	(2,894,888,866)
Decrease in long-term deposits received	6,444,063,548	34,979,384
Increase in long-term and short-term financial assets	(275,651,948)	(334,946,100)
Increase in long-term loans	(11,893,584,906)	(14,594,622,390)
Decrease in long-term loans	11,535,969,232	16,169,498,239
Decrease in leasehold deposits provided	-	(18,951,603)
Proceeds from disposal of financial assets measured at fair value through other comprehensive income	-	37,316,450
Proceeds from disposal of financial assets measured at fair value through profit or loss	12,082,852,736	-
Acquisition of financial assets measured at fair value through profit or loss	(801,391,549)	(203,788,588,424)
Cash inflows (outflows) from futures contracts, forward contracts, options contracts and swap contracts	(2,083,196,744)	4,725,881,941
Acquisition of a subsidiary, net of cash acquired	-	138,584,241,363
Disposal of the asset group held for sale	2,698,905,141	-
<b>Net cash used in investing activities</b>	<u>(514,217,565,408)</u>	<u>(809,374,975,485)</u>
<b>Cash flows from financing activities</b>		
Proceeds from issuance of share capital	62,959,750,000	39,267,000,000
Proceeds from short-term borrowings	334,191,897,613	1,746,709,986,281
Repayments of short-term borrowings	(471,235,657,013)	(1,597,185,789,536)
Repayments of current portion of long-term borrowings	(722,324,431,111)	-
Proceeds from issuance of bond payables	1,930,161,507,326	1,938,016,446,081
Repayments of current portion of bond payables	(1,733,135,194,682)	(1,001,762,974,145)
Proceeds from long-term borrowings	388,673,642,500	-
Repayments of long-term borrowings	(126,559,738,457)	(60,232,119,971)
Repayments of lease liabilities	(39,081,362,173)	(46,144,450,613)
Dividends paid	-	(41,374,024,522)
Net cash outflow due to other distribution to non-controlling interests	(24,682,352,508)	-
<b>Net cash provided by (used in) financing activities</b>	<u>(401,031,938,505)</u>	<u>977,294,073,575</u>
<b>Net increase (decrease) in cash and cash equivalents before net effect of foreign exchange differences</b>	(78,948,642,633)	121,380,671,026
Net effect of foreign exchange differences	76,089,817,962	(31,294,715,220)
<b>Net increase (decrease) in cash and cash equivalents</b>	<u>(2,858,824,671)</u>	<u>90,085,955,806</u>
<b>Cash and cash equivalents as of January 1 before deduction of government grants</b>	<u>796,844,033,866</u>	<u>725,067,511,808</u>
<b>Cash and cash equivalents as of December 31 before deduction of government grants</b>	793,985,209,195	796,844,033,866
Government grants	(106,541,063)	(65,135,024)
<b>Cash and cash equivalents as of December 31 after deduction of government grants</b>	<u>W 793,878,668,132</u>	<u>W 796,778,898,842</u>

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

**Korea National Oil Corporation and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2021 and 2020**

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**1. Reporting Entity**

**1.1 Description of the Controlling Company**

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

As of December 31, 2021, the Parent Company’s share capital is ₩ 10,623,420 million, which is wholly owned by the government of the Republic of Korea.

**1.2 Consolidated subsidiaries**

Details of the consolidated subsidiaries as of December 31, 2021 and 2020, are as follows:

Subsidiary name <sup>1</sup>	Principal activity	Country of incorporation	Ownership (%)	
			2021	2020
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 Eagleford 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
KADOC Ltd.	E&P	Malaysia	75.00	75.00
KNOC Sumatra Ltd.	E&P	Indonesia	100.00	100.00
KNOC Yemen Ltd.	E&P	Yemen	60.00	60.00
KNOC Trading Singapore Pte. Ltd.	Trading and Marketing	Singapore	100.00	100.00
KNOC Service	Facility maintenance	Republic of Korea	100.00	100.00

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

**Korea National Oil Corporation and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2021 and 2020**

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

Financial information for subsidiaries as of and for the years ended December 31, 2021 and 2020, are as follows:

(in Korean won)

Subsidiary name	2021			
	Assets	Liabilities	Revenue	Profit (loss) for the year
ANKOR E&P Holdings Corp.	₩ 183,753,472,027	₩ 206,924,577,383	₩ 70,696,370,999	₩ (125,870,864,932)
Dana Petroleum Limited <sup>1</sup>	2,748,328,525,137	2,195,331,129,607	574,279,153,898	97,314,295,690
KNOC Eagleford Corp.	1,990,978,513,904	512,827,294,000	276,328,709,145	(129,633,106,257)
Harvest Operations Corp.	2,042,258,281,116	3,245,464,710,486	306,407,455,236	(79,052,585,591)
KNOC Kaz B.V. <sup>1</sup>	755,423,439,618	569,404,822,830	242,573,296,960	100,871,503,426
KADOC Ltd. <sup>1</sup>	1,108,908,690,715	294,258,897,117	338,632,290,014	125,831,218,573
KNOC Sumatra Ltd. <sup>2</sup>	1,770,634,348	-	-	1,046,000
KNOC Yemen Ltd. <sup>2</sup>	14,368,426	-	-	-
KNOC Trading Singapore Pte. Ltd.	833,287,737	258,378,990	498,229,850	49,620,426
KNOC Service	1,104,680,411	629,995,565	4,923,297,301	2,963,121

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

<sup>2</sup> The entity is in the process of liquidation as of December 31, 2021.

(in Korean won)

Subsidiary name	2020			
	Assets	Liabilities	Revenue	Profit (loss) for the year
ANKOR E&P Holdings Corp.	₩ 243,584,279,452	₩ 145,184,285,066	₩ 49,052,284,509	₩ (153,699,376,775)
Dana Petroleum Limited <sup>1</sup>	2,265,068,899,245	1,592,133,489,660	734,489,825,806	(541,020,381,227)
KNOC Eagleford Corp.	2,119,722,452,272	574,982,872,444	210,976,821,827	(480,361,290,066)
Harvest Operations Corp.	2,182,023,719,855	3,219,878,220,541	184,924,607,122	(572,522,733,171)
KNOC Kaz B.V. <sup>1</sup>	2,288,797,603,007	559,644,494,354	157,153,404,802	(32,268,562,456)
KADOC Ltd. <sup>1</sup>	939,902,229,105	218,018,000,211	102,053,137,757	(8,596,615,760)
KNOC Sumatra Ltd. <sup>2</sup>	1,624,016,256	-	-	1,063,430,379
KNOC Yemen Ltd. <sup>2</sup>	13,186,712	-	-	-
KNOC Trading Singapore Pte. Ltd.	686,414,184	195,424,166	491,878,837	74,930,945
KNOC Service	1,591,712,328	1,119,990,595	4,402,603,691	5,836,976

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

<sup>2</sup> The entity is in the process of liquidation as of December 31, 2020.

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2021 and 2020

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

### 2.1 Statement of compliance

The consolidated financial statements of the Korea National Oil Corporation (the “Parent Company”) and its subsidiaries (collectively referred to as the “Group”) have been prepared in accordance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions in the Republic of Korea. Pursuant to its Article 2-5, the Group applies Korean International Financial Reporting Standards (“KIFRS”), a standard adopted in accordance with International Financial Reporting Standards by the Korean Accounting Standards Board, for specific accounting treatments that are not prescribed by the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions in the Republic of Korea. There are no accounts of which accounting treatment is materially different compared to KIFRS in order for the Group to be in full compliance with the Rules for Accounting Affairs of Public Corporations and Quasi-governmental Institutions in the Republic of Korea.

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

#### (a) Basis of measurement

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

- ✓ derivative financial instruments measured at fair value
- ✓ financial assets measured at fair value through profit or loss
- ✓ financial assets measured at fair value through other comprehensive income
- ✓ financial liabilities measured at fair value through profit or loss
- ✓ Investments in associates and joint ventures measured at fair value
- ✓ 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
- ✓ land classified as property, plant and equipment measured at fair value according to the revaluation model.

#### (b) Functional and presentation currency

Items included in the consolidated financial statements of each of the Group’s entities are measured using the currency of the primary economic environment in which the entity operates (the ‘functional currency’). The accompanying consolidated financial statements are prepared in the Group’s functional currency, the United States dollar, and presented in Korean won, the Group’s presentation currency, for the financial reporting purposes in accordance with KIFRS 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 the Republic of Korea.

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

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

### **December 31, 2021 and 2020**

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#### **2.1 Statement of compliance (cont'd)**

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.

#### *(c) Estimation and judgement*

To prevent the spread of Covid-19 around the world, a variety of prevention and control measures such as factory closure, self-isolation, entry restrictions, and travel restrictions are being implemented worldwide. The ultimate impact of Covid-19 pandemic on the Group's operations is currently unknown and is expected to vary depending on future developments. The duration and severity of Covid-19 are uncertain and unpredictable, and the protective measures of the government or the Group may result in substantial business disruption and decrease in business size. The financial impact therefrom is not reasonably estimable, but management expects that most of the regions and operating sectors in which the Group operates will be affected to some extent. The Group was unable to reasonably estimate the impact of Covid-19 on the Group's consolidated financial statements as of December 31, 2021, and the resulting effects have not been reflected in the consolidated financial statements.

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

There are no certain new accounting standards and interpretations that have been published that are not mandatory for annual reporting period commencing January 1, 2021 and have not been early adopted by the Group.

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2021 and 2020

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

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

*(a) Amendments to KIFRS 1109 Financial Instruments, KIFRS 1039 Financial Instruments: Recognition and Measurement, KIFRS 1107 Financial Instruments: Disclosure, KIFRS 1104 Insurance Contracts and KIFRS 1116 Leases – Interest Rate Benchmark Reform (Phase 2 amendments)*

The amendments provide temporary reliefs which address the financial reporting effects when an interbank offered rate (IBOR) is replaced with an alternative nearly risk-free interest rate (RFR). The amendments include the following practical expedients:

- Require contractual changes, or changes to cash flows due directly to the Reform, to be treated as changes to a floating interest rate, akin to a movement in a market rate of interest;
- Permit changes required by the IBOR Reform to be made to hedge designations and hedge documentation without discontinuing hedging relationship; and
- Provide temporary relief to entities from having to meet the separately identifiable requirement when an RFR instrument is designated as a hedge of a risk component.

The Group plans to replace Libor interest rates with SOFR rates by joining the ISDA IBOR Fallback Protocol. Interest rate hedging-related borrowing contracts contracted as of the reporting date are subject to the interest rate of April 2023 as the maturity is July 2023, so it is not expected to be affected by the cessation of Libor. Also, the Group does not apply these amendments early. Therefore, there is no significant impact of the amendment on the consolidated financial statements of the Group.

*(b) Amendments to KIFRS 1116 Covid-19 Related Rent Concessions beyond June 30, 2021*

On May 28, 2020, the IASB issued Covid-19-Related Rent Concessions - amendment to KIFRS 1116 Leases. The amendments provide relief to lessees from applying KIFRS 1116 guidance on lease modification accounting for rent concessions arising as a direct consequence of the Covid-19 pandemic. As a practical expedient, a lessee may elect not to assess whether a Covid-19 related rent concession from a lessor is a lease modification. A lessee that makes this election accounts for any change in lease payments resulting from the Covid-19 related rent concession the same way it would account for the change under KIFRS 1116 if the change were not a lease modification. The amendment was intended to apply until June 30, 2021, but as the impact of the Covid-19 pandemic is continuing, on March 31, 2021, the IASB extended the period of application of the practical expedient to June 30, 2022. The amendment applies to annual reporting periods beginning on or after April 1, 2021. There is no significant impact of the amendment on the consolidated financial statements of the Group.

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2021 and 2020

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#### 2.4 Significant accounting policies

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

##### (a) Basis of consolidation

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

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

##### (ii) Subsidiaries

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

##### (iii) Loss of control

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

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

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

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.

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2021 and 2020

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

##### (v) Transactions eliminated on consolidation

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

##### (b) Business combination

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

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

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

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2021 and 2020

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

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

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

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

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

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

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2021 and 2020

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

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

##### (c) Investments in associates

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

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

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

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

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2021 and 2020

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

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

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

#### (d) Investments in joint ventures

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

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

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

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

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

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

### **December 31, 2021 and 2020**

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

##### *(e) Goodwill*

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

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

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

##### *(f) Non-current assets held for sale*

The Group classifies non-current assets or disposal groups as held for sale if their carrying amounts will be recovered principally through a sale rather than through continuing use. These conditions are considered met only when the non-current asset (or disposal group) must be available for immediate sale in its present condition and it is highly probable that it will be sold. Management should commit to a plan for the sale of the asset and should be expected to meet the sale completion requirements within one year from the time of classification.

In the event that the Group commits to a sale plan that results in loss of control over a subsidiary, the Group has all of the above-mentioned conditions, regardless of whether the Group holds a non-controlling interest in the previous subsidiary after the sale. Assets and liabilities are classified as held for sale.

Such non-current assets and disposal groups classified as held for sale are measured at the lower of their carrying amount and fair value less costs to sell or to distribute.

##### *(g) Revenue*

Under the new standard, KIFRS 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.

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2021 and 2020

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

##### i) Sale of goods

The contracts which the Group entered with customers for the sale of crude oil and others contain a single performance obligation. Depending on sales contract with customers, performance obligation can be distinguished as 'performance obligation satisfied at a point in time' and 'performance obligation satisfied over time'. In the case of 'performance obligation satisfied at a point in time', the Group has concluded that revenue to be recognized at the time of delivery because control of goods is transferred at a point in time of delivery. Also, in the case of 'performance obligation satisfied over time', although revenue should be recognized by measuring progress towards complete satisfaction of a performance obligation, the Group has applied practical expedient allowed under KIFRS 1115 in relation to measuring progress.

##### ii) Rendering of services

The Group provides services such as lending stockpile oil resources, storing oil resources, and leasing related facilities. Service contract contains a large number of performance obligations whose promises with customers are distinct within the context of the contract and separately identifiable. The Group has determined that service contract contains 'performance obligation satisfied over time', and applied practical expedient of measuring progress allowed under KIFRS 1115.

##### (h) Leases

The lessor classifies the lease contract as an operating lease or a financial lease depending on the substance of the transaction, and accounting treatment differs according to the classification.

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

For a contract that is, or contains, a lease, the Group shall account for each lease component within the contract as a lease separately from non-lease components of the contract. However, the Group accounts for each lease components and non-lease components as a single lease components without separating the non-lease components from the lease components as a lessee applying the practical expedients.

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

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

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

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

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

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

#### ii) The Group as a lessee

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

#### - Right-of-use asset

At the commencement date, the Group recognizes right-of-use assets at cost. After the commencement date, the Group measures the right-of-use assets at their costs: (a) less accumulated depreciation and any accumulated impairment losses; and (b) adjusted for any remeasurement of the lease liability. For land, the Group applies the revaluation model, but land-related right-of-use assets are measured at cost.

The cost of the right-of-use assets comprises (a) the amount of the initial measurement of the lease liability, (b) any initial direct costs incurred by the lessee, (c) any lease payments made at or before the commencement date, less any lease incentives received, and (d) an estimate of costs to be incurred by the lessee in dismantling and removing the underlying asset. If the lease does not transfer ownership of the underlying asset to the Group by the end of the lease term, the Group shall depreciate the right-of-use asset from the commencement date to the earlier of the end of the useful life of the right-of-use asset or the end of the lease term. The Group shall apply KIFRS 1036 *Impairment of Assets* to determine whether the right-of-use asset is impaired and to account for any impairment loss identified.

#### - Lease liability

The Group measures the lease liability at the present value of the lease payments for the right to use the underlying asset during the lease term that are not paid at the commencement date. Lease payments comprise the following payments:

- Fixed payments (including in-substance fixed payments), less any lease incentives receivable
- Variable lease payment that are based on an index or a rate, initially measured using the index or rate as at the commencement date
- Amounts expected to be payable by the Group (the lessee) under residual value guarantees
- The exercise price of a purchase option if the Group (the lessee) is reasonably certain to exercise that option; and
- Payments of penalties for terminating the lease, if the lease term reflects the Group (the lessee) exercising that option

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

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

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

When measuring the lease liability at the present value of the lease payments, the lease payments shall be discounted using the lessee's incremental borrowing rate if the interest rate implicit in the lease cannot be readily determined. After the commencement date, the Group increases the carrying amount of the lease liability by reflecting the interest on the lease liability and reduces the carrying amount of the lease liability by reflecting the lease payments. In addition, the Group remeasures the lease liability to reflect any reassessment or lease modifications, or to reflect revised in-substance fixed lease payments.

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

The Group elects to apply recognition exemptions to short-term leases (leases that, at the commencement date, have a lease term of 12 months or less and do not contain a purchase option) and leases for which the underlying asset is of low value (i.e., below \$ 5,000). Payments of short-term leases and leases for which the underlying asset is of low-value are recognized as an expense on a straight-line basis over the lease term.

The carrying amounts of the right-of-use assets and lease liabilities as of the reporting date and their changes during the reporting period are explained in Note 23.

##### (i) Foreign currencies

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

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

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

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

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

##### *(j) 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.

##### *(k) Government grants*

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

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

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

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

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

##### (I) Employee benefits

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

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

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

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

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

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

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

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

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2021 and 2020

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

##### (m) Income taxes

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

##### i) Current tax

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

##### ii) Deferred tax

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

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

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

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2021 and 2020

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

##### (n) Property, plant and equipment

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

Land is carried at a revalued amount, being its fair value at the date of the revaluation less subsequent accumulated impairment losses. Revaluations shall be made with sufficient regularity to ensure that the carrying amount does not differ materially from that which would be determined using fair value at the end of the reporting period.

If an asset's carrying amount is increased as a result of a revaluation, the increase shall be recognized in other comprehensive income and accumulated in equity under the heading of revaluation surplus. However, the increase shall be recognized in profit or loss to the extent that it reverses a revaluation decrease of the same asset previously recognized in profit or loss. A revaluation deficit is recognized in the statement of comprehensive loss to the extent that it offsets an existing surplus on the same asset recognized in the asset revaluation reserve.

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

The following costs are capitalized as oil and gas properties.

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

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

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

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

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

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

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

	<u>Useful lives</u>
Buildings	20 - 40 years
Structures	20 - 40
Machinery	5 - 20
Tools and fixtures	5 - 12
Vehicles	5 - 12
Right-of-use assets	1 - 40
Others	5 - 10

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

(o) Intangible assets other than goodwill

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

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

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2021 and 2020

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

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

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

#### (p) 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.

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

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

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

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2021 and 2020

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

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

#### (r) 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.

#### (s) Provisions

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

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

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

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

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2021 and 2020

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

##### - Restoration costs

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

##### - Employee incentive

Based on the annual management performance, the Ministry of Strategy and Finance conducts an institutional evaluation and pays incentive based on the evaluation. Performance incentives are reasonably estimated in accordance with KIFRS 1037 and presented as provisions for employee benefits.

#### (t) Financial assets

##### *i) Classification*

The Group classifies its financial assets in the following measurement categories:

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

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

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

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

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

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

##### *ii) Measurement*

At initial recognition, the Group measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at fair value through profit or loss are expensed in profit or loss.

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

##### *A. Debt instruments*

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

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

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2021 and 2020

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

##### *B. Equity instruments*

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

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

##### *(iii) Impairment*

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

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

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

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

##### *-Trade receivables*

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

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2021 and 2020

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

##### - Debt investments

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

##### *(iv) Derecognition*

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

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

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

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

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

##### ii) Other financial liabilities

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

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

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

#### **December 31, 2021 and 2020**

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

##### iii) Derecognition of financial liabilities

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

##### (v) Derivative financial instruments

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

##### i) Embedded derivative

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

##### ii) Hedge accounting

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

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

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

##### iii) Fair value hedge

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

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

##### iv) Cash flow hedge

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

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

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

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

v) Hedges of net investments in foreign operations

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

vi) Other derivatives

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

*(w) Other accounting policies*

i) Discontinued operations

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

ii) Cash and cash equivalents

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

iii) Share capital

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

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2021 and 2020

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

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

The Group's finance income and finance costs include:

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

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

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

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

### 3. Critical Accounting Estimates and Assumptions

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

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

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

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

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

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

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

The Group assesses whether there is any indication of impairment at the end of the reporting period in accordance with the accounting policy stated in Note 2.4 (p). If any such indication exists, then the asset's recoverable amount is estimated to determine the impairment amount. The recoverable amounts of cash-generating units have been determined based on value-in-use calculations. These calculations have been performed based on the estimates with regards to the inputs, discount rate and forecasted long-term oil price including valuation techniques.

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

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

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

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

##### *(e) Provisions*

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

**Korea National Oil Corporation and its subsidiaries**  
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**3. Critical Accounting Estimates and Assumptions (cont'd)**

*(f) Defined benefit obligations*

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

*(g) Revaluation of property, plant and equipment and investment properties*

The land is carried at revalued amounts and the changes in fair value amount is recognized in other comprehensive income. The Group engaged an independent valuation specialist to assess fair values as of December 31, 2021 for the investment properties.

*(h) Management's judgment*

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

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

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

**Korea National Oil Corporation and its subsidiaries**  
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**3. Critical Accounting Estimates and Assumptions (cont'd)**

*(i) Assumptions and estimation uncertainties*

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

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

Note 16: Property, Plant and Equipment – estimation of factors for depreciation and recoverable amount, main assumptions for estimating recoverable amounts and fair value

Note 17: Intangible assets – main assumptions for recoverable amounts

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

Note 20: Trade and Other Payables – main assumptions for special charges of successful loans under the Special Accounting Act for Energy and Resource Business.

Note 24: Employee Benefits – main actuarial assumptions

Note 25 and 49 : Provisions and Contingencies – assumptions for possibility of cash outflows and their amounts

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

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

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

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

(a) Segment results for the year ended December 31, 2021

(in Korean won)

	2021						
	Oil and gas	Petroleum distribution	Oil stockpiling	Others	Reportable segment total	Reconciling items <sup>1</sup>	Group total
Revenue	₩ 1,960,658,749,556	₩ 50,530,542,723	₩ 139,222,420,216	₩ 3,926,346,667	₩ 2,154,338,059,162	-	₩ 2,154,338,059,162
Cost of sales	1,219,152,031,256	28,644,282,489	177,322,515,962	2,641,272,722	1,427,760,102,429	-	1,427,760,102,429
Gross profit	741,506,718,300	21,886,260,234	(38,100,095,746)	1,285,073,945	726,577,956,733	-	726,577,956,733
Selling and administrative expenses	215,007,480,437	446,918,292	-	-	215,454,398,729	63,686,430,682	279,140,829,411
Reportable segment operating profit (loss) <sup>2</sup>	526,499,237,863	21,439,341,942	(38,100,095,746)	1,285,073,945	511,123,558,004	(63,686,430,682)	447,437,127,322
Other income	-	-	-	-	43,174,436,264	-	43,174,436,264
Other expenses	-	-	-	-	26,099,454,755	-	26,099,454,755
Other profit (loss), net	-	-	-	-	(23,139,348,222)	-	(23,139,348,222)
Finance income	-	-	-	-	337,520,962,773	-	337,520,962,773
Finance costs	-	-	-	-	601,357,809,849	-	601,357,809,849
Loss on investments in associates and joint ventures, net	-	-	-	-	50,635,542,399	-	50,635,542,399
Loss before income tax	₩ -	₩ -	₩ -	₩ -	₩ 291,857,886,614	₩ (63,686,430,682)	₩ 228,171,455,932
Depreciation and amortization of intangible assets other than goodwill	₩ 481,003,580,269	₩ 352,902,953	₩ 91,442,102,913	₩ 88,567	₩ 572,798,674,702	₩ 5,579,904,487	₩ 578,378,579,189
Impairment losses on property, plant and equipment	266,660,032,292	-	-	-	266,660,032,292	-	266,660,032,292
Reversal of impairment losses on property, plant and equipment	151,690,842,264	-	-	-	151,690,842,264	-	151,690,842,264
Impairment losses on intangible assets other than goodwill	47,793,424,013	-	-	-	47,793,424,013	-	47,793,424,013
Impairment losses on goodwill	4,789,737,524	-	-	-	4,789,737,524	-	4,789,737,524
Reversal of impairment losses on intangible assets other than goodwill	11,029,846,660	-	-	-	11,029,846,660	-	11,029,846,660

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

<sup>2</sup> Segment profit (loss) reported to the group CEO is operating profit (loss).

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**4. Segment and Other Information (cont'd)**

(b) Segment results for the year ended December 31, 2020

(in Korean won)

	2020						
	Oil and gas	Petroleum distribution	Oil stockpiling	Others	Reportable segment total	Reconciling items <sup>1</sup>	Group total
Revenue	₩ 1,648,967,946,785	₩ 24,207,532,672	₩ 255,238,426,811	₩ 2,808,577,908	₩ 1,931,222,484,176	₩ -	₩ 1,931,222,484,176
Cost of sales	1,527,506,254,712	21,263,309,126	182,531,259,213	2,301,809,530	1,733,602,632,581	-	1,733,602,632,581
Gross profit	121,461,692,073	2,944,223,546	72,707,167,598	506,768,378	197,619,851,595	-	197,619,851,595
Selling and administrative expenses	177,292,723,871	392,291,715	-	-	177,685,015,586	74,042,846,333	251,727,861,919
Reportable segment operating profit (loss) <sup>2</sup>	(55,831,031,798)	2,551,931,831	72,707,167,598	506,768,378	19,934,836,009	(74,042,846,333)	(54,108,010,324)
Other income	-	-	-	-	32,837,024,509	-	32,837,024,509
Other expenses	-	-	-	-	14,267,357,272	-	14,267,357,272
Other profit (loss), net	-	-	-	-	(1,734,680,692,336)	-	(1,734,680,692,336)
Finance income	-	-	-	-	266,530,707,585	-	266,530,707,585
Finance costs	-	-	-	-	903,418,086,717	-	903,418,086,717
Loss on investments in associates and joint ventures, net	-	-	-	-	(27,441,704,887)	-	(27,441,704,887)
Loss before income tax	₩ -	₩ -	₩ -	₩ -	₩ (2,360,505,273,109)	₩ (74,042,846,333)	₩ (2,434,548,119,442)
Depreciation and amortization of intangible assets other than goodwill	₩ 689,041,008,268	₩ 458,365,453	₩ 92,102,889,956	₩ -	₩ 781,602,263,677	₩ 5,817,795,871	₩ 787,420,059,548
Impairment losses on property, plant and equipment	1,424,500,981,351	-	-	-	1,424,500,981,351	-	1,424,500,981,351
Reversal of impairment losses on property, plant and equipment	2,442,068,314	-	-	-	2,442,068,314	-	2,442,068,314
Impairment losses on intangible assets other than goodwill	273,537,773,246	-	-	-	273,537,773,246	-	273,537,773,246
Impairment losses on goodwill	32,552,922,480	-	-	-	32,552,922,480	-	32,552,922,480
Reversal of impairment losses on intangible assets other than goodwill	4,784,241,479	-	-	-	4,784,241,479	-	4,784,241,479

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

<sup>2</sup> Segment profit (loss) reported to the group CEO is operating profit (loss).

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**4. Segment and Other Information (cont'd)**

Revenue by geographic area for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<b>2021</b>		<b>2020</b>	
Domestic	₩	392,180,287,265	₩	477,834,031,948
Canada		306,407,455,236		184,924,607,122
United Kingdom		574,279,153,898		734,489,825,806
United States		347,025,080,144		260,029,106,336
Kazakhstan		226,047,568,889		163,249,415,657
Arab Emirates		308,398,513,432		110,687,320,965
Others		298		8,176,342
	₩	<u>2,154,338,059,162</u>	₩	<u>1,931,222,484,176</u>

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

Customers (or customer) whose revenue accounts for 10% or more of consolidated revenue for the year ended December 31, 2021 are BP P.L.C. and PetroChina Ltd., and for the year ended December 31, 2020 is Shell Co. Revenue of BP P.L.C. and PetroChina Ltd. is ₩ 268,213 million and ₩ 293,920 million, respectively, for the year ended December 31, 2021, and ₩ 145,189 million and ₩ 95,295 million, respectively, for the year ended December 31, 2020. In the case of Shell Co., revenue is ₩ 105,412 million and ₩ 224,061 million for the years ended December 31, 2021 and 2020, respectively. Furthermore, revenues from these customers for the years ended December 31, 2021 and 2020 are related to oil and gas segment.

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**5. Cash and Cash Equivalents**

Cash and cash equivalents in the consolidated statements of cash flows include cash and bank deposit and exclude government grants. Cash and cash equivalents in the consolidated statements of cash flows for the years ended December 31, 2021 and 2020 are comprised of the following items in the consolidated statements of financial position.

<i>(in Korean won)</i>	<u>2021</u>	<u>2020</u>
Cash in hands	₩ 49,160,919	₩ 106,662,026
Other on demand deposits	237,329,020,414	236,068,249,091
Short-term deposits classified as cash equivalents	340,652,625,748	321,062,710,823
Short-term investments classified as cash equivalents	215,954,402,114	239,606,411,926
Government grants	(106,541,063)	(65,135,024)
	<u>₩ 793,878,668,132</u>	<u>₩ 796,778,898,842</u>

**6. Restricted Cash and Cash Equivalents**

Details of restricted cash and cash equivalents and financial assets provided as collateral for liabilities or contingent liabilities as of December 31, 2021 and 2020, are as follows. As of the end of the reporting period, there are no cash or cash equivalents with restricted use.

<i>(in Korean won)</i>	<u>2021</u>	<u>2020</u>
<b>Long-term financial instruments</b>		
Asset retirement obligation	₩ 6,317,684,018	₩ 2,649,960,653
Long-term guarantee deposit	3,102,467,951	-
Other current receivables	3,662,477,346	-
	<u>₩ 13,082,629,315</u>	<u>₩ 2,649,960,653</u>

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

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

<i>(in Korean won)</i>	2021		2020	
	Current	Non-current <sup>1</sup>	Current	Non-current <sup>1</sup>
Debt securities	₩ 229,469,293,513	₩ 716,945,001,384	₩ 536,899,617,747	₩ 674,664,491,128

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

The amounts recognized in profit or loss in relation to financial assets measured at fair value through profit or loss for the years ended December 31, 2021 and 2020 are as follows:

<i>(in Korean won)</i>	2021	2020
Gain on valuation of financial asset measured at fair value through profit or loss	₩ 26,577,295,287	₩ 8,311,881,332
Loss on valuation of financial asset measured at fair value through profit or loss	(12,629,095,618)	(117,456,567,243)
	₩ 13,948,199,669	₩ (109,144,685,911)

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

<i>(in Korean won)</i>	2021		2020	
	Current	Non-current	Current	Non-current
<b>Derivative assets</b>				
Currency forwards	₩ -	₩ 415	₩ 48,035,634,112	₩ -
Currency swap	-	91,590,770,326	513,575,690	122,516,278,216
Other derivatives	-	-	924,171,071	-
	₩ -	₩ 91,590,770,741	₩ 49,473,380,873	₩ 122,516,278,216
<b>Derivative liabilities</b>				
Currency forwards	₩ 566,471,674	₩ -	₩ -	₩ -
Currency swap	55,265,253,274	44,165,843,222	3,435,505,185	23,029,641,947
Interest swap	6,936,425,620	15,375,341,527	14,783,363,263	29,237,587,231
Other derivatives	387,355,962,225	66,099,645,370	-	-
	₩ 450,124,112,793	₩ 125,640,830,119	₩ 18,218,868,448	₩ 52,267,229,178

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

Details of currency swap contracts as of December 31, 2021, are as follows:

(in foreign currencies)

Type	Counter party	Maturity	Contract amount		Contract interest rate per annum (%)	
			Sell	Buy	Sell	Buy
Cash flow Hedge	HSBC	2022-02-10	HKD 390,000,000	59,370,906,855	3.95	4.45
	BNP Paribas	2022-03-28	EUR 50,000,000	77,146,412,500	4.00	4.55
	HSBC	2023-01-26	HKD 400,000,000	61,171,310,389	2.85	3.17
	Development Bank of Singapore	2023-02-04	EUR 37,000,000	58,996,407,500	2.40	3.19
	HSBC	2025-06-24	EUR 60,000,000	94,922,985,000	3.00	4.06
	HSBC	2023-07-03	EUR 50,000,000	77,851,785,000	3.09	4.31
	BNP Paribas	2023-06-01	CHF 200,000,000	237,071,551,414	0.38	3.69
	Standard Chartered Bank	2023-06-01	CHF 100,000,000	118,535,775,707	0.38	3.68
	Korea Development Bank	2023-06-01	CHF 200,000,000	237,071,551,414	0.38	3.69
	Credit Agricole	2022-01-21	JPY 30,000,000,000	327,893,790,625	0.24	3.37
	Mizuho Bank	2022-01-21	JPY 20,000,000,000	218,595,860,413	0.24	3.39
	BNP Paribas	2022-01-21	JPY 20,000,000,000	218,595,860,413	0.24	3.39
	Korea Development Bank	2024-10-04	CHF 200,000,000	239,399,870,000	0.00	2.55
	BNP Paribas	2024-10-04	CHF 100,000,000	119,699,935,000	0.00	2.55
	HSBC	2025-03-26	HKD 160,000,000	24,452,752,358	2.50	2.33
	HSBC	2025-04-22	CHF 200,000,000	242,885,240,000	0.89	2.34
	Standard Chartered Bank	2027-07-30	CHF 100,000,000	125,376,180,130	0.27	1.55
	BNP Paribas	2027-07-30	CHF 100,000,000	129,622,570,000	0.27	1.46
Development Bank of Singapore	2024-10-28	SGD 400,000,000	358,103,005,587	0.57	0.84	

Details of interest rate swap contracts as of December 31, 2021 are as follows:

(in USD and CAD)

Type	Counter Party	Terms	Contract amount	Contract interest rate per annum(%)	
				Sell	Buy
Cash flow hedge	Societe Generale	2023-07-17	USD 400,000,000	U3L+87.5bp	3.70
	HSBC	2023-05-11 <sup>1</sup>	CAD 300,000,000	1.95	2.82

<sup>1</sup> Although the maturity of the total contract period is May 11, 2023, it is classified as a current derivative liability because it is settled every three months under the contract.

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

Details of the currency forward contracts as of December 31, 2021, are as follows:

(in USD, GBP)

Type	Counter party	Contract date	Maturity	Contract amount		Contract Currency rate <sup>1</sup>
				Sell	Buy	
Cash flow hedge	Wells Fargo	2021-06-17	2022-01-14	USD 1,396,400	GBP 1,000,000	1.3964
	RBS	2021-07-16	2022-01-18	USD 1,387,100	GBP 1,000,000	1.3871
	ABN AMRO	2021-07-16	2022-04-14	USD 1,383,600	GBP 1,000,000	1.3836
	Wells Fargo	2021-06-17	2022-05-13	USD 1,396,350	GBP 1,000,000	1.3964
	Wells Fargo	2021-06-17	2022-06-15	USD 2,793,700	GBP 2,000,000	1.3969
	RBS	2021-07-16	2022-07-15	USD 9,714,600	GBP 7,000,000	1.3878

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

Details of the crude oil swap contracts as of December 31, 2021, are as follows:

(in BBL, MMBTU, US dollar)

Type	Counterparty	Terms	Contract amount	Standard price
Cash flow hedge	Macquarie Bank	2022-12-31	329,375	2.97
	Standard chartered bank	2022-06-30	1,262,040	2.62
	Goldman Sachs	2022-06-30	1,262,040	2.65
	Goldman Sachs	2022-12-31	631,020	2.61
	Goldman Sachs	2022-12-31	631,020	2.63
	Standard Chartered Bank	2022-12-31	785,424	2.69
	Wells Fargo	2022-12-31	420,000	52.42
	ING Bank	2022-12-31	422,321	51.93
	ING Bank	2022-06-30	134,841	52.18
	ING Bank	2022-12-31	570,000	68.77
	Wells Fargo	2022-12-31	570,000	68.84
	Wells Fargo	2023-06-30	178,399	65.67
	DNB	2022-03-31	6,000,000	0.51
	DNB	2022-03-31	6,280,356	0.52
	DNB	2022-09-30	17,441,103	0.39
	DNB	2022-03-31	4,500,000	0.81
	DNB	2022-03-31	3,986,070	0.81
	BNP Paribas	2022-09-30	18,000,000	0.52
	CIBC	2022-09-30	18,000,000	0.54
	BNP Paribas	2022-09-30	12,136,647	0.54
CIBC	2023-03-31	12,000,000	0.62	
CIBC	2023-06-30	9,000,000	0.45	
CIBC	2023-06-30	9,745,461	0.45	

**Korea National Oil Corporation and its subsidiaries**  
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**7. Financial Assets Measured at Fair Value through Profit or Loss and Derivative Instruments (cont'd)**

Details of other derivatives (zero cost collar options) as of December 31, 2021, are as follows:

(in BBL, MMBTU, US dollar)

Type	Counterparty	Terms	Contract amount	Exercise Price	
				Call	Put
	Goldman Sachs	2022-03-31	197,000	54.70	45.00
	Goldman Sachs	2022-06-30	197,000	54.70	45.00
	Goldman Sachs	2022-09-30	98,500	54.70	45.00
	Goldman Sachs	2022-12-31	98,500	54.70	45.00
	Goldman Sachs	2022-03-31	184,500	56.76	44.00
	Goldman Sachs	2022-06-30	184,500	56.76	44.00
	Goldman Sachs	2022-09-30	92,500	56.76	44.00
	Goldman Sachs	2022-12-31	92,500	56.76	44.00
	Goldman Sachs	2023-03-31	106,000	98.27	34.69
	Goldman Sachs	2023-06-30	106,000	98.27	34.69
	Citi	2022-03-31	213,500	81.50	50.00
	Citi	2022-06-30	213,500	81.50	50.00
	Citi	2022-03-31	45,000	106.20	33.69
	Citi	2022-06-30	45,000	106.20	33.69
	Citi	2022-09-30	61,000	106.20	33.69
	Citi	2022-12-31	61,000	106.20	33.69
	BNP Paribas	2022-09-30	175,500	71.85	54.00
	BNP Paribas	2022-12-31	175,500	71.85	54.00
	BNP Paribas	2023-03-31	137,000	71.85	54.00
	BNP Paribas	2023-06-30	137,000	71.85	54.00
Cash flow	Goldman Sachs	2022-03-31	49,000	56.76	44.00
Hedge	Goldman Sachs	2022-06-30	49,000	56.76	44.00
	Goldman Sachs	2022-09-30	24,500	56.76	44.00
	Goldman Sachs	2022-12-31	24,500	56.76	44.00
	Goldman Sachs	2022-03-31	99,000	84.01	49.66
	Goldman Sachs	2022-06-30	99,000	84.01	49.66
	Goldman Sachs	2022-09-30	74,500	84.01	49.66
	Goldman Sachs	2022-12-31	74,500	84.01	49.66
	Goldman Sachs	2022-03-31	43,000	74.86	52.41
	Goldman Sachs	2022-06-30	43,000	74.86	52.41
	Standard Chartered Bank	2022-12-31	139,389	49.33	47.29
	Standard Chartered Bank	2022-12-31	139,389	49.15	47.50
	Standard Chartered Bank	2022-06-30	278,778	50.80	47.80
	Standard Chartered Bank	2022-06-30	278,778	51.26	47.29
	Macquarie Bank	2022-12-31	6,863	71.80	55.00
	Standard Chartered Bank	2022-12-31	149,952	67.05	55.00
	DNB	2022-12-31	510,000	57.85	42.79
	Wells Fargo	2022-12-31	510,000	60.00	42.79
	Wells Fargo	2022-12-31	510,000	60.36	42.79
	BNP Paribas	2022-12-31	510,000	60.30	42.79
	Wells Fargo	2022-12-31	420,000	60.25	42.79
	DNB	2022-12-31	570,000	81.10	54.09
	Wells Fargo	2022-12-31	522,977	80.80	54.09
	Wells Fargo	2023-06-30	270,000	74.65	55.00

**Korea National Oil Corporation and its subsidiaries**  
**Notes to the consolidated financial statements**  
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**7. Financial Assets Measured at Fair Value through Profit or Loss and Derivative Instruments (cont'd)**

(in BBL, MMBTU, US dollar)

Type	Counterparty	Terms	Contract amount	Exercise Price	
				Call	Put
Cash flow Hedge	Wells Fargo	2023-06-30	270,000	74.60	55.00
	DNB	2022-03-31	6,000,000	1.07	0.70
	DNB	2022-03-31	6,000,000	1.11	0.70
	DNB	2022-03-31	6,000,000	1.10	0.70
	BNP Paribas	2023-03-31	18,000,000	0.77	0.50
	BNP Paribas	2023-03-31	10,376,922	0.79	0.50

Gains and losses on valuation and transaction of derivative for the years ended December 31, 2021 and 2020, are as follows:

(in Korean won)	Gains(losses) on valuation of derivative instruments		Gains (losses) on transaction of derivative instruments		Gains (losses) on valuation of derivative instruments (other comprehensive income (loss)) <sup>1</sup>	
	2021	2020	2021	2020	2021	2020
	Currency forwards	₩ -	₩ -	₩ -	₩ -	₩ (46,137,666,846)
Currency swaps	-	-	(762,324,438)	5,079,148	41,148,818,232	(26,856,389,125)
Interest rate swaps	-	-	1,505,434,556	227,616,552	21,099,576,175	(16,926,544,003)
Other derivatives	-	(18,860,237,629)	-	92,370,856,276	(286,589,143,962)	(78,249,496)
	₩ -	₩ (18,860,237,629)	₩ 743,110,118	₩ 92,603,551,976	₩ (270,478,416,401)	₩ (14,673,039,073)

<sup>1</sup> Changes in accumulated other comprehensive income (loss) are net of tax effect amounting to (+) ₩ 136,982 million and (+) ₩ 13,876 million for the years ended December 31, 2021 and 2020, respectively.

**Korea National Oil Corporation and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2021 and 2020**

**8. Trade and Other Receivables**

Details of trade and other receivables as of December 31, 2021 and 2020, are as follows:

(in Korean won)

	2021			
	Gross amounts	Allowance for doubtful accounts	Present value discount	Book value
<b>Current</b>				
Trade receivables	₩ 271,267,376,197	₩ (9,492,010,981)	₩ -	₩ 261,775,365,216
Other receivables	315,026,971,745	(1,020,058,567)	-	314,006,913,178
Accrued income	310,995,890	(122,410,225)	-	188,585,665
Finance lease receivables	2,025,259,274	-	(208,687,442)	1,816,571,832
Other current receivables	50,959,497,915	-	-	50,959,497,915
	<u>639,590,101,021</u>	<u>(10,634,479,773)</u>	<u>(208,687,442)</u>	<u>628,746,933,806</u>
<b>Non-current</b>				
Other receivables	1,655,176,748	-	-	1,655,176,748
Accrued income	5,301,477,342	(5,301,477,342)	-	-
Deposit received	43,567,143,150	-	(16,451,689,199)	27,115,453,951
Finance lease receivables	9,070,152,477	-	(611,107,254)	8,459,045,223
	<u>59,593,949,717</u>	<u>(5,301,477,342)</u>	<u>(17,062,796,453)</u>	<u>37,229,675,922</u>
	<u>₩ 699,184,050,738</u>	<u>₩ (15,935,957,115)</u>	<u>₩ (17,271,483,895)</u>	<u>₩ 665,976,609,728</u>

(in Korean won)

	2020			
	Gross amounts	Allowance for doubtful accounts	Present value discount	Book value
<b>Current</b>				
Trade receivables	₩ 200,892,622,246	₩ (9,212,085,555)	₩ -	₩ 191,680,536,691
Other receivables	200,398,041,806	-	-	200,398,041,806
Accrued income	360,542,191	-	-	360,542,191
Finance lease receivables	3,185,505,174	-	(226,779,913)	2,958,725,261
Other current receivables	38,312,109,372	-	-	38,312,109,372
	<u>443,148,820,789</u>	<u>(9,212,085,555)</u>	<u>(226,779,913)</u>	<u>433,709,955,321</u>
<b>Non-current</b>				
Other receivables	1,076,403,563	-	-	1,076,403,563
Accrued income	8,568,153,767	(8,568,153,767)	-	-
Deposit received	50,323,620,331	-	(16,723,703,357)	33,599,916,974
Finance lease receivables	10,134,830,388	-	(749,644,305)	9,385,186,083
	<u>70,103,008,049</u>	<u>(8,568,153,767)</u>	<u>(17,473,347,662)</u>	<u>44,061,506,620</u>
	<u>₩ 513,251,828,838</u>	<u>₩ (17,780,239,322)</u>	<u>₩ (17,700,127,575)</u>	<u>₩ 477,771,461,941</u>

**Korea National Oil Corporation and its subsidiaries**  
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**December 31, 2021 and 2020**

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

Details of other current receivables as of December 31, 2021 and 2020, are as follows:

*(in Korean won)*

	<b>2021</b>	
	<b>Gross amounts</b>	<b>Book value</b>
Prepaid value added tax	₩ 2,474,326,627	₩ 2,474,326,627
Overseas prepaid value added tax	1,793,103,307	1,793,103,307
Due from financial institutions	497,392,079	497,392,079
Other current assets	46,194,675,902	46,194,675,902
	<b>₩ 50,959,497,915</b>	<b>₩ 50,959,497,915</b>

*(in Korean won)*

	<b>2020</b>	
	<b>Gross amounts</b>	<b>Book value</b>
Prepaid value added tax	₩ 3,353,806,534	₩ 3,353,806,534
Overseas prepaid value added tax	1,696,665,019	1,696,665,019
Due from financial institutions	386,374,890	386,374,890
Other current assets	32,875,262,929	32,875,262,929
	<b>₩ 38,312,109,372</b>	<b>₩ 38,312,109,372</b>

The trade and other receivables include those receivables without allowance provision as they are considered collectible, including accrued interest on the receivables and have no significant changes in their credit rating as of December 31, 2021. Above trade and other receivables are classified as loans and receivables and measured at amortized cost. If objective evidence of impairment for a portfolio of receivables has occurred but no loss has been realized, based on the Group's past experience of collecting payments as well as observable changes in national or local economic conditions that correlate with default on receivables, an allowance account is recognized. The Group has no right to offset against any related liabilities with the counterparties.

**Korea National Oil Corporation and its subsidiaries**  
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**8. Trade and Other Receivables (cont'd)**

The aging analysis of trade receivables as of December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<b>2021</b>		<b>2020</b>	
Receivables not past due and impaired	₩	111,408,528,377	₩	109,169,730,048
Past due but not impaired		159,856,630,467		82,510,806,643
- Within 2 months		111,689,467,488		35,011,113,953
- 2~3 months		5,975,720,144		3,442,188,253
- 3~4 months		6,587,280,777		4,271,946,403
- 4~12 months		22,479,802,354		35,411,971,857
- More than 12 months		13,124,359,704		4,373,586,177
Impaired		2,217,353		9,212,085,555
- More than 12 months		2,217,353		9,212,085,555
		<u>271,267,376,197</u>		<u>200,892,622,246</u>
Less: allowance for doubtful accounts		(9,492,010,981)		(9,212,085,555)
	₩	<u>261,775,365,216</u>	₩	<u>191,680,536,691</u>

The aging analysis of other receivables as of December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<b>2021</b>		<b>2020</b>	
Receivables not past due and impaired	₩	390,448,399,827	₩	284,951,834,911
Past due but not impaired		9,081,309,085		18,839,217,917
- Within 2 months		4,763,054,601		712,713,286
- 2~3 months		94,764,033		256,041,044
- 3~4 months		395,043,790		303,149,908
- 4~12 months		81,484,755		1,351,709,516
- More than 12 months		3,746,961,906		16,215,604,163
Impaired		28,386,965,629		8,568,153,764
- Within 2 months		1,558,028,770		440,858,449
- 2~3 months		404,687,544		210,293,884
- 4~12 months		822,316,610		1,224,992,735
- More than 12 months		25,601,932,705		6,692,008,696
		<u>427,916,674,541</u>		<u>312,359,206,592</u>
Less: allowance for doubtful accounts		(6,443,946,134)		(8,568,153,767)
Less: present value discounts		(17,271,483,895)		(17,700,127,575)
	₩	<u>404,201,244,512</u>	₩	<u>286,090,925,250</u>

**Korea National Oil Corporation and its subsidiaries**  
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**December 31, 2021 and 2020**

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

Movements in the allowance for doubtful accounts of trade and other receivables for the years ended December 31, 2021 and 2020, are as follows:

(in Korean won)

	2021		2020	
	Trade receivables	Other receivables	Trade receivables	Other receivables
Beginning balance	₩ 9,212,085,555	₩ 8,568,153,767	₩ 9,732,663,082	₩ 7,496,932,479
Amount recognized in profit or loss	-	6,620,113,225	2,505,960,364	2,155,335,411
Write-off	(529,109,147)	(2,886,320,327)	(2,557,859,713)	-
Reversal	-	(6,257,502,626)	-	(120,459,504)
Others <sup>1</sup>	809,034,573	399,502,095	(468,678,178)	(963,654,619)
Ending balance	₩ 9,492,010,981	₩ 6,443,946,134	₩ 9,212,085,555	₩ 8,568,153,767

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

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

Movements in the financial assets at fair value through other comprehensive income for the years ended December 31, 2021 and 2020, are as follows:

(in Korean won)

	2021			
	Beginning balance	Valuation <sup>2</sup>	Others <sup>3</sup>	Ending balance
<b>Non-marketable<sup>1</sup></b>	₩ 12,195,650,672	₩ (351,930,894)	₩ 1,080,268,654	₩ 12,923,988,432

<sup>1</sup> The Group recognized other comprehensive income and losses of ₩ 285 million and ₩ 636 million respectively from Yemen LNG Company Ltd. and Troika, in accordance with changes in the fair value of financial asset measured at fair value through other comprehensive income.

<sup>2</sup> Changes in other comprehensive income are the amount before tax effect of ₩85 million, which would be directly deducted from equity if reflected.

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

(in Korean won)

	2020				
	Beginning balance	Disposal	Valuation <sup>3</sup>	Others <sup>4</sup>	Ending balance
<b>Marketable<sup>1</sup></b>	₩ 123,121,459	₩ (37,316,426)	₩ (88,171,118)	₩ 2,366,085	₩ -
<b>Non-marketable<sup>2</sup></b>	6,335,312,156	-	6,770,400,107	(910,061,591)	12,195,650,672
	₩ 6,458,433,615	₩ (37,316,426)	₩ 6,682,228,989	₩ (907,695,506)	₩ 12,195,650,672

<sup>1</sup> The Group recognized other comprehensive losses of ₩ 88 million arising from changes in the fair value of EP Energy, which had been liquidated for the year ended December 31, 2020.

<sup>2</sup> The Group recognized other comprehensive income and losses of ₩ 7,123 million and ₩ 353 million respectively from Yemen LNG Company Ltd. and Troika, in accordance with changes in the fair value of financial asset measured at fair value through other comprehensive income, for the year ended December 31, 2020.

<sup>3</sup> Related income tax effect is not recognized for the year ended December 31, 2020 due to unrecognized deferred tax asset as the amount is not expected to be realized in a foreseeable future.

<sup>4</sup> Include other changes and the effect of changes in exchange rates and others.

**Korea National Oil Corporation and its subsidiaries**  
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**9. Financial Assets Measured at Fair Value Through Other Comprehensive Income (cont'd)**

Details of financial assets measured at fair value through other comprehensive income as of December 31, 2021 and 2020, are as follows:

(in Korean won)	Number of shares	Ownership interest (%)	Acquisition cost	Carrying amount		Fair value	
				2021	2020	2021	2020
<b>Non-marketable</b>				-		-	
Yemen LNG Company Limited	265	1.06	₩ 314,561	₩ 12,017,016,535	₩ 10,757,962,775	₩ 12,017,016,535	₩ 10,757,962,775
Petronado S.A.	5,640	5.64	19,451,512,517	-	-	-	-
Micronic Korea <sup>1</sup>	20,000	16.70	906,971,896	906,971,896	832,379,622	906,971,896	832,379,622
Troika Resource Investment PEF <sup>2</sup>	52,686,240,867	14.47	57,046,072,098	-	605,308,275	-	605,308,275
Global Dynasty Natural Resource PEF	4,713,225,544	15.67	5,134,209,492	-	-	-	-
			₩ 82,539,080,565	₩ 12,923,988,432	₩ 12,195,650,672	₩ 12,923,988,432	₩ 12,195,650,672

<sup>1</sup> The dividend income associated with Micronic Korea for the years ended December 31, 2021 and 2020, are ₩ 20 million and ₩ 5 million, respectively.

<sup>2</sup> As of December 31, 2021, it is in a process of liquidation.

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**10. Loans**

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

(in Korean won)

	2021		
	Face value	Provision for loans	Carrying amount
<b>Long-term loans</b>			
Loans for tuitions <sup>1</sup>	₩ 347,908,934	₩ -	₩ 347,908,934
Loans for housing <sup>2</sup>	95,426,446,922	-	95,426,446,922
Loans for vehicle <sup>3</sup>	237,100,000	-	237,100,000
General loans	10,426,417,279	(734,455,897)	9,691,961,382
Loans to related parties <sup>4</sup>	573,722,129,891	(573,722,129,891)	-
	<u>₩ 680,160,003,026</u>	<u>₩ (574,456,585,788)</u>	<u>₩ 105,703,417,238</u>

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

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

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

<sup>4</sup> The Group provided KC Kazakh B.V. and 8 other related parties with loans at interest rates of 2.21 ~ 4.59%. Loans for exploration and development projects are due until the start of commercial production.

(in Korean won)

	2020		
	Face value	Provision for loans	Carrying amount
<b>Short-term loans</b>			
Loans to related parties <sup>4</sup>	₩ 30,736,000,000	₩ -	₩ 30,736,000,000
	<u>30,736,000,000</u>	<u>-</u>	<u>30,736,000,000</u>
<b>Long-term loans</b>			
Loans for tuitions <sup>1</sup>	417,080,774	-	417,080,774
Loans for housing <sup>2</sup>	96,529,979,523	-	96,529,979,523
Loans for vehicle <sup>3</sup>	521,590,148	-	521,590,148
General loans	9,054,262,126	(1,099,080,192)	7,955,181,934
Loans to related parties <sup>4</sup>	576,747,247,348	(576,747,247,348)	-
	<u>683,270,159,919</u>	<u>(577,846,327,540)</u>	<u>105,423,832,379</u>
	<u>₩ 714,006,159,919</u>	<u>₩ (577,846,327,540)</u>	<u>₩ 136,159,832,379</u>

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

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

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

<sup>4</sup> The Group provided KC Kazakh B.V. and 9 other related parties with loans at interest rates of 2.33~ 7.99%. The loans are due to be repaid in 1~18 year.

**Korea National Oil Corporation and its subsidiaries**  
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**11. Long-term Financial Instruments**

Details of long-term financial instruments as of December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	2021		2020	
Asset retirement obligation	₩	6,343,668,993	₩	5,601,079,085

**12. Other Financial Assets**

Details of other current financial assets as of December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	2021		2020	
Overseas field operations quick assets	₩	805,934,114	₩	739,651,047

**13. Inventories**

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

<i>(in Korean won)</i>	2021					
	Acquisition cost		Provision for losses on valuation <sup>1</sup>		Carrying amount	
Raw materials <sup>1</sup>	₩	6,130,049,693	₩	(726,725,845)	₩	5,403,323,848
Merchandises <sup>1</sup>		6,075,484,210		-		6,075,484,210
Work-in-progress		126,901,018		-		126,901,018
Finished goods		13,567,922,382		(5,299,728,457)		8,268,193,925
Supplies		68,405,191,876		-		68,405,191,876
Goods in-transit		2,992,807		-		2,992,807
	₩	94,308,541,986	₩	(6,026,454,302)	₩	88,282,087,684

<i>(in Korean won)</i>	2020					
	Acquisition cost		Provision for losses on valuation <sup>1</sup>		Carrying amount	
Raw materials <sup>1</sup>	₩	6,758,423,255	₩	(580,897,997)	₩	6,177,525,258
Merchandises <sup>1</sup>		7,686,589,658		-		7,686,589,658
Work-in-progress		106,988,698		-		106,988,698
Finished goods		11,654,363,633		(2,202,930,959)		9,451,432,674
Supplies		69,222,519,047		-		69,222,519,047
Goods in-transit		65,140,790		-		65,140,790
	₩	95,494,025,081	₩	(2,783,828,956)	₩	92,710,196,125

<sup>1</sup> The losses on the valuation of inventories recognized in cost of sales for the year ended December 31, 2021 is ₩ 2,924 million (2020: ₩ 19,873 million).

**Korea National Oil Corporation and its subsidiaries**  
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**14. Non-financial Assets**

Details of non-financial assets as of December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	2021		2020	
	Current	Non-current	Current	Non-current
Advance payments	₩ 55,379,298,279	₩ -	₩ 54,345,311,364	₩ -
Prepaid expenses	25,815,717,630	364,191,184	20,108,949,425	541,394,294
Oil stockpiles	-	4,189,783,528,161	-	3,686,509,114,195
Others	-	4,052,640,167	-	4,440,816,443
	₩ 81,195,015,909	₩ 4,194,200,359,512	₩ 74,454,260,789	₩ 3,691,491,324,932

**Korea National Oil Corporation and its subsidiaries**  
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**15. Investments in Associates and Joint Ventures**

Details of investments in associates and joint ventures as of December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>			2021			2020		
Entity	Principal activity	Country	Equity interest (%)	Acquisition cost	Book value	Equity interest (%)	Acquisition cost	Book value
<Investments in associates>								
Kernhem B.V.	Exploration and Production ("E&P")	Netherlands	36.67	₩ 12,113,176,886	₩ -	36.67	₩ 11,116,944,510	₩ -
Oilhub Korea Yeosue Co. Ltd.	Storing of oil	Republic of Korea	29.00	40,077,987,659	61,739,634,204	29.00	36,781,822,499	63,128,996,115
ADA Oil LLP <sup>1</sup>	E&P	Kazakhstan	12.50	20,805,671,172	-	12.50	19,094,534,150	-
Parallel Petroleum LLC <sup>2,5</sup>	E&P	United States	10.00	64,431,925,000	-	10.00	41,742,635,584	-
KNOC EF Star LLC <sup>3,10</sup>	E&P	United States	100.00	30,823,000,000	-	100.00	28,288,000,000	64,950,570,540
KOREA GS E&P Pte. Ltd.	E&P	Singapore	30.00	384,471,710,895	390,013,449,409	30.00	367,539,304,474	276,843,002,551
				<u>552,723,471,612</u>	<u>451,753,083,613</u>		<u>504,563,241,217</u>	<u>404,922,569,206</u>
<Investments in joint ventures>								
KNOC Inam Ltd.	Exploration	Malaysia	40.00	47,420	-	40.00	43,520	-
KNOC Kamchatka Petroleum Ltd. <sup>9</sup>	Exploration	Cyprus	-	-	-	55.00	1,196,800	-
KNOC Bazian Ltd. <sup>4,10</sup>	Exploration	Malaysia	66.72	67,574	-	66.72	62,016	-
KNOC Nigerian East Oil Company Ltd. <sup>4</sup>	Exploration	Nigeria	75.00	71,130,000	-	75.00	65,280,000	-
KNOC Nigerian West Oil Company Ltd. <sup>4</sup>	Exploration	Nigeria	75.00	71,130,000	-	75.00	65,280,000	-
K.K. Korea Kamchatka Co. Ltd.	Exploration	Cyprus	50.00	8,057,072,629	-	50.00	7,394,428,528	-
KC Kazakh B.V. <sup>10</sup>	Exploration	Netherlands	35.00	268,475,988	-	35.00	246,395,508	-
KNOC Ferghana Ltd.	E&P	Malaysia	50.00	592,750	-	50.00	544,000	-
KNOC Ferghana2 Ltd. <sup>4</sup>	Exploration	Malaysia	65.00	77,567	-	65.00	71,188	-
Korea Energy Terminal Ltd. <sup>4</sup>	E&P	Republic of Korea	52.42	93,548,779,849	84,323,087,385	51.47	43,306,610,908	42,612,869,262
Deep Basin Partnership <sup>4,6</sup>	Storing of oil	Canada	83.58	270,388,691,326	-	83.52	244,870,024,714	-
HKMS Partnership <sup>4,6</sup>	Production	Canada	69.29	66,074,054,456	30,837,305,594	68.51	59,632,820,287	31,870,493,504
KNOC-VOGO Eagle Ford LLC <sup>7</sup>	E&P	United States	50.00	2,211,016,230	990,205,085	50.00	-	-
Al Dhafra Petroleum <sup>8</sup>	E&P	UAE	30.00	474,200,000	474,200,000	30.00	435,200,000	435,200,000
				<u>441,165,335,789</u>	<u>116,624,798,064</u>		<u>356,017,957,469</u>	<u>74,918,562,766</u>
				<u>₩ 993,888,807,401</u>	<u>₩ 568,377,881,677</u>		<u>₩ 860,581,198,686</u>	<u>₩ 479,841,131,972</u>

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2021 and 2020

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

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

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

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

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

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

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

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

<sup>8</sup> KADOC Ltd., a consolidated entity, is a joint venture in which 40% of the shares are owned, and the effective stake is 30% (40% \* 75%).

<sup>9</sup> It was liquidated during the current period.

<sup>10</sup> It is being liquidated during the current period.

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

Changes in carrying value of investments in associates and joint ventures for the years ended December 31, 2021 and 2020, are as follows:

(in Korean won)

	2021			
	Beginning balance	Acquisition	Disposal	Dividends received
<b>Investment in associates</b>				
Kernhem B.V. <sup>1</sup>	₩ -	₩ -	₩ -	₩ -
Oilhub Korea Yeosu Co. Ltd	63,128,996,115	-	-	(3,039,200,007)
ADA Oil LLP <sup>1</sup>	-	-	-	-
Parallel Petroleum LLC <sup>1</sup>	-	-	-	-
KNOC EF Star LLC	64,950,570,540	-	(26,791,724,163)	-
KOREA GS E&P Pte. Ltd. <sup>2,3</sup>	276,843,002,551	-	(15,449,670,000)	-
	<u>404,922,569,206</u>	<u>-</u>	<u>(42,241,394,163)</u>	<u>(3,039,200,007)</u>
<b>Investment in joint ventures</b>				
Korea Energy Terminal Ltd <sup>7</sup>	42,612,869,262	44,754,777,996	-	-
Deep Basin Partnership	-	3,451,014,120	-	-
HKMS Partnership	31,870,493,504	1,059,276,663	-	(14,727,877,829)
KNOC-VOGO Eagle Ford LLC <sup>5</sup>	-	74,822,180	-	-
Al Dhafra Petroleum	435,200,000	-	-	-
	<u>74,918,562,766</u>	<u>49,339,890,959</u>	<u>-</u>	<u>(14,727,877,829)</u>
	<u>₩ 479,841,131,972</u>	<u>₩ 49,339,890,959</u>	<u>₩ (42,241,394,163)</u>	<u>₩ (17,767,077,836)</u>

(in Korean won)

	2021			
	Share of profit or loss in equity method	Changes in equity adjustments	Other changes <sup>4</sup>	Ending balance
<b>Investment in associates</b>				
Kernhem B.V. <sup>1</sup>	₩ (516,417,385)	₩ 516,417,385	₩ -	₩ -
Oilhub Korea Yeosu Co. Ltd	1,692,140,694	(5,455,363,427)	5,413,060,829	61,739,634,204
ADA Oil LLP <sup>1</sup>	(573,854,783)	573,854,783	-	-
Parallel Petroleum LLC <sup>1</sup>	-	-	-	-
KNOC EF Star LLC	(37,239,208,696)	-	(919,637,681)	-
KOREA GS E&P Pte. Ltd. <sup>2,3</sup>	16,879,615,614	-	111,740,501,244	390,013,449,409
	<u>(19,757,724,556)</u>	<u>(4,365,091,259)</u>	<u>116,233,924,392</u>	<u>451,753,083,613</u>
<b>Investment in joint ventures</b>				
Korea Energy Terminal Ltd <sup>7</sup>	(549,234,727)	(7,627,051,235)	5,131,726,089	84,323,087,385
Deep Basin Partnership	(24,069,557,633)	-	20,618,543,513	-
HKMS Partnership	10,188,642,456	-	2,446,770,800	30,837,305,594
KNOC-VOGO Eagle Ford LLC <sup>5</sup>	953,821,162	-	(38,438,257)	990,205,085
Al Dhafra Petroleum	-	-	39,000,000	474,200,000
	<u>(13,476,328,742)</u>	<u>(7,627,051,235)</u>	<u>28,197,602,145</u>	<u>116,624,798,064</u>
	<u>₩ (33,234,053,298)</u>	<u>₩ (11,992,142,494)</u>	<u>₩ 144,431,526,537</u>	<u>₩ 568,377,881,677</u>

<sup>1</sup> The Group does not apply the equity method as the book value of the investment in associates and joint ventures is less than zero due to the cumulative equity method loss. Gains and losses on investments that are not recognized due to the discontinuation of the use of the equity method are as follows:

(in Korean won)

CGU	Holding company	Gains and losses on investments not recognized (current)	Gains and losses on investments not recognized (cumulative)
ADA Oil LLP	Parent Company	₩ 697,878,647	₩ (13,595,156,199)
Kernhem B.V.	Parent Company	1,029,503,288	(33,501,044,961)
Parallel Petroleum LLC	Ankor E&P Holdings Corp.	5,103,644,999	(32,598,952,501)

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

<sup>2</sup> Key assumptions used in the impairment test and details of impairment losses for the year ended December 31, 2021 are as follows: The reversal of impairment loss is limited to the amount of impairment loss already recognized, and the impairment loss is fully reversed up to the limit for the year ended December 31, 2021.

(In Korean won)

CGU	Recoverable amounts	Valuation of recoverable method	Discount rate	Primary assumption	Reversal of impairment loss	Reason for impairment
KOREA GS E&P Pte. Ltd.	₩ 558,813,545,190	Net fair value	3.47%	Estimated production quantities based on reserve reports and long-term oil price forecasts by major forecasting Institutions	₩ 83,869,595,701	Decrease in forecasted oil prices, changes in reserves and others

<sup>3</sup> The book value of interests held decreased as proportionate capital reduction was carried out for the year ended December 31, 2021.

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

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

<sup>6</sup> Among joint ventures, entities that have now closed their business are excluded from the table.

<sup>7</sup> As of December 31, 2021, the Group owns 52.42% of shares through the acquisition of new stocks of ₩43,622 million and the acquisition of 0.65% of shares from another participating company (MOL Chemical Tankers Pte. Ltd) for ₩ 1,133 million for the year ended December 31, 2021.

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

(in Korean won)

	2020			
	Beginning balance	Acquisition	Disposal	Dividends received
<b>Investment in associates</b>				
Kernhem B.V. <sup>1</sup>	₩ -	₩ -	₩ -	₩ -
Oilhub Korea Yeosu Co. Ltd	58,480,114,370	-	-	(3,039,200,000)
ADA Oil LLP <sup>1</sup>	-	-	-	-
Parallel Petroleum LLC <sup>1</sup>	-	-	-	-
KNOC EF Star LLC	40,194,986,901	-	-	-
KOREA GS E&P Pte. Ltd <sup>2,3</sup>	-	398,634,886,254	-	(17,700,750,000)
	<u>98,675,101,271</u>	<u>398,634,886,254</u>	<u>-</u>	<u>(20,739,950,000)</u>
<b>Investment in joint ventures</b>				
Offshore International Group, Inc. <sup>2,4</sup>	91,189,025,586	-	-	-
KADOC Ltd <sup>8,9</sup>	-	-	-	-
Korea Energy Terminal Ltd <sup>9</sup>	-	44,555,171,097	-	-
Deep Basin Partnership	17,322,007,058	1,735,322,055	-	-
HKMS Partnership	32,734,368,413	595,016,800	-	(14,423,621,592)
KNOC-VOGO Eagle Ford LLC <sup>1,6</sup>	-	72,274,109	-	-
Al Dhafra Petroleum <sup>7</sup>	-	472,020,000	-	-
	<u>141,245,401,057</u>	<u>47,429,804,061</u>	<u>-</u>	<u>(14,423,621,592)</u>
	<u>₩ 239,920,502,328</u>	<u>₩ 446,064,690,315</u>	<u>₩ -</u>	<u>₩ (35,163,571,592)</u>

(in Korean won)

	2020				
	Share of profit or loss in equity method	Equity method retained earnings	Changes in equity adjustments	Other changes <sup>5</sup>	Ending balance
<b>Investment in associates</b>					
Kernhem B.V. <sup>1</sup>	₩ (1,868,832,535)	₩ -	₩ 1,868,832,535	₩ -	₩ -
Oilhub Korea Yeosu Co. Ltd	7,689,827,946	-	4,215,428,078	(4,217,174,279)	63,128,996,115
ADA Oil LLP <sup>1</sup>	(1,093,470,192)	-	1,093,470,192	-	-
Parallel Petroleum LLC <sup>1</sup>	-	-	-	-	-
KNOC EF Star LLC	29,519,031,229	-	-	(4,763,447,590)	64,950,570,540
KOREA GS E&P Pte. Ltd <sup>2,3</sup>	5,811,871,882	-	-	(109,903,005,585)	276,843,002,551
	<u>40,058,428,330</u>	<u>-</u>	<u>7,177,730,805</u>	<u>(118,883,627,454)</u>	<u>404,922,569,206</u>
<b>Investment in joint ventures</b>					
Offshore International Group, Inc. <sup>2,4</sup>	(63,439,958,816)	-	1,877,700,280	(29,626,767,050)	-
KADOC Ltd <sup>8,9</sup>	-	-	-	-	-
Korea Energy Terminal Ltd <sup>9</sup>	(2,458,160,317)	(13,747,583)	3,918,300,738	(3,388,694,673)	42,612,869,262
Deep Basin Partnership	(36,697,692,421)	-	-	17,640,363,308	-
HKMS Partnership	14,202,564,643	-	-	(1,237,834,760)	31,870,493,504
KNOC-VOGO Eagle Ford LLC <sup>1,6</sup>	(72,274,109)	-	-	-	-
Al Dhafra Petroleum <sup>7</sup>	-	-	-	(36,820,000)	435,200,000
	<u>(88,465,521,020)</u>	<u>(13,747,583)</u>	<u>5,796,001,018</u>	<u>(16,649,753,175)</u>	<u>74,918,562,766</u>
	<u>₩ (48,407,092,690)</u>	<u>₩ (13,747,583)</u>	<u>12,973,731,823</u>	<u>(135,533,380,629)</u>	<u>₩ 479,841,131,972</u>

<sup>1</sup> The Group does not apply the equity method as the book value of the investment in associates and joint ventures is less than zero due to the cumulative equity method loss. Gains and losses on investments that are not recognized due to the discontinuation of the use of the equity method are as follows:

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

(in Korean won)

CGU	Holding company	Gains and losses on investments not recognized (current)	Gains and losses on investments not recognized (cumulative)
ADA Oil LLP	Parent Company	₩ (2,707,560,129)	₩ (14,293,034,846)
Kernhem B.V.	Parent Company	(6,218,169,182)	(34,530,548,249)
Parallel Petroleum LLC	Ankor E&P Holdings Corp.	(7,503,937,950)	(37,702,597,500)
KNOC-VOGO Eagle Ford LLC	KNOC Eagleford Corp.	(69,129,995,913)	(1,049,503,071,295)

<sup>2</sup> Main assumptions used in the impairment test and details of impairment losses for the year ended December 31, 2020 are as follows:

(In Korean won)

CGU	Recoverable amounts	Valuation of recoverable method	Discount rate	Primary assumption	Impairment loss	Reason for impairment
KOREA GS E&P Pte. Ltd.	₩ 276,843,002,563	Net fair value	7.66%	Estimated production quantities based on reserve reports and long-term oil price forecasts by major forecasting Institutions	₩ 86,480,764,760	Decrease in forecasted oil prices, changes in reserves and others
Offshore International Group	₩ 2,720,000,000	Net selling value	-	Amount to be sold	₩ 28,596,258,775	Held for Sale

<sup>3</sup> On April 2, 2020, by exercising the stock option, 30% of stocks were acquired and the difference between the strike price and the fair value of the equity valuation was ₩ 92,371 million recognized as Gains on transaction of derivative financial instruments. Meanwhile, as of the end of the reporting period, arbitration related to business participation costs is in progress and the acquisition price may change depending on the results of the arbitration.

<sup>4</sup> Offshore International Group was classified as held for sale during the current period. (Note 40)

<sup>5</sup> Other changes include the effect of changes in exchange rates and impairment losses that were not recognized as the book value of Deep Basin Partners, an investment in joint ventures, until the previous year was less than zero.

<sup>6</sup> KNOC-VOGO Eagle Ford LLC is SPC with 50% of the shares in KNOC Eagle Ford Corp. KNOC Eagle Ford Corp. invested in EF Energy LLC through KNOC-VOGO EagleFord LLC. EF Energy LLC is 40% of shares owned by KNOC-VOGO EagleFord LLC and 60% owned by KNOC Eagle Ford Corp. Since KNOC Eagle Ford Corp. recognizes EF Energy LLC as the Group, its investment in KNOC-VOGO EagleFord LLC is recognized as '0' because it is offset by the consolidation adjustment process.

<sup>7</sup> It is a joint venture owned by KADOC Ltd, which was reclassified as a subsidiary in the year ended December 31, 2020.

<sup>8</sup> It was reclassified as a subsidiary from a joint venture, as control was acquired through a change in the shareholders' agreement in the year ended December 31, 2020.

<sup>9</sup> The Group recognized gains on sale of investments in joint ventures of ₩131,969 million while acquiring control of KADOC Ltd., and ₩4,073million of gains on sale of investments in joint ventures by the sale of Korea Energy Terminal Ltd.

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

The summaries of financial information of major associates and joint ventures for the years ended December 31, 2021 and 2020, are as follows:

(in Korean won)

		<b>2021</b>						
		<b>Total assets</b>	<b>Total liabilities</b>	<b>Revenue</b>	<b>Profit (loss) for the year</b>			
<Investment in associates>								
Kernhem B.V.	₩	117,416,320,845	₩	135,943,004,848	₩	2,705,068,746	₩	(3,041,784,422)
Oilhub Korea Yeosu Co., Ltd.		462,385,250,474		249,489,960,038		56,739,050,014		5,679,357,528
Parallel Petroleum LLC		194,394,855,891		341,250,740,918		69,343,127,171		27,146,604,422
ADA Oil LLP		55,421,696,271		156,884,022,552		38,123,844,430		7,642,831,126
KOREA GS E&P Pte. Ltd.		1,896,976,470,409		820,222,070,780		1,463,132,511,100		54,169,267,160
<Investment in joint ventures>								
Korea Energy Terminal Ltd.		423,397,388,082		264,501,262,993		-		(3,849,233,019)
Deep Basin Partnership		177,767,633,417		219,595,092,313		30,990,870,322		(24,069,556,489)
HKMS Partnership		92,131,686,217		62,733,052,239		23,867,574,461		7,142,283,140
KNOC-VOGO Eagle Ford LLC		848,009,977,426		615,334,850,118		-		(145,501,559)
Al Dhafra Petroleum		474,200,000		-		-		-

(in Korean won)

		<b>2020</b>						
		<b>Total assets</b>	<b>Total liabilities</b>	<b>Revenue</b>	<b>Profit (loss) for the year</b>			
<Investment in associates>								
Kernhem B.V.	₩	163,806,010,079	₩	250,626,263,746	₩	16,498,184,941	₩	(16,957,101,678)
Oilhub Korea Yeosu Co., Ltd.		499,372,284,961		281,686,091,447		79,821,629,621		26,516,648,081
Parallel Petroleum LLC		156,034,961,921		315,823,383,719		41,166,853,752		(46,358,505,995)
ADA Oil LLP		60,658,093,323		155,801,297,340		21,997,579,921		(21,660,480,985)
KNOC EF Star LLC		483,866,407,965		14,029,553		14,472,478,530		(43,880,415,061)
KOREA GS E&P Pte. Ltd.		1,571,064,659,270		586,584,952,238		862,986,019,442		30,092,089,983
<Investment in joint ventures>								
Korea Energy Terminal Ltd.		235,108,611,603		153,946,871,603		-		(4,668,414,922)
Deep Basin Partnership		195,714,889,335		214,779,363,329		22,012,406,636		(36,697,692,421)
HKMS Partnership		86,610,604,186		66,031,374,356		22,954,604,472		7,225,689,736
KNOC-VOGO Eagle Ford LLC		837,106,222,303		564,589,616,901		-		(166,269,129,961)
Al Dhafra Petroleum		435,200,000		-		-		-

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**16. Property, Plant and Equipment**

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

(in Korean won)

	2021					
	Acquisition cost	Contributions for construction	Government grants	Accumulated depreciation	Accumulated impairment losses	Book value
Land	₩ 1,140,071,820,943	₩ -	₩ -	₩ -	₩ -	₩ 1,140,071,820,943
Buildings	88,393,848,314	-	-	(34,318,964,683)	-	54,074,883,631
Structures	2,210,106,356,499	(109,154,735)	-	(905,685,685,503)	-	1,304,311,516,261
Machinery	862,393,148,147	(2,514,813,764)	-	(523,921,169,818)	-	335,957,164,565
Vehicles	13,107,859,043	-	-	(10,257,881,597)	-	2,849,977,446
Tools & fixtures	69,667,806,019	-	-	(61,779,733,149)	(333,778,070)	7,554,294,800
Construction-in-progress	16,417,058,100	-	-	-	-	16,417,058,100
Right-of-use assets	390,488,700,438	-	-	(81,963,956,057)	(373,735,502)	308,151,008,879
Others	59,768,740,371	-	-	(52,458,222,829)	(2,250,882,591)	5,059,634,951
Oil & gas properties	22,084,907,576,863	-	(1,335,221,715)	(12,621,951,240,586)	(4,540,698,378,419)	4,920,922,736,143
	₩ 26,935,322,914,737	₩ (2,623,968,499)	₩ (1,335,221,715)	₩ (14,292,336,854,222)	₩ (4,543,656,774,582)	₩ 8,095,370,095,719

(in Korean won)

	2020					
	Acquisition cost	Contributions for construction	Government grants	Accumulated depreciation	Accumulated impairment losses	Book value
Land	₩ 1,047,517,159,605	₩ -	₩ -	₩ -	₩ -	₩ 1,047,517,159,605
Buildings	79,153,385,318	-	-	(29,483,385,067)	-	49,670,000,251
Structures	1,854,978,295,505	(103,755,205)	-	(782,607,969,482)	-	1,072,266,570,818
Machinery	715,667,502,767	(2,612,223,492)	-	(451,915,313,507)	-	261,139,965,768
Vehicles	10,534,528,840	-	-	(9,077,937,342)	-	1,456,591,498
Tools & fixtures	61,346,145,469	-	-	(56,016,220,790)	(306,053,736)	5,023,870,943
Construction-in-progress	252,089,350,859	-	-	-	-	252,089,350,859
Right-of-use assets	405,696,146,781	-	-	(53,054,756,783)	-	352,641,389,998
Others	54,719,821,549	-	-	(47,641,498,583)	(2,067,606,270)	5,010,716,696
Oil & gas properties	22,153,462,200,554	-	(1,921,246,508)	(12,811,601,902,815)	(4,369,740,355,473)	4,970,198,695,758
	₩ 26,635,164,537,247	₩ (2,715,978,697)	₩ (1,921,246,508)	₩ (14,241,398,984,369)	₩ (4,372,114,015,479)	₩ 8,017,014,312,194

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

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

(in Korean won)

	2021								
	Beginning balance	Acquisition / Capital expenditures	Disposal	Depreciation	Impairment losses <sup>1</sup>	Assets held for sale <sup>2</sup>	Replacement <sup>3</sup>	Others <sup>4</sup>	Ending balance
Land <sup>5</sup>	₩ 1,047,517,159,605	₩ 671,172,896	₩ -	₩ -	₩ -	₩ -	₩ 19,813,495,771	₩ 72,069,992,671	₩ 1,140,071,820,943

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Buildings	49,670,000,251	2,094,242,457	(28,509,631)	(2,169,242,811)	-	-	57,900,190	4,450,493,175	54,074,883,631
Structures	1,072,370,326,023	299,955,171	-	(51,109,944,006)	-	-	182,050,499,473	100,809,834,335	1,304,420,670,996
(Contributions to construction)	(103,755,205)	-	-	3,763,299	-	-	-	(9,162,829)	(109,154,735)
Machinery	263,752,189,260	2,549,189,919	(203,626,422)	(31,013,023,547)	-	-	77,981,206,275	25,406,042,844	338,471,978,329
(Contributions to construction)	(2,612,223,492)	-	-	320,014,245	-	-	-	(222,604,517)	(2,514,813,764)
Vehicles	1,456,591,498	1,698,471,202	(4,347,652)	(473,991,530)	-	-	23,696,635	149,557,293	2,849,977,446
Tools & fixtures	5,023,870,943	2,414,298,185	(3,418,866)	(2,240,657,503)	-	-	1,835,583,075	524,618,966	7,554,294,800
Construction-in-progress	252,089,350,859	37,601,682,033	-	-	-	-	(286,805,304,896)	13,531,330,104	16,417,058,100
Right-of-use assets	352,641,389,998	1,075,316,133	-	(24,518,841,254)	(360,784,802)	-	-	(20,686,071,196)	308,151,008,879
Others	5,010,716,696	1,000,393,157	(7,767,522)	(1,273,455,013)	-	-	78,701,763	251,045,870	5,059,634,951
Oil & gas properties	4,972,119,942,266	310,221,377,365	(182,816,900,003)	(415,297,957,476)	(114,608,405,226)	(26,963,489,561)	31,095,482,688	348,507,907,805	4,922,257,957,858
(Government grants)	(1,921,246,508)	-	-	731,922,303	-	-	-	(145,897,510)	(1,335,221,715)
	<b>₩ 8,017,014,312,194</b>	<b>₩ 359,626,098,518</b>	<b>₩ (183,064,570,096)</b>	<b>₩ (527,041,413,293)</b>	<b>₩ (114,969,190,028)</b>	<b>₩ (26,963,489,561)</b>	<b>₩ 26,131,260,974</b>	<b>₩ 544,637,087,011</b>	<b>₩ 8,095,370,095,719</b>

<sup>1</sup> Impairment loss is a net amount, considering reversal amounts.

<sup>2</sup> As some of Ankor's legacy assets are in the process of being sold, the related assets are presented as an asset group held for sale. (Note 40)

<sup>3</sup> During the year ended December 31, 2021, construction-in-progress of ₩ 285,263 million was transferred to property, plant and equipment, and ₩ 1,542 million was transferred to intangible assets other than goodwill. Exploration and evaluation assets of ₩ 27,673 million were transferred to Oil & gas properties.

<sup>4</sup> Include the effect of revaluation, changes in lease and exchange rates and others.

<sup>5</sup> During the year ended December 31, 2021, a decrease in accumulated valuation gains of ₩ 21,609 million (Note 16.E.2) and a valuation loss of ₩ 148 million were recognized due to revaluation.

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

(in Korean won)

	2020						
	Beginning balance	Acquisition / Capital expenditures	Disposal	Depreciation	Impairment losses <sup>1</sup>	Others <sup>2</sup>	Ending balance
Land <sup>3</sup>	₩ 480,854,588,938	₩ 2,867,134,278	₩ (718,698,761)	₩ -	₩ -	₩ 564,514,135,150	₩ 1,047,517,159,605
Buildings	47,288,293,257	1,529,271,178	(3,642,312,676)	(2,215,902,492)	-	6,710,650,984	49,670,000,251
Structures	1,191,646,889,380	797,089,660	(1,832,464,421)	(51,459,275,436)	-	(66,781,913,160)	1,072,370,326,023
(Contributions to construction)	(114,218,857)	-	-	3,880,465	-	6,583,187	(103,755,205)
Machinery	303,605,851,900	5,257,260,922	(1,895,460,292)	(31,633,549,903)	-	(11,581,913,367)	263,752,189,260
(Contributions to construction)	(3,103,564,826)	-	-	329,977,441	-	161,363,893	(2,612,223,492)
Vehicles	1,941,423,945	410,955,856	(1,742,863)	(983,712,125)	-	89,666,685	1,456,591,498
Tools & fixtures	6,306,053,833	950,255,942	(22,695,865)	(2,594,472,356)	-	384,729,389	5,023,870,943
Construction-in-progress	228,623,473,504	62,107,997,227	-	-	-	(38,642,119,872)	252,089,350,859
Right-of-use assets	395,677,031,252	7,770,994,154	(1,924,127,667)	(24,063,621,858)	-	(24,818,885,883)	352,641,389,998
Others	8,496,542,497	949,287,734	(43,727,012)	(3,213,018,118)	-	(1,178,368,405)	5,010,716,696
Oil & gas properties	6,059,070,352,481	320,150,558,494	(4,433,442,334)	(611,189,801,947)	(1,422,058,913,037)	630,581,188,609	4,972,119,942,266
(Government grants)	(2,573,235,541)	-	-	538,893,493	-	113,095,540	(1,921,246,508)
	₩ 8,717,719,481,763	₩ 402,790,805,445	₩ (14,514,671,891)	₩ (726,480,602,836)	₩ (1,422,058,913,037)	₩ 1,059,558,212,750	₩ 8,017,014,312,194

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

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

<sup>3</sup> The Group recognized, pretax valuation gains of ₩646,112 million through revaluation and pretax valuation losses of ₩2,213 million during the year ended December 31, 2020.

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

Details of impairments recognized by segments for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<b>2021</b>		<b>2020</b>	
	<b>Oil and Gas<sup>1,2</sup></b>		<b>Oil and Gas<sup>1</sup></b>	
<b>General information</b>				
Type of assets	Oil and gas properties		Oil and gas properties	
Valuation method	Value in use		Value in use	
<b>Assumptions</b>				
Discount rate after tax <sup>3</sup>	4.22%~14.78%		4.61%~17%	
Oil prices <sup>4</sup>	International indices		International indices	
Production quantities	Estimated production quantities based on reserve reports		Estimated production quantities based on reserve reports	
Recoverable amounts	₩	1,480,086,908,312	₩	2,691,368,686,505
Impairment losses		266,299,247,490		1,424,500,981,351
Reason for impairment	Decrease in forecasted long-term oil price and changes in reserves		Decrease in forecasted oil prices	

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

<sup>2</sup> As Ankor's legacy assets are classified as an asset group held for sale, the difference between the residual book value and recoverable amount equivalent to the net selling value is recognized as impairment loss of such assets. The DCF method is not used for the impairment test where the recoverable amount is calculated by discounting and applying a long-term oil price to the expected reserves.

<sup>3</sup> Weighted average costs of capital reflecting its own risk of a CGU and an individual asset.

<sup>4</sup> The oil prices are based on the long-term forecasts from globally recognized research institutions.

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

Details of reversal of impairment losses recognized by segments for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<b>2021</b>	<b>2020</b>
	<b>Oil and Gas<sup>1</sup></b>	<b>Oil and Gas<sup>1</sup></b>
<b>General information</b>		
Type of assets	Oil and gas properties	Oil and gas properties
Valuation method	Value in use	Value in use
<b>Assumptions</b>		
Discount rate after tax <sup>2</sup>	4.22%~14.78%	4.61%~17%
Oil prices <sup>3</sup>	International indices	International indices
Production quantities	Estimated production quantities based on reserve reports	Estimated production quantities based on reserve reports
Reversal of impairment losses	₩ 151,690,842,276	₩ 2,442,068,314
Reason for impairment	Decrease in forecasted short-term oil price and rate	Increase in probable reserves and others

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

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

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

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

Revaluation of property, plant and equipment (land).

(a) As of December 31, 2021, the Group engaged an independent valuation specialist, Kyungil Appraisal Corporation, to assess fair values for the land.

(b) For the year ended December 31, 2021, the Group recognized a decrease in cumulative valuation gain of ₩ 21,609 million and valuation loss of ₩ 148 million arising from revaluation in other comprehensive income and in profit or loss, respectively. Meanwhile, for the year ended December 31, 2020, the Group recognized valuation gain of ₩ 646,112 million and valuation loss of ₩ 2,213 million arising from revaluation in other comprehensive income and in profit or loss, respectively.

(c) Changes in accumulated other comprehensive income due to revaluation during the years ended December 31, 2021 and 2020 are as follows:

<i>(In Korean won)</i>	<b>2021</b>	<b>2020</b>
<i>Beginning balance</i>	₩ 489,752,621,439	₩ -
<i>Increase(decrease) in accumulated other comprehensive income due to revaluation</i>	(21,609,289,674)	646,111,637,782
<i>Income tax effect of accumulated other comprehensive income due to revaluation</i>	5,229,448,099	(156,359,016,343)
<i>Ending balance</i>	<u>₩ 473,372,779,864</u>	<u>₩ 489,752,621,439</u>

(d) As of December 31, 2021 and 2020 the carrying amount of land measured based on the revaluation model and the cost model are as follows:

<i>(In Korean won)</i>	<b>2021</b>		<b>2020</b>	
	<b>Revaluation model</b>	<b>Cost model</b>	<b>Revaluation model</b>	<b>Cost model</b>
Land	₩ 1,140,071,820,943	₩ 515,737,225,891	₩ 1,047,517,159,570	₩ 453,846,274,657

(e) As of December 31, 2021, and 2020, the fair value of land is ₩ 1,140,072 million and ₩ 1,047,517, respectively, and is classified as Level 3 fair value hierarchy.

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

(f) Description of valuation techniques used and key inputs to valuation of *land*:

Valuation techniques	Significant unobservable inputs	Relationship between unobservable inputs and fair value measurements
	Adjustment based on time (rate of change in land price)	If the rate of change in land price rises (falls), the fair value increases (decreases).
(Act on Publicly Announced Land Price)	Regional factors	If regional factors increase (decrease), fair value increases (decreases)
Determined on the basis of publicly announced price of the standard land for the land subject to measurement and the neighboring land, yet fair values are measured by adjusting based on the time, individual factors and others	Individual factors (conditions of a portion of land, etc.)	If adjustments such as conditions of a portion of land increase (decrease), fair values increase (decrease)
	Others (land price etc.)	If adjustments increase (decrease) by comparing publicly announced standard land price and other similar cases, fair values increase (decrease)

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**17. Goodwill**

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

<i>(in Korean won)</i>	<u>2021</u>	<u>2020</u>
Acquisition cost	₩ 1,359,337,357,052	₩ 1,255,984,175,545
Accumulated impairment losses	(1,125,679,986,327)	(1,034,964,146,999)
Book value	<u>₩ 233,657,370,725</u>	<u>₩ 221,020,028,546</u>

Changes in goodwill for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<u>2021</u>	<u>2020</u>
Beginning balance	₩ 221,020,028,546	₩ 152,975,919,835
Acquisition <sup>1</sup>	-	104,298,110,592
Impairment losses	(4,789,738,524)	(32,552,922,480)
Other changes <sup>2</sup>	17,427,079,703	(3,701,079,401)
Ending balance	<u>₩ 233,657,370,725</u>	<u>₩ 221,020,028,546</u>

<sup>1</sup> It is the recognition amount of KADOC Ltd. Goodwill that was reclassified as a subsidiary from a joint venture, as control was acquired through a change in the shareholders' agreement in 2020.

<sup>2</sup> Include the effect of exchange rate changes.

Changes in accumulated impairment losses for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<u>2021</u>	<u>2020</u>
Beginning balance	₩ (1,034,964,146,999)	₩ (1,010,319,143,482)
Impairment losses	(4,789,738,524)	(32,552,922,480)
Other changes <sup>1</sup>	(85,926,101,804)	7,907,918,963
Ending balance	<u>₩ (1,125,679,986,327)</u>	<u>₩ (1,034,964,146,999)</u>

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

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**17. Goodwill (cont'd)**

The Group recognized goodwill for the acquisition of Dana Petroleum Limited, Altius Holdings Inc. and KADOC Ltd., and allocated the goodwill to each of the Group's cash-generating unit that is expected to benefit from the synergies of the acquisition.

The carrying amounts of goodwill allocated to the Group's CGUs and groups of CGUs as of December 31, 2021 and 2020 are as follows:

<i>(in Korean won)</i>	<b>2021</b>		<b>2020</b>	
Dana Petroleum Limited <sup>1</sup>	₩	136,130,679,484	₩	126,100,922,304
Altius Holdings Inc. (a subsidiary of KNOC Kaz B.V.) <sup>2</sup>		21,546,949,160		20,634,622,402
KADOC Ltd. <sup>3</sup>		75,979,742,081		74,284,483,840
	₩	233,657,370,725	₩	221,020,028,546

<sup>1</sup> Dana Petroleum Limited's recoverable amount is estimated based on the value in use. The value in use is estimated from the cash inflows, which are discounted at 8% and 12% derived from the oil production in the long-term production plan indicated in the reserve reports and the long-term oil price forecasts by the research institutions. There is no impairment loss on goodwill recognized based on the value in use estimated for each CGU for the year ended December 31, 2021.

<sup>2</sup> Altius Holding Inc.'s recoverable amount is estimated based on the value in use. The value in use is estimated from the cash inflows, which are discounted at 5.41%, 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, 2021.

<sup>3</sup> KADOC Ltd.'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 4.21%, 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 loss of damages to goodwill based on the recoverable amount calculated based on the cash-generating unit during the period, but impairment to goodwill were recognized as the deferred tax liability have decreased, which is an indication of the goodwill.

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**18. Intangible Assets Other Than Goodwill**

Details of intangible assets other than goodwill as of December 31, 2021 and 2020, are as follows:

(in Korean won)

	2021				
	Acquisition cost	Government grants	Accumulated amortization	Accumulated impairment losses	Book value
Exploration and evaluation assets	₩ 3,606,396,021,809	₩ -	₩ -	₩ (3,097,631,016,381)	₩ 508,765,005,428
Software	40,999,620,100	(28,193,300)	(33,423,355,887)	-	7,548,070,913
Mining rights	2,444,487,042,231	-	(1,322,803,522,612)	(262,520,398,523)	859,163,121,096
Development cost	47,399,088,835	-	(42,892,262,481)	-	4,506,826,354
Land use right	248,244,957	-	(102,163,237)	-	146,081,720
Others	94,669,665,451	-	(1,226,024,219)	(91,422,841,477)	2,020,799,755
	<u>₩ 6,234,199,683,383</u>	<u>₩ (28,193,300)</u>	<u>₩ (1,400,447,328,436)</u>	<u>₩ (3,451,574,256,381)</u>	<u>₩ 1,382,149,905,266</u>

(in Korean won)

	2020				
	Acquisition cost	Government grants	Accumulated amortization	Accumulated impairment losses	Book value
Exploration and evaluation assets	₩ 3,238,637,976,646	₩ -	₩ -	₩ (2,861,127,722,371)	₩ 377,510,254,275
Software	34,037,009,408	(34,266,332)	(29,085,354,944)	-	4,917,388,132
Mining rights	2,848,394,486,503	-	(1,598,941,724,895)	(323,983,700,284)	925,469,061,324
Development cost	42,315,240,736	-	(37,727,394,193)	-	4,587,846,543
Land use right	227,828,353	-	(88,062,056)	-	139,766,297
Others	86,898,525,184	-	(1,105,262,888)	(83,903,879,543)	1,889,382,753
	<u>₩ 6,250,511,066,830</u>	<u>₩ (34,266,332)</u>	<u>₩ (1,666,947,798,976)</u>	<u>₩ (3,269,015,302,198)</u>	<u>₩ 1,314,513,699,324</u>

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**18. Intangible Assets Other Than Goodwill (cont'd)**

Changes in intangible assets other than goodwill for the years ended December 31, 2021 and 2020, are as follows:

(in Korean won)

		2021								
	Beginning balance	Acquisition / Capital expenditures	Disposal	Amortization	Impairment losses (reversal) <sup>1</sup>	Assets held for sale <sup>2</sup>	Replacement <sup>3</sup>	Others <sup>4</sup>	Ending balance	
Exploration and evaluation assets	W 377,510,254,275	W 130,912,500,937	W -	W -	W (1,822,485,108)	W -	W (27,673,438,135)	W 29,838,173,459	W 508,765,005,428	
Software	4,917,388,132	3,193,711,768	(2,289)	(1,672,791,458)	-	-	595,578,530	514,186,230	7,548,070,913	
Mining rights	925,469,061,324	2,728,760,724	(28,308,602)	(48,512,075,523)	(34,941,092,245)	(64,376,144,132)	-	78,822,919,550	859,163,121,096	
Development cost	4,587,846,543	300,448,497	-	(1,722,148,599)	-	-	946,598,958	394,080,955	4,506,826,354	
Land use right	139,766,297	-	-	(5,994,415)	-	-	-	12,309,838	146,081,720	
Others	1,889,382,753	7,438,548	-	(39,874,941)	-	-	-	163,853,395	2,020,799,755	
	W 1,314,513,699,324	W 137,142,860,474	W (28,310,891)	W (51,952,884,936)	W (36,763,577,353)	W (64,376,144,132)	W (26,131,260,647)	W 109,745,523,427	W 1,382,149,905,266	

<sup>1</sup> Impairment loss is a net amount, taking into account reversal amounts. The amount is the sum of impairment related to the withdrawal of mines, impairment of exploration assets due to declaration of force majeure and suspension of exploration activities, revaluation of remaining reserves, and reversal of impairment due to changes in discount rates.

<sup>2</sup> This is the amount equivalent to mining rights among the asset classified as held for sale.

<sup>3</sup> For the year ended December 31, 2021, computer software and development costs were transferred to construction in progress, and portion of exploration assets were transferred to property, plant and equipment.

<sup>4</sup> Include the effect of changes in exchange rates and others.

(in Korean won)

		2020								
	Beginning balance	Acquisition / Capital expenditures	Disposal	Amortization	Impairment losses (reversal) <sup>1</sup>	Replacement	Others <sup>2</sup>		Ending balance	
Exploration and evaluation assets	W 393,308,469,405	W 17,567,520,561	W (168,157,125)	W -	W (160,291,360,202)	W 168,157,125	W 126,925,624,511	W 377,510,254,275		
Software	2,534,974,155	531,424,329	(1,179,224)	(1,350,620,012)	-	441,521,866	2,761,267,028	4,917,388,132		
Mining rights	1,003,748,956,868	9,279,548,352	(1,130,319,696)	(58,756,631,190)	(108,462,171,565)	-	80,789,678,555	925,469,061,324		
Development cost	4,928,919,007	682,441,229	-	(2,089,848,572)	-	1,369,767,756	(293,432,877)	4,587,846,543		
Land use right	154,797,860	-	-	(6,181,031)	-	-	(8,850,532)	139,766,297		
Others	2,150,358,506	9,196,461	(87,590,391)	(51,939,435)	-	-	(130,642,388)	1,889,382,753		
	W 1,406,826,475,801	W 28,070,130,932	W (1,387,246,436)	W (62,255,220,240)	W (268,753,531,767)	W 1,969,446,737	W 210,043,644,297	W 1,314,513,699,324		

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

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

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

Details of financial liabilities measured at fair value through profit or loss as of December 31, 2021 and 2020 are as follows:

<i>(in Korean won)</i>	2021		2020	
	Current	Non-current	Current	Non-current
Non-derivative liabilities	₩ 47,395,549,055	₩ 34,423,249,111	₩ 2,585,153,204	₩ 29,539,647,462

The amounts recognized in profit or loss in relation to financial liabilities measured at fair value through profit or loss for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	2021	2020
Profit on valuation of financial liabilities measured at fair value through profit or loss	₩ -	₩ 37,229,917,380
Loss on valuation of financial liabilities measured at fair value through profit or loss	(57,328,618,373)	(4,862,291,130)
	₩ (57,328,618,373)	₩ 32,367,626,250

**20. Trade and Other Payables**

Details of trade and other payables as of December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	2021		2020	
	Current	Non-current	Current	Non-current
Trade account payables	₩ 104,178,419,320	₩ 1,863,026,219	₩ 76,799,071,681	₩ 6,176,382,129
Other account payables	510,094,789,384	7,986,409,561	356,518,241,162	14,830,067,091
Accrued expenses <sup>1</sup>	120,359,608,597	45,340,448,856	107,158,859,364	143,238,704,285
Deposit received	-	5,158,036,537	-	4,729,914,624
Other deposits received	-	14,040,173	-	12,885,489
Lease liability	25,809,224,765	290,326,317,668	31,370,166,488	359,391,205,410
Other payables	69,001,462,621	8,960,423,652	47,841,192,279	-
	₩ 829,443,504,687	₩ 359,648,702,666	₩ 619,687,530,974	₩ 528,379,159,028

<sup>1</sup> It includes changes in special charges from repayable loans on success under the Energy and Resource Special Account Act due to changes in circumstances such as the sale of shares and others.

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**20. Trade and Other Payables (Cont'd)**

Details of other payables are as follows:

(in Korean won)

	2021		2020	
	Current	Non-current	Current	Non-current
Advances from value added tax	₩ 16,966,217,680	₩ -	₩ 1,979,819,706	₩ -
Liabilities from overseas oil fields	47,595,965,946	-	38,062,273,793	-
Other than payables	4,439,278,995	8,960,423,652	7,799,098,780	-
	<u>₩ 69,001,462,621</u>	<u>₩ 8,960,423,652</u>	<u>₩ 47,841,192,279</u>	<u>₩ -</u>

**21. Borrowings and Bond Payables**

Details of borrowings and bond payables as of December 31, 2021 and 2020, are as follows:

(in Korean won)

	2021		2020	
<b>Current Liabilities</b>				
Short-term borrowings	₩	144,342,885,493	₩	259,155,616,000
Current portion of long-term borrowings		456,265,362,390		1,151,261,349,987
Less: current portion of present discounted value		(38,958,103)		(123,868,593)
Current portion of bond payables		2,187,745,219,052		1,645,555,886,017
Less: current portion of discount on bond payables		(271,977,979)		(577,623,378)
		<u>2,788,042,530,853</u>		<u>3,055,271,360,033</u>
<b>Non-current Liabilities</b>				
Long-term borrowings		1,377,034,489,209		1,011,213,592,813
Less: present discounted value		(430,478,274)		(81,855,473)
Bond payables		10,736,802,417,702		10,231,001,702,493
Less: discount on bond payables		(27,012,642,886)		(23,975,308,461)
Add: premium on bond payables		3,573,202,841		4,281,782,079
		<u>12,089,966,988,592</u>		<u>11,222,439,913,451</u>
	₩	<u>14,878,009,519,445</u>	₩	<u>14,277,711,273,484</u>

Details of payment schedule as of December 31, 2021 and 2020, are as follows:

(in Korean won)

	2021		2020	
	Borrowings	Bond payables	Borrowings	Bond payables
Within a year	₩ 600,608,247,883	₩ 2,187,745,219,052	₩ 1,410,416,965,987	₩ 1,645,555,886,017
1~5 years	1,147,280,237,096	8,650,550,917,702	818,739,388,465	7,465,415,702,493
More than 5 years	229,754,252,113	2,086,251,500,000	192,474,204,348	2,765,586,000,000
	<u>₩ 1,977,642,737,092</u>	<u>₩ 12,924,547,636,754</u>	<u>₩ 2,421,630,558,800</u>	<u>₩ 11,876,557,588,510</u>

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

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

(in Korean won)

Type	Financial Institutions	Interest rate (%)	Maturity		2021
Short-term borrowings	BNP Paribas	0.39	2022-01-24	₩	39,642,470,690
	BNP Paribas	0.39	2022-01-24		40,352,534,367
	BNP Paribas	0.39	2022-01-24		4,710,244,272
	The Export-Import Bank of Korea <sup>1</sup>	3ML+0.86	2022-06-28		59,275,000,000
	Archrock Partners Operating LLC <sup>2</sup>	0.00	2022-01-01~2022-11-01		362,636,164
				₩	<u>144,342,885,493</u>

<sup>1</sup> The maturity of short-term borrowings as of December 31, 2020 was extended.

<sup>2</sup> Such borrowings require monthly redemption according to the borrowing agreement.

(in Korean won)

Type	Financial Institutions	Interest rate (%)	Maturity		2020
Short-term borrowings	Sumitomo Mitsui Banking Corporation	2.25	2021-03-31	₩	127,997,760,000
	Standard Chartered Bank	2.50	2021-08-24		76,798,656,000
	The Export-Import Bank of Korea	L+0.63	2021-06-28		54,359,200,000
				₩	<u>259,155,616,000</u>

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

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

(in Korean won and foreign currencies)

Type	Financial Institution	Interest rate (%)	Maturity	2021		2020	
				Amount	Equivalent to Korean won	Amount	Equivalent to Korean won
	The Export-Import Bank of Korea	-	-	-	-	₩ USD 250,000,000	₩ 272,000,000,000
	The Export-Import Bank of Korea	3ML+0.78	2022-01-31	USD 100,000,000	118,550,000,000	USD 100,000,000	108,800,000,000
	The Export-Import Bank of Korea	1.28	2022-09-06	USD 42,176,297	50,000,000,000	USD 45,955,882	50,000,000,000
	The Export-Import Bank of Korea	1.61	2022-11-12	USD 42,176,297	50,000,000,000	USD 45,955,882	50,000,000,000
	The Export-Import Bank of Korea	1.45	2024-11-26	USD 250,000,000	296,375,000,000	-	-
	SAER	Treasury 3Y -1.25	N/A <sup>1</sup>	USD 95,026,813	112,654,287,072	USD 95,026,814	103,389,172,783
Long-term borrowings	SAER	Treasury 3Y -2.25	N/A <sup>1</sup>	USD 82,058,908	97,280,835,315	USD 81,879,625	89,085,031,565
	The Export-Import Bank of Korea	1.45	2024-11-22	USD 90,000,000	106,695,000,000	-	-
	Kernhem International B.V	8.13	2038-04-29	USD 16,717,950	19,819,129,726	USD 16,717,950	18,189,129,600
	The Export-Import Bank of Korea <sup>2</sup>	1.95	2023-03-24	USD 392,500,000	465,308,749,526	USD 392,150,000	426,659,200,000
	Sumitomo Mitsui Banking Corporation	B3L+1.15	2023-05-11	USD 235,260,639	278,901,487,570	USD 234,871,492	255,540,182,872
	Credit facility	B6L+0.90	2022-07-29	USD 200,519,074	237,715,362,390	USD 309,016,614	336,210,075,993
	EF STAR LLC	-	-	-	-	USD 415,994,623	452,602,149,987
					1,833,299,851,599		2,162,474,942,800
	Less: present value discount				(469,436,377)		(205,724,066)
					1,832,830,415,222		2,162,269,218,734
	Less: current portion				(456,265,362,390)		(1,151,261,349,987)
	Less: current portion of present discounted value				38,958,103		123,868,593
					₩ 1,376,604,010,935		₩ 1,011,131,737,340

<sup>1</sup> There is no maturity specified as a successful loan, but if the exploration is successful, it must be repaid from the start date of commercial production according to the agreement, and if the exploration project fails to reach commercial production and ends, the repayment obligation will be exempted.

<sup>2</sup> The maturity of current portion of long-term borrowings as of December 31, 2020 was extended.

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

Details of bond payables as of December 31, 2021 and 2020, are as follows:

<i>(in Korean won and foreign currencies)</i>			2021		2020	
Type	Interest rate (%)	Maturity	Amount	Equivalent to Korean won	Amount	Equivalent to Korean won
Floating interest rate bond payables	U3L+0.875	2023-07-16	USD 400,000,000	₩ 474,200,000,000	USD 400,000,000	₩ 435,200,000,000
	-	-	-	-	USD 50,000,000	54,400,000,000
	U3L+0.68	2022-01-22	USD 150,000,000	177,825,000,000	USD 150,000,000	163,200,000,000
	1.09	2023-06-23	KRW 100,000,000,000	100,000,000,000	KRW 100,000,000,000	100,000,000,000
	1.03	2023-07-21	KRW 150,000,000,000	150,000,000,000	KRW 150,000,000,000	150,000,000,000
	1.02	2023-08-14	KRW 150,000,000,000	150,000,000,000	KRW 150,000,000,000	150,000,000,000
	1.03	2023-08-21	KRW 100,000,000,000	100,000,000,000	KRW 100,000,000,000	100,000,000,000
	1.18	2023-09-08	KRW 100,000,000,000	100,000,000,000	KRW 100,000,000,000	100,000,000,000
	1.95	2031-02-17	KRW 90,000,000,000	90,000,000,000	-	-
	-	-	-	-	HKD 500,000,000	70,175,000,000
	-	-	-	-	HKD 390,000,000	54,736,500,000
	3.95	2022-02-10	HKD 390,000,000	59,291,700,000	HKD 390,000,000	54,736,500,000
	4.00	2022-03-28	EUR 50,000,000	67,117,000,000	EUR 50,000,000	66,912,000,000
	2.85	2023-01-24	HKD 400,000,000	60,812,000,000	HKD 400,000,000	56,140,000,000
	2.40	2023-02-04	EUR 37,000,000	49,666,580,000	EUR 37,000,000	49,514,880,000
	3.00	2025-06-24	EUR 60,000,000	80,540,400,000	EUR 60,000,000	80,294,400,000
	3.09	2023-07-03	EUR 50,000,000	67,117,000,000	EUR 50,000,000	66,912,000,000
	4.00	2024-01-23	USD 500,000,000	592,750,000,000	USD 500,000,000	544,000,000,000
	3.25	2024-07-10	USD 550,000,000	652,025,000,000	USD 550,000,000	598,400,000,000
	3.10	2027-01-21	USD 50,000,000	59,275,000,000	USD 50,000,000	54,400,000,000
	3.10	2027-01-21	USD 70,000,000	82,985,000,000	USD 70,000,000	76,160,000,000
	3.21	2030-03-19	USD 85,000,000	100,767,500,000	USD 85,000,000	92,480,000,000
	2.99	2025-03-19	USD 90,000,000	106,695,000,000	USD 90,000,000	97,920,000,000
	2.82	2025-04-29	USD 65,000,000	77,057,500,000	USD 65,000,000	70,720,000,000
	3.02	2030-04-29	USD 60,000,000	71,130,000,000	USD 60,000,000	65,280,000,000
Fixed interest rate bond payables	3.25	2025-10-01	USD 600,000,000	711,300,000,000	USD 600,000,000	652,800,000,000
	3.22	2030-11-10	USD 100,000,000	118,550,000,000	USD 100,000,000	108,800,000,000
	-	-	-	-	USD 500,000,000	544,000,000,000
	2.63	2026-04-14	USD 500,000,000	592,750,000,000	USD 500,000,000	544,000,000,000
	-	-	-	-	USD 350,000,000	380,800,000,000
	2.50	2026-10-24	USD 650,000,000	770,575,000,000	USD 650,000,000	707,200,000,000
	2.88	2022-03-27	USD 500,000,000	592,750,000,000	USD 500,000,000	544,000,000,000
	3.38	2027-03-27	USD 500,000,000	592,750,000,000	USD 500,000,000	544,000,000,000
	-	-	-	-	SGD 400,000,000	328,888,000,000
	0.37	2023-06-01	CHF 500,000,000	648,735,000,000	CHF 500,000,000	617,165,000,000
	0.24	2022-01-21	JPY 70,000,000,000	721,168,000,000	JPY 70,000,000,000	737,982,000,000
	0.00	2024-10-04	CHF 300,000,000	389,241,000,000	CHF 300,000,000	370,299,000,000
	2.50	2025-03-26	HKD 160,000,000	24,324,800,000	HKD 160,000,000	22,456,000,000
	0.88	2025-04-21	CHF 200,000,000	259,494,000,000	CHF 200,000,000	246,866,000,000
	0.26	2027-07-30	CHF 100,000,000	129,747,000,000	CHF 100,000,000	123,433,000,000
	0.26	2027-07-30	CHF 100,000,000	129,747,000,000	CHF 100,000,000	123,433,000,000
	0.88	2025-10-05	USD 400,000,000	474,200,000,000	USD 400,000,000	435,200,000,000
	1.63	2030-10-05	USD 300,000,000	355,650,000,000	USD 300,000,000	326,400,000,000
	0.57	2024-10-28	SGD 400,000,000	350,856,000,000	-	-
	1.25	2026-04-07	USD 400,000,000	474,200,000,000	-	-
	2.38	2031-04-07	USD 300,000,000	355,650,000,000	-	-
	1.49	2024-12-28	USD 120,000,000	142,260,000,000	-	-
	4.20	2023-06-01	USD 393,495,942	466,489,439,300	USD 395,159,684	429,933,735,293
	1.00	2024-04-26	USD 493,683,845	585,262,198,402	-	-
	3.00	2022-09-21	USD 480,466,908	569,593,519,052	USD 482,320,025	524,764,187,200
	-	-	-	-	USD 195,364,325	212,556,386,017
				12,924,547,636,754		11,876,557,588,510
Less: discount on bond payables				(27,284,620,865)		(24,552,931,839)
Add: premium on bond payables				3,573,202,841		4,281,782,079
				12,900,836,218,730		11,856,286,438,750
Less: current portion				(2,187,745,219,052)		(1,645,555,886,017)
Add: current portion of discount of bond payables				271,977,979		577,623,378
			₩	10,713,362,977,657	₩	10,211,308,176,111

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**22. Other Current Financial Liabilities**

Details of other financial liabilities as of December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<b>2021</b>	<b>2020</b>
Financial guarantee liabilities <sup>1</sup>	₩ 37,535,285,589	₩ 8,575,601,856

<sup>1</sup> The Parent Company indirectly provides payment guarantees for borrowings and bond payables to Parallel Petroleum LLC through Samsung C&T Corporation. The Group recognized financial guarantee liabilities by estimating the outflows probable due to such guarantee provided to Parallel Petroleum LLC.

**23. Leases**

*(a) The Group as a lessee*

The Group recognized as the lease contract with a lease term of 12 months or less as a short-term lease of ₩2,103 million in 2021 and of ₩1,519 million in 2020, and as a low value contract with underlying assets below \$ 5,000 of ₩56 million in 2021 and of ₩ 148 million in 2020.

Details of right-of-use assets as of December 31, 2021, are as follows:

<i>(in Korean won)</i>	<b>2021</b>			
	<b>Acquisition cost</b>	<b>Accumulated depreciation</b>	<b>Accumulated impairment losses</b>	<b>Book value</b>
Land	₩ 4,685,693,279	₩ (1,160,309,441)	₩ -	₩ 3,525,383,838
Buildings	278,929,553,678	(50,024,549,522)	(373,735,502)	228,531,268,654
Vessels	13,092,140,273	(6,872,804,494)	-	6,219,335,779
Vehicles	7,127,983,025	(5,788,298,128)	-	1,339,684,897
Others	86,653,330,183	(18,117,994,472)	-	68,535,335,711
	₩ 390,488,700,438	₩ (81,963,956,057)	₩ (373,735,502)	₩ 308,151,008,879

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

Details of right-of-use assets as of December 31, 2020, are as follows:

(in Korean won)

	2020					
	Acquisition cost		Accumulated depreciation		Book value	
Land	₩	4,155,903,646	₩	(228,344,050)	₩	3,927,559,596
Buildings		263,492,841,363		(34,209,874,944)		229,282,966,419
Machinery		273,202,022		(182,136,422)		91,065,600
Vessels		10,671,433,363		(4,120,714,540)		6,550,718,823
Vehicles		4,640,735,381		(3,255,953,569)		1,384,781,812
Others		122,462,031,006		(11,057,733,258)		111,404,297,748
	₩	405,696,146,781	₩	(53,054,756,783)	₩	352,641,389,998

Changes in right-of-use assets for the years ended December 31, 2021 and 2020, are as follows:

(in Korean won)

	2021									
	Beginning balance		Increase		Depreciation		Others <sup>1</sup>		Ending balance	
Land	₩	3,927,559,596	₩	29,192,357	₩	(879,917,141)	₩	448,549,026	₩	3,525,383,838
Buildings		229,282,966,419		602,929,620		(13,154,423,995)		11,799,796,610		228,531,268,654
Machinery		91,065,600		-		(91,796,789)		731,189		-
Vessels		6,550,718,823		-		(2,300,246,903)		1,968,863,859		6,219,335,779
Vehicles		1,384,781,812		48,662,810		(2,276,047,067)		2,182,287,342		1,339,684,897
Others		111,404,297,748		394,531,346		(5,816,409,359)		(37,447,084,024)		68,535,335,711
	₩	352,641,389,998	₩	1,075,316,133	₩	(24,518,841,254)	₩	(21,046,855,998)	₩	308,151,008,879

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

(in Korean won)

	2020											
	Beginning balance		Increase		Depreciation		Decrease		Others <sup>1</sup>		Ending balance	
Land	₩	4,624,853,956	₩	1,831,867,223	₩	(535,416,590)	₩	(1,924,127,667)	₩	(69,617,326)	₩	3,927,559,596
Buildings		254,476,347,548		2,692,157,711		(12,514,526,139)		-		(15,371,012,701)		229,282,966,419
Machinery		209,970,041		-		(98,773,017)		-		(20,131,424)		91,065,600
Vessels		8,093,637,147		3,143,209,173		(2,393,661,171)		-		(2,292,466,326)		6,550,718,823
Vehicles		3,613,680,663		27,869,646		(2,207,793,983)		-		(48,974,514)		1,384,781,812
Others		124,658,541,897		75,890,401		(6,313,450,958)		-		(7,016,683,592)		111,404,297,748
	₩	395,677,031,252	₩	7,770,994,154	₩	(24,063,621,858)	₩	(1,924,127,667)	₩	(24,818,885,883)	₩	352,641,389,998

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

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

Details of maturity analysis for lease liabilities as of December 31, 2021 and 2020, are as follows:

(in Korean won)

	2021		2020	
	Contractual undiscounted cash flows	Present value of contractual cash flows	Contractual undiscounted cash flows	Present value of contractual cash flows
<b>Lease of main office building</b>				
Within 1 year	₩ 8,840,573,538	₩ 8,632,982,174	₩ 8,526,999,996	₩ 8,327,296,335
1-5 years	35,472,319,969	31,078,339,060	38,282,677,083	33,533,698,017
More than 5 years	444,150,306,914	183,319,788,043	453,798,409,707	183,010,609,266
	<u>488,463,200,421</u>	<u>223,031,109,277</u>	<u>500,608,086,786</u>	<u>224,871,603,618</u>
<b>Lease of public surface of sea, etc.</b>				
Within 1 year	17,370,684,223	17,176,242,591	23,895,725,694	23,042,870,153
1-5 years	31,162,552,167	28,833,313,668	59,294,039,722	55,111,112,180
More than 5 years	63,768,374,237	47,094,876,897	114,719,181,243	87,735,785,947
	<u>112,301,610,627</u>	<u>93,104,433,156</u>	<u>197,908,946,659</u>	<u>165,889,768,280</u>
<b>Total</b>				
Within 1 year	26,211,257,761	25,809,224,765	32,422,725,690	31,370,166,488
1-5 years	66,634,872,136	59,911,652,728	97,576,716,805	88,644,810,197
More than 5 years	507,918,681,151	230,414,664,940	568,517,590,950	270,746,395,213
	<u>₩ 600,764,811,048</u>	<u>₩ 316,135,542,433</u>	<u>₩ 698,517,033,445</u>	<u>₩ 390,761,371,898</u>

**Korea National Oil Corporation and its subsidiaries**  
**Notes to the consolidated financial statements**  
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**23. Leases (cont'd)**

Liquidity classification of lease liabilities as of December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<u>2021</u>		<u>2020</u>	
Current	₩	25,809,224,765	₩	31,370,166,488
Non-current		290,326,317,668		359,391,205,410
	₩	<u>316,135,542,433</u>	₩	<u>390,761,371,898</u>

Changes in lease liabilities in relation to lease contracts for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<u>2021</u>					
	Beginning balance	Increase	Interest expense	Decrease	Others <sup>1</sup>	Ending balance
Lease liabilities	₩ 390,761,371,898	₩ 1,142,407,251	₩ 13,457,855,193	₩ (39,081,362,173)	₩ (50,144,729,736)	₩ 316,135,542,433

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

<i>(in Korean won)</i>	<u>2020</u>					
	Beginning balance	Increase	Interest expense	Decrease	Others <sup>1</sup>	Ending balance
Lease liabilities	₩ 418,717,695,662	₩ 7,703,366,400	₩ 14,465,865,954	₩ (46,144,450,613)	₩ (3,981,105,505)	₩ 390,761,371,898

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

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

<i>(in Korean won)</i>	<u>2021</u>		<u>2020</u>	
Depreciation of right-of-use assets				
Land	₩	(879,917,141)	₩	(535,416,590)
Buildings		(13,015,440,320)		(12,514,526,139)
Machinery		(91,796,789)		(98,773,017)
Vessels		(2,300,246,903)		(2,393,661,171)
Vehicles		(2,240,208,067)		(2,207,793,983)
Others		(5,816,409,359)		(6,313,450,958)
	₩	<u>(24,344,018,579)</u>	₩	<u>(24,063,621,858)</u>
Interest expense relating to lease liabilities (included in finance cost)	₩	(13,457,855,193)	₩	(14,465,865,954)
Commitments relating to short-term leases		(2,103,416,814)		(1,519,217,221)
Commitments relating to leases of low value assets		(55,596,679)		(148,458,822)
Impairment losses of right-of-use assets		(360,784,802)		-
Deferred revenue recognized sale and leaseback transaction		939,191,150		968,431,616
Interest income from leasehold deposits provided		196,872,135		972,907,977
	₩	<u>(39,185,608,782)</u>	₩	<u>(38,255,824,262)</u>

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

*(b) The Group as a lessor*

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

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

<i>(in Korean won)</i>	<u>2021</u>	<u>2020</u>
Lease income	₩ 80,429,298,388	₩ 23,490,042,672
Related to variable lease payment that does not depend on an index or a rate	3,334,094,336	10,348,507,525
	<u>₩ 83,763,392,724</u>	<u>₩ 33,838,550,197</u>

The maturity analysis for operating lease payments expected to be received (in undiscounted) as of December 31, 2021 and 2020, is as follows:

<i>(in Korean won)</i>	<u>2021</u>	<u>2020</u>
Within 1 year	₩ 33,335,937,364	₩ 1,759,003,598
1~5 years	11,336,652,613	6,585,286,247
More than 5 years	35,802,116,068	34,385,457,655
	<u>₩ 80,474,706,045</u>	<u>₩ 42,729,747,500</u>

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

<i>(in Korean won)</i>	<u>2021(*)</u>	<u>2020</u>
Finance income on the net investment in the lease	₩ 239,008,501	₩ 411,256,388

(\*) The sub-lease contract of the storage tank leased from Oilhub Korea Yeosu Co., Ltd. has been expired during the current year.

The maturity analysis for finance lease payments receivable expected to be received (in undiscounted); reconciliation to the net investment in the lease as of December 31, 2021 and 2020, is as follows:

<i>(in Korean won)</i>	<u>2021</u>	<u>2020</u>
Within 1 year	₩ 2,025,259,274	₩ 3,185,505,174
1~5 years	5,982,020,190	6,055,295,096
More than 5 years	3,088,132,287	4,079,535,292
	11,095,411,751	13,320,335,562
Unrealized finance income	(819,794,696)	(976,424,218)
Net investment in the lease	<u>₩ 10,275,617,055</u>	<u>₩ 12,343,911,344</u>

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**24. Employee Benefits**

*Defined contribution pension plan*

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

Details of expenses relating to defined contribution plans for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<b>2021<sup>1</sup></b>		<b>2020<sup>1</sup></b>	
Cost of sales	₩	1,121,462,969	₩	371,626,007
Selling and administrative expenses		1,484,844,460		888,962,110
	₩	2,606,307,429 <sup>2</sup>	₩	1,260,588,117 <sup>2</sup>

<sup>1</sup> Among the amount recognized in profit or loss for defined contribution plan, ₩ 19 million and ₩ 5 million is excluded for the years ended December 31, 2021 and 2020, respectively, as it is capitalized as other construction costs (property, plant and equipment).

<sup>2</sup> Total expenses of ₩ 2,606 million and ₩ 1,260 million for the years ended December 31, 2021 and 2020, respectively, are contributions paid by the Group based on the payment rate as defined in retirement benefits plan. There are no unpaid amounts as of December 31, 2021.

*Defined benefit pension plan*

The latest actuarial calculation on both plan assets and defined benefit obligation was performed as of December 31, 2021. The Group uses the projected unit credit method to determine the present value of its defined benefit obligations, the related current service costs and past service cost.

The components of defined benefits liabilities as of December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<b>2021</b>		<b>2020</b>	
Present value of defined benefit obligation from funded plans	₩	99,563,386,737	₩	117,209,580,321
Fair value of plan assets		(106,620,108,491)		(104,274,909,664)
	₩	(7,056,721,754)	₩	12,934,670,657

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

Changes in the present value of defined benefit obligations for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<u>2021</u>		<u>2020</u>	
Beginning balance	₩	117,209,580,321	₩	106,177,091,120
Current service cost		10,109,764,298		9,748,759,356
Interest cost		4,039,954,018		3,607,856,340
Remeasurement components		(20,876,417,860)		5,176,012,963
Actual payments		(10,919,494,040)		(7,500,139,458)
Ending balance	₩	<u>99,563,386,737</u>	₩	<u>117,209,580,321</u>

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

<i>(in Korean won)</i>	<u>2021</u>		<u>2020</u>	
Beginning balance	₩	104,274,909,664	₩	92,723,152,505
Expected return on plan assets		3,931,532,315		3,191,092,405
Remeasurement components		(2,168,087,268)		(1,472,200,972)
Benefit paid by the plan		(10,919,494,040)		(7,681,134,910)
Contributions paid into the plan		11,501,247,820		17,514,000,636
Ending balance	₩	<u>106,620,108,491</u>	₩	<u>104,274,909,664</u>

Details of the fair value of plan assets as of December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<u>Expected rate of return<sup>2</sup></u>		<u>Fair value of plan assets</u>	
	<u>2021</u>	<u>2020</u>	<u>2021</u>	<u>2020</u>
Others <sup>1</sup>	3.77%	3.44%	₩ 106,620,108,491	₩ 104,274,909,664

<sup>1</sup> Others are comprised of 10.5% of deposit and 89.5% of local and overseas securities, and debt securities as of December 31, 2021.

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

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

Principal actuarial assumptions as of December 31, 2021 and 2020, are as follows:

<i>(in percentage, %)</i>	<u>2021</u>	<u>2020</u>
Discount rate	3.78	3.53
Expected rate of return on plan assets	3.77	3.44
Future salary growth	3.80	4.60

Details of expenses relating to defined benefit plans for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<u>2021</u>		<u>2020</u>	
Current service cost	₩	10,109,764,298	₩	9,748,759,356
Interest cost		4,039,954,018		3,607,856,340
Expected return on plan assets		(3,931,532,315)		(3,191,092,405)
Transfer to other account		(215,875,447)		(225,939,914)
	₩	<u>10,002,310,554</u>	₩	<u>9,939,583,377</u>

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

<i>(in Korean won)</i>	<u>2021</u>		<u>2020</u>	
Cost of sales	₩	3,799,518,654	₩	3,626,181,729
Selling and administrative expenses		6,202,791,900		6,313,401,648
Others <sup>1</sup>		215,875,447		225,939,914
	₩	<u>10,218,186,001</u>	₩	<u>10,165,523,291</u>

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

Remeasurement components recognized in other comprehensive income for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<u>2021</u>		<u>2020</u>	
Defined benefit obligations	₩	20,876,417,860	₩	(5,176,012,963)
Return on plan assets		(2,168,087,268)		(1,472,200,972)
Income tax effect		(4,527,416,103)		1,608,867,772
	₩	<u>14,180,914,489</u>	₩	<u>(5,039,346,163)</u>

**Korea National Oil Corporation and its subsidiaries**  
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**24. Employee Benefits (cont'd)**

A sensitivity analysis for changes in key assumptions as of December 31, 2021 is as follows:

<i>(in Korean won)</i>	1% decrease	1% increase
Future salary increases rate	₩ (8,372,826,185)	₩ 9,511,095,476
Discount rate	9,358,692,602	(8,107,027,167)

The sensitivity analysis is based on a change in key assumptions, keeping all other assumptions constant. The sensitivity of the defined benefit obligation to changes in key actuarial assumptions was calculated by using the same projected unit credit method used to calculate the defined benefit obligation recognized in the consolidated statement of financial position.

The methods and assumptions used for the sensitivity analysis are the same as those of 2020.

The estimated cost to be recognized in profit or loss for the next period in relation to the defined benefit plan is ₩7,689 million.

The weighted-average duration of the defined benefit obligation is 9.36 years.

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**25. Provisions**

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

(in Korean won)	2021			2020		
	Current	Non-current	Total	Current	Non-current	Total
Decommissioning cost <sup>1,3</sup>	₩ 95,252,011,764	₩ 2,194,376,630,138	₩ 2,289,628,641,902	₩ 34,348,187,211	₩ 2,371,886,511,619	₩ 2,406,234,698,830
Social Overhead Capital <sup>2</sup>	64,225,008	-	64,225,008	1,195,316,294	-	1,195,316,294
Allowance for salaries	6,335,963,598	-	6,335,963,598	15,226,205,769	-	15,226,205,769
Provision for litigations <sup>4</sup>	-	3,952,456,550	3,952,456,550	-	-	-
Onerous contract <sup>3,5</sup>	14,717,151,547	31,125,081,570	45,842,233,117	12,160,297,254	43,222,751,872	55,383,049,126
Others	11,702,566,311	32,574,034,951	44,276,601,262	12,612,117,619	18,967,894,388	31,580,012,007
	<u>₩ 128,071,918,228</u>	<u>₩ 2,262,028,203,209</u>	<u>₩ 2,390,100,121,437</u>	<u>₩ 75,542,124,147</u>	<u>₩ 2,434,077,157,879</u>	<u>₩ 2,509,619,282,026</u>

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

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

<sup>3</sup> The amount reclassified to current portion is ₩ 73,410 million for provision for decommissioning cost and ₩ 13,903 million for provision for onerous contract for the year ended December 31, 2021. The amount reclassified to current portion is ₩ 12,256 million for provision for decommissioning cost and ₩ 14,094 million for provision for onerous contract for the year ended December 31, 2020.

<sup>4</sup> The Group recognized a claim amount and interest arising from the third lawsuit related to ordinary wages as provisions for the year ended December 31, 2021.

<sup>5</sup> The Group recognized as a provision for an obligation to pay for the oil pipelines due to its uncertain amount of related cash outflows even after production ends in Vietnam 11-2.

**Korea National Oil Corporation and its subsidiaries**  
**Notes to the consolidated financial statements**  
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**25. Provisions (cont'd)**

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

(in Korean won)

	2021							Ending balance
	Beginning balance	Provision	Transfer <sup>1</sup>	Payment	Reversal	Held for sale <sup>7</sup>	Others <sup>1</sup>	
Decommissioning cost <sup>3,6</sup>	₩ 2,406,234,698,830	₩ 33,326,356,561	₩ 41,628,618,674	₩ (50,779,249,176)	₩ (90,238,569,889)	₩ (45,611,023,370)	₩ (4,932,189,728)	₩ 2,289,628,641,902
Social Overhead Capital	1,195,316,294	-	-	(1,195,301,875)	-	-	64,210,589	64,225,008
Allowance for salaries <sup>5</sup>	15,226,205,769	-	-	-	(9,899,375,801)	-	1,009,133,630	6,335,963,598
Provision for litigations	-	3,815,495,845	-	-	-	-	136,960,705	3,952,456,550
Onerous contract <sup>2</sup>	55,383,049,126	-	784,267,673	(12,218,361,014)	(1,283,689,414)	-	3,176,966,746	45,842,233,117
Others <sup>4</sup>	31,580,012,007	-	-	-	-	-	12,696,589,255	44,276,601,262
	₩ 2,509,619,282,026	₩ 37,141,852,406	₩ 42,412,886,347	₩ (64,192,912,065)	₩ (101,421,635,104)	₩ (45,611,023,370)	₩ 12,151,671,197	₩ 2,390,100,121,437

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

<sup>2</sup> The reversal amount of ₩ 1,284 million is reflected in sales commission

<sup>3</sup> For the year ended December 31, 2021, the amount of decrease in provisions (₩ 180,961 million) due to the sale of assets is included.

<sup>4</sup> Provisions were recognized for equity method losses arising from Deep Basin Partnership, a joint venture.

<sup>5</sup> The reversal amount of ₩ 9,899 million is reflected in salaries.

<sup>6</sup> The estimated decommissioning cost of ₩ 86,187 million has been deposited to the third party, and it is not allowed to be withdrawn except for decommissioning.

<sup>7</sup> As some of Ankor's legacy assets are in the process of being sold, the related liabilities are represented as an asset group held for sale (See Note 40).

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

(in Korean won)

	2020						
	Beginning balance	Business combination <sup>2</sup>	Provision <sup>1</sup>	Payment	Reversal	Others <sup>3</sup>	Ending balance
Decommissioning cost	₩ 2,155,848,454,469	₩ 18,158,873,832	₩ 56,703,351,157	₩ (27,176,294,485)	₩ (1,324,968,684)	₩ 204,025,282,541	₩ 2,406,234,698,830
Social Overhead Capital	10,254,072,407	-	-	(9,154,684,087)	-	95,927,974	1,195,316,294
Allowance for salaries	4,380,766,760	-	12,049,461,485	-	-	(1,204,022,476)	15,226,205,769
Provision for litigations <sup>4</sup>	10,165,423,343	-	-	(8,818,402,595)	(5,009,558,857)	3,662,538,109	-
Onerous contract <sup>5</sup>	99,449,403,061	-	4,623,675,686	(14,603,707,996)	(31,679,676,866)	(2,406,644,759)	55,383,049,126
Others	16,597,637,385	-	117,356,811	-	-	14,865,017,811	31,580,012,007
	₩ 2,296,695,757,425	₩ 18,158,873,832	₩ 73,493,845,139	₩ (59,753,089,163)	₩ (38,014,204,407)	₩ 219,038,099,200	₩ 2,509,619,282,026

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

<sup>2</sup> Recognition of provisions related to KADOC that was reclassified as a subsidiary from a joint venture in 2020.

<sup>3</sup> Include decrease in provisions of ₩ 2,843 million regarding disposal of assets, changes in estimates due to changes in discount rate and the effect of changes in exchange rates.

<sup>4</sup> Payment includes ₩ 3,339 million which is substituted provisions to unpaid amount, as the company losses of ordinary wage lawsuit.

<sup>5</sup> The set amount of provisions of ₩ 3,351 million and the amount of reversal of ₩ 31,680 million are reflected in sales commission

**26. Government Grants**

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

Details of assets and liabilities of government grants as of December 31, 2021 and 2020, are as follows:

(in Korean won)

	2021	
	Assets	Liabilities
Cash	₩ 106,541,063	₩ -
Others	1,335,221,715	-
Software	28,193,300	-
	₩ 1,469,956,078	₩ -

(in Korean won)

	2020	
	Assets	Liabilities
Cash	₩ 65,135,024	₩ -
Others	1,921,246,508	-

**Korea National Oil Corporation and its subsidiaries**  
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Software		34,266,332		-
	₩	2,020,647,864	₩	-

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

Changes in assets and liabilities of government grants for the years ended December 31, 2021 and 2020, are as follows:

(in Korean won)

	2021					
	Beginning balance	Additional grants	Offset with depreciation	Revenue recognized	Others <sup>1</sup>	Ending balance
Cash	₩ 65,135,024	₩ 2,050,292,381	₩ -	₩ (2,014,559,285)	₩ 5,672,943	₩ 106,541,063
Others	1,921,246,508	-	(731,922,303)	-	145,897,510	1,335,221,715
Software	34,266,332	-	(8,826,923)	-	2,753,891	28,193,300
	<u>₩ 2,020,647,864</u>	<u>₩ 2,050,292,381</u>	<u>₩ (740,749,226)</u>	<u>₩ (2,014,559,285)</u>	<u>₩ 154,324,344</u>	<u>₩ 1,469,956,078</u>

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

(in Korean won)

	2020					
	Beginning balance	Additional grants	Offset with depreciation	Revenue recognized	Others <sup>1</sup>	Ending balance
Cash	₩ 11,100,917	₩ 1,307,500,000	₩ -	₩ (1,365,040,373)	₩ 111,574,480	₩ 65,135,024
Others	2,573,235,532	-	(538,893,493)	-	(113,095,531)	1,921,246,508
Software	-	45,508,687	(8,343,260)	-	(2,899,095)	34,266,332
	<u>₩ 2,584,336,449</u>	<u>₩ 1,353,008,687</u>	<u>₩ (547,236,753)</u>	<u>₩ (1,365,040,373)</u>	<u>₩ (4,420,146)</u>	<u>₩ 2,020,647,864</u>

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

Details of government grants income recognized for the years ended December 31, 2021 and 2020, are as follows:

(in Korean won)

	2021	2020
Government grants income	₩ 2,014,559,285	₩ 1,365,040,373
Offset with depreciation	740,749,226	547,236,753
	<u>₩ 2,755,308,511</u>	<u>₩ 1,912,277,126</u>

# Korea National Oil Corporation and its subsidiaries

## Notes to the consolidated financial statements

### December 31, 2021 and 2020

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

Details of the government grants business by category and changes in government grants for the years ended December 31, 2021 and 2020, are as follows:

(in Korean won)

2021													
	Business	Details	Period	Budget	Carried over from prior year	Increase		Decrease		Others	Carried forward to subsequent year		
						Paid by the Company	Government grants	Paid by the Company	Government grants				
Ministry of Trade, Industry and Energy	Oil distribution structure improvement	Opinet operation and improvement	2021.01.01~2021.12.31	₩ 610,000,000	₩ -	₩ -	₩ 610,000,000	₩ -	₩ (610,000,000)	₩ -	₩ -		
		Oil distribution information advancement project support	2021.01.01~2021.12.31	178,000,000	-	-	178,000,000	-	(178,000,000)	-	-		
		Thrifty gas station Facility improvement support	2021.01.01~2021.12.31	481,000,000	36,242,480	-	481,000,000	-	(481,000,000)	(19,670,909)	16,571,571		
	Offshore wind power transportation installation national research project	Development of optimal transportation and installation technology of offshore wind power systems	2021.02.01~2021.12.31	20,500,000	-	20,000,000	135,300	(20,000,000)	(135,300)	-	-		
			2021.04.01~2023.12.31	102,066,000	-	52,066,000	19,296,118	(52,066,000)	(19,296,118)	-	-		
			2021.04.01~2023.12.31	220,000,000	-	-	170,770,647	-	(170,770,647)	-	-		
			2021.04.01~2023.12.31	41,500,000	-	-	30,896,934	-	(30,896,934)	-	-		
Ministry of Land, Infrastructure and Transport	Research on prior technologies for local application of energy resource plants in the Arctic Circle	Arctic heavy oil production model conceptual design	2021.01.01~2021.12.31	120,000,000	28,892,548	-	120,000,000	-	(81,969,176)	23,046,120	89,969,492		
		Floating offshore wind power development project	2021.07.25~2022.09.31	1,540,000,000	-	-	417,883,382	-	(417,883,382)	-	-		
Ministry of Employment and Labor	Support for installation cost of daycare center	Support for school teaching materials at workplace daycare centers	2021.01.01~2021.12.31	22,310,000	-	-	22,310,000	-	(22,310,000)	-	-		

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

(in Korean won)

2020												
	Business	Details	Period	Budget	Carried over from prior year	Increase		Decrease			Carried forward to subsequent year	
						Paid by the Company	Government grants	Return		Others		
								Paid by the Company	Government grants			
Ministry of Trade, Industry and Energy	Oil distribution structure improvement	Opinet operation and improvement	2020.01.01~2020.12.31	₩ 618,000,000	₩ -	₩ -	₩ 618,000,000	-	₩ (618,000,000)	₩ -	₩ -	-
		Oil distribution information advancement project support	2020.01.01~2020.12.31	190,000,000	-	-	190,000,000	-	(190,000,000)	-	-	-
		thriftly gas station Facility improvement support	2020.01.01~2020.12.31	499,000,000	11,509	-	499,000,000	-	(499,000,000)	36,230,971	-	36,242,480
	Offshore wind power transportation installation national research project	Development of optimal transportation and installation technology of offshore wind power systems	2020.05.01~2021.01.31	10,500,000	-	2,319,130	-	(2,319,130)	-	-	-	-
Ministry of Land, Infrastructure and Transport	Research on prior technologies for local application of energy resource plants in the Arctic Circle	Arctic heavy oil production and basic design data establishment	2020.01.01~2020.12.31	67,000,000	11,089,374	-	67,000,000	-	(38,788,411)	(10,408,415)	-	28,892,548

**27. Contributions for Construction**

Details of contributions for construction as of December 31, 2021 and 2020, are as follows:

(in Korean won)

	2021	2020
Others <sup>1</sup>	₩ 323,777,544	₩ 333,857,906

<sup>1</sup> The amounts were offset against the depreciation of the related assets for the years ended December 31, 2021 and 2020, from cash equivalents transferred from SK Energy in accordance with the expansion construction of connecting line between the Group (Ulsan branch) and SK Energy.

**Korea National Oil Corporation and its subsidiaries**  
**Notes to the consolidated financial statements**  
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**28. Non-Financial Liabilities**

Details of non-financial liabilities as of December 31, 2021 and 2020, are as follows:

(in Korean won)

	2021		2020	
	Current	Non-current	Current	Non-current
Advance received	₩ 44,011,812,630	₩ -	₩ 21,467,610,401	₩ -
Unearned revenue	82,700,295,548	17,957,814,514	3,851,072,429	19,533,807,960
Withholdings	50,989,176,042	-	58,960,771,359	-
Others	972,904,332	33,159,820,269	1,282,072,620	32,218,409,346
	<u>₩ 178,674,188,552</u>	<u>₩ 51,117,634,783</u>	<u>₩ 85,561,526,809</u>	<u>₩ 51,752,217,306</u>

**29. Share Capital**

Details of share capital as of December 31, 2021 and 2020, are as follows:

(in Korean won)

	2021			2020		
	Government	Non-government	Total	Government	Non-government	Total
Share capital	₩ 10,623,419,780,075	₩ -	₩ 10,623,419,780,075	₩ 10,554,372,780,075	₩ -	₩ 10,554,372,780,075

The changes in share capital for the year ended December 31, 2021, are as follows:

(in Korean won)

	Description	Amount
Beginning balance		₩ 10,554,372,780,075
2021-04-21	Contribution for oil stockpiling business	6,870,000,000
2021-04-21	Contribution for oil field development	18,945,000,000
2021-05-20	Contribution for oil stockpiling business	10,000,000,000
2021-05-26	Contribution for oil field development	10,000,000,000
2021-06-10	Contribution for oil field development	6,000,000,000
2021-06-28	Contribution for oil stockpiling business	2,500,000,000
2021-08-17	Contribution for oil field development	5,363,000,000
2021-08-25	Contribution for oil stockpiling business	3,281,750,000
2021-10-27	Contribution for oil stockpiling business	6,087,250,000
Ending balance		<u>₩ 10,623,419,780,075</u>

**Korea National Oil Corporation and its subsidiaries**  
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**30. Accumulated Deficit and Dividend**

Details of accumulated deficit as of December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<b>2021</b>	<b>2020</b>
Undisposed accumulated deficit	₩ (13,211,701,870,824)	₩ (13,100,233,643,918)

Changes in accumulated deficit for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<b>2021</b>	<b>2020</b>
Beginning balance	₩ (13,100,233,643,918)	₩ (9,393,324,831,534)
Net loss for the year	(125,649,141,807)	(3,171,486,517,554)
Fair value through other comprehensive income - Reclassification adjustments	-	(530,382,948,667)
Remeasurement components of defined benefits plan	14,180,914,901	(5,039,346,163)
Ending balance	₩ (13,211,701,870,824)	₩ (13,100,233,643,918)

Changes in remeasurement components for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<b>2021</b>	<b>2020</b>
Beginning balance	₩ (23,031,684,499)	₩ (17,992,338,336)
Changes during the current year	18,708,331,004	(6,648,213,935)
Income tax effects	(4,527,416,103)	1,608,867,772
Ending balance	₩ (8,850,769,598)	₩ (23,031,684,499)

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

Statements of disposition of accumulated deficit for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<b>2021</b>	<b>2020</b>
I. Undisposed deficit	₩ (13,211,701,870,824)	₩ (13,100,233,643,918)
Undisposed accumulated deficit carried over from prior years	(13,100,233,643,918)	(9,393,324,831,534)
Loss for the year	(125,649,141,807)	(3,171,486,517,554)
Fair value through other comprehensive income - Reclassification adjustments	-	(530,382,948,667)
Remeasurement components	14,180,914,901	(5,039,346,163)
II. Undisposed deficit to be carried forward to the subsequent year	₩ (13,211,701,870,824)	₩ (13,100,233,643,918)

Dates of disposition for the years ended December 31, 2021 and 2020 are February 25, 2022, and February 26, 2021, respectively.

**Korea National Oil Corporation and its subsidiaries**  
**Notes to the consolidated financial statements**  
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**32. Other Components of Equity**

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

<i>(in Korean won)</i>	<u>2021</u>	<u>2020</u>
Other capital surpluses <sup>1</sup>	₩ 24,934,262,869	₩ 24,934,262,869
Accumulated other comprehensive loss	(506,235,674,010)	(33,723,893,057)
	<u>₩ (481,301,411,141)</u>	<u>₩ (8,789,630,188)</u>

<sup>1</sup> Details of other capital surpluses as of December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<u>2021</u>	<u>2020</u>
Assets contributed	₩ 24,954,221,211	₩ 24,954,221,211
Loss on capital reduction	(19,958,342)	(19,958,342)
	<u>₩ 24,934,262,869</u>	<u>₩ 24,934,262,869</u>

Details of accumulated other comprehensive loss as of December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<u>2021</u>	<u>2020</u>
Revaluation surplus	₩ 473,372,779,452	₩ 489,752,621,439
Loss on valuation of equity instruments measured at fair value through other comprehensive income	(32,514,018,456)	(32,247,255,298)
Equity adjustments in equity method	25,377,326,878	37,369,469,452
Foreign currency translation differences for foreign operations	(692,309,383,987)	(518,914,767,154)
Loss on valuation of derivative instruments	(280,162,377,897)	(9,683,961,496)
	<u>₩ (506,235,674,010)</u>	<u>₩ (33,723,893,057)</u>

**Korea National Oil Corporation and its subsidiaries**  
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**33. Revenue**

Details of revenues (based on customer locations) except for other income, other profit and financial income (Notes 35, 36, and 37) for the years ended December 31, 2021 and 2020, are as follows:

*(in Korean won)*

	2021		
	Domestic	Overseas	Total
Sales of goods and finished goods	₩ 66,340,245,699	₩ 1,927,426,620,258	₩ 1,993,766,865,957
Revenues from services provided	39,845,997,549	99,798,505,911	139,644,503,460
Income on government grants	2,014,559,285	-	2,014,559,285
Others	1,100,290,695	17,811,839,765	18,912,130,460
	<u>₩ 109,301,093,228</u>	<u>₩ 2,045,036,965,934</u>	<u>₩ 2,154,338,059,162</u>

*(in Korean won)*

	2020		
	Domestic	Overseas	Total
Sales of goods and finished goods	₩ 69,849,192,597	₩ 1,546,553,315,814	₩ 1,616,402,508,411
Revenues from services provided	47,310,995,212	213,477,064,872	260,788,060,084
Income on government grants	1,354,434,803	10,605,570	1,365,040,373
Others	1,098,864,837	51,568,010,471	52,666,875,308
	<u>₩ 119,613,487,449</u>	<u>₩ 1,811,608,996,727</u>	<u>₩ 1,931,222,484,176</u>

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**34. Selling and Administrative Expenses**

<i>(In Korean won)</i>	<u>2021</u>	<u>2020</u>
Salaries	₩ 82,967,396,596	₩ 106,384,971,560
Post-employment benefits	7,787,089,056	7,732,965,512
Employee benefits	13,623,155,080	12,795,639,800
Insurance	1,952,793,415	2,164,417,961
Depreciation	14,994,533,525	16,780,503,608
Amortization	2,632,149,314	3,155,151,383
Commission expense	21,918,873,309	24,128,123,709
Advertising expense	504,563,402	568,273,457
Training	833,537,552	1,364,285,601
Vehicle	518,991,849	959,098,583
Publication	207,156,076	250,440,336
Promotional expense	126,398,889	76,135,729
Rental expense	273,070,480	746,900,363
Communication	466,381,431	596,945,203
Taxes and dues	1,005,002,475	1,879,794,326
Supplies expense	1,328,944,095	1,685,029,788
Utilities expense	1,055,499,390	1,051,542,402
Repairs	4,167,937,620	4,405,619,616
Ordinary research and development expense	4,408,579,139	3,057,117,278
Travel expense	618,616,666	654,906,887
Clothing expense	9,154,433	9,880,299
Association expense	382,676,699	309,609,412
Sales promotional expense	6,317	180,902
Sales commissions	107,257,806,541	47,713,456,551
Other selling and administrative expenses	10,100,516,062	13,256,871,653
	<u>₩ 279,140,829,411</u>	<u>₩ 251,727,861,919</u>

Details of accumulated other selling and administrative expenses for the years ended December 31, 2021 and 2020, are as follows:

<i>(In Korean won)</i>	<u>2021</u>	<u>2020</u>
Rewards expense	₩ 19,392,140	₩ 32,753,515
Litigation expense	3,001,012,680	2,494,959,973
Promotion expense	130,595,099	175,193,928
Overhead expense for production	5,822,004,135	8,519,789,279
Other administrative expenses	964,865,194	-
Miscellaneous expense	162,646,814	2,034,174,958
	<u>₩ 10,100,516,062</u>	<u>₩ 13,256,871,653</u>

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**35. Other Income and Expenses**

Details of other income for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<u>2021</u>	<u>2020</u>
Reversal of other provisions	₩ 4,657,107,886	₩ 6,334,527,540
Reversal of other bad debt allowance	7,162,145,956	120,459,504
Compensation and indemnity	11,607,532	23,530,138
Rental income	712,765,879	698,170,482
Others	30,630,809,011	25,660,336,845
	<u>₩ 43,174,436,264</u>	<u>₩ 32,837,024,509</u>

Details of other incomes for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<u>2021</u>	<u>2020</u>
Income tax refunds	₩ -	₩ 1,061,273,247
Adjusted income resulting from inventory inspection	-	135,204,028
Other income from overseas fields	2,881,570,149	1,443,299,094
Other non-operating income	27,749,238,862	23,020,560,476
	<u>₩ 30,630,809,011</u>	<u>₩ 25,660,336,845</u>

Details of other expenses for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<u>2021</u>	<u>2020</u>
Transfer to other provision	₩ 3,815,495,845	₩ 371,732,967
Other bad debt expense	6,620,113,225	4,661,295,775
Donations	1,156,724,575	2,028,563,100
Others	14,507,121,110	7,205,765,430
	<u>₩ 26,099,454,755</u>	<u>₩ 14,267,357,272</u>

Details of other expenses for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<u>2021</u>	<u>2020</u>
Adjusted expense resulting from inventory inspection	₩ 497,371,444	₩ 518,193,232
Other expenses from overseas fields	6,398,356,375	535,704,018
Other non-operating expenses	7,611,393,291	6,151,868,180
	<u>₩ 14,507,121,110</u>	<u>₩ 7,205,765,430</u>

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**36. Other Profit and Loss**

Details of other profit and loss for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<u>2021</u>	<u>2020</u>
Gains on disposal of property, plant and equipment	₩ 4,508,218,421	₩ 325,296,642
Gains on disposal of intangible assets other than goodwill	-	12,656,237
Gains on disposal of non-current non-financial asset	115,682,934,237	-
Gains on transactions of derivative (other than finance income)	269,961,377	227,616,552
Reversal of impairment losses on property, plant and equipment	151,690,842,264	2,442,068,314
Reversal of impairment losses on intangible assets other than goodwill	11,029,846,660	4,784,241,479
Gains on foreign currency translation (other than finance income)	3,177,180,518	49,243,856,929
Gains on foreign currency transactions	70,423,052,512	188,298,565,240
Other gains	23,535,330,052	14,314,960,913
Losses on disposal of property, plant and equipment	(2,793,103,965)	(6,679,846,717)
Losses on disposal of intangible assets other than goodwill	(2,289)	(173,442,262)
Losses on valuation of property, plant and equipment	(147,235,149)	(2,213,358,552)
Impairment losses on property, plant and equipment	(266,660,032,292)	(1,424,500,981,351)
Impairment losses on intangible assets	(52,583,161,537)	(306,090,695,726)
Losses on foreign currency translation (other than finance cost)	(11,993,131,250)	(48,630,115,580)
Losses on foreign currency transactions (other than finance cost)	(65,226,065,131)	(189,318,239,778)
Other losses	(4,053,982,650)	(16,723,274,676)
	<u>₩ (23,139,348,222)</u>	<u>₩ (1,734,680,692,336)</u>

Details of accumulated other gains for the years ended December 31, 2021 and 2020, are as follows:

<i>(In Korean won)</i>	<u>2021</u>	<u>2020</u>
Gains on stockpile oil quantity adjustment	₩ 22,300,649	₩ 1,084,173,203
Gains on duty from stockpile lease	984,792,041	118,264,481
Miscellaneous gains	22,528,237,362	13,112,523,229
	<u>₩ 23,535,330,052</u>	<u>₩ 14,314,960,913</u>

Details of accumulated other losses for the years ended December 31, 2021 and 2020, are as follows:

<i>(In Korean won)</i>	<u>2021</u>	<u>2020</u>
Losses on duty from stockpile lease	₩ 92,938,165	₩ 1,499,884,793
Losses on disposal of stored items	151,214,034	818,193,757
Losses on settlement of stockpiled oil quantity	4,145,684	5,099,826,782
Losses on cancellation of debt exemption	811,543	2,599,318,580
Miscellaneous losses	3,804,873,224	6,706,050,764
	<u>₩ 4,053,982,650</u>	<u>₩ 16,723,274,676</u>

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**37. Finance income**

Details of finance income for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<u>2021</u>	<u>2020</u>
Interest income	₩ 9,183,134,913	₩ 14,608,760,475
Dividend income	20,357,916	5,840,386
Gains on valuation of financial liabilities measured at fair value through profit or loss	-	37,229,917,380
Gains on valuation of financial assets measured at fair value through profit or loss	26,577,295,287	8,311,881,332
Gains on transactions of derivative financial instruments	483,463,662	92,375,935,424
Gains on foreign currency translation	141,884,685,492	72,133,591,704
Gains on foreign currency transactions	51,602,345,314	41,864,780,884
Other finance income <sup>1</sup>	107,769,680,189	-
	<u>₩ 337,520,962,773</u>	<u>₩ 266,530,707,585</u>

<sup>1</sup> Changes in special levy due to changes in circumstances, such as sales related to successful unsecured funds in accordance with the Energy and Resources Business Special Accounting Act, are reflected.

Details of interest income by sources included in finance income for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<u>2021</u>	<u>2020</u>
Cash and cash equivalents	₩ 8,865,250,915	₩ 8,068,387,373
Loans and receivables	317,883,998	6,540,373,102
	<u>₩ 9,183,134,913</u>	<u>₩ 14,608,760,475</u>

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**38. Finance costs**

Details of finance costs for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<u>2021</u>	<u>2020</u>
Interest expenses	₩ 417,670,447,159	₩ 467,531,643,267
Losses on valuation of financial assets measured at fair value through profit or loss	12,629,095,618	117,456,567,243
Losses on valuation of financial liabilities measured at fair value through profit or loss	57,328,618,373	4,862,291,130
Losses on valuation of derivative financial instruments	-	18,860,237,629
Losses on transactions of derivative financial instruments	10,314,921	-
Losses on foreign currency translation	28,228,977,998	197,395,882,448
Losses on foreign currency transactions	9,483,818,428	30,178,311,794
Other financial costs	76,006,537,352	67,133,153,206
	<u>₩ 601,357,809,849</u>	<u>₩ 903,418,086,717</u>

Details of interest expenses by sources included in finance costs for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<u>2021</u>	<u>2020</u>
Short-term borrowings	₩ 848,675,974	₩ 10,385,069,144
Long-term borrowings	53,439,918,501	66,138,961,034
Bond payables	284,171,300,843	282,557,464,758
Derivative liabilities	62,887,889,746	90,371,344,993
Lease liability	13,457,854,918	14,465,865,895
Other financial liabilities	2,864,807,177	3,612,937,443
	<u>₩ 417,670,447,159</u>	<u>₩ 467,531,643,267</u>

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**39. Income Tax Expense from Continuing Operations**

The components of income tax expense for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<b>2021</b>	<b>2020</b>
Current income tax	₩ 306,029,015,454	₩ 245,379,937,624
Deferred tax directly charged to equity	137,768,733,620	(140,874,118,936)
Changes in deferred taxes arising from temporary differences	(82,632,016,750)	(133,847,525,893)
Adjustment for prior periods <sup>1</sup>	(87,022,551,739)	33,966,938,221
Income tax expense	<u>₩ 274,143,180,585</u>	<u>₩ 4,625,231,016</u>

<sup>1</sup> It includes income tax expense of ₩ 68,772 million recognized in 2020 according to the result of a tax audit for the fiscal period 2015-2017 and the income tax of ₩ 1,878 million refunded and reversed in 2021 for the prior periods and cancellation as a result of request for pre-taxation review on April 1, 2021.

Reconciliations of loss before income tax to income tax expense for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<b>2021</b>	<b>2020</b>
Profit (loss) before income tax	₩ 228,171,455,932	₩ (2,434,548,119,442)
Income tax expense(income) computed at the statutory rate	₩ 55,217,492,345	₩ (589,160,644,776)
Adjustments		
Adjustments to prior year tax return	(70,683,821,392)	67,588,791,646
Non-taxable income	(14,836,114,430)	(9,515,407,518)
Non-deductible expenses	47,754,415,305	38,987,526,804
Temporary differences not recognized in deferred tax assets	9,621,970,219	389,578,972,395
Differences in tax rates in overseas entities	113,420,263,060	(73,706,076,300)
Effect of changes in tax rates	149,987,705,825	214,473,922,190
	<u>290,481,910,932</u>	<u>38,247,084,441</u>
Effect from temporary differences not recognized in prior years	(16,338,730,347)	(33,621,853,425)
Income tax expense	<u>₩ 274,143,180,585</u>	<u>₩ 4,625,231,016</u>
Effective tax rate <sup>1</sup>	120.15%	-

<sup>1</sup> The average effective tax rate for the previous years is negative and has not been calculated.

The expected applicable statutory tax rate for the years ended December 31, 2021 and 2020, is both 24.2%, which is the statutory income tax rate at Korea where the Group is domiciled.

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**39. Income Tax Expense from Continuing Operations (cont'd)**

Income tax recognized as accumulated other comprehensive income for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	2021	2020
Revaluation of financial assets measured at fair value through other comprehensive income	₩ 85,167,073	₩ -
Revaluation gain or loss	5,229,448,099	(156,359,016,344)
Net change in the unrealized fair value of derivative using cash flow hedge accounting	136,981,534,551	13,876,029,636
Remeasurement components	(4,527,416,103)	1,608,867,772
	₩ 137,768,733,620	₩ (140,874,118,936)

Changes in deferred income tax assets (liabilities) recognized in the consolidated statements of financial position for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	2021				
	Beginning balance	Amounts recognized in profit or loss	Amounts recognized in other comprehensive income	Others	Ending balance
<b>Deferred income tax on temporary differences</b>					
Contributions for construction	₩ 5,696,308	₩ (5,991,702)	₩ -	₩ 295,394	₩ -
Investment in associates and others	1,245,671,394	(28,917,844,428)	-	(926,402,850)	(28,598,575,884)
Investment in subsidiaries	34,452,670,571	(36,239,262,852)	-	1,786,599,204	6,923
Financial guarantee liabilities	7,529,527,708	(12,173,683,418)	-	237,765,402	(4,406,390,308)
Bad debt allowance	(24,015,564,926)	(5,060,856,413)	-	(2,333,794,190)	(31,410,215,529)
Financial assets measured at fair value through other comprehensive income	2,885,678,268	(3,868,238,409)	85,167,073	122,800,278	(774,592,790)
Intangible assets other than goodwill	6,492,739,099	5,384,985,580	-	775,139,097	12,652,863,776
Accrued expenses	351,506,045	7,864,496,069	-	313,803,115	8,529,805,229
Asset retirement obligation	(5,851,090,137)	2,520,215,116	-	(433,873,987)	(3,764,749,008)
Property, plant and equipment	24,927,954,837	14,482,589,941	-	2,753,758,796	42,164,303,574
Land	(207,198,398,871)	446,907,122	5,229,448,099	(18,364,113,279)	(219,886,156,929)
Gain (loss) on valuation of derivative	7,335,091,544	14,488,821,514	(13,075,292,273)	708,066,599	9,456,687,384
Defined benefit obligations	2,554,471,124	6,185,873,985	(4,527,416,103)	288,448,162	4,501,377,168
Others	(47,846,158,426)	37,353,197,895	-	(2,946,857,350)	(13,439,817,881)
	(197,130,205,462)	2,461,210,000	(12,288,093,204)	(18,018,365,609)	(224,975,454,275)
Deferred tax assets of subsidiaries	780,322,777,280	9,581,023,643	150,056,826,824	75,658,168,697	1,015,618,796,444
Deferred tax liabilities of subsidiaries	(177,830,252,770)	(67,178,950,512)	-	(18,347,524,356)	(263,356,727,638)
	602,492,524,510	(57,597,926,869)	150,056,826,824	57,310,644,341	752,262,068,806
	₩ 405,362,319,048	₩ (55,136,716,869)	₩ 137,768,733,620	₩ 39,292,278,732	₩ 527,286,614,531

Temporary differences not recognized in deferred tax assets, tax loss carryforwards and tax deduction are ₩ 15,353,961 million and unused tax loss is ₩ 3,571,511 million as of December 31, 2021.

**39. Income Tax Expense from Continuing Operations (cont'd)**

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	2020				
	Beginning balance	Amounts recognized in profit or loss	Amounts recognized in other comprehensive income	Others	Ending balance
<b>Deferred income tax on temporary differences</b>					
Contributions for construction	₩ -	₩ 6,178,242	₩ -	₩ (481,934)	₩ 5,696,308
Investment in associates and others	(470,704,667)	1,830,811,572	-	(114,435,511)	1,245,671,394
Investment in subsidiaries	-	37,367,531,164	-	(2,914,860,593)	34,452,670,571
Financial guarantee liabilities	15,125,847	8,151,145,211	-	(636,743,350)	7,529,527,708
Bad debt allowance	24,328,680,926	(50,843,613,399)	-	2,499,367,547	(24,015,564,926)
Financial assets measured at fair value through other comprehensive income	17,390,103	3,112,096,145	-	(243,807,980)	2,885,678,268
Intangible assets other than goodwill	13,481,399,400	(6,698,422,084)	-	(290,238,217)	6,492,739,099
Accrued expenses	-	381,245,137	-	(29,739,092)	351,506,045
Asset retirement obligation	(1,549,395,450)	(4,766,949,399)	-	465,254,712	(5,851,090,137)
Property, plant and equipment	29,576,307,212	(3,107,710,390)	-	(1,540,641,985)	24,927,954,837
Land	-	(68,369,357,357)	(156,359,016,344)	17,529,974,830	(207,198,398,871)
Gain (loss) on valuation of derivative	1,841,518,182	(5,157,049,840)	11,235,817,663	(585,194,461)	7,335,091,544
Defined benefit obligations	(2,451,930,197)	3,660,773,937	1,608,867,772	(263,240,388)	2,554,471,124
Others	6,631,289,018	(58,652,898,036)	-	4,175,450,592	(47,846,158,426)
	<u>71,419,680,374</u>	<u>(143,086,219,097)</u>	<u>(143,514,330,909)</u>	<u>18,050,664,170</u>	<u>(197,130,205,462)</u>
Deferred tax assets of subsidiaries	712,918,743,442	117,082,355,593	2,640,211,973	(52,318,533,728)	780,322,777,280
Deferred tax liabilities of subsidiaries	(221,647,766,711)	33,031,736,842	-	10,785,777,099	(177,830,252,770)
	<u>491,270,976,731</u>	<u>150,114,092,435</u>	<u>2,640,211,973</u>	<u>(41,532,756,629)</u>	<u>602,492,524,510</u>
	<u>₩ 562,690,657,105</u>	<u>₩ 7,027,873,338</u>	<u>₩ (140,874,118,936)</u>	<u>₩ (23,482,092,459)</u>	<u>₩ 405,362,319,048</u>

Temporary differences not recognized in deferred tax assets, tax loss carryforwards and tax deduction are ₩ 17,387,115 million and unused tax loss is ₩ 1,937,194 million as of December 31, 2020.

Details of deferred income tax assets (liabilities) recognized in the consolidated statements of financial position as of December 31, 2021 and 2020, are as follows:

(in Korean won)

	2021	2020
Deferred income tax assets	₩ 1,015,618,796,444	₩ 780,322,777,378
Deferred income tax liabilities	(488,332,181,913)	(374,960,458,330)
	<u>₩ 527,286,614,531</u>	<u>₩ 405,362,319,048</u>

**40. Non-current Assets Held for Sale**

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Details of non-current assets held for sale as of December 31, 2021, are as follows:

<i>(in Korean won)</i>	<u>2021<sup>1</sup></u>	<u>2020<sup>2</sup></u>
Assets held for sale	₩ 101,963,839,880	₩ 2,565,848,896
Liabilities included in asset group held for sale	47,248,272,679	-

<sup>1</sup> The sale of Ankor Legacy assets has started for the year ended December 31, 2021, which satisfies conditions for reclassification to assets held for sale, and scheduled to be completed by 2022. The Group performed an impairment testing based on net selling value as of December 31, 2021 and recognized impairment loss of ₩ 9,211 million on mining rights and ₩ 7,244 million on oil & gas properties.

<sup>2</sup> The Company disposed 50% ownership interests in Offshore International Group in January 2021. It was presented as net value after recognition of an impairment losses, ₩ 89,991 million on the investments in joint ventures held for sale, as of December 31, 2020 (see Note 46).

Details of assets and liabilities included in an asset group held for sale as of December 31, 2021 are as follows:

<i>(in Korean won)</i>	<u>2021</u>
<b>Asset held for sale</b>	
Mining rights	₩ 66,686,984,559
Oil & gas properties	27,931,368,619
Other deposits received	7,345,486,702
	<u>₩ 101,963,839,880</u>
<b>Liabilities included in the asset group held for sale</b>	
Short-term provision for restoration	₩ 280,472,151
Long-term provision for restoration	46,967,800,528
	<u>₩ 47,248,272,679</u>

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**41. Expenses Classified by Nature**

Expenses classified by nature for the year ended December 31, 2021, are as follows:

₩ (in Korean won)

	2021			
	Changes in inventories	Selling and administrative expenses	Cost of sales	Total
Changes in inventories - merchandise	₩ 2,220,233,944	₩ -	₩ -	₩ 2,220,233,944
Changes in inventories - finished goods	1,959,867,911	-	-	1,959,867,911
Changes in inventories - others	8,114,798,518	-	-	8,114,798,518
Purchases of inventories	-	-	16,465,284,556	16,465,284,556
Raw materials used	-	-	775,226,560	775,226,560
Salaries	-	82,967,396,596	184,814,240,115	267,781,636,711
Severance and retirement benefits	-	7,787,089,056	5,786,605,474	13,573,694,530
Other employee benefits	-	13,623,155,080	8,230,495,581	21,853,650,661
Insurance	-	1,952,793,415	19,824,766,156	21,777,559,571
Depreciation	-	14,994,533,525	511,431,160,728	526,425,694,253
Amortization	-	2,632,149,314	49,320,735,622	51,952,884,936
Commissions and fees	-	21,918,873,309	58,786,749,702	80,705,623,011
Advertising expense	-	504,563,402	(82,658,378)	421,905,024
Education and training	-	833,537,552	1,355,749,684	2,189,287,236
Vehicle maintenance	-	518,991,849	1,515,790,367	2,034,782,216
Books and printing	-	207,156,076	13,413,815	220,569,891
Business development	-	126,398,889	228,394,451	354,793,340
Rental expense	-	273,070,480	31,485,113,025	31,758,183,505
Communications	-	466,381,431	1,317,877,279	1,784,258,710
Transport	-	-	127,056,950,918	127,056,950,918
Taxes and dues	-	1,005,002,475	38,714,516,533	39,719,519,008
Supplies	-	1,328,944,095	7,261,443,789	8,590,387,884
Utilities	-	1,055,499,390	58,266,879,762	59,322,379,152
Repairs	-	4,167,937,620	128,127,733,889	132,295,671,509
Research and development	-	4,408,579,139	8,598,281,098	13,006,860,237
Travel	-	618,616,666	307,699,748	926,316,414
Clothing expenses	-	9,154,433	68,616,184	77,770,617
Investigation and analysis	-	-	80,597,106	80,597,106
Association fee	-	382,676,699	168,982,379	551,659,078
Sales promotion	-	6,317	-	6,317
Sales commissions	-	107,257,806,541	9,175,074,454	116,432,880,995
Others	-	10,100,516,062	146,369,481,459	156,469,997,521
	₩ 12,294,900,373	₩ 279,140,829,411	₩ 1,415,465,202,056	₩ 1,706,900,931,840

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**41. Expenses Classified by Nature (cont'd)**

Expenses classified by nature for the year ended December 31, 2020, are as follows:

(in Korean won)

	2020			
	Changes in inventories	Selling and administrative expenses	Cost of sales	Total
Changes in inventories - merchandise	₩ (3,776,670,584)	₩ -	₩ -	₩ (3,776,670,584)
Changes in inventories - finished goods	10,571,720,166	-	-	10,571,720,166
Changes in inventories - others	(4,891,157,207)	-	-	(4,891,157,207)
Purchases of inventories	-	-	16,070,640,011	16,070,640,011
Raw materials used	-	-	3,714,515,014	3,714,515,014
Salaries	-	106,384,971,560	109,665,153,229	216,050,124,789
Severance and retirement benefits	-	7,732,965,512	4,287,112,882	12,020,078,394
Other employee benefits	-	12,795,639,800	8,277,486,155	21,073,125,955
Insurance	-	2,164,417,961	11,353,376,329	13,517,794,290
Depreciation	-	16,780,503,608	708,384,335,700	725,164,839,308
Amortization	-	3,155,151,383	59,100,068,857	62,255,220,240
Commissions and fees	-	24,128,123,709	43,771,855,795	67,899,979,504
Advertising expense	-	568,273,457	77,259,207	645,532,664
Education and training	-	1,364,285,601	326,076,408	1,690,362,009
Vehicle maintenance	-	959,098,583	834,382,520	1,793,481,103
Books and printing	-	250,440,336	13,381,791	263,822,127
Business development	-	76,135,729	(28,438,108)	47,697,621
Rental expense	-	746,900,363	21,034,384,217	21,781,284,580
Communications	-	596,945,203	342,902,847	939,848,050
Transport	-	-	67,297,205,209	67,297,205,209
Taxes and dues	-	1,879,794,326	32,096,617,737	33,976,412,063
Supplies	-	1,685,029,788	7,099,873,867	8,784,903,655
Utilities	-	1,051,542,402	48,504,039,592	49,555,581,994
Repairs	-	4,405,619,616	77,694,891,801	82,100,511,417
Research and development	-	3,057,117,278	671,865,008	3,728,982,286
Travel	-	654,906,887	372,968,491	1,027,875,378
Clothing expenses	-	9,880,299	133,157,857	143,038,156
Investigation and analysis	-	-	35,878,240	35,878,240
Association fee	-	309,609,412	15,512,713	325,122,125
Sales promotion	-	180,902	948,160,853	948,341,755
Sales commissions	-	47,713,456,551	4,976,709,829	52,690,166,380
Others	-	13,256,871,653	504,627,366,155	517,884,237,808
	₩ 1,903,892,375	₩ 251,727,861,919	₩ 1,731,698,740,206	₩ 1,985,330,494,500

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**42. Categories of Financial Instruments**

Details of current financial assets by category as of December 31, 2021 and 2020, are as follows:

(in Korean won)

	2021					
	Fair value through profit or loss		Amortized costs <sup>1</sup>		Total	
Cash and cash equivalents	₩	-	₩	793,878,668,132	₩	793,878,668,132
Current portion of financial assets at fair value through profit or loss		229,469,293,513		-		229,469,293,513
Other current financial assets		-		805,934,114		805,934,114
Trade and other receivables		-		628,746,933,806		628,746,933,806
	₩	229,469,293,513	₩	1,423,431,536,052	₩	1,652,900,829,565

<sup>1</sup> The above fair values of the financial assets measured at amortized costs do not significantly differ from their book values.

(in Korean won)

	2020							
	Fair value through profit or loss		Amortized costs <sup>1</sup>		Fair value – hedging instruments	Total		
Cash and cash equivalents	₩	-	₩	796,778,898,842	₩	-	₩	796,778,898,842
Current portion of financial assets at fair value through profit or loss		536,899,617,747		-		-		536,899,617,747
Short-term loans		-		30,736,000,000		-		30,736,000,000
Derivative assets		-		-		49,473,380,873		49,473,380,873
Other current financial assets		-		739,651,047		-		739,651,047
Trade and other receivables		-		433,709,955,321		-		433,709,955,321
	₩	536,899,617,747	₩	1,261,964,505,210	₩	49,473,380,873	₩	1,848,337,503,830

<sup>1</sup> The above fair values of the financial assets measured at amortized costs do not significantly differ from their book values.

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**42. Categories of Financial Instruments (cont'd)**

Details of non-current financial assets by category as of December 31, 2021 and 2020, are as follows:

(in Korean won)

	2021				
	Fair value through profit or loss	Fair value through other comprehensive income	Amortized costs <sup>1</sup>	Fair value – Hedging instruments	Total
Financial assets at fair value through profit or loss <sup>2</sup>	₩ 716,945,001,384	₩ -	₩ -	₩ -	₩ 716,945,001,384
Financial assets at fair value through other comprehensive income	-	12,923,988,432	-	-	12,923,988,432
Long-term loans	-	-	105,703,417,238	-	105,703,417,238
Long-term financial instruments	-	-	6,343,668,993	-	6,343,668,993
Non-current derivative assets	-	-	-	91,590,770,741	91,590,770,741
Long-term trade and other receivables	-	-	37,229,675,922	-	37,229,675,922
	₩ 716,945,001,384	₩ 12,923,988,432	₩ 149,276,762,153	₩ 91,590,770,741	₩ 970,736,522,710

<sup>1</sup> The above fair values of the financial assets measured at amortized costs do not significantly differ from their book values.

<sup>2</sup> Loans to related parties and accrued income from related parties are included.

(in Korean won)

	2020				
	Fair value through profit or loss	Fair value through other comprehensive income	Amortized costs <sup>1</sup>	Fair value – Hedging instruments	Total
Financial assets at fair value through profit or loss <sup>2</sup>	₩ 674,664,491,128	₩ -	₩ -	₩ -	₩ 674,664,491,128
Financial assets at fair value through other comprehensive income	-	12,195,650,672	-	-	12,195,650,672
Long-term loans	-	-	105,423,832,379	-	105,423,832,379
Long-term financial instruments	-	-	5,601,079,085	-	5,601,079,085
Non-current derivative assets	-	-	-	122,516,278,216	122,516,278,216
Long-term trade and other receivables	-	-	44,061,506,620	-	44,061,506,620
	₩ 674,664,491,128	₩ 12,195,650,672	₩ 155,086,418,084	₩ 122,516,278,216	₩ 964,462,838,100

<sup>1</sup> The above fair values of the financial assets measured at amortized costs do not significantly differ from their book values.

<sup>2</sup> Loans to related parties and accrued income from related parties are included.

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**42. Categories of Financial Instruments (cont'd)**

Details of current financial liabilities by category as of December 31, 2021 and 2020, are as follows:

(in Korean won)

	2021			
	Fair value through profit or loss	Amortized costs <sup>1</sup>	Fair value – Hedging instruments	Total
Financial liabilities at fair value through profit or loss	₩ 47,935,549,055	₩ -	₩ -	₩ 47,935,549,055
Short-term borrowings	-	144,342,885,493	-	144,342,885,493
Current portion of long-term borrowings	-	456,226,404,287	-	456,226,404,287
Current portion of bond payables	-	2,187,473,241,073	-	2,187,473,241,073
Current portion of derivative liabilities	-	-	450,124,112,793	450,124,112,793
Other current financial liabilities	-	37,535,285,589	-	37,535,285,589
Trade and other payables	-	829,443,504,687	-	829,443,504,687
	<u>₩ 47,935,549,055</u>	<u>₩ 3,655,021,321,129</u>	<u>₩ 450,124,112,793</u>	<u>₩ 4,153,080,982,977</u>

<sup>1</sup> The above fair values of the financial liabilities measured at amortized costs do not significantly differ from their book values.

(in Korean won)

	2020			
	Fair value through profit or loss	Amortized costs <sup>1</sup>	Fair value – Hedging instruments	Total
Financial liabilities at fair value through profit or loss	₩ 2,585,153,204	₩ -	₩ -	₩ 2,585,153,204
Short-term borrowings	-	259,155,616,000	-	259,155,616,000
Current portion of long-term borrowings	-	1,151,137,481,394	-	1,151,137,481,394
Current portion of bond payables	-	1,644,978,262,639	-	1,644,978,262,639
Current portion of derivative liabilities	-	-	18,218,868,448	18,218,868,448
Other current financial liabilities	-	8,575,601,856	-	8,575,601,856
Trade and other payables	-	619,687,530,974	-	619,687,530,974
	<u>₩ 2,585,153,204</u>	<u>₩ 3,683,534,492,863</u>	<u>₩ 18,218,868,448</u>	<u>₩ 3,704,338,514,515</u>

<sup>1</sup> The above fair values of the financial liabilities measured at amortized costs do not significantly differ from their book values.

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**42. Categories of Financial Instruments (cont'd)**

Details of non-current financial liabilities by category as of December 31, 2021 and 2020, are as follows:

(in Korean won)

		2021			
		Fair value through profit or loss	Amortized costs <sup>1</sup>	Fair value – Hedging instruments	Total
Financial liabilities at fair value through profit or loss	₩	34,423,249,111	₩ -	₩ -	₩ 34,423,249,111
Long-term borrowings		-	1,376,604,010,935	-	1,376,604,010,935
Bond payables		-	10,713,362,977,657	-	10,713,362,977,657
Derivative liabilities		-	-	125,640,830,119	125,640,830,119
Long-term trade and other payables		-	359,648,702,666	-	359,648,702,666
	₩	34,423,249,111	₩ 12,449,615,691,258	₩ 125,640,830,119	₩ 12,609,679,770,488

<sup>1</sup> The above fair values of the financial liabilities measured at amortized costs do not significantly differ from their book values

(in Korean won)

		2020			
		Fair value through profit or loss	Amortized costs <sup>1</sup>	Fair value – Hedging instruments	Total
Financial liabilities at fair value through profit or loss	₩	29,539,647,462	₩ -	₩ -	₩ 29,539,647,462
Long-term borrowings		-	1,011,131,737,340	-	1,011,131,737,340
Bond payables		-	10,211,308,176,111	-	10,211,308,176,111
Derivative liabilities		-	-	52,267,229,178	52,267,229,178
Long-term trade and other payables		-	528,379,159,028	-	528,379,159,028
	₩	29,539,647,462	₩ 11,750,819,072,479	₩ 52,267,229,178	₩ 11,832,625,949,119

<sup>1</sup> The above fair values of the financial liabilities measured at amortized costs do not significantly differ from their book values

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**42. Categories of Financial Instruments (cont'd)**

Net gains or losses by financial instruments for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<b>2021</b>	<b>2020</b>
Financial assets measured at fair value through profit of loss		
Gain (loss) on valuation, net	₩ 13,948,199,669	₩ (109,144,685,911)
Financial assets measured at amortized costs		
Interest income	9,183,134,913	14,608,760,475
Gain (loss) on foreign currency transactions, net	226,547,142,998	(1,962,416,563)
Gain (loss) on foreign currency translation, net	8,007,856,509	(16,263,001,120)
Bad debt expenses	(6,620,113,225)	(4,661,295,775)
Reversal of bad debt allowance	7,162,145,956	120,459,504
Other financial income	107,769,680,189	-
Financial assets measured at fair value through other comprehensive income		
Dividend income	20,357,916	5,840,386
Other comprehensive gain (loss), net of tax	(266,763,158)	6,682,228,990
Financial assets designated as hedging instruments		
Gain (loss) on foreign currency translation, net	(54,993,802,089)	171,546,997,993
Other comprehensive gain (loss), net of tax	(35,464,748,701)	(7,200,329,757)
Financial liabilities measured at fair value through profit or loss		
Gain (loss) on valuation	(57,328,618,373)	32,367,626,250
Financial liabilities measured at amortized cost		
Interest expense	(354,782,557,173)	(377,006,990,060)
Gain (loss) on foreign currency transactions, net	(179,231,628,731)	12,629,211,115
Gain (loss) on foreign currency translation, net	260,520,963,746	(312,617,567,628)
Establishment of financial guarantee liabilities	(32,768,093,356)	-
Other financial cost <sup>1</sup>	(825,557,694)	(16,348,031,001)
Financial liabilities designated as hedging instruments		
Gain (loss) on transactions, net	743,110,118	92,603,551,976
Gain (loss) on valuation, net	-	(18,860,237,629)
Interest expense	(62,887,889,986)	(90,371,344,993)
Gain (loss) on foreign currency translation, net	(108,695,261,404)	32,685,021,360
Other comprehensive gain (loss), net of tax	(235,013,667,700)	(7,472,709,316)
	<u>₩ (494,976,109,576)</u>	<u>₩ (598,658,911,704)</u>

<sup>1</sup> Excludes interest cost on provisions amounting to ₩ 42,413 million and ₩ 50,785 million for the years ended December 31, 2021 and 2020, respectively.

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**43. Netting Agreements**

*Offsetting of financial assets and financial liabilities*

As of December 31, 2021 and 2020, financial assets and financial liabilities subject to offsetting, enforceable master netting arrangements and similar agreements are as follows:

(in Korean won)

		2021										
		Gross amounts recognized as financial instruments	Gross amounts of recognized financial instruments set off in the statement of financial position	Net amounts of financial instruments presented in the statement of financial position	Related amounts not set off in the statement of financial position		Net amount <sup>2</sup>					
					Financial instruments	Collateral received or pledged						
<b>Financial assets</b>												
Derivative <sup>1</sup>	₩	91,590,770,741	₩	-	₩	91,590,770,741	₩	(91,590,770,741)	₩	-	₩	-
<b>Financial liabilities</b>												
Derivative <sup>1</sup>	₩	575,764,942,912	₩	-	₩	575,764,942,912	₩	(91,590,770,741)	₩	-	₩	484,174,172,171

<sup>1</sup> Some of derivative contracts are made under International Swaps and Derivative Association (ISDA) master netting agreements.

<sup>2</sup> In general, under such agreements the amounts owed by each counter party on a single day in respect of all transactions outstanding in the same currency are aggregated into a single net amount that is payable by one party to the other. In certain circumstances (i.e. when a default occurs), all standing transactions under the agreement are terminated, the termination value is assessed and only a single amount is payable in settlement of all transactions.

(in Korean won)

		2020										
		Gross amounts recognized as financial instruments	Gross amounts of recognized financial instruments set off in the statement of financial Position	Net amounts of financial instruments presented in the statement of financial position	Related amounts not set off in the statement of financial position		Net amount <sup>2</sup>					
					Financial instruments	Collateral received or pledged						
<b>Financial assets</b>												
Derivative <sup>1</sup>	₩	171,989,659,089	₩	-	₩	171,989,659,089	₩	(70,486,097,626)	₩	-	₩	101,503,561,463
<b>Financial liabilities</b>												
Derivative <sup>1</sup>	₩	70,486,097,626	₩	-	₩	70,486,097,626	₩	(70,486,097,626)	₩	-	₩	-

<sup>1</sup> Some of derivative contracts are made under International Swaps and Derivative Association (ISDA) master netting agreements.

<sup>2</sup> 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 its subsidiaries**  
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**44. Risk Management**

(a) Capital management

The primary objective of the Group's capital management is to ensure that it maintains a strong credit rating and healthy capital ratios in order to support its business and maximize the owners' value. To maintain the sound capital structure, management periodically reviews the Group's capital structure through short- and long-term borrowings and issuance of share capital. The Group's capital structure consists of equity and net debt, net of cash and cash equivalents and borrowing. No changes were made in the objectives, policies or processes for managing capital for the year ended December 31, 2020.

The Group's debt-to-equity ratios as of December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<b>2021</b>	<b>2020</b>
Total borrowings and debt securities (A)	₩ 14,878,009,519,445	₩ 14,277,711,273,484
Cash and cash equivalents (B)	793,878,668,132	796,778,898,842
Net borrowings and debt securities (A – B = C)	14,084,130,851,313	13,480,932,374,642
Total equity (D)	(1,552,251,832,375)	(1,140,910,626,746)
Total invested capital (C + D = E)	₩ 12,531,879,018,938	₩ 12,340,021,747,896
Net borrowings and debt securities-to-total invested capital ratio (C/E)	112.39%	109.25%

(b) Financial risk management

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

(i) Risk management structure

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

**Korea National Oil Corporation and its subsidiaries**  
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**44. Risk Management (cont'd)**

(ii) Credit risk

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

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

Book values of the financial assets and guarantee amounts by the contract represent the maximum amounts exposed to the credit risk. Details of the Group's level of maximum exposure to credit risk as of December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<u>2021</u>	<u>2020</u>
Cash and cash equivalents	₩ 793,878,668,132	₩ 796,778,898,842
Derivative assets	91,590,770,741	171,989,659,089
Financial assets at amortized costs	778,829,630,073	620,272,024,452
Financial assets measured at fair value through profit or loss	946,414,294,897	1,211,564,108,875
Financial assets measured at fair value through other comprehensive income	12,923,988,432	12,195,650,672
Financial guarantee contracts	84,098,169,089	72,285,617,856

The Group recognizes allowance for bad debt to record impairment losses until it is convinced that the amount of the asset amount cannot be recovered. After the Group decides that the asset amount cannot be recovered, the allowance for bad debt is offset against that asset. Further disclosures relating to impairment of assets are provided as follows:

Impairment losses of accounts receivable and other receivables: *Note 8*

Impairment losses of financial assets measured at fair value through OCI: *Note 9*

Impairment losses of loans: *Note 10*

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**44. Risk Management (cont'd)**

(iii) Market risk

① Crude oil price risk

Crude oil price risk is the risk that the profit or cash flows will fluctuate due to changes in the international market prices of crude oil. The Group entered into derivative contracts according to the expected fluctuations of changes in the international market prices of crude oil to avoid the crude oil price risk and secure the product margin. With all other variables held constant, the changes in Company's profit before tax for the years ended December 31, 2021 and 2020, from crude oil price fluctuations are as follows:

<i>(in Korean won)</i>	2021		2020	
	Increase by 10%	Decrease by 10%	Increase by 10%	Decrease by 10%
Increase (decrease) of profit before tax	₩ 167,864,226,344	₩ (167,864,226,344)	₩ 141,014,036,202	₩ (141,014,036,202)

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, 2021, the Group's total equity and its profit or loss will also increase or decrease. The Group mitigates risks from fluctuation in interest rate through interest rate swap contracts.

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

<i>(in Korean won)</i>	2021		2020	
	Increase by 100bp	Decrease by 100bp	Increase by 100bp	Decrease by 100bp
Increase (decrease) of profit before tax	₩ (10,305,720,393)	₩ 10,305,720,393	₩ (21,875,113,849)	₩ 21,875,113,849

③ Foreign currency risk

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

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**44. Risk Management (cont'd)**

Without considering the effect of the derivative aforementioned, the Group's exposures to foreign currency risk as of December 31, 2021 and 2020, are as follows:

(in foreign currencies and Korean won)

	Currency unit	2021		2020	
		Foreign currencies	Equivalent to Korean won	Foreign currencies	Equivalent to Korean won
<b>Financial assets</b>					
denominated in foreign currencies					
	KRW	200,870,910,712	₩ 200,870,910,712	222,396,133,387	₩ 222,396,133,387
	VND	63,144,103,606	3,293,722,732	80,675,838,457	3,774,338,426
	EGP	-	-	287,700,000	19,907,919,360
	NOK	6,646,796	892,778,640	-	-
			₩ 205,057,412,084		₩ 246,078,391,173
<b>Financial liabilities</b>					
denominated in foreign currencies					
	KRW	1,132,316,083,654	₩ 1,132,316,083,660	1,434,104,093,188	₩ 1,434,104,093,188
	EUR	328,973,539	441,594,883,753	375,731,537	502,818,971,444
	SGD	398,461,070	349,510,705,043	402,173,063	330,667,335,900
	HKD	968,571,233	147,204,521,395	1,892,815,351	265,660,420,132
	CHF	1,202,507,443	1,560,146,624,075	1,202,452,626	1,484,230,564,036
	JPY	69,756,921,481	718,635,456,313	69,841,044,542	736,314,577,114
	VND	129,903,835,465	6,776,043,866	155,175,766,756	7,259,743,072
			₩ 4,356,184,318,105		₩ 4,761,055,704,886

The exchange rates applied for the years ended and as of December 31, 2021 and 2020, are as follows:

(in US dollar per one foreign currency)	Average rates		Reporting date spot rate	
	2021	2020	2021	2020
KRW	0.0009	0.0008	0.0008	0.0009
EUR	1.1828	1.1419	1.1323	1.2300
SGD	0.7442	0.7252	0.7399	0.7557
HKD	0.1287	0.1289	0.1282	0.1290
CHF	1.0940	1.0664	1.0944	1.1345
VND(100)	0.0043	0.0043	0.0044	0.0043
JPY	0.0091	0.0094	0.0087	0.0097
EGP	-	0.0632	-	0.0636
NOK	0.1164	-	0.1133	-

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**44. Risk Management (cont'd)**

The Group and its subsidiaries use various functional currencies depending on their primary economic environment in which the entities operate. The functional currencies of Harvest Operations Corp., Dana Petroleum Limited, and KNOC Kaz B.V. are CAD, GBP and KZT, respectively. A sensitivity analysis below indicates the effect on the Group's profit before tax from the fluctuations in each function currency exchange rate. As of December 31, 2021 and 2020, the effect of a 5% increase or decrease in each functional currency exchange rate on profit before tax assuming all other variables held constant is as follows:

*(in Korean won)*

		2021		2020	
		Increase by 5%	Decrease by 5%	Increase by 5%	Decrease by 5%
Increase (decrease) of profit before tax	KRW	₩ (44,958,434,619)	₩ 44,958,434,619	₩ (65,711,212,223)	₩ 65,711,212,223
	HKD	(7,105,179,181)	7,105,179,181	(14,406,828,069)	14,406,828,069
	CHF	(75,304,217,610)	75,304,217,610	(80,490,178,175)	80,490,178,175
	EUR	(21,314,635,886)	21,314,635,886	(27,267,992,980)	27,267,992,980
	JPY	(34,686,663,387)	34,686,663,387	(39,930,515,474)	39,930,515,474
	SGD	(16,869,972,209)	16,869,972,209	(17,932,168,646)	17,932,168,646
	Others	(124,990,477)	124,990,477	1,198,245,587	(1,198,245,587)

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**44. Risk Management (cont'd)**

(iv) Liquidity risk

The details of contractual maturities of financial liabilities and other contractual obligations as of December 31, 2021, are as follows:

	2021					
	Book value	Contractual cash flows <sup>1</sup>	Less than 1 year	1 ~ 2 years	2 ~ 5 years	More than 5 years <sup>2</sup>
<i>(in Korean won)</i>						
Short-term borrowings	₩ 144,342,885,493	₩ 144,348,940,059	₩ 144,348,940,059	₩ -	₩ -	-
Bond payables	12,900,836,218,730	13,810,888,583,698	2,431,510,360,566	2,569,832,971,230	6,620,413,307,451	2,189,131,944,451
Long-term borrowings <sup>2</sup>	1,832,830,415,222	1,851,798,068,672	461,904,629,166	879,686,188,865	300,272,128,253	209,935,122,388
Lease liabilities	316,135,542,433	618,261,548,371	27,091,421,661	19,620,163,526	54,881,576,904	516,668,386,280
Trade and other payables <sup>2</sup>	872,956,664,920	872,956,664,920	803,634,279,922	16,807,010,835	24,471,256,468	28,044,117,695
Derivative liabilities	575,764,942,912	575,764,943,066	450,124,112,948	102,644,392,054	22,996,438,064	-
Financial liabilities measured at fair value through profit or loss	82,358,798,166	100,350,283,773	47,935,549,055	-	52,414,734,718	-
Financial guarantee liabilities <sup>3</sup>	37,535,285,589	84,098,169,089	84,098,169,089	-	-	-
	<u>₩ 16,762,760,753,465</u>	<u>₩ 18,058,467,201,648</u>	<u>₩ 4,450,647,462,466</u>	<u>₩ 3,588,590,726,510</u>	<u>₩ 7,075,449,441,858</u>	<u>₩ 2,943,779,570,814</u>

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

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

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

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#### 44. Risk Management (cont'd)

The Group had a working capital (current assets minus current liabilities) deficit of ₩ 2,608,262 million as of December 31, 2021. The Group's management currently anticipates that expected future capital contributions from the Government and the cash flows that the Group generates from its operations, together with its existing cash and cash equivalents and credit sources, will be sufficient to meet its currently anticipated needs for working capital, capital expenditures and business expansion throughout the foreseeable future.

##### (v) Other price risk

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

##### (c) Fair value measurement

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

The valuation team regularly reviews significant unobservable inputs and valuation adjustments. If third party information, such as broker quotes or pricing services, is used to measure fair values, then the valuation team assesses the evidence obtained from the third parties to support the conclusion that such valuations meet the requirements of KIFRS, 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.

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**44. Risk Management (cont'd)**

(i) Fair value and book value of financial assets and liabilities as of December 31, 2021 and 2020, are as follows:

(in Korean won)

	2021		2020	
	Book value	Fair value	Book value	Fair value
<b>Assets recognized at fair value</b>				
Financial assets measured at fair value through other comprehensive income	₩ 12,923,988,432	₩ 12,923,988,432	₩ 12,195,650,672	₩ 12,195,650,672
Financial assets measured at fair value through profit or loss	946,414,294,897	946,414,294,897	1,211,564,108,875	1,211,564,108,875
Currency forwards	415	415	48,035,634,112	48,035,634,112
Currency swap	91,590,770,326	91,590,770,326	123,029,853,906	123,029,853,906
Other derivative	-	-	924,171,071	924,171,071
	<u>₩ 1,050,929,054,070</u>	<u>₩ 1,050,929,054,070</u>	<u>₩ 1,395,749,418,636</u>	<u>₩ 1,395,749,418,636</u>
<b>Assets recognized at amortized costs</b>				
Cash and cash equivalent	₩ 793,878,668,132	₩ 793,878,668,132	₩ 796,778,898,842	₩ 796,778,898,842
Loans	105,703,417,238	105,703,417,238	136,159,832,379	136,159,832,379
Long-term financial instruments	6,343,668,993	6,343,668,993	5,601,079,085	5,601,079,085
Other financial assets	805,934,114	805,934,114	739,651,047	739,651,047
Trade receivables and other receivables	665,976,609,728	665,976,609,728	477,771,461,941	477,771,461,941
	<u>₩ 1,572,708,298,205</u>	<u>₩ 1,572,708,298,205</u>	<u>₩ 1,417,050,923,294</u>	<u>₩ 1,417,050,923,294</u>
<b>Liabilities recognized at fair value</b>				
Currency forward	₩ 566,471,674	₩ 566,471,674	₩ -	₩ -
Currency swap	99,431,096,496	99,431,096,496	26,465,147,132	26,465,147,132
Interest swap	22,311,767,147	22,311,767,147	44,020,950,494	44,020,950,494
Financial liabilities measured at fair value through profit or loss	82,358,798,166	82,358,798,166	32,124,800,666	32,124,800,666
Other derivative	453,455,607,595	453,455,607,595	-	-
	<u>₩ 658,123,741,078</u>	<u>₩ 658,123,741,078</u>	<u>₩ 102,610,898,292</u>	<u>₩ 102,610,898,292</u>
<b>Liabilities recognized at amortized costs</b>				
Bond payables without collateral	₩ 12,900,836,218,730	₩ 12,900,836,218,730	₩ 11,856,286,438,750	₩ 11,856,286,438,750
Bank borrowings without collateral	1,977,173,300,715	1,977,173,300,715	2,421,424,834,734	2,421,424,834,734
Trade and payables	1,189,092,207,355	1,189,092,207,355	1,148,066,690,002	1,148,066,690,002
Others	37,535,285,589	37,535,285,589	8,575,601,856	8,575,601,856
	<u>₩ 16,104,637,012,389</u>	<u>₩ 16,104,637,012,389</u>	<u>₩ 15,434,353,565,342</u>	<u>₩ 15,434,353,565,342</u>

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**44. Risk Management (cont'd)**

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

(ii) Fair value hierarchy

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

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

Fair values of financial instruments by hierarchy level as of December 31, 2021, are as follows:

	2021			
	Level 1	Level 2	Level 3	Total
<i>(in Korean won)</i>				
<b>Financial assets at fair value</b>				
Through other comprehensive income	₩ -	₩ -	₩ 12,923,988,432	₩ 12,923,988,432
Through profit or loss	-	70,118,487,667	876,295,807,230	946,414,294,897
Derivative assets	-	91,590,770,741	-	91,590,770,741
	<u>₩ -</u>	<u>₩ 161,709,258,408</u>	<u>₩ 889,219,795,662</u>	<u>₩ 1,050,929,054,070</u>
<b>Financial liabilities at fair value</b>				
Derivative liabilities	₩ -	₩ 575,764,942,912	₩ -	₩ 575,764,942,912
Through profit or loss	-	47,935,549,055	34,423,249,111	82,358,798,166
	<u>₩ -</u>	<u>₩ 623,700,491,967</u>	<u>₩ 34,423,249,111</u>	<u>₩ 658,123,741,078</u>

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**44. Risk Management (cont'd)**

The valuation method and significant unobservable input variables used for the fair value measurement of financial assets and liabilities classified as level 3 as of December 31, 2021, are as follows.

(In Korean won)

Classification	Methods	Type	Book value	Significant, unobservable input variable	Range
Financial assets measured at fair value through other comprehensive income	Discounted Cash Flow Method	Private Equity Fund	₩ 12,017,016,535	weighted average cost of capital	26.06%
				LNG selling price	3.13~6.25/MMBtu
	Net book value	Private Equity Fund	906,971,897	(*)	(*)
Financial assets measured at fair value through profit or loss	Discounted Cash Flow Method	Debt securities	28,150,210,537	weighted average cost of capital	5.54%
	Discounted Cash Flow Method	Debt securities	40,222,651,236	weighted average cost of capital	5.41~7.51%
	Discounted Cash Flow Method	Debt securities	807,922,945,457	weighted average cost of capital	7.83%
				oil price	74.9~79.24/B
Financial liabilities measured at fair value through profit or loss	Discounted Cash Flow Method	Debt securities	34,423,249,111	weighted average cost of capital	16.00%

(\*) The financial instruments were measured at net book value based on a reasonable approximation of their fair values.

Changes in financial instruments classified as fair value level 3 for the year ended December 31, 2021 are as follows.

(In Korean won)

Classification	Beginning balance	Acquisition	Profit or loss	Other comprehensive income	Dispos
Financial assets measured at fair value through other comprehensive income	₩ 12,195,650,672	₩ -	₩ -	(351,930,070)	₩ -
Financial assets measured at fair value through profit or loss	774,788,947,148	33,131,256,549	4,412,642,116	-	(6,580,415)
Financial liabilities measured at fair value through	32,124,800,666	-	57,328,618,373	-	(11,444,200)

(\*) As of December 31, 2021, financial liabilities measured at fair value through profit or loss with a carrying amount of ₩ 47,935 million were transferred from level 3 to level 2 of the fair value hierarchy by measuring them at the estimate selling price.

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

Transactions with government and public institution for the years ended December 31, 2021 and 2020, are as follows:

(in Korean won)

Counter party	Transaction	Income		Expenses	
		2021	2020	2021	2020
KOREA GAS CORPORATION	Sales	₩ 13,675,357,833	₩ 47,219,456,999	₩ -	₩ -
Ministry of Trade, Industry and Energy	Loss on cancellation of debt exemption	-	-	811,543	2,599,318,580
Ministry of Trade, Industry and Energy	Government grants income	2,014,559,285	1,365,040,373	-	-
		<u>₩ 15,689,917,118</u>	<u>₩ 48,584,497,372</u>	<u>₩ 811,543</u>	<u>₩ 2,599,318,580</u>

The outstanding assets and liabilities, arising from the transactions with government and public institution at December 31, 2021 and 2020, are as follows:

(in Korean won)

Counter party	Transaction	Receivables		Payables	
		2021	2020	2021	2020
KOREA GAS CORPORATION	Trade receivables	₩ 1,281,638,763	₩ 2,657,299,332	₩ -	₩ -
Ministry of Trade, Industry and Energy	Borrowings based on Accounting for Energy and Resources	-	-	209,935,122,388	192,474,204,348
Ministry of Trade, Industry and Energy	Government grants for others	-	-	1,335,221,715	1,921,246,517
Ministry of Trade, Industry and Energy	Government grants for software	-	-	28,193,300	34,266,332
		<u>₩ 1,281,638,763</u>	<u>₩ 2,657,299,332</u>	<u>₩ 211,298,537,403</u>	<u>₩ 194,429,717,197</u>

**Korea National Oil Corporation and its subsidiaries**  
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**46. Related Parties**

The Group's major related parties as of December 31, 2021, are as follows:

<u>Type</u>	<u>Related parties</u>
Ultimate parent company	Government of the Republic of Korea
Associates	Oilhub Korea Yeosu Co., Ltd. Kernhem B.V. ADA Oil LLP Korea GS E&P Pte. Ltd. KNOC EF STAR LLC (*) Parallel Petroleum LLC
Joint ventures	KNOC Inam Ltd. KNOC Bazian Ltd. (*) KNOC Nigerian West Oil Company Ltd. KNOC Nigerian East Oil Company Ltd. K.K. Korea Kamchatka Co. Ltd. KC Kazakh B.V. (*) KNOC Ferghana Ltd. KNOC Ferghana2 Ltd. Korea Energy Terminal Co., Ltd. Deep Basin Partnership HKMS Partnership Al Dhafra Petroleum KNOC-VOGO Eagle Ford LLC

(\*) As of the end of the current period, it is being liquidated.

**Korea National Oil Corporation and its subsidiaries**  
**Notes to the consolidated financial statements**  
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**46. Related Parties (cont'd)**

Transactions between the company and its subsidiaries have been removed at the time of consolidation and are not disclosed in the notes. Significant transactions with related parties for the years ended December 31, 2021 and 2020, are as follows:

(in Korean won)

Transaction	Sales and others		Purchases and others		
	2021	2020	2021	2020	
Oilhub Korea Yeosu Co., Ltd.	Revenues from rental services	₩ 1,552,534,134	₩ 1,593,088,835	₩ -	₩ -
	Interest expense	-	-	18,947,899	366,326,903
	Interest on loans	2,488,192,665	1,788,814,241	-	-
Kernhem B.V.	Other bad debt expenses	-	-	2,488,192,665	1,788,814,241
	Reversal of bad debt allowance	5,332,453,520	-	-	-
	Interest on loans	200,333,170	366,521,170	-	-
ADA Oil LLP	Other income	1,212,378,292	1,159,742,520	-	-
	Other bad debt expenses	-	-	200,333,170	366,521,170
	Reversal of bad debt allowance	1,417,542,036	120,459,504	-	-
KNOC Nigerian West Oil Company Ltd.	Loss on valuation of financial asset measured at fair value through profit or loss	-	-	188,829,300	332,774,100
KNOC Nigerian East Oil Company Ltd.	Loss on valuation of financial asset measured at fair value through profit or loss	-	-	128,747,250	250,465,613
Offshore International Group, Inc. <sup>1</sup>	Interest on loans	-	1,829,835,729	-	-
KNOC Ferghana2 Ltd.	Loss on valuation of financial asset measured at fair value through profit or loss	-	-	483,814,999	348,999,788
KADOC Ltd. <sup>2</sup>	Gain on valuation of financial asset measured at fair value through profit or loss	-	7,254,216,265	-	-
Korea Energy Terminal Co., Ltd	Interest on loans	-	275,456,110	-	-
	Other income	1,358,453,297	3,459,998,986	-	-
Parallel Petroleum LLC	Establishment of financial guarantee liabilities	-	-	27,214,307,600	-
Deep Basin Partnership	Other expenses	-	-	320,754,345	225,625,131
	Other income	492,796,340	524,130,512	-	-
HKMS Partnership	Other income	206,780,170	164,492,484	-	-
KNOC EF STAR LLC <sup>3</sup>	Interest expense	-	-	12,827,739,750	14,472,478,537
		₩ 14,261,463,624	₩ 18,536,756,356	₩ 43,871,666,978	₩ 18,152,005,483

<sup>1</sup> Offshore International Group, which was classified as an asset held for sale as of December 31, 2020, is excluded from related parties for the year ended December 31, 2021 as the sale was completed in January 2021.

<sup>2</sup> It was reclassified from a joint venture to a subsidiary during the previous year. During the previous year, the Company signed a crude oil purchase contract with KADOC Ltd. and sold the purchased crude oil to a third party at no risk, recognizing only the difference between sales and purchases as profits. In this regard, the purchase amount before reclassification of subsidiaries was ₩ 64 billion.

<sup>3</sup> It is in the process of liquidation as of December 31, 2021, and the profit or loss incurred before the liquidation is disclosed.

**Korea National Oil Corporation and its subsidiaries**  
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**46. Related Parties (cont'd)**

The receivables and payables, arising from the transactions with related parties as of December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>		Receivables		Payables	
		2021	2020	2021	2020
Oilhub Korea Yeosu Co., Ltd.	Account receivables	₩ 1,133,943	₩ 700,378	₩ -	₩ -
	Account payables	-	-	-	1,255,507,000
	Lease liabilities	-	-	-	3,406,085,744
Kernhem B.V.	Accrued interest <sup>1</sup>	5,275,410,687	-	-	-
ADA Oil LLP	Accrued interest <sup>1</sup>	26,066,655	-	-	-
	Other payables	-	-	162,584,299	134,229,704
Offshore International Group , Inc. <sup>2</sup>	Accrued interest	-	186,173,642	-	-
KNOC Nigerian West Oil Company Ltd.	Accrued interest <sup>1</sup>	27,003,465,765	24,782,598,694	-	-
KNOC Nigerian East Oil Company Ltd.	Accrued interest <sup>1</sup>	30,770,923,273	28,240,206,260	-	-
Parallel Petroleum LLC	Financial Guarantee Liabilities	-	-	28,191,190,000	-
KADOC Ltd. <sup>3</sup>	Account receivables	-	2,038,788,458	-	-
Al Dhafra Petroleum	Account receivables	1,787,946,157	1,611,955,025	-	-
	Account payables	-	-	41,610,309,513	38,050,454,827
KNOC EF STAR LLC	Accrued expenses	-	-	-	1,419,558,741
		₩ 64,864,946,480	₩ 56,860,422,457	₩ 69,964,083,812	₩ 44,265,836,016

<sup>1</sup> As of the end of the current year, 100% provision for bad debt is set for the bond. The above loan is the amount before the allowance for bad debt is reflected.

<sup>2</sup> Offshore International Group, which was classified as an asset held for sale as of December 31, 2020, is excluded from related parties for the year ended December 31, 2021 as the sale was completed in January 2021.

<sup>3</sup> It was reclassified from a joint venture to a subsidiary during the previous year.

**46. Related Parties (cont'd)**

**Korea National Oil Corporation and its subsidiaries**  
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The Group recognized other bad debt expenses of ₩ 2,689 million and reversal of other bad debt expenses of ₩ 6,750 million on receivables arising from the transaction with related parties for the year ended December 31, 2021. The balance of loans and borrowings from related parties is excluded from the balance of receivables and payables above.

Loans to related parties as of December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<b>2021</b>	<b>2020</b>
<b>Associates</b>		
Kernhem B.V. <sup>1</sup>	₩ 51,856,981,235	₩ 47,592,067,131
ADA OIL LLP <sup>1</sup>	11,259,335,508	10,801,538,195
<b>Joint ventures</b>		
KNOC INAM Ltd. <sup>1</sup>	₩ 28,035,849,003	₩ 25,730,074,834
KNOC Kamchatka Petroleum Ltd. <sup>2</sup>	-	49,741,980,721
KNOC Bazian Ltd. <sup>1</sup>	104,157,946,102	95,591,603,002
KNOC Nigerian East Oil Company Ltd. <sup>1,3</sup>	28,538,718,033	26,069,186,014
KNOC Nigerian West Oil Company Ltd. <sup>1,3</sup>	30,067,864,229	27,415,449,448
K.K. Korea Kamchatka Co. Ltd <sup>1</sup>	136,853,029,257	125,597,718,964
KC kazakh B.V. <sup>1</sup>	204,185,032,344	187,392,083,670
Offshore International Group <sup>2</sup>	-	30,736,000,000
KNOC Ferghana Ltd. <sup>1</sup>	30,994,353,000	28,445,260,282
KNOC Ferghana2 Ltd. <sup>1,3</sup>	21,549,837,998	19,317,534,906
	<u>₩ 647,498,946,709</u>	<u>₩ 674,430,497,167</u>

<sup>1</sup> As of December 31, 2021, the Group recognizes 100% of allowance for doubtful accounts in respect to such loans. The above loans are the amount before the allowance for doubtful account is reflected.

<sup>2</sup> It was excluded from related parties during the year ended December 31, 2021.

<sup>3</sup> As of December 31, 2021, it has been classified into a financial asset measured at fair value through profit or loss on the consolidated statement of financial position.

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**46. Related Parties (cont'd)**

For the year ended December 31, 2021, the Group provided associates and joint ventures with the loans amounted to ₩ 801 million and recognized the same amount as an bad debt expense. Meanwhile, the entire loan amount of Offshore International Group, Inc., which was a joint venture in the previous year, was transferred to the general long-term loans, and the increase due to the foreign currency translation differences for foreign operations is ₩ 1,594 million.

Borrowings from the related parties as of December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	2021	2020
<b>Associates</b>		
KNOC EF Star LLC	₩ -	₩ 452,602,149,987

There is no lease agreement with the related parties as at the end of the year.

As of December 31, 2021, details of the payment guarantee provided by the Group to the related parties are as follows:

provider	Beneficiary	Description	Amounts	Maturity
				<i>(in US dollar)</i>
ANKOR E&P Holdings Corp.	Parallel Petroleum LLC	Bank Loan Payment Guarantee	USD 8,459	2022.09.30
Korea National Oil Corporation	Parallel Petroleum LLC <sup>1</sup>	Bank Loan Payment Guarantee	USD 15,580	2022.06.12
		Bank Loan Payment Guarantee	USD 8,200	2022.06.09
	Korea GS E&P Pte. Ltd. <sup>2</sup>	Bank Loan Payment Guarantee	USD 10,800	2022.07.06
		Bank Loan Payment Guarantee	USD 9,000	2022.07.06
		Bank Loan Payment Guarantee	USD 9,000	2022.07.01
		Bank Loan Payment Guarantee	USD 9,900	2022.07.22

<sup>1</sup> This is a payment guarantee provided indirectly by Samsung C&T Corporation and other companies (See Note 45).

<sup>2</sup> This is the payment guarantee provided indirectly through GS Energy Corporation (See Note 45).

As of December 31, 2021, the Group is not provided with any guarantees from the related parties.

The compensations to the Parent Company's key management personnel for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	2021	2020
Salaries	₩ 475,960,850	₩ 485,391,520
Severance and retirement benefits	₩ 54,150,923	₩ 70,065,510
	₩ 530,111,773	₩ 555,457,030

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**46. Related Parties (cont'd)**

As of December 31, 2021, there is no other transactions with the related parties.

As of December 31, 2021, there is no loans agreement with the related parties.

**47. Additional Cash Flow Statement Information**

*Non-Cash Transactions*

Significant non-cash investment and finance transactions excluded from statements of cash flows for the years ended December 31, 2021 and 2020, are as follows:

<i>(in Korean won)</i>	<b>2021</b>	<b>2020</b>
Revaluation of Land classified as property, plant and equipment	₩ (21,756,525,132)	₩ 643,898,279,766
Bond payables transferred to current portion	2,117,862,980,926	1,780,931,360,340
Loans transferred to financial assets measured at fair value through profit or loss <sup>1</sup>	32,329,865,000	-
Financial assets measured at fair value through profit or loss transferred to investments in subsidiaries <sup>2</sup>	-	575,400,278,771
Short-term loans and receivables transferred to Investments in associates and joint ventures <sup>3</sup>	-	2,529,999,174
Derivative assets transferred to associates and joint ventures <sup>4</sup>	-	17,502,245,529
Long-term borrowings transferred to current portion	434,301,489,333	295,012,500,000
Construction in progress transferred to other accounts	286,726,603,968	21,581,368,345
Provisions transferred to current portion	87,313,826,485	26,349,501,467
Account transfer between oil and gas development assets	27,673,438,137	-
Account transfer according to the classification of asset group held for sale	144,041,608,134	-
Account transfer between non-controlling interests and retained earnings <sup>5</sup>	12,429,936,206	2,360,117,335

<sup>1</sup> The classification of loans for Savia Peru changed during the year ended December 31, 2021.

<sup>2</sup> During the year ended December 31, 2020, loans to KADOC were converted to investment.

<sup>3</sup> The loan to Korea Energy Terminal Co. Ltd. has been converted to investment, during the year ended December 31, 2020.

<sup>4</sup> The Company acquired 30% stake of Korea GS E&P Pte. Ltd, by exercising the stock option, during the year ended December 31, 2020.

<sup>5</sup> As Eagle Ford Energy LLC (a subsidiary of Eagleford) paid unequal dividends for the years ended December 31, 2021 and 2020, the portion of the dividend exceeding the interests in Eagleford was treated as a decrease in non-controlling interest and an increase in retained earnings, as it was regarded as a transaction between the shareholders.

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**47. Additional Cash Flow Statement Information (cont'd)**

Details of change in liabilities in financing activities are as follows:

(in Korean won)

		Beginning balance	Cash flow	Changes in non-cash			Ending balance
				Change in exchange rate	Change in fair value	Others <sup>1</sup>	
Lease liability	₩	390,761,371,898	₩ (39,081,362,173)	₩ (28,432,430,800)	₩ -	₩ (7,112,036,492)	₩ 316,135,542,433
Short-term borrowings		259,155,616,000	(137,043,759,400)	3,790,319,040	-	18,440,709,853	144,342,885,493
Long term borrowings		1,011,131,737,340	262,113,904,043	(12,751,553,124)	-	116,109,922,676	1,376,604,010,935
Current portion of long-term borrowings		1,151,137,481,394	(722,324,431,111)	4,066,991,874	-	23,346,362,130	456,226,404,287
Bond payables		10,211,308,176,111	1,930,161,507,326	(221,646,878,774)	-	(1,206,459,827,006)	10,713,362,977,657
Current portion of bond payables <sup>2</sup>		1,644,978,262,639	(1,733,135,194,682)	(5,242,001,313)	-	2,280,872,174,429	2,187,473,241,073
Assets held to hedge risk of bond payable <sup>2</sup>		171,989,659,089	253,422,629,001	(469,038,855)	(196,584,245)	(333,155,894,249)	91,590,770,741
Liabilities held to hedge risk of bond payable <sup>2</sup>		70,486,097,626	(115,507,330,038)	1,809,007,395	(418,987,005)	619,396,154,934	575,764,942,912

<sup>1</sup> Includes liquidity transfer and amortization to present value etc.

<sup>2</sup> The assets and liabilities above are comprised of currency swap and interest swap derivative and included in the cash flow of related bond payables.

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**48. Business Combinations**

(a) Details of the Group's business combinations for the year ended December 31, 2020 are as follows:

*(In Korean won)*

<u>Entity</u>	<u>Principal activity</u>	<u>Acquisition date</u> <sup>1</sup>	<u>Ownership interests</u>	<u>Consideration transferred</u>
KADOC Ltd.	Exploration and Production	June 30, 2020	75.00	₩ 121,643,477,145

<sup>1</sup> June 9, 2020, the effective date of the revised contract, is the acquisition date. However, the Company applied June 30, 2020, the earliest closing date that the Company can practically apply, as the deemed acquisition date.

(b) The fair values of consideration transferred with regards to the business combination for the year ended December 31, 2020 are as follows:

*(In Korean won)*

	<u>Amounts</u>
Cash	-
Settlement of pre-existing investment stocks under equity method accounting	121,643,477,145
Total consideration transferred	<u>₩ 121,643,477,145</u>

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**48. Business Combinations (cont'd)**

(c) The following table summarises the recognized amounts of assets acquired and liabilities assumed as of the date of acquisition.

*In Korean won*

	<u>Amounts</u>
<b>Assets</b>	
Cash and cash equivalents	₩ 127,773,954,157
Short-term trade receivable	14,705,338,586
Short-term other receivables	990,211,887
Other current financial assets	224,253,370
Inventories, net	2,372,624,361
<b>Current assets</b>	<u>₩ 146,066,382,361</u>
Property, plant and equipment, net	₩ 22,043,250
Exploration and production asset	802,879,226,255
Intangible assets other than goodwill, net	2,885,017,352
Other non-current assets	782,177,910
Deferred tax assets	872,169,730
<b>Non-current assets</b>	<u>₩ 807,440,634,497</u>
<b>Total identifiable assets</b>	<u>₩ 953,507,016,858</u>
<b>Liabilities</b>	
Trade and other payables	₩ 54,588,772,287
Short-term accrued expenses	6,523,366,904
Other current liabilities	5,661,267
Current tax liabilities	4,625,484,282
<b>Current liabilities</b>	<u>₩ 65,743,284,740</u>
Long-term borrowings	₩ 707,353,688,780
Employee benefits, net	59,865,688
Provision for restoration	18,158,873,832
Deferred tax liabilities	139,064,147,001
<b>Non-current liabilities</b>	<u>₩ 864,636,575,301</u>
<b>Total identifiable liabilities</b>	<u>₩ 930,379,860,041</u>
<b>Total identifiable net assets acquired</b>	<u>₩ 23,127,156,817</u>

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**48. Business Combinations (cont'd)**

(d) Goodwill arising from the acquisition has been recognized as follows:

*In Korean won*

Consideration transferred	₩	121,643,477,145
Add: Non-controlling interests		5,781,790,052
Less: Identifiable net assets acquired		23,127,156,816
Goodwill	₩	<u>104,298,110,381</u>

(e) Details of net cash inflows as a result of business combinations are as follows:

*In Korean won*

Consideration paid in cash	₩	-
Less: acquisition of cash and cash equivalents		127,773,954,157
Total after deduction	₩	<u>(127,773,954,157)</u>

(f) The income and net loss of KADOC Ltd. after the acquisition date included in the consolidated statement of comprehensive loss for the year ended December 31, 2020 are ₩110,687 million and ₩9,324 million, respectively. Assuming that KADOC Ltd. were acquired as of January 1, 2020, the Group's net loss and net loss before income tax would have been ₩2,003,085 million and ₩2,324,178 million, respectively.

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**49. Contingencies and Commitments**

Details of the Group's significant pending litigations as of December 31, 2021, are as follows:

(In Korean won, US dollar)

Plaintiff	Defendant	Description <sup>1</sup>	Amount	Status
Private litigant <sup>2</sup>	The Company	Claims for additional wages (overtime pay, severance pay) according to the ordinary wage calculation method	₩ 3,363,767,476	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.(1 <sup>st</sup> claim)	₩ 6,413,302,000	In second 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.(2 <sup>nd</sup> claim)	₩ 12,577,605,543	In first trial
SK Engineering & Construction Co., Ltd	The Company	Claiming construction costs, overhead and stone pipe construction cost which is equivalent to late compensation imposed by the Company	₩ 2,948,403,700	In first trial
AAA company and Dr. Owolabi <sup>3</sup>	The Company	Claims for damages equivalent to brokerage fees, claims for contribution to acquisition of a mining site	\$ 100,000,000	In first trial

<sup>1</sup> As of December 31, 2021, in addition to the above lawsuits, 3 lawsuits have been filed against the Group, with the total litigation value of ₩ 35 million, and 10 cases were filed by the Group, with the total litigation value of ₩ 7,891 million.

<sup>2</sup> The amount and interest charged under the third lawsuit related to ordinary wage were recognized as provisions (Note 25).

<sup>3</sup> Dr. Owolabi and others are engaged in a lawsuit demanding that the Group pays for the cooperation to acquire Nigerian mining rights. The Group currently believes that it has no obligations, and as of December 31, 2021, it has not recognized any provisions for these litigations.

Other than the above litigation, in relation to the international arbitration for the refund of additional tax for the period of before acquisition that raised against the seller of Offshore International Group, Inc. at the time of the acquisition, the Group has received the interim sentencing requiring the seller of the payment from the arbitral tribunal. In addition, the Group has received the document from the seller containing agreement on the interim sentencing and permitting the withdrawal of USD 12 million from the escrow account. The Group has recognized other receivables as the Parent Company determines that it is highly probable to win this case at the end.

For the Peru Block 8 project, an international arbitration is in progress from April, 2021 to determine whether it is right to automatically terminate the mining right contract after the operator notified the liquidation due to the Peruvian government's excessive demand for environmental restoration and fines. Although the obligation of decommissioning and fine to be borne by the Group has yet to be determined, under the Joint Operation Agreement (JOA), the Group fulfills its obligation to pay as much as the participating interest of the Group for the responsibilities and expenses incurred by the joint operation until the end of the project.

**Korea National Oil Corporation and its subsidiaries**  
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**49. Contingencies and Commitments (cont'd)**

The Company has provided loan guarantees to non-related parties as of December 31, 2021 and 2020, as follows:

(In US dollar)

Description of guarantee	Guaranteed Party	Guarantee period	2021	2020
Payment guarantees for Parallel business	Samsung C&T Corporation and others	2021.11.29~2022.09.30	\$ 8,458,987	\$ 8,458,987
		2021.06.10~2022.06.09	8,200,000	8,200,000
		2021.06.13~2022.06.12	15,580,000	15,580,000
		2021.07.06~2022.07.06	10,800,000	14,400,000
Payment guarantees for Korea GS E&P	GS Energy	2021.07.06~2022.07.06	9,000,000	9,000,000
		2021.07.02~2022.07.01	9,000,000	10,800,000
		2021.07.23~2022.07.22	9,900,000	-

As of December 31, 2021, the payment guarantees provided by the Company to others are as follows:

(in thousands of US dollar, millions of Korean won)

Details of contract <sup>1</sup>	Financial institutions	Credit line	Current Balance
Trade finance	BNP Paribas <sup>2</sup>	\$ 200,000	\$ 71,451
	Development Bank of Singapore <sup>2</sup>	240,000	-
	Bank of America <sup>2</sup>	190,000	-
	ING Bank <sup>2</sup>	100,000	-
	Standard Chartered Bank <sup>2</sup>	150,000	-
	Credit Agricole <sup>2</sup>	100,000	-
			<u>\$ 980,000</u>
Credit line	BNP Paribas	\$ 200,000	\$ -
	BNP Paribas <sup>2</sup>	200,000	-
	Development Bank of Singapore <sup>2</sup>	240,000	-
	Mizuho Bank	100,000	-
	Bank of America <sup>2</sup>	190,000	-
	ING Bank <sup>2</sup>	100,000	-
	Credit Agricole <sup>2</sup>	100,000	-
	Standard Chartered Bank <sup>2</sup>	150,000	-
	Export-Import Bank of Korea	550,000	250,000
		<u>\$ 1,830,000</u>	<u>\$ 250,000</u>
Credit line	Korea Development Bank	₩ 190,000	₩ -
Bank overdraft	Woori Bank	₩ 10,000	-
	Hana Bank	50,000	-
		<u>₩ 60,000</u>	

**Korea National Oil Corporation and its subsidiaries**  
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<sup>1</sup> The above arrangement does not include an arrangement on the basis that the Company successfully complete oil exploration.

<sup>2</sup> A portion of or all of lines of credit for trade finance and financial loans have been integrated.

**49. Contingencies and Commitments (cont'd)**

As of December 31, 2021, the details of guarantees the Group received from others are as follows.

<i>(in foreign currencies, Korean won)</i>					
Provider	Beneficiary	Description	Guarantee amount		details
			Currency	2021	
Seoul Guarantee Insurance Company	The Company	Debt for refund of rental deposit	KRW	160,000,000	Guaranteed payment of 1 case of rental deposit refund debt of the lessor in real estate lease contract
BP Corp. N.A. Inc.	Harvest Operations Corp.	Foreign currency payment guarantee	USD	20,000,000	Oil/Gas Sales Payment Guarantee
ConocoPhillips Company	Harvest Operations Corp.	Foreign currency payment guarantee	USD	5,000,000	Oil/NGL Sales Payment Guarantee
Gibsons Energy Inc.	Harvest Operations Corp.	Foreign currency payment guarantee	CAD	15,000,000	Oil/Gas/NGL Sales Payment Guarantee
Husky Energy Inc.	Harvest Operations Corp.	Foreign currency payment guarantee	USD	20,000,000	Oil/Gas/NGL Sales Payment Guarantee
Macquarie Bank Ltd	Harvest Operations Corp.	Foreign currency payment guarantee	USD	5,000,000	Oil/Gas/NGL Sales Payment Guarantee
Keyera Partnership	Harvest Operations Corp.	Foreign currency payment guarantee	USD	7,000,000	Oil/Gas/NGL Sales Payment Guarantee
CNOOC (Nexen Inc.)	Harvest Operations Corp.	Foreign currency payment guarantee	USD	10,000,000	Oil/Gas/NGL Sales Payment Guarantee
Phillips 66 Company	Harvest Operations Corp.	Foreign currency payment guarantee	USD	40,000,000	Oil/NGL Sales Payment Guarantee
Plains All American Pipeline LLP	Harvest Operations Corp.	Foreign currency payment guarantee	CAD	50,000,000	Oil/NGL Sales Payment Guarantee
Suncor Energy Inc.	Harvest Operations Corp.	Foreign currency payment guarantee	USD	40,000,000	Oil/Gas/NGL Sales Payment Guarantee
Tidal Energy Marketing Inc.	Harvest Operations Corp.	Foreign currency payment guarantee	CAD	14,000,000	Oil/Gas/NGL Sales Payment Guarantee
Trafigura Beheer BV	Harvest Operations Corp.	Foreign currency payment guarantee	CAD	10,000,000	Oil/Gas/NGL Sales Payment Guarantee
St. Paul Park Refinery Co LLP	Harvest Operations Corp.	Foreign currency payment guarantee	CAD	5,000,000	Oil/Gas/NGL Sales Payment Guarantee
Trafigura Beheer BV	Harvest Operations Corp.	Performance Bond	CAD	12,200,000	Crude Oil/Gas/NGL Sales Performance Guarantee
Canlin Energy Corp.	Harvest Operations Corp.	Performance Bond	CAD	800,000	Crude Oil/Gas/NGL Sales Performance Guarantee
Netherlands DSA Security	Dana Petroleum Limited	Performance Bond	EUR	87,527,775	Restoration performance guarantee
GKA DSA Security	Dana Petroleum Limited	Performance Bond <sup>1</sup>	GBP	7,660,000	Restoration performance guarantee <sup>1</sup>

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Western Isles Gas Security	Dana Petroleum Limited	Performance Bond <sup>1</sup>	GBP	892,000	Gas purchase performance guarant <sup>1</sup>
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<sup>1</sup> Provided 25% of cash assets as collateral in the guarantee details.

**49. Contingencies and Commitments (cont'd)**

Regarding the investment agreement for Korea Energy Terminal, on November 13, 2019, the Company signed a Joint Venture Agreement with SK Gas Co., Ltd. and MOL Chemical Tanker to promote the Ulsan North Port project. According to this agreement, the total investment cost is ₩ 91,416 million up to now, and for the amounts that are not financed through external borrowings, each participant promised to invest in the amounts equivalent to the participant's share which is remainder of ₩ 84,000 million is obliged by the Company. The amounts that are not financed through external borrowings should change in accordance with the total investment costs and the related legislation.

As of December 31, 2021, other significant contingencies and commitments related to the Company's subsidiaries are as follows:

(i) *Dana Petroleum Limited ("Dana") and its subsidiaries*

The Company provided a performance guarantee of GBP 167 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.

(ii) *Harvest Operations Corp. and its subsidiaries*

Guarantees provided by the Company for Harvest Operations Corp. as of December 31, 2021 are as follows:

*In foreign currencies*

<b>Beneficiary</b>	<b>Description</b>	<b>Amount</b>	<b>Maturity</b>
Harvest Operations Corp.	Guarantees for borrowing from banks	CAD 500,000,000	2023.03.24
Harvest Operations Corp.	Guarantees for borrowing from banks	CAD 500,000,000	2022.07.29 <sup>1</sup>
Harvest Operations Corp.	Guarantees for issuing of bonds	USD 285,000,000	2022.09.21
Harvest Operations Corp.	Guarantees for issuing of bonds	USD 200,000,000	2022.09.21
Harvest Operations Corp.	Guarantees for borrowing from banks	CAD 300,000,000	2023.05.11
Harvest Operations Corp.	Guarantees for issuing of bonds	USD 397,500,000	2023.06.01
Harvest Operations Corp.	Guarantees for borrowing from banks	USD 500,000,000	2021.04.01

<sup>1</sup> For bank loans, Harvest Operations Corp. provided its total assets as collateral.

The opened Harvest Operations Corp.'s performance guarantee L/C is CAD 17 million, and the processing and transportation contractual arrangements are ₩93 million as of December 31, 2021.

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

The Company provided a payment guarantee of USD 50 million for loans signed with the Export-Import Bank of Korea by its subsidiary, ANKOR E&P Holdings Corp.

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

**49. Contingencies and Commitments (cont'd)**

*(iv) KNOC Yemen Ltd.*

The Company discussed business acquisition with local acquirer YICOM regarding the withdrawal of business of its subsidiary, KNOC Yemen Ltd., but the negotiation is suspended due to civil war occurred in Yemen. Depending on the acquisition agreement, there may be settlement to be paid or received between the Company and YICOM, but the amounts are not reasonably estimable.

*(v) KNOC Eagle Ford and its subsidiaries*

The Vogo Fund, a preferred shareholder of KNOC-Vogo Eagle Ford LLC, and a joint venture of KNOC Eagle Ford Corporation, may exercise its right of convert within 12 years, until December 28, 2024 (contract announcement date) after supplemental investment obligation completion date, October 1, 2018. If the right to convert is exercised, all of the preferred shares are converted to ordinary shares of Eagle Ford Energy/MS LLC or to rights to assets. In addition, on the 10th anniversary of KNOC-Vogo Eagle Ford LLC's contract announcement, Vogo Fund, the preferred shareholder, has the right to preserve principal losses. The ordinary shareholder, KNOC Eagle Ford Corporation, has the right to receive 20% of revenue exceeding IRR 14% from the preferred shareholders in return for preserving principal losses.

Details of agreements with financial institutions of KNOC Eagle Ford and its subsidiaries are as follows:

*(in US dollar)*

<b>Agreement</b>	<b>Financial Institution</b>	<b>Credit line amount</b>	<b>Executed amount</b>
Credit line	Bank of America	\$ 25,000,000	\$ -
	Sumitomo Mitsui Banking Corporation	70,000,000	-
	Standard Chartered Bank	30,000,000	-
		<b>\$ 125,000,000</b>	<b>\$ -</b>

The Company has entered into a loan agreement with its subsidiary KNOC Eagle Ford Corporation, and the executed amount is USD 230 million as of December 31, 2021.

The Company provided a payment guarantee of USD 90 million for loans signed with the Export-Import Bank of Korea by its subsidiary, KNOC Eagle Ford Corporation.

**Korea National Oil Corporation and its subsidiaries**  
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**49. Contingencies and Commitments (cont'd)**

*(vi) KNOC Caspian LLP*

KNOC Caspian LLP's Mining rights (production) contract stipulates annual mandatory investment. In addition, under Kazakhstan's Underground Resources Act, 1% of production costs must be invested in the R&D funds, and 1% of the annual investment must be invested in the training funds. In addition, there are many other arrangements to be implemented in Kazakhstan, such as the liquidation fund, etc. If the agreement is not performed, the Group might have to pay a levy to the Kazakhstan government. In this regard, the Group estimates that KZT 24,947 million will be used as a mandatory investment in 2021.

*(vii) Altuis Holding Inc.*

Altuis Holding Inc.'s Mining rights (production) contract stipulates annual mandatory investment. In addition, under Kazakhstan's Underground Resources Act, 1% of production costs must be invested in the R&D funds, and 1% of the annual investment must be invested in the training funds. In addition, there are many other arrangements to be implemented in Kazakhstan, such as the liquidation fund, etc. If the agreement is not performed, the Group might have to pay a levy to the Kazakhstan government. In this regard, the Group estimates that KZT 26,513 million will be used as a mandatory investment in 2021.

**50. Date of Authorization of Issue**

The consolidated financial statements were approved for issue by the Board of Directors on February 25, 2022.