Consolidated Interim Financial Statements For the three-month periods ended March 31, 2021 and 2020 (With Independent Auditor's Review Report Thereon)

KOREA ELECTRIC POWER CORPORATION AND ITS SUBSIDIARIES

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Independent Auditor's Review Report

Based on a report originally issued in Korean

The Shareholders and Board of Directors Korea Electric Power Corporation:

Report on Review of Consolidated Interim Financial Statements

We have reviewed the accompanying consolidated interim financial statements of Korea Electric Power Corporation and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated interim statement of financial position as of March 31, 2021, and the related consolidated interim statements of comprehensive income (loss), consolidated interim statements of changes in equity and consolidated interim statements of cash flows for the three-month periods ended March 31, 2021 and 2020, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Consolidated Interim Financial Statements

Management is responsible for the preparation and presentation of these consolidated interim financial statements in accordance with Korean International Financial Reporting Standards ("KIFRS") 1034 'Interim Financial Reporting', and for such internal control as management determines is necessary to enable the preparation of interim financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Review Responsibility

Our responsibility is to issue a report on these consolidated interim financial statements based on our review. We conducted our review in accordance with the Review Standards for Quarterly and Semiannual Financial Statements established by the Securities and Futures Commission of the Republic of Korea. A review of interim financial statements consists of making inquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with auditing standards generally accepted in the Republic of Korea ("KGAAS") and, consequently, does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

Conclusion

Based on our review, nothing has come to our attention that causes us to believe that the accompanying consolidated interim financial statements are not prepared, in all material respects, in accordance with KIFRS 1034 'Interim Financial Reporting'.

Other Matter

We have audited the consolidated statement of financial position as of December 31, 2020, and the related consolidated statement of comprehensive income (loss), consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended (not presented herein) in accordance with KGAAS, and our report dated March 10, 2021 expressed an unqualified opinion thereon. The accompanying consolidated statement of financial position as of December 31, 2020 presented for comparative purposes, is not different, in all material respects, from the above audited consolidated statement of financial position.

moth Joung Han Joung

May 17, 2021

This review report is effective as of May 17, 2021, the independent auditor's review report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the independent auditor's review report date to the time this review report is used. Such events and circumstances could significantly affect the accompanying consolidated interim financial statements and may result in modifications to this review report.

Consolidated Interim Statements of Financial Position

As of March 31, 2021 (Unaudited) and December 31, 2020

In millions of won	Note		March 31, 2021	December 31, 2020
<u>Assets</u>				
Current assets				
Cash and cash equivalents	5,6,7,44	₩	1,953,723	2,029,584
Current financial assets, net	5,6,9,11,12,13,44,46		4,026,679	2,800,220
Trade and other receivables, net	5,8,20,24,44,45,46		6,787,533	7,918,470
Inventories, net	14		6,742,397	6,742,909
Income tax receivables			43,442	49,675
Current non-financial assets	15		1,048,795	1,020,158
Assets held-for-sale	16,41	_	1	925
Total current assets		_	20,602,570	20,561,941
Non-current assets				
Non-current financial assets, net	5,6,9,10,11,12,13,44,46		2,656,751	2,472,821
Non-current trade and other receivables, net	5,8,20,44,45,46		1,903,563	1,861,569
Property, plant and equipment, net	18,24,27,48		168,506,982	168,709,387
Investment properties, net	19,27		223,382	225,195
Goodwill	16		98,166	98,166
Intangible assets other than goodwill, net	21,27,45		1,049,797	1,055,730
Investments in associates	4,17		4,599,395	4,250,787
Investments in joint ventures	4,17		2,072,351	1,919,746
Defined benefit assets, net	25		922	7,231
Deferred tax assets			1,736,081	1,733,146
Non-current non-financial assets	15	_	266,625	246,392
Total non-current assets		_	183,114,015	182,580,170
Total Assets	4	₩_	203,716,585	203,142,111

(Continued)

Consolidated Interim Statements of Financial Position, Continued

As of March 31, 2021 (Unaudited) and December 31, 2020

In millions of won	Note		March 31, 2021	December 31, 2020
Liabilities				
Current liabilities				
Trade and other payables, net	5,22,24,44,46	₩	6,715,003	6,256,521
Current financial liabilities, net	5,12,23,44,46		11,778,187	10,724,689
Income tax payables			587,115	476,898
Current non-financial liabilities	20,28,29		6,299,088	5,971,450
Current provisions	26,44		2,692,072	2,451,664
Total current liabilities			28,071,465	25,881,222
Non-current liabilities				
Non-current trade and other payables, net	5,22,24,44,46		6,455,316	6,480,412
Non-current financial liabilities, net	5,12,23,44,46		58,037,831	59,365,011
Non-current non-financial liabilities	28,29		9,786,361	9,661,941
Employee benefits liabilities, net	25,44		1,890,584	1,910,860
Deferred tax liabilities			9,076,152	9,100,247
Non-current provisions	26,44		20,185,877	20,075,572
Total non-current liabilities		_	105,432,121	106,594,043
Total Liabilities	4	₩	133,503,586	132,475,265
Equity				
Contributed capital	1,30,44			
Share capital		₩	3,209,820	3,209,820
Share premium			843,758	843,758
			4,053,578	4,053,578
Retained earnings	31			
Legal reserves			1,604,910	1,604,910
Voluntary reserves			33,282,816	32,179,066
Unappropriated retained earnings			15,616,196	17,349,625
		_	50,503,922	51,133,601
Other components of equity	33			
Other capital surplus			1,223,716	1,224,105
Accumulated other comprehensive loss			(255,408)	(409,577)
Other equity			13,294,973	13,294,973
		_	14,263,281	14,109,501
Equity attributable to owners of the controlling company			68,820,781	69,296,680
Non-controlling interests	16,32		1,392,218	1,370,166
Total Equity		₩	70,212,999	70,666,846
Total Liabilities and Equity		₩	203,716,585	203,142,111

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

Consolidated Interim Statements of Comprehensive Income (Loss) For the three-month periods ended March 31, 2021 and 2020 (Unaudited)

In millions of won, except per share information	Note	March 31, 2021	March 31, 2020
Sales	4,34,44,46		
Sales of goods	₩	14,685,220	14,612,845
Sales of services		97,675	120,225
Sales of construction services Revenue related to transfer of assets from	20	131,091	207,421
customers	28	161,314	152,636
	<u> </u>	15,075,300	15,093,127
Cost of sales	14,25,42,46		
Cost of sales of goods		(13,668,333)	(13,677,754)
Cost of sales of services		(107,781)	(255,024)
Cost of sales of construction services	-	(113,719)	(163,997)
	-	(13,889,833)	(14,096,775)
Gross profit		1,185,467	996,352
Selling and administrative expenses	25,35,42,46	613,820	565,798
Operating profit	4	571,647	430,554
Other income	36	99,909	86,524
Other expenses	36	(19,156)	(16,613)
Other gains (losses), net	37	19,510	61,940
Finance income	5,12,38	508,855	800,765
Finance expenses	5,12,39	(1,044,856)	(1,424,036)
Profit (loss) related to associates, joint ventures and subsidiaries Gain on valuation of investments in associates	4,16,17		
and joint ventures		265,998	239,961
Loss on valuation of investments in associates and joint ventures		(66,848)	(34,124)
Loss on disposal of investments in associates and joint ventures		(78)	(16)
Loss on disposal of investments in subsidiaries	_	(102)	
	-	198,970	205,821
Profit before income tax		334,879	144,955
Income tax expense	40	(216,463)	(91,347)
Profit for the period	W	118,416	53,608

(Continued)

Consolidated Interim Statements of Comprehensive Income (Loss), Continued For the three-month periods ended March 31, 2021 and 2020 (Unaudited)

In millions of won, except per share information	Note		March 31, 2021	March 31, 2020
Other comprehensive income (loss), net of tax	5,12,25,31,33			
Items that will not be reclassified subsequently to profit or loss:	0,12,20,51,55			
Remeasurement of defined benefit liability Share in other comprehensive income (loss) of	25,31	₩	66,229	(36,285)
associates and joint ventures Net change in fair value of financial assets	31		(1,552)	(248)
at fair value through other comprehensive income (loss)	33		18,735	(51,545)
Items that are or may be reclassified subsequently to profit or loss:				
Net change in the unrealized fair value of derivatives using cash flow hedge accounting Foreign currency translation of foreign	5,12,33		(3,324)	24,017
operations Share in other comprehensive income (loss) of	33		21,250	44,723
associates and joint ventures	33		138,539	(38,831)
Other comprehensive income (loss) for the period			239,877	(58,169)
Total comprehensive income (loss) for the period		₩	358,293	(4,561)
Profit attributable to:				
Owners of the controlling company	43	₩	85,716	22,979
Non-controlling interests			32,700	30,629
		₩	118,416	53,608
Total comprehensive income (loss) attributable to:				
Owners of the controlling company		₩	305,118	(56,401)
Non-controlling interests			53,175	51,840
		₩	358,293	(4,561)
Earnings per share (in won)	43			
Basic and diluted earnings per share		₩	134	36

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

KOREA ELECTRIC POWER CORPORATION AND ITS SUBSIDIARIES Consolidated Interim Statements of Changes in Equity For the three-month periods ended March 31, 2021 and 2020 (Unaudited)

In millions of won	Equity attribu	itable to owne				
	Contributed capital	Retained earnings	Other components of equity	Subtotal	Non- controlling interests	Total equity
Balance at January 1, 2020 W Total comprehensive income (loss) for the period	4,053,578	49,202,133	14,240,607	67,496,318	1,393,331	68,889,649
Profit for the period Items that will not be reclassified subsequently to profit or loss:	-	22,979	-	22,979	30,629	53,608
Remeasurement of defined benefit liability, net of tax Share in other comprehensive loss	-	(41,078)	-	(41,078)	4,793	(36,285)
of associates and joint ventures, net of tax Net change in fair value of financial assets at fair value through other	-	(248)	-	(248)		(248)
comprehensive income, net of tax Items that are or may be reclassified subsequently to profit or loss: Net change in the unrealized fair	-	-	(51,544)	(51,544)	(1)	(51,545)
value of derivatives using cash flow hedge accounting, net of tax	-	-	13,962	13,962	10,055	24,017
Foreign currency translation of foreign operations, net of tax Share in other comprehensive	-	-	38,364	38,364	6,359	44,723
income (loss) of associates and joint ventures, net of tax Transactions with owners of the	-	-	(38,836)	(38,836)	5	(38,831)
Company, recognized directly in equity						
Dividends paid Issuance of shares of capital by	-	-	-	-	(66,735)	(66,735)
subsidiaries and others Dividends paid (hybrid bond)	-	- 	(1,962)	(1,962)	9,073 (3,346)	7,111 (3,346)
Balance at March 31, 2020	4,053,578	49,183,786	14,200,591	67,437,955	1,384,163	68,822,118

(Continued)

KOREA ELECTRIC POWER CORPORATION AND ITS SUBSIDIARIES Consolidated Interim Statements of Changes in Equity, Continued For the three-month periods ended March 31, 2021 and 2020 (Unaudited)

In millions of won	Equity attribu	itable to owne				
	Contributed capital	Retained earnings	Other components of equity	Subtotal	Non- controlling interests	Total equity
Balance at January 1, 2021 ₩ Total comprehensive income (loss) for the period	4,053,578	51,133,601	14,109,501	69,296,680	1,370,166	70,666,846
Profit for the period Items that will not be reclassified subsequently to profit or loss: Remeasurement of defined benefit	-	85,716	-	85,716	32,700	118,416
liability, net of tax Share in other comprehensive loss of associates and joint ventures,	-	62,330	-	62,330	3,899	66,229
net of tax Net change in fair value of financial assets at fair value through other comprehensive income, net of		(1,552)	-	(1,552)	-	(1,552)
tax Items that are or may be reclassified subsequently to profit or loss: Net change in the unrealized fair value of derivatives using cash	-	-	18,734	18,734	1	18,735
flow hedge accounting, net of tax Foreign currency translation of	-	-	(5,734)	(5,734)	2,410	(3,324)
foreign operations, net of tax Share in other comprehensive income of associates and joint	-		7,085	7,085	14,165	21,250
ventures, net of tax Transactions with owners of the Company, recognized directly in equity	-	-	138,539	138,539	-	138,539
Dividends paid	-	(780,628)	-	(780,628)	(30,620)	(811,248)
Issuance of shares of capital by subsidiaries and others Dividends paid (hybrid bond)	-	-	(389)	(389)	2,843 (3,346)	2,454 (3,346)
Others		4,455	(4,455)			-
Balance at March 31, 2021	4,053,578	50,503,922	14,263,281	68,820,781	1,392,218	70,212,999

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

Consolidated Interim Statements of Cash Flows For the three-month periods ended March 31, 2021 and 2020 (Unaudited)

In millions of won	_	March 31, 2021	March 31, 2020
Cash flows from operating activities			
Profit for the period	₩	118,416	53,608
Adjustments to reconcile profit for the period to net cash provided			
by operating activities:			
Income tax expense		216,463	91,347
Depreciation		2,902,643	2,800,959
Amortization		43,477	38,115
Employee benefit expense		123,415	108,957
Bad debts expense (Reversal of allowance for doubtful		(1.0.1.0)	
accounts)		(1,319)	18,488
Interest expense		462,813	516,383
Loss on sale of financial assets		84	47
Loss on disposal of property, plant and equipment		8,420 55,111	7,786 77,208
Loss on abandonment of property, plant, and equipment Loss on disposal of intangible assets		37	11,200
Increase in provisions, net		685,220	429,557
Loss on foreign currency translation, net		452,235	681,083
Gain on valuation of financial assets at fair value through profit		+32,233	001,000
or loss		(2,047)	(6,225)
Loss on valuation of financial assets at fair value through profit		(=/01/)	(0,==0)
or loss		2,059	225
Valuation and transaction gain on derivative instruments, net		(337,620)	(504,911)
Share in income of associates and joint ventures, net		(199,150)	(205,837)
Gain on sale of financial assets		(580)	-
Gain on disposal of property, plant and equipment		(9,146)	(27,357)
Loss on disposal of investments in associates and joint			
ventures		78	16
Loss on disposal of investments in subsidiaries		102	-
Interest income		(53,983)	(66,506)
Dividend income		(2,363)	(42)
Others, net	_	3,554	(25,617)
	_	4,349,503	3,933,676
Changes in operating assets and liabilities:		4 400 (0)	4 007 500
Trade receivables		1,183,606	1,007,582
Non-trade receivables		(68,583)	149,028
Accrued income		52,792	(6,591)
Other receivables Other current assets		9,736 (54,043)	18,836 (87,992)
Inventories			(87,992) 56,677
Other non-current assets		(202,733) 40,459	(30,165)
Trade payables		135,461	(508,736)
Non-trade payables		(386,256)	(398,060)
Accrued expenses		(136,424)	(155,967)
Other payables		-	1,189
Other current liabilities		323,955	461,592
Other non-current liabilities		119,817	119,912
Investments in associates and joint ventures			
(dividends received)		28,267	26,638
Provisions		(260,168)	(47,032)
Payments of employee benefit obligations		(41,934)	(17,589)
Plan assets		(673)	(1,669)
	₩	743,279	587,653

(Continued)

Consolidated Interim Statements of Cash Flows, Continued

For the three-month periods ended March 31, 2021 and 2020 (Unaudited)

In millions of won	_	March 31, 2021	March 31, 2020
Cash generated from operating activities Dividends received (financial assets at fair value through other	₩	5,211,198	4,574,937
comprehensive income)		2,363	42
Interest paid		(500,124)	(513,938)
Interest received		40,933	38,701
Income taxes paid	_	(180,265)	(55,602)
Net cash provided by operating activities	_	4,574,105	4,044,140
Cash flows from investing activities			
Proceeds from disposals of investments in associates and joint			
ventures		262	93
Acquisition of investments in associates and joint ventures		(132,612)	(36,008)
Proceeds from disposals of property, plant and equipment		62,352	96,279
Acquisition of property, plant and equipment		(2,581,989)	(3,020,721)
Proceeds from disposals of intangible assets		- (12.450)	2,662
Acquisition of intangible assets		(12,458)	(13,783)
Proceeds from disposals of investment properties		-	41,059
Proceeds from disposals of financial assets		1,696,958	1,447,028
Acquisition of financial assets Increase in loans		(2,914,567)	(3,201,943)
Collection of loans		(59,071) 22,904	(132,858) 117,028
Increase in deposits		(167,322)	(139,862)
Decrease in deposits		141,638	131,505
Proceeds from disposals of assets held-for-sale		947	4,841
Receipt of government grants		16,757	150
Net cash inflow from changes in consolidation scope		2,895	150
Other cash outflow from investing activities, net		(48,033)	(26,726)
Net cash used in investing activities	-	(3,971,339)	(4,731,256)
Cash flows from financing activities			
Proceeds from (repayment of) short-term borrowings, net		186,531	(972,383)
Proceeds from long-term borrowings and debt securities		804,983	3,296,239
Repayment of long-term borrowings and debt securities		(1,547,570)	(1,804,494)
Payment of lease liabilities		(174,075)	(199,867)
Settlement of derivative instruments, net		25,896	22,517
Change in non-controlling interest		3,656	9,868
Dividends paid (hybrid bond)		(3,346)	(3,346)
Dividends paid		(9)	(20,724)
Other cash outflow from financing activities, net	_	(82)	(5)
Net cash provided by (used in) financing activities	_	(704,016)	327,805
Net decrease in cash and cash equivalents before			
effect of exchange rate fluctuations		(101,250)	(359,311)
Effect of exchange rate fluctuations on cash held	_	25,389	7,673
Net decrease in cash and cash equivalents		(75,861)	(351,638)
Cash and cash equivalents at January 1	_	2,029,584	1,810,129
Cash and cash equivalents at March 31	₩ _	1,953,723	1,458,491

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

1. Reporting Entity (Description of the controlling company)

Korea Electric Power Corporation ("KEPCO") was incorporated on January 1, 1982 in accordance with the Korea Electric Power Corporation Act (the "KEPCO Act") to engage in the generation, transmission and distribution of electricity and development of electric power resources in the Republic of Korea. KEPCO also provides power plant construction services. KEPCO's stock was first listed on the Korea Stock Exchange on August 10, 1989 and subsequently on the New York Stock Exchange on October 27, 1994 through its depository receipts. KEPCO's headquarter is located in Naju, Jeollanam-do.

As of March 31, 2021, KEPCO's share capital amounts to ₩3,209,820 million and KEPCO's shareholders are as follows:

	Number of shares	Percentage of ownership
The Government of the Republic of Korea	116,841,794	18.20%
Korea Development Bank	211,235,264	32.90%
Other (*)	313,887,019	48.90%
	641,964,077	100.00%

(*) The number of shares held by foreign shareholders are 104,184,130 shares (16.23%) as of March 22, 2021.

In accordance with the Restructuring Plan enacted on January 21, 1999 by the Ministry of Trade, Industry and Energy, KEPCO spun off its power generation divisions on April 2, 2001, resulting in the establishment of six power generation subsidiaries.

2. Basis of Preparation

(1) Statement of compliance

These consolidated interim financial statements have been prepared in accordance with KIFRS 1034 'Interim Financial Reporting' as part of the period covered by KEPCO and subsidiaries' (the "Group") KIFRS annual financial statements.

(2) Basis of measurement

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

- ✓ financial assets at fair value through profit or loss
- ✓ financial assets at fair value through other comprehensive income or loss
- ✓ derivative financial instruments are measured at fair value
- liabilities for defined benefit plans are recognized at the net of the total present value of defined benefit obligations less the fair value of plan assets

(3) Functional and presentation currency

These consolidated financial statements are presented in Korean won ("Won"), which is also the functional currency of KEPCO and most of the significant operating subsidiaries.

(4) Use of estimates and judgments

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

2. Basis of Preparation, Continued

(4) Use of estimates and judgments, continued

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.

The followings are the key assumptions and other key sources of estimation uncertainty at the end of the reporting period, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year.

(i) Useful lives of property, plant and equipment, and estimations on provision for decommissioning costs The Group reviews the estimated useful lives of property, plant and equipment at the end of each annual reporting period. Management's assumptions could affect the determination of estimated economic useful lives.

The Group records the fair value of estimated decommissioning costs as a liability in the period in which the Group incurs a legal obligation associated with the retirement of long-lived assets that result from acquisition, construction, development and/or normal use of the assets. The Group is required to record a liability for the dismantling (demolition) of nuclear power plants and disposal of spent fuel and low and intermediate radioactive wastes. The measurement of such liability is subject to change based on change in estimated cash flow, inflation rate, discount rate, and expected timing of decommissioning.

(ii) Deferred tax

The Group recognizes deferred tax assets and liabilities based on the differences between the financial statement carrying amounts and the tax bases of assets and liabilities of each consolidated taxpaying entity. However, the amount of deferred tax assets may be different if the Group determines the estimated future taxable income is not sufficient to realize the deferred tax assets recognized.

(iii) Valuations of financial instruments at fair values

The Group's accounting policies and disclosures require the measurement of fair values, for both financial and nonfinancial assets and liabilities. The Group has established control framework with respect to the measurement of fair values. 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 valuation techniques 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.

If the inputs used to measure the fair value of an asset or a liability might be categorized in 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. The Group recognizes transfers between levels of the fair value hierarchy at the end of the reporting period during which the change has occurred.

(iv) Defined employee benefit liabilities

The Group offers its employees defined benefit plans. The cost of providing benefits is determined using the Projected Unit Credit Method, with actuarial valuations being carried out at the end of each reporting period. For actuarial valuations, certain inputs such as discount rates and future salary increases are estimated. Defined benefit plans contain significant uncertainties in estimations due to its long-term nature (refer to Note 25).

2. Basis of Preparation, Continued

(4) Use of estimates and judgments, continued

(v) Unbilled revenue

Electricity delivered but neither metered nor billed is estimated at the reporting date based on the volume of electricity delivered which can vary significantly as a result of customer usage patterns, customer mix, meter reading schedules, weather, and etc. Unbilled revenue recognized as of March 31, 2021 and 2020 are ₩1,326,640 million and ₩1,240,270 million, respectively.

(vi) Construction contracts

The Group recognizes revenue over time using the cost-based input method which represents a faithful depiction of the Group's progress towards complete satisfaction of providing the power plant construction, which has been identified as a single performance obligation. In applying the cost-based input method, it is necessary to use estimates and assumptions related to the Group's efforts or inputs expected to be incurred. Cost incurred towards contract completion include costs associated with direct materials, labor, and other indirect costs related to contract performance. Judgment is required in estimating the costs expected to incur in completing the construction projects which involves estimating future materials, labor, contingencies and other related costs. Revenue is estimated based on the contractual amount; however, it can also be affected by uncertainties resulting from unexpected future events.

2. Basis of Preparation, Continued

(5) Changes in accounting policies

Changes in accounting standards effective from January 1, 2021 are as follows. The Group believes that these amendments have no significant impact on the Group's consolidated interim financial statements. The Group has not applied the new and revised standards in issue but not yet effective for the periods starting from January 1, 2021, even though the early adoption of these standards is possible.

Amendments to KIFRS 1109 'Financial Instruments', KIFRS 1039 'Financial Instruments: Recognition and Measurement', KIFRS 1107 'Financial Instruments: Disclosures', KIFRS 1104 'Insurance Contracts' and KIFRS 1116 'Lease' – Interest Rate Benchmark Reform Phase II

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:

- A practical expedient to require contractual changes, or changes to cash flows that are directly required by the reform, to be treated as changes to a floating interest rate, equivalent to a movement in a market rate of interest
- Permit changes required by IBOR reform to be made to hedge designations and hedge documentation without the hedging relationship being discontinued
- 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

(6) Adoption of cost pass-through tariff system

The Group adopted the cost pass-through tariff system from January 1, 2021 with the approval of the Ministry of Trade, Industry and Energy (MOTIE) on December 17, 2020 and amended the supply contract and related enforcement regulations. The new system is applicable to electricity bills charged from January 1, 2021. The Group believes that the adoption of the aforementioned system has no significant impact on the Group's accounting policies, including 'Revenue from Contracts with Customers'.

3. Significant Accounting Policies

The accounting policies applied by the Group in these consolidated interim financial statements are the same as those applied by the Group in its consolidated financial statements as of and for the year ended December 31, 2020, except for the changes described in Note 2.(5).

4. Segment, Geographic and Other Information

(1) Segment determination and explanation of the measurements

The Group's operating segments are its business components that generate discrete financial information that is reported to and regularly reviewed by chief operating decision makers of the Group including but not limited to the Chief Executive Officer, for the purpose of resource allocation and assessment of segment performance. The Group's reportable segments are 'Transmission and distribution', 'Electric power generation (Nuclear)', 'Electric power generation (Non-nuclear)', 'Plant maintenance & engineering service' and 'Others'; others mainly represent the business unit that manages the Group's foreign operations.

Segment operating profit (loss) is determined the same way that consolidated operating profit is determined under KIFRS without any adjustment for corporate allocations. The accounting policies used by each segment are consistent with the accounting policies used in the preparation of the consolidated financial statements. Segment assets and liabilities are determined based on separate financial statements of the entities instead of on a consolidated basis. There are various transactions between the reportable segments, including sales of property, plant and equipment and so on, that are conducted on an arm's-length basis at market prices that would be applicable to an independent third party. For subsidiaries which are in a different segment from that of its immediate parent company, their carrying amount in separate financial statements in the tables below. In addition, consolidation adjustments in the table below include adjustments of the amount of investment in associates and joint ventures from the cost basis amount reflected in segment assets to that determined using equity method in the consolidated financial statements.

4. Segment, Geographic and Other Information, Continued

(2) Financial information of the segments for the three-month periods ended March 31, 2021 and 2020, respectively, are as follows:

In millions of won		March 31, 2021							
Segment		Total segment revenue	Intersegment revenue	Revenue from external customers	Operating profit (loss)	Depreclation and amortization	Interest income	Interest expense	Profit (loss) related associates, joint ventures and subsidiaries
Transmission and									
distribution	₩	14,827,694	328,672	14,499,022	(971,744)	981,923	8,736	162,462	163,566
Electric power generation									
(Nuclear)		2,956,671	2,934,309	22,362	875,404	906,429	4,968	118,839	1,926
Electric power generation									
(Non-nuclear)		5,764,365	5,463,745	300,620	544,240	1,022,952	4,274	150,761	33,923
Plant maintenance &									
engineering service		569,412	489,983	79,429	65,931	30,578	2,069	607	(445)
Others		456,016	282,149	173,867	40,682	32,905	40,728	36,769	-
Consolidation adjustments	-	(9,498,858)	(9,498,858)	-	17,134	(28,667)	(6,792)	(6,625)	-
	₩_	15,075,300		15,075,300	571,647	2,946,120	53,983	462,813	198,970

In millions of won		March 31, 2020									
Segment		Total segment revenue	Intersegment revenue	Revenue from external customers	Operating profit (loss)	Depreciation and amortization	Interest income	Interest expense	Profit (loss) related associates, joint ventures and subsidiaries		
Transmission and											
distribution	₩	14,905,633	314,343	14,591,290	(547,321)	937,777	16,281	200,388	129,884		
Electric power generation									()		
(Nuclear)		2,485,055	2,456,228	28,827	327,428	880,620	5,945	124,356	(988)		
Electric power generation (Non-nuclear)		5,921,662	5,673,033	248,629	586,900	989,554	5,567	160,610	75,382		
Plant maintenance &		5,921,002	3,073,033	240,029	560,900	909,004	5,567	100,010	10,302		
engineering service		545,627	412,720	132,907	31,928	29,536	3,555	489	1,543		
Others		358,690	267,216	91,474	35,937	27,393	43,197	36,495	-		
Consolidation adjustments	-	(9,123,540)	(9,123,540)		(4,318)	(25,806)	(8,039)	(5,955)			
	₩	15,093,127		15,093,127	430,554	2,839,074	66,506	516,383	205,821		

4. Segment, Geographic and Other Information, Continued

(3) Information related to segment assets and segment liabilities as of and for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won

March 31, 2021							
Segment		Segment assets	Investments in associates and joint ventures	Acquisition of non-current assets	Segment liabilities		
Transmission and distribution	₩	113,085,181	4,511,558	1,350,484	60,887,655		
Electric power generation (Nuclear)		61,998,887	120,882	590,401	35,489,841		
Electric power generation (Non-nuclear)		54,599,564	1,997,855	657,041	33,233,209		
Plant maintenance & engineering service		3,663,536	41,451	13,514	1,255,058		
Others		9,473,602	-	57,353	4,196,598		
Consolidation adjustments	-	(39,104,185)		(74,346)	(1,558,775)		
	₩	203,716,585	6,671,746	2,594,447	133,503,586		

In millions of won

December 31, 2020							
Segment		Segment assets	Investments in associates and joint ventures	Acquisition of non-current assets	Segment liabilities		
Transmission and distribution	₩	113,115,667	4,204,090	6,535,380	59,772,046		
Electric power generation (Nuclear)		61,850,865	116,867	2,419,939	35,652,467		
Electric power generation (Non-nuclear)		54,531,155	1,807,409	3,758,795	33,292,680		
Plant maintenance & engineering service		3,492,571	42,167	141,226	1,061,949		
Others		8,923,046	-	577,056	4,039,220		
Consolidation adjustments	-	(38,771,193)		(30,731)	(1,343,097)		
	₩	203,142,111	6,170,533	13,401,665	132,475,265		

4. Segment, Geographic and Other Information, Continued

(4) Geographic information

Electricity sales, the main operations of the Group, are conducted in the Republic of Korea. The following information on revenue from external customers and non-current assets is determined by the location of the customers and of the assets:

In millions of won		Revenue from exte	ernal customers	Non-current assets (*2)		
Geographical unit		March 31, 2021	March 31, 2020	March 31, 2021	December 31, 2020	
Domestic Overseas (*1)	₩	14,810,341 264,959	14,783,111 310,016	173,792,328 3,024,370	173,673,478 2,831,925	
	₩	15,075,300	15,093,127	176,816,698	176,505,403	

- (*1) Middle East and other Asian countries make up the majority of overseas revenue and non-current assets. Since the overseas revenue or non-current assets attributable to particular countries are not material, they are not disclosed individually.
- (*2) The amounts exclude financial assets, deferred tax assets and defined benefit assets.

(5) Information on significant customers

There is no single customer which accounts for 10% or more of the Group's revenue for the three-month periods ended March 31, 2021 and 2020.

5. Classification of Financial Instruments

(1) Classification of financial assets as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won			March 31, 2021		
	Financial assets at fair value through profit or loss	Financial assets at fair value through other comprehensive income	Financial assets at amortized cost	Derivative assets (applying hedge accounting)	Total
Current assets					
Cash and cash equivalents W Current financial assets Current financial assets at fair	-	-	1,953,723	-	1,953,723
value through profit or loss Current financial assets at	2,605,386	-	-	-	2,605,386
amortized costs	-	-	18,207	-	18,207
Current derivative assets	41,616	-	-	7,442	49,058
Other financial assets	-	-	1,354,028	-	1,354,028
Trade and other receivables			6,787,533	-	6,787,533
	2,647,002	-	10,113,491	7,442	12,767,935
Non-current assets					
Non-current financial assets Non-current financial assets at fair					
value through profit or loss Non-current financial assets at fair value through other	657,903	-	-	-	657,903
comprehensive income Non-current financial assets at	-	368,001	-	-	368,001
amortized costs	-	-	1,202	-	1,202
Non-current derivative assets	155,266	-	-	89,319	244,585
Other financial assets	-	-	1,385,060	-	1,385,060
Trade and other receivables	-		1,903,563	-	1,903,563
	813,169	368,001	3,289,825	89,319	4,560,314
W	3,460,171	368,001	13,403,316	96,761	17,328,249

5. Classification of Financial Instruments, Continued

(1) Classification of financial assets as of March 31, 2021 and December 31, 2020 are as follows, continued:

In millions of won			December 31, 2020		
	Financial assets at fair value through profit or loss	Financial assets at fair value through other comprehensive income	Financial assets at amortized cost	Derivative assets (applying hedge accounting)	Total
Current assets					
Cash and cash equivalents W Current financial assets Current financial assets at fair	-	-	2,029,584	-	2,029,584
value through profit or loss Current financial assets at	1,196,101	-	-	-	1,196,101
amortized costs	-	-	13,149	-	13,149
Current derivative assets	18,332	-	-	11,193	29,525
Other financial assets	-	-	1,561,445	-	1,561,445
Trade and other receivables	-		7,918,470	<u> </u>	7,918,470
	1,214,433		11,522,648	11,193	12,748,274
Non-current assets Non-current financial assets Non-current financial assets at fair					
value through profit or loss Non-current financial assets at fair value through other	685,281	-	-	-	685,281
comprehensive income Non-current financial assets at	-	358,559	-	-	358,559
amortized costs	-	-	1,273	-	1,273
Non-current derivative assets	92,432	-	-	44,456	136,888
Other financial assets	-	-	1,290,820	-	1,290,820
Trade and other receivables			1,861,569		1,861,569
	777,713	358,559	3,153,662	44,456	4,334,390
W	1,992,146	358,559	14,676,310	55,649	17,082,664

5. Classification of Financial Instruments, Continued

(2) Classification of financial liabilities as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won		March 31, 2021						
	_	Financial llabilities at fair value through profit or loss	Financial liabilities recognized at amortized cost	Derivative liabilities (applying hedge accounting)	Total			
Current liabilities								
Borrowings	₩		2,308,378	-	2,308,378			
Debt securities			9,443,485	-	9,443,485			
Derivative liabilities		3,345	-	22,979	26,324			
Trade and other payables	_	-	6,715,003		6,715,003			
		3,345	18,466,866	22,979	18,493,190			
Non-current liabilities								
Borrowings		-	2,926,317	-	2,926,317			
Debt securities		-	54,943,877	-	54,943,877			
Derivative liabilities		68,516	-	99,121	167,637			
Trade and other payables		-	6,455,316		6,455,316			
	_	68,516	64,325,510	99,121	64,493,147			
	₩_	71,861	82,792,376	122,100	82,986,337			

In millions of won			December 31, 3	2020	
	-	Financial liabilities at fair value through profit or loss	Financial liabilities recognized at amortized cost	Derivative liabilities (applying hedge accounting)	Total
Current liabilities					
Borrowings	₩	-	2,113,181	-	2,113,181
Debt securities		-	8,561,624	-	8,561,624
Derivative liabilities		13,053		36,831	49,884
Trade and other payables	_	-	6,256,521	-	6,256,521
		13,053	16,931,326	36,831	16,981,210
Non-current liabilities					
Borrowings		-	3,003,999	-	3,003,999
Debt securities		-	56,045,777	-	56,045,777
Derivative liabilities		144,873		170,362	315,235
Trade and other payables	_	-	6,480,412		6,480,412
	_	144,873	65,530,188	170,362	65,845,423
	₩	157,926	82,461,514	207,193	82,826,633

5. Classification of Financial Instruments, Continued

(3) Classification of comprehensive income (loss) from financial instruments for the three-month periods ended March 31, 2021 and 2020 are as follows:

In millions of won			March 31, 2021	March 31, 2020
Cash and cash equivalents	Interest income	₩	1,572	28,455
	Gain on foreign currency transactions and translations		11,798	13,363
Financial assets at fair value	Interest income		3,434	2,722
through profit or loss	Dividends income		138	
	Gain(Loss) on valuation of financial assets		(12)	6.000
	Gain(Loss) on disposal of financial assets		(12)	(47)
Financial assets at fair value through other comprehensive	Dividends income		470	(+7)
income			2,225	42
Financial assets at amortized cost	Interest income		247	90
	Gain on foreign currency transactions and translations		866	1,252
Loans	Interest income		4,433	2,157
	Gain on foreign currency transactions and translations		336	403
Trade and other receivables	Interest income		38,834	12,493
	Gain(Loss) on foreign currency transactions and translations		(12,387)	20,643
Short-term financial instruments	Interest income		3.256	8,502
	Gain on foreign currency transactions and translations		19,506	44,835
Long-term financial instruments	Interest income		2,168	2.862
Other financial assets	Interest income		39	9,225
Financial liabilities carried at	Interest expense of borrowings and debt securities		314,350	357,508
amortized cost	Interest expense of trade and other payables		42.632	50,793
	Interest expense of others		105,831	108,082
	Other finance income		863	100,002
	Other finance expense		616	147
	Loss on foreign currency transactions and translations		(487,241)	(775,189)
Derivatives (trading)	Gain on valuation of derivatives (profit or loss)		156,756	248,820
	Gain on transaction of derivatives		10,563	248,820
Derivatives	Gain on valuation of derivatives (profit or loss)			
(applying hedge accounting)	Gain(Loss) on valuation of derivatives (equity, before tax)		156,701	228,175
	Gain on transaction of derivatives		(13,956)	32,343
			13,600	7,580

6. Restricted Deposits

Restricted deposits as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won		March 31, 2021	December 31, 2020
Cash and cash equivalents	Escrow accounts W	559	544
	Deposits for government project and others	14,996	5,066
	Collateral provided for borrowings	171,834	117,747
	Collateral provided for lawsuit	42	42
Short-term financial instruments	Deposits for transmission regional support program Restriction on withdrawal related to 'win-win growth program' for small and medium enterprises and	8,369	5,469
	others	109,000	109,000
Non-current financial assets at fair value through profit or loss	Decommissioning costs of nuclear power plants	519,931	577,481
Long-term financial instruments	Escrow accounts	95	76
	Guarantee deposits for banking accounts at oversea branches Collateral provided for borrowings	319 11,745	306 11,745
	Decommissioning costs of nuclear power plants	318,282	258,282
	Funds for developing small and medium enterprises (*)	210,000	210,000
	₩	1,365,172	1,295,758

(*) Deposits for small and medium enterprise at the Industrial Bank of Korea (IBK) and others for construction of Bitgaram Energy Valley and support for high potential businesses as of March 31, 2021 and December 31, 2020.

7. Cash and Cash Equivalents

Cash and cash equivalents as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won	_	March 31, 2021	December 31, 2020
Cash	₩	583	871
Other demand deposits		1,369,339	1,291,058
Short-term deposits classified as cash equivalents		140,001	432,263
Short-term investments classified as cash equivalents	_	443,800	305,392
	₩	1,953,723	2,029,584

8. Trade and Other Receivables

(1) Trade and other receivables as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won			March 31, 202	21				
		Gross amount	Allowance for doubtful accounts	Present value discount	Book value			
Current assets								
Trade receivables	₩	6,236,091	(200,152)	-	6,035,939			
Other receivables		798,854	(45,711)	(1,549)	751,594			
		7,034,945	(245,863)	(1,549)	6,787,533			
Non-current assets								
Trade receivables		205,903	(630)	-	205,273			
Other receivables		1,792,620	(90,900)	(3,430)	1,698,290			
		1,998,523	(91,530)	(3,430)	1,903,563			
	₩	9,033,468	(337,393)	(4,979)	8,691,096			
In millions of won		December 31, 2020						
		Gross amount	Allowance for doubtful accounts	Present value discount	Book value			
Current assets								
Trade receivables	₩	7,370,923	(208,184)	-	7,162,739			
Other receivables		799,598	(42,332)	(1,535)	755,731			
		8,170,521	(250,516)	(1,535)	7,918,470			
Non-current assets								
Trade receivables		227,261	(806)	-	226,455			
Other receivables		1,728,486	(90,047)	(3,325)	1,635,114			
		1,955,747	(90,853)	(3,325)	1,861,569			
	₩	10,126,268	(341,369)	(4,860)	9,780,039			

8. Trade and Other Receivables, Continued

(2) Other receivables as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won		March 31, 2021						
		Gross amount	Allowance for doubtful accounts	Present value discount	Book value			
Current assets								
Non-trade receivables	₩	433,218	(40,436)	-	392,782			
Accrued income		29,839	-	-	29,839			
Deposits		254,265	-	(1,549)	252,716			
Finance lease receivables (*1)		55,676	(370)	-	55,306			
Others		25,856	(4,905)	-	20,951			
		798,854	(45,711)	(1,549)	751,594			
Non-current assets			<u>, , , , , , , , , , , , , , , , , </u>					
Non-trade receivables		221,197	(82,111)	-	139,086			
Accrued income		937	-	-	937			
Deposits		374,703	-	(3,430)	371,273			
Finance lease receivables (*2)		1,103,863	(840)	-	1,103,023			
Others		91,920	(7,949)	-	83,971			
		1,792,620	(90,900)	(3,430)	1,698,290			
	₩	2,591,474	(136,611)	(4,979)	2,449,884			

(*1) Gross amount of finance lease receivables is the net lease investment by deducting unearned finance income of $\frac{1}{2}$ 109,839 million. (*2) Gross amount of finance lease receivables is the net lease investment by deducting unearned finance income of $\frac{1}{2}$ 1,107,340 million.

In millions of won		December 31, 2020							
		Gross amount	Allowance for doubtful accounts	Present value discount	Book value				
Current assets									
Non-trade receivables	₩	441,031	(37,062)	-	403,969				
Accrued income		38,956	-	-	38,956				
Deposits		239,011	-	(1,535)	237,476				
Finance lease receivables (* 1)		57,084	(365)	-	56,719				
Others		23,516	(4,905)	-	18,611				
		799,598	(42,332)	(1,535)	755,731				
Non-current assets									
Non-trade receivables		215,136	(80,451)	-	134,685				
Accrued income		834	-	-	834				
Deposits		364,855	-	(3,325)	361,530				
Finance lease receivables (* 2)		1,065,982	(625)	-	1,065,357				
Others		81,679	(8,971)	-	72,708				
		1,728,486	(90,047)	(3,325)	1,635,114				
	₩	2,528,084	(132,379)	(4,860)	2,390,845				

(*1) Gross amount of finance lease receivables is the net lease investment by deducting unearned finance income of $\frac{1}{2}$ 105,127 million. (*2) Gross amount of finance lease receivables is the net lease investment by deducting unearned finance income of $\frac{1}{2}$ 1,087,559 million.

(3) Trade and other receivables are classified as financial assets at amortized cost and are measured using the effective interest rate method. No interest is accrued for trade receivables related to electricity for the duration between the billing date and the payment due dates. However once trade receivables are overdue, the Group imposes a monthly interest rate of 1.5% on the overdue trade receivables. The Group holds deposits of three months' expected electricity usage for customers requesting temporary usage and customers with delinquent payments.

8. Trade and Other Receivables, Continued

(4) Aging analysis of trade receivables as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won	_	March 31, 2021	December 31, 2020
Trade receivables: (not overdue)	₩.	6,157,338	7,274,773
Trade receivables: (impairment reviewed)		284,656	323,411
Less than 60 days		4,408	3,505
60 ~ 90 days		24,792	28,729
90 ~ 120 days		6,059	10,687
120 days ~ 1 year		28,555	34,036
Over 1 year		220,842	246,454
		6,441,994	7,598,184
Less: allowance for doubtful accounts		(200,782)	(208,990)
	₩	6,241,212	7,389,194

At the end of each reporting period, the Group assesses whether the credit to trade receivables is impaired. The Group recognizes loss allowances for trade receivables individually when there is any objective evidence that trade receivables are impaired and significant and classifies the trade receivables that are not individually assessed as the trade receivables subject to be assessed on a collective basis. Also, the Group recognizes loss allowances based on an 'expected credit loss' (ECL) model.

(5) Changes in the allowance for doubtful accounts for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won		March 3	31, 2021	31, 2020	
	Tra	de receivables	Other receivables	Trade receivables	Other receivables
Beginning balance	₩	208,990	132,379	212,759	114,155
Bad debts expense		475	3,780	24,021	27,329
Write-off, etc.		(2,891)	(22)	(20,332)	(1,910)
Reversal		(5,574)	-	(3,373)	(2,464)
Others		(218)	474	(4,085)	(4,731)
Ending balance	₩	200,782	136,611	208,990	132,379

9. Financial Assets at Fair Value through Profit or Loss

Financial assets at fair value through profit or loss as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won		March 3	1, 2021	December 31, 2020		
		Current	Non-current	Current	Non-current	
Financial assets at fair value through profit or loss						
Beneficiary Certificate	₩	914	174,147	1,313	155,122	
Cooperative		-	5,775	-	5,692	
Other (*)		2,604,472	265,574	1,194,788	312,401	
		2,605,386	445,496	1,196,101	473,215	
Financial assets designated as at fair value through profit or loss						
Debt with embedded derivatives		-	212,407		212,066	
	₩	2,605,386	657,903	1,196,101	685,281	

(*) 'Other' includes MMT, etc.

10. Financial Assets at Fair Value through Other Comprehensive Income

(1) Changes in financial assets at fair value through other comprehensive income for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won				March 3	1, 2021		
	_	Beginning balance	Acquisition	Disposal	Valuation	Others	Ending balance
Listed	₩	194,669	-	(8,140)	13,462	2,976	202,967
Unlisted	_	163,890	1,000	-	(27)	171	165,034
		358,559	1,000	(8,140)	13,435	3,147	368,001
Current financial assets at fair value through other comprehensive income Non-current financial assets at fair value	₩	-	-	-		-	-
through other comprehensive income		358,559	1,000	(8,140)	13,435	3,147	368,001

In millions of won	December 31, 2020							
	_	Beginning balance	Acquisition	Disposal	Valuation	Others	Ending balance	
Listed	₩	201,201	-	(4)	(7,809)	1,281	194,669	
Unlisted	_	177,969	2,900	(1)	(23,128)	6,150	163,890	
	_	379,170	2,900	(5)	(30,937)	7,431	358,559	
Current financial assets at fair value through other comprehensive income Non-current financial assets at fair value	₩	-			-	-	-	
through other comprehensive income		379,170	2,900	(5)	(30,937)	7,431	358,559	

10. Financial Assets at Fair Value through Other Comprehensive Income, Continued

(2) Financial assets at fair value through other comprehensive income as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won			N	/larch 31, 2021		
	Shares	Ownership	_	Acquisition cost	Book value	Fair value
Listed						
Korea District Heating Corp.	2,264,068	19.55%	₩	173,201	86,827	86,827
Ssangyong Motor Co., Ltd.	38,568	0.03%		428	107	107
SM Korea Line Corp.	180	0.00%		1	1	1
Namkwang Engineering & Construction Co., Ltd.	121	0.00%		15	1	1
Bumyang Construction Co., Ltd.	35	0.00%		2	-	-
ELCOMTEC Co., Ltd.	32,875	0.04%		217	45	45
PAN Ocean Co., Ltd.	1,492	0.00%		14	9	9
Dongbu Corp.	955	0.02%		12	-	-
KSP Co., Ltd.	22,539	0.08%		53	42	42
STX Heavy Industries Co., Ltd.	7,419	0.12%		107	32	32
Codes Combine Co., Ltd.	291	0.00%		1	1	1
PT Adaro Energy Tbk	480,000,000	1.50%		65,028	44,161	44,161
Denison Mines Corp.	58,284,000	9.76%		84,134	71,682	71,682
Fission Uranium Corp.	100,000	0.02%		41	47	47
SangSangin Industry Co., Ltd.	5,831	0.02%		38	6	6
Vitzrosys Co., Ltd.	399	0.00%		2	2	2
EMnI Co., Ltd.	1,257	0.00%		25	2	2
Vissem electronics, Co., Ltd.	229	0.13%		2	2	2
				323,321	202,967	202,967
Unlisted (*1)						
Intellectual Discovery Co., Ltd.	1,000,000	6.00%		5,000	954	954
Smart Power Co., Ltd.	133,333	4.14%		200	200	200
PT. Kedap Sayaaq	671	10.00%		18,540	-	-
Set Holding (*2)	1,100,220	2.50%		229,255	143,765	143,765
PT. Cirebon Energi Prasarana	22,420	10.00%		2,612	2,541	2,541
SGC Greenpower	580,000	5.00%		2,900	2,900	2,900
Ihsung CNI Co., Ltd.	270,520	9.11%		3,000	3,000	3,000
H Robotics Co., Ltd.	9,192	4.55%		1,000	1,000	1,000
Good Tcells Co., Ltd.	11,364	0.40%		500	500	500
IPSbio Co., Ltd.	1,975	3.13%		1,000	1,000	1,000
Hwan Young Steel Co., Ltd.and others (*3)	1,770	0.1070		12,513	9,174	9,174
				276,520	165,034	165,034
			₩	599,841	368,001	368,001
				577,041	300,001	300,001

(*1) The Group used initial cost as their fair value because there was not enough information to determine fair value, and the range of the estimated fair value is wide.

(*2) The Group has estimated the fair value of Set Holding by using the discounted cash flow method and has recognized the difference between its fair value and book value as gain or loss on valuation of financial assets at FVOCI in other comprehensive income or loss during the three-month periods ended March 31, 2021.

(*3) Equity securities, acquired through debt-for-equity swaps of electricity rate bonds and others, consist of 306 companies including Hwan Young Steel Co., Ltd.

10. Financial Assets at Fair Value through Other Comprehensive Income, Continued

(2) Financial assets at fair value through other comprehensive income as of March 31, 2021 and December 31, 2020 are as follows, continued:

In millions of won			Dec	cember 31, 2020		
	Shares	Ownership	_	Acquisition cost	Book value	Fair value
Listed						
Korea District Heating Corp.	2,264,068	19.55%	₩	173,201	91,356	91,356
Ssangyong Motor Co., Ltd.	38,568	0.03%		428	107	107
SM Korea Line Corp.	180	0.00%		1	1	1
Namkwang Engineering & Construction Co., Ltd.	121	0.00%		15	1	1
Bumyang Construction Co., Ltd.	35	0.00%		2	-	-
ELCOMTEC Co., Ltd.	32,875	0.04%		217	49	49
PAN Ocean Co., Ltd.	1,492	0.00%		14	7	7
Dongbu Corp.	955	0.02%		12	13	13
KSP Co., Ltd.	22,539	0.08%		53	34	34
STX Heavy Industries Co., Ltd.	7,419	0.12%		107	29	29
Codes Combine Co., Ltd.	291	0.00%		1	1	1
PT Adaro Energy Tbk	480,000,000	1.50%		65,028	53,127	53,127
Energy Fuels Inc.	1,711,814	1.31%		16,819	7,888	7,888
Bunji Corporation Limited	99,763	0.07%		18,445	-	-
Denison Mines Corp.	58,284,000	9.76%		84,134	41,776	41,776
Fission 3.0	75,000	0.05%		-	6	6
Fission Uranium Corp.	800,000	0.16%		785	266	266
SangSangin Industry Co., Ltd.	5,831	0.02%		38	4	4
Vitzrosys Co., Ltd.	399	0.00%		2	2	2
EMnI Co., Ltd.	1,257	0.00%		25	2	2
				359,327	194,669	194,669
Unlisted (*1)						
Intellectual Discovery Co., Ltd.	1,000,000	6.00%		5,000	954	954
Smart Power Co., Ltd.	133,333	4.14%		200	200	200
PT. Kedap Sayaaq	671	10.00%		18,540	-	-
Set Holding (*2)	1,100,220	2.50%		229,255	143,765	143,765
SGC Energy Co., Ltd.	580,000	5.00%		2,900	2,900	2,900
PT. Cirebon Energi Prasarana	22,420	10.00%		2,612	2,440	2,440
Seobu Highway Solar Co., Ltd.	19,460	2.86%		195	195	195
Dongbu Highway Solar Co., Ltd.	19,020	4.99%		190	190	190
H Robotics Co., Ltd.	9,192	4.55%		1,000	1,000	1,000
Good Tcells Co., Ltd.	11,364	0.34%		500	500	500
Ihsung CNI Co., Ltd.	13,526	9.11%		3,000	3,000	3,000
Hwan Young Steel Co., Ltd.and others (*3)	10/020			12,104	8,746	8,746
.				275,496	163,890	163,890
			\			
			W	634,823	358,559	358,559

(*1) The Group used initial cost as their fair value because there was not enough information to determine fair value, and the range of the estimated fair value is wide.

- (*2) The Group has estimated the fair value of Set Holding by using the discounted cash flow method and has recognized the difference between its fair value and book value as gain or loss on valuation of financial assets at FVOCI in other comprehensive income or loss during the year ended December 31 2020.
- (*3) Equity securities, acquired through debt-for-equity swaps of electricity rate bonds and others, consist of 283 companies including Hwan Young Steel Co., Ltd.

11. Financial Assets at Amortized Cost

Financial assets at amortized cost as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won				March 31, 2021		
		Financial assets at amortized cost	Government grants	Allowance for doubtful accounts	Others	Book value
Government bonds	₩	1,420	-	-	-	1,420
Others		17,989			<u> </u>	17,989
	₩	19,409			<u> </u>	19,409
Current	₩	18,207	-	-	-	18,207
Non-current		1,202	-	-	-	1,202

In millions of won		December 31, 2020								
		Financial assets at amortized cost	Government grants	Allowance for doubtful accounts	Others	Book value				
Government bonds	₩	1,422	-	-	-	1,422				
Others		13,000	<u> </u>	·		13,000				
	₩	14,422		·		14,422				
Current Non-current	₩	13,149 1,273	-	-	-	13,149 1,273				

12. Derivatives

(1) Derivatives as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won		March 31	1, 2021	December 3	31, 2020
		Current	Non-current	Current	Non-current
Derivative assets					
Currency forward	₩	41,616	-	18,332	-
Currency swap		7,442	234,370	11,193	127,386
Interest rate swap			10,215		9,502
Others			-		-
	₩	49,058	244,585	29,525	136,888
Derivative liabilities					
Currency forward	₩	1,095	365	10,014	4,977
Currency swap		22,505	106,719	36,088	232,669
Interest rate swap		2,724	49,374	3,782	66,451
Others (*1,2,3)			11,179		11,138
	₩	26,324	167,637	49,884	315,235

(*1) The Group has an obligation to settle the convertible preferred stock to financial investors pursuant to the settlement contract with Samcheok Eco Materials Co., Ltd. and the fair value of the obligation is recorded in 'Others'.

(*2) The Group has granted stock option to Chester Solar IV SpA, a joint venture of the Group, and 4 other third party investors, and recognized its fair value as other derivative liabilities.

(*3) The Group has an obligation to purchase the shares of Hyundai Green Power Co., Ltd., an associate of the Group from financial investors, and the fair value of the obligation is recorded in 'Others'.

12. Derivatives, Continued

(2) Currency forward contracts which are not designated as hedging instruments as of March 31, 2021 are as follows:

In millions of won and thousands of USD except contract exchange rate information

		-		Contract ar	Contract	
Counterparty	Contract date	Maturity date		Pay	Receive	exchange rate (in won)
Hana Bank	2014.04.10	2021.07.12	₩	55,120	USD 52,000	₩ 1,060.00
Hana Bank	2014.04.28	2021.07.12		50,784	USD 48,000	1,058.00
Bank of America	2014.04.29	2021.07.12		105,400	USD 100,000	1,054.00
Hana Bank	2014.05.09	2021.07.12		104,600	USD 100,000	1,046.00
Hana Bank	2017.12.22	2021.07.12		105,079	USD 100,000	1,050.79
Korea Development Bank	2017.12.27	2021.07.12		104,849	USD 100,000	1,048.49
Shinhan Bank	2021.02.15	2021.04.19		5,697	USD 5,162	1,103.70
Shinhan Bank	2021.02.15	2021.04.27		6,673	USD 6,050	1,102.95
Kookmin Bank	2021.03.04	2021.04.05		5,632	USD 5,000	1,126.39
Morgan Stanley	2021.03.09	2021.04.07		11,413	USD 10,000	1,141.25
Nonghyup Bank	2021.03.11	2021.04.09		7,946	USD 7,000	1,135.10
Mizuho Bank	2021.03.16	2021.04.13		5,668	USD 5,000	1,133.50
Hana Bank	2021.03.16	2021.04.14		5,660	USD 5,000	1,131.90
Korea Development Bank	2021.03.18	2021.04.15		11,238	USD 10,000	1,123.75
ССВ	2021.03.31	2021.04.28		5,665	USD 5,000	1,132.95
Shinhan Bank	2021.03.31	2021.04.05		12,418	USD 10,957	1,133.30
MUFG	2021.03.16	2021.04.06		9,060	USD 8,000	1,132.55
MUFG	2021.03.17	2021.04.06		11,319	USD 10,000	1,131.85
MUFG	2021.03.18	2021.04.06		8,990	USD 8,000	1,123.80
MUFG	2021.03.25	2021.04.14		9,642	USD 8,500	1,134.35
HSBC	2021.03.09	2021.04.12		3,414	USD 3,000	1,137.90
ССВ	2021.03.22	2021.04.13		3,388	USD 3,000	1,129.43
BNP Paribas	2021.03.22	2021.04.30		3,396	USD 3,000	1,132.00
Deutsche Bank	2021.03.12	2021.04.13		3,620	USD 3,200	1,131.40
Busan Bank	2021.03.12	2021.04.13		4,185	USD 3,700	1,131.10
Woori Bank	2021.03.22	2021.04.23		3,843	USD 3,400	1,130.40
Mizuho Bank	2021.03.22	2021.04.23		6,459	USD 5,700	1,133.19
Nonghyup Bank	2021.03.25	2021.04.25		4,419	USD 3,900	1,133.20
Busan Bank	2021.03.26	2021.04.23		5,099	USD 4,500	1,133.00
HSBC	2021.03.20	2021.04.23		4,516	USD 4,000	1,129.05
Mizuho Bank	2021.03.20	2021.04.28		12,448	USD 11,000	1,131.60
HSBC	2020.09.18	2021.04.28		31,506	USD 27,000	1,166.90
HSBC	2020.09.18	2021.08.11		140,913	USD 125,000	1,100.90
Hana Bank						
Standard Chartered	2021.03.11	2021.04.09		5,700	USD 5,000	1,140.08
	2021.03.11 2021.03.11	2021.04.09		3,413	USD 3,000	1,137.70
Credit Agricole		2021.04.09		3,407	USD 3,000	1,135.50
Woori Bank	2021.03.11	2021.04.09		2,274	USD 2,000	1,137.15
Shinhan Bank	2021.03.11	2021.04.09		3,406	USD 3,000	1,135.25
Hana Bank Standard Chartered	2021.03.11	2021.04.09		3,407	USD 3,000	1,135.60
	2021.03.12	2021.04.16		3,394	USD 3,000	1,131.40
Credit Agricole	2021.03.12	2021.04.16		3,388	USD 3,000	1,129.17
Woori Bank	2021.03.12	2021.04.16		3,393	USD 3,000	1,130.90
Standard Chartered	2021.03.16	2021.04.23		2,262	USD 2,000	1,131.00
Credit Agricole	2021.03.17	2021.04.23		2,258	USD 2,000	1,129.00
Credit Agricole	2021.03.18	2021.04.23		2,256	USD 2,000	1,128.05
Credit Agricole	2021.03.18	2021.04.23		225	USD 200	1,124.05
Standard Chartered	2021.03.18	2021.04.23		1,346	USD 1,200	1,122.00
Shinhan Bank	2021.03.18	2021.04.23		4,496	USD 4,000	1,124.10
Standard Chartered	2021.03.23	2021.04.30		3,384	USD 3,000	1,128.10
Hana Bank	2021.03.25	2021.04.30		3,738	USD 3,300	1,132.75
Woori Bank	2021.03.26	2021.04.30		4,533	USD 4,000	1,133.25

12. Derivatives, Continued

(2) Currency forward contracts which are not designated as hedging instruments as of March 31, 2021 are as follows, continued:

In millions of won and thousands of USD except contract exchange rate information

Counterparty	Contract date	Maturity date	Contract amounts			Contract	
				Pay	Receive	-	exchange rate (in won)
Shinhan Bank	2021.03.26	2021.04.30	₩	3,391	USD 3,000	₩	1,130.20
Credit Agricole	2021.03.26	2021.04.30		2,260	USD 2,000		1,129.95
Standard Chartered	2021.03.31	2021.05.07		5,659	USD 5,000		1,131.85
Credit Agricole	2021.03.31	2021.05.07		3,391	USD 3,000		1,130.40
Credit Agricole	2021.03.31	2021.05.07		3,388	USD 3,000		1,129.45

12. Derivatives, Continued

(3) Currency swap contracts which are not designated as hedging instruments as of March 31, 2021 are as follows:

In millions of won and thousands of foreign currencies except contract exchange rate information ntract interest rate

Counterparty Contract year Pay Receive Pay Receive Pay Receive Standard Chartered 2014-2024 105,017 USD 100,000 3.14% 3.57% ¥ Societe Generale 2014-2024 105,017 USD 100,000 4.75% 5.13% Hana Bank 2015-2024 107,970 USD 100,000 4.75% 5.13% Woori Bank 2019-2027 21,708 USD 19,000 4.75% 5.13% Woori Bank 2019-2024 226,000 USD 250,000 1.21% 2.50% Hana Bank 2019-2024 117,600 USD 100,000 1.24% 2.50% Korea Development Bank 2019-2025 241,320 USD 200,000 0.54% 1.13% Kookmin Bank 2020-2025 120,660 USD 100,000 2.4% 1.3% Kookmin Bank 2020-2025 121,290 USD 100,000 2.79% 3.00% Bank of America 2012-2022 112,930 USD 100,000 2.79% 3.00% Shinhan Bank	In millions of won and thousands of foreign		Contract a	0		nterest rate	(Contract
Societe Generale 2014-2024 105,017 USD 100,000 4,92% 5,13% Hana Bank 2015-2024 107,970 USD 100,000 4,75% 5,13% Voori Bank 2019-2027 21,708 USD 19,417 5,04% 6,75% Woori Bank 2019-2024 296,000 USD 250,000 1.21% 2,50% Korea Development Bank 2019-2024 118,400 USD 100,000 1.24% 2,50% Hana Bank 2019-2024 118,400 USD 200,000 0.54% 1,13% Korea Development Bank 2020-2025 241,320 USD 200,000 0.54% 1,13% Kookmin Bank 2020-2025 120,660 USD 100,000 0.54% 1,13% Kookmin Bank 2020-2025 120,660 USD 100,000 2,79% 3,00% JP Morgan 2012-2022 112,930 USD 100,000 2,79% 3,00% Bank of America 2012-2022 112,930 USD 100,000 2,79% 3,00% Standard Chartered 2012-2022 112,930	Counterparty	Contract year	Pay	Receive	Pay	Receive		exchange rate (in won, USD)
Hana Bank2015-2024107.970USD 100.0004.75%5.13%Credit Agricole2015-202494.219USD 109.4175.04%6.75%Woori Bank2019-202721,708USD 150.0001.21%2.50%Korea Development Bank2019-2024177.600USD 150.0001.24%2.50%Woori Bank2019-2024118,400USD 100.0001.24%2.50%Woori Bank2019-2024118,400USD 200.0000.54%1.13%Korea Development Bank2020-2025241,320USD 200.0000.54%1.13%Kookmin Bank2020-2025241,320USD 200.0000.54%1.13%Kookmin Bank2020-202576,355USD 70,4455.83%6.00%Citibank2012-2022112,930USD 100.0002.79%3.00%JP Morgan2012-2022112,930USD 100.0002.79%3.00%Shinhan Bank2012-2022112,930USD 100.0002.79%3.00%Shinhan Bank2012-2022112,930USD 100.0002.79%3.00%Shinhan Bank2012-2022111,770USD 100.0002.87%3.00%Standard Chartered2012-2022111,770USD 100.0002.87%3.00%Standard Chartered2012-2025111,190USD 100.0002.87%3.25%Woori Bank2015-2025111,190USD 100.0002.62%3.25%Woori Bank2015-202555.595USD 50.0002.62%3.25%Woori	Standard Chartered	2014~2029 ₩	102,470	USD 100,000	3.14%	3.57%	₩	1,024.70
Credit Agricole 2015-2024 94,219 USD 86,920 4.85% 5.13% Woori Bank 2019-2027 21,708 USD 19,417 5.04% 6.75% Woori Bank 2019-2024 296,000 USD 150,000 1.21% 2.50% Korea Development Bank 2019-2024 177,600 USD 150,000 1.24% 2.50% Woori Bank 2019-2024 118,400 USD 100,000 1.24% 2.50% Woori Bank 2020-2025 241,320 USD 20,000 0.54% 1.13% Kookmin Bank 2020-2025 120,660 USD 100,000 2.79% 3.00% Citibank 2012-2022 112,930 USD 100,000 2.79% 3.00% JP Morgan 2012-2022 112,930 USD 100,000 2.79% 3.00% Shinhan Bank 2012-2022 112,930 USD 100,000 2.79% 3.00% Shinhan Bank 2012-2022 111,770 USD 100,000 2.87% 3.00% Shinhan Bank 2012-2022 111,770 USD 100,000<	Societe Generale	2014~2024	105,017	USD 100,000	4.92%	5.13%		1,050.17
Woori Bank 2019-2027 21,708 USD 19,417 5.04% 6.75% Woori Bank 2019-2024 296,000 USD 250,000 1.21% 2.50% Korea Development Bank 2019-2024 117,600 USD 150,000 1.24% 2.50% Hana Bank 2019-2024 118,400 USD 200,000 0.54% 1.13% Korea Development Bank 2020-2025 241,320 USD 200,000 0.54% 1.13% Kookmin Bank 2020-2025 120,660 USD 100,000 0.54% 1.13% Kookmin Bank 2020-2026 76,355 USD 100,000 2.79% 3.00% JP Morgan 2012-2022 112,930 USD 100,000 2.79% 3.00% Bank of America 2012-2022 112,930 USD 100,000 2.89% 3.00% HSEC 2012-2022 111,770 USD 100,000 2.89% 3.00% Standard Chartered 2012-2022 111,770 USD 100,000 2.89% 3.00% Nomura 2015-2025 51,595 USD	Hana Bank	2015~2024	107,970	USD 100,000	4.75%	5.13%		1,079.70
Woori Bank 2019-2027 21,708 USD 19,417 5.04% 6.75% Woori Bank 2019-2024 296,000 USD 250,000 1.24% 2.50% Korea Development Bank 2019-2024 118,400 USD 160,000 1.24% 2.50% Woori Bank 2020-2025 241,320 USD 200,000 0.54% 1.13% Korea Development Bank 2020-2025 240,600 USD 100,000 0.54% 1.13% Kookmin Bank 2020-2026 76,355 USD 70,445 5.83% 6.00% Citibank 2012-2022 112,930 USD 100,000 2.79% 3.00% Bank of America 2012-2022 112,930 USD 100,000 2.79% 3.00% Shinhan Bank 2012-2022 111,700 USD 100,000 2.89% 3.00% HSEC 2012-2022 111,770 USD 100,000 2.89% 3.00% Standard Chartered 2012-2022 111,770 USD 100,000 2.89% 3.00% Nomura 2015-2025 111,190 USD	Credit Agricole	2015~2024	94,219	USD 86,920	4.85%	5.13%		1,083.97
Korea Development Bank 2019-2024 177,600 USD 150,000 1.24% 2.50% Hana Bank 2019-2024 118,400 USD 150,000 1.24% 2.50% Woori Bank 2020-2025 241,320 USD 200,000 0.54% 1.13% Korea Development Bank 2020-2025 241,320 USD 200,000 0.54% 1.13% Kookmin Bank 2020-2025 120,660 USD 100,000 0.54% 1.13% Kookmin Bank 2020-2022 12,930 USD 100,000 2.79% 3.00% JP Morgan 2012-2022 112,930 USD 100,000 2.79% 3.00% Bank of America 2012-2022 112,930 USD 100,000 2.79% 3.00% Hana Bank 2012-2022 111,770 USD 100,000 2.89% 3.00% Hana Bank 2012-2022 111,770 USD 100,000 2.89% 3.00% Standard Chartered 2012-2022 111,770 USD 100,000 2.60% 3.25% Korea Development Bank 2015-2025 55,595	Woori Bank	2019~2027	21,708		5.04%	6.75%		1,118.00
Hana Bank2019-2024118,400USD 100,0001.24%2.50%Woori Bank2020-2025241,320USD 200,0000.54%1.13%Korea Development Bank2020-2025241,320USD 200,0000.54%1.13%Kookmin Bank2020-202676,355USD 100,0000.54%1.13%Kookmin Bank2012-2022112,930USD 100,0002.79%3.00%Citibank2012-2022112,930USD 100,0002.79%3.00%JP Morgan2012-2022112,930USD 100,0002.79%3.00%Shinhan Bank2016-2022112,930USD 100,0002.79%3.00%Shinhan Bank2012-2022111,770USD 100,0002.89%3.00%Shinhan Bank2012-2022111,770USD 100,0002.89%3.00%Standard Chartered2012-2022111,770USD 100,0002.89%3.00%Standard Chartered2012-2022111,170USD 100,0002.89%3.00%Nomura2015-2025111,190USD 100,0002.60%3.25%Woori Bank2015-2025111,190USD 100,0002.62%3.25%Woori Bank2015-202555,595USD 50,0002.62%3.25%Woori Bank2017-2027111,610USD 100,0002.31%3.13%Hana Bank2017-2027111,610USD 100,0002.31%3.13%Korea Development Bank2018-2028108,600HCM 800,0002.69%3.35%Korea Develo	Woori Bank	2019~2024	296,000	USD 250,000	1.21%	2.50%		1,184.00
Hana Bank2019-2024118,400USD 100,0001.24%2.50%Woori Bank2020-2025241,320USD 200,0000.54%1.13%Korea Development Bank2020-2025120,660USD 100,0000.54%1.13%Kookmin Bank2020-202676,355USD 70,4455.83%6.00%Citbank2012-2022112,930USD 100,0002.79%3.00%Bank of America2012-2022112,930USD 100,0002.79%3.00%Shinhan Bank2016-2022112,930USD 100,0002.79%3.00%Shinhan Bank2016-2022111,770USD 100,0002.89%3.00%Shinhan Bank2012-2022111,770USD 100,0002.89%3.00%Standard Chartered2012-2022111,770USD 100,0002.89%3.00%Standard Chartered2012-2022111,170USD 100,0002.89%3.00%Standard Chartered2012-2022111,170USD 100,0002.60%3.25%Nomura2015-2025111,190USD 100,0002.60%3.25%Woori Bank2015-202555,595USD 50,0002.62%3.25%Woori Bank2017-2027111,610USD 100,0002.31%3.13%Hana Bank2017-2027111,610USD 100,0002.64%3.35%Woori Bank2018-2028108,600HCD 800,0002.64%3.35%Korea Development Bank2018-2028108,600HCD 800,0002.64%3.35%Ko	Korea Development Bank	2019~2024	177,600	USD 150,000	1.24%	2.50%		1,184.00
Woori Bank 2020-2025 241,320 USD 200,000 0.54% 1.13% Korea Development Bank 2020-2025 241,320 USD 200,000 0.54% 1.13% Kookmin Bank 2020-2025 120,660 USD 100,000 0.54% 1.13% Kookmin Bank 2020-2026 76,355 USD 100,000 2.79% 3.00% Citibank 2012-2022 112,930 USD 100,000 2.79% 3.00% Bank of America 2012-2022 112,930 USD 100,000 2.79% 3.00% Shinhan Bank 2016-2022 111,770 USD 100,000 2.89% 3.00% HBBC 2012-2022 111,770 USD 100,000 2.89% 3.00% Standard Chartered 2012-2022 111,770 USD 100,000 2.69% 3.00% Nomura 2015-2025 111,190 USD 100,000 2.69% 3.25% Woori Bank 2015-2025 55,595 USD 50,000 2.62% 3.25% Woori Bank 2017-2027 111,610 USD 100,000 </td <td>Hana Bank</td> <td>2019~2024</td> <td></td> <td></td> <td></td> <td>2.50%</td> <td></td> <td>1,184.00</td>	Hana Bank	2019~2024				2.50%		1,184.00
Korea Development Bank2020-2025241,320USD 200,0000.54%1.13%Kookmin Bank2020-2025120,660USD 100,0000.54%1.13%Kookmin Bank2012-2022120,305USD 100,0002.79%3.00%JP Morgan2012-2022112,930USD 100,0002.79%3.00%Bank of America2012-2022112,930USD 100,0002.79%3.00%Shinhan Bank2012-2022112,930USD 100,0002.79%3.00%HSEC2012-2022111,770USD 100,0002.89%3.00%Hana Bank2012-2022111,770USD 100,0002.89%3.00%Hana Bank2012-2022111,770USD 100,0002.89%3.00%Standard Chartered2012-2022111,770USD 100,0002.89%3.00%Nomura2015-2025111,190USD 100,0002.60%3.25%Korea Development Bank2015-2025111,190USD 100,0002.62%3.25%Moori Bank2015-202555,595USD 50,0002.62%3.25%Hana Bank2017-2027111,610USD 100,0002.31%3.13%Korea Development Bank2018-2028115,387HKD 850,0002.66%3.55%Korea Development Bank2018-2028116,800HKD 800,0002.69%3.55%Korea Development Bank2018-2023170,280USD 150,0002.15%3.75%Korea Development Bank2018-2023170,280USD 150,0002.15% <t< td=""><td>Woori Bank</td><td>2020~2025</td><td></td><td></td><td>0.54%</td><td>1.13%</td><td></td><td>1,206.60</td></t<>	Woori Bank	2020~2025			0.54%	1.13%		1,206.60
Kookmin Bank2020-202676,355USD 70,4455.83%6.00%Citibank2012-2022112,930USD 100,0002.79%3.00%Bank of America2012-2022112,930USD 100,0002.79%3.00%Bank of America2012-2022112,930USD 100,0002.79%3.00%Shinhan Bank2016-2022112,930USD 100,0002.79%3.00%Hana Bank2012-2022111,770USD 100,0002.89%3.00%Hana Bank2012-2022111,770USD 100,0002.89%3.00%Standard Chartered2012-2022111,770USD 100,0002.89%3.00%Nomura2015-2025111,190USD 100,0002.60%3.25%Nomura2015-2025111,190USD 100,0002.62%3.25%Woori Bank2015-202555,595USD 50,0002.62%3.25%Woori Bank2017-2027111,610USD 100,0002.62%3.25%Hana Bank2017-2027111,610USD 100,0002.62%3.25%Woori Bank2017-2027111,610USD 100,0002.31%3.13%Korea Development Bank2018-2028108,600HKD 800,0002.69%3.35%Shinhan Bank2018-2023170,280USD 150,0002.15%3.75%Woori Bank2018-2023170,280USD 150,0002.15%3.75%Shinhan Bank2018-2023170,280USD 150,0002.15%3.75%Shinhan Bank2018-202	Korea Development Bank	2020~2025	241,320	USD 200,000	0.54%	1.13%		1,206.60
Citibank2012-2022112,930USD 100,0002.79%3.00%JP Morgan2012-2022112,930USD 100,0002.79%3.00%Bank of America2012-2022112,930USD 100,0002.79%3.00%Shinhan Bank2016-2022112,930USD 100,0002.79%3.00%HSBC2012-2022111,770USD 100,0002.89%3.00%Hana Bank2012-2022111,770USD 100,0002.89%3.00%Standard Chartered2012-2022111,770USD 100,0002.89%3.00%Standard Chartered2012-202255,885USD 50,0002.79%3.00%Nomura2015-2025111,170USD 100,0002.89%3.00%Nomura2015-2025111,190USD 100,0002.60%3.25%Nomura2015-2025111,190USD 100,0002.62%3.25%Woori Bank2015-202555,595USD 50,0002.62%3.25%Hana Bank2017-2027111,610USD 100,0002.31%3.13%Korea Development Bank2017-2027111,610USD 100,0002.31%3.13%Korea Development Bank2018-2028108,600HKD 800,0002.69%3.35%Shinhan Bank2018-2023170,280USD 150,0002.18%3.75%Woori Bank2018-2023170,280USD 150,0002.18%3.75%Shinhan Bank2018-2023170,280USD 150,0002.17%3.75%Shinhan Bank2018-	Kookmin Bank	2020~2025	120,660	USD 100,000	0.54%	1.13%		1,206.60
Citibank2012-2022112,930USD 100,0002.79%3.00%JP Morgan2012-2022112,930USD 100,0002.79%3.00%Bank of America2012-2022112,930USD 100,0002.79%3.00%Shinhan Bank2016-2022111,770USD 100,0002.89%3.00%HSEC2012-2022111,770USD 100,0002.89%3.00%Hana Bank2012-2022111,770USD 100,0002.89%3.00%Standard Chartered2012-202255,885USD 50,0002.79%3.00%Deutsche Bank2012-202255,885USD 50,0002.89%3.00%Nomura2015-2025111,190USD 100,0002.60%3.25%Nomura2015-2025111,190USD 100,0002.62%3.25%Woori Bank2015-202555,595USD 50,0002.62%3.25%Woori Bank2017-2027111,610USD 100,0002.56%3.13%Korea Development Bank2017-2027111,610USD 100,0002.31%3.13%Korea Development Bank2017-2027111,610USD 100,0002.31%3.13%Korea Development Bank2018-2023170,280USD 150,0002.66%3.35%Shinhan Bank2018-2023170,280USD 150,0002.15%3.75%Woori Bank2018-2023170,280USD 150,0002.15%3.75%Woori Bank2018-2023170,280USD 150,0002.17%3.75%Shinhan Bank<	Kookmin Bank	2020~2026	76,355	USD 70,445	5.83%	6.00%		1,083.90
JP Morgan 2012-2022 112,930 USD 100,000 2.79% 3.00% Bank of America 2012-2022 112,930 USD 100,000 2.79% 3.00% Shinhan Bank 2016-2022 112,930 USD 100,000 2.79% 3.00% HSBC 2012-2022 111,770 USD 100,000 2.89% 3.00% Hana Bank 2012-2022 111,770 USD 100,000 2.89% 3.00% Standard Chartered 2012-2022 111,770 USD 100,000 2.89% 3.00% Deutsche Bank 2012-2022 111,770 USD 100,000 2.89% 3.00% Nomura 2015-2025 111,190 USD 100,000 2.60% 3.25% Korea Development Bank 2015-2025 55,595 USD 50,000 2.62% 3.25% Woori Bank 2017-2027 111,610 USD 100,000 2.31% 3.13% Korea Development Bank 2017-2027 111,610 USD 100,000 2.31% 3.13% Korea Development Bank 2018-2028 108,600	Citibank	2012~2022			2.79%	3.00%		1,129.30
Bank of America 2012-2022 112,930 USD 100,000 2.79% 3.00% Shinhan Bank 2016-2022 112,930 USD 100,000 2.89% 3.00% HSBC 2012-2022 111,770 USD 100,000 2.89% 3.00% Hana Bank 2012-2022 111,770 USD 100,000 2.89% 3.00% Standard Chartered 2012-2022 111,770 USD 100,000 2.89% 3.00% Nomura 2012-2022 55.885 USD 50,000 2.79% 3.00% Nomura 2015-2025 111,190 USD 100,000 2.60% 3.25% Woori Bank 2015-2025 55,595 USD 50,000 2.62% 3.25% Woori Bank 2017-2027 111,610 USD 100,000 2.62% 3.25% Woori Bank 2017-2027 111,610 USD 100,000 2.62% 3.13% Korea Development Bank 2017-2027 111,610 USD 100,000 2.31% 3.13% Korea Development Bank 2018-2023 170,280 HKD 850,0	JP Morgan			-	2.79%			1,129.30
Shinhan Bank2016-2022112,930USD 100,0002.79%3.00%HSBC2012-2022111,770USD 100,0002.89%3.00%Hana Bank2012-2022111,770USD 100,0002.87%3.00%Standard Chartered2012-2022111,770USD 100,0002.89%3.00%Deutsche Bank2012-202255,885USD 50,0002.79%3.00%Nomura2015-2025111,190USD 100,0002.60%3.25%Korea Development Bank2015-2025111,190USD 100,0002.62%3.25%Woori Bank2015-202555,595USD 50,0002.62%3.25%Hana Bank2017-2027111,610USD 100,0002.62%3.25%Woori Bank2017-2027111,610USD 100,0002.69%3.13%Korea Development Bank2017-2027111,610USD 100,0002.31%3.13%Hana Bank2017-2027111,610USD 100,0002.31%3.13%Korea Development Bank2018-2028108,600HKD 850,0002.66%3.35%Shinhan Bank2018-2023170,280USD 150,0002.15%3.75%Woori Bank2018-2023170,280USD 150,0002.15%3.75%Hana Bank2018-2023170,280USD 150,0002.15%3.75%Woori Bank2018-2023170,280USD 150,0002.15%3.75%Hana Bank2018-2023113,520USD 150,0002.17%3.75%Hana Bank	Bank of America			-	2.79%	3.00%		1,129.30
Hana Bank2012 2022111,770USD 100,0002.87%3.00%Standard Chartered2012-2022111,770USD 100,0002.89%3.00%Deutsche Bank2012-202255,885USD 50,0002.79%3.00%Nomura2015-2025111,190USD 100,0002.60%3.25%Korea Development Bank2015-202555,595USD 50,0002.62%3.25%Woori Bank2015-202555,595USD 50,0002.62%3.25%Hana Bank2015-202555,595USD 50,0002.62%3.25%Woori Bank2017-2027111,610USD 100,0002.25%3.13%Korea Development Bank2017-2027111,610USD 100,0002.31%3.13%Korea Development Bank2017-2027111,610USD 100,0002.31%3.13%Korea Development Bank2018-2028108,600HKD 800,0002.66%3.35%Korea Development Bank2018-2023170,280USD 150,0002.18%3.75%Woori Bank2018-2023170,280USD 150,0002.18%3.75%Woori Bank2018-2023170,280USD 150,0002.18%3.75%Hana Bank2018-2023170,280USD 100,0002.17%3.75%Woori Bank2018-2023113,520USD 100,0002.17%3.75%Hana Bank2018-2023227,040USD 200,0002.17%3.75%Shinhan Bank2018-2023227,040USD 200,0002.17%3.75%<	Shinhan Bank			USD 100,000	2.79%	3.00%		1,129.30
Hana Bank2012-2022111,770USD 100,0002.87%3.00%Standard Chartered2012-2022111,770USD 100,0002.89%3.00%Deutsche Bank2012-202255,885USD 50,0002.79%3.00%Nomura2015-2025111,190USD 100,0002.60%3.25%Korea Development Bank2015-202555,595USD 50,0002.62%3.25%Woori Bank2015-202555,595USD 50,0002.62%3.25%Hana Bank2015-202555,595USD 50,0002.62%3.25%Woori Bank2017-2027111,610USD 100,0002.25%3.13%Korea Development Bank2017-2027111,610USD 100,0002.31%3.13%Korea Development Bank2018-2028108,600HKD 800,0002.66%3.35%Shinhan Bank2018-2023170,280USD 150,0002.15%3.75%Woori Bank2018-2023170,280USD 150,0002.18%3.75%Woori Bank2018-2023170,280USD 150,0002.18%3.75%Korea Development Bank2018-2023170,280USD 150,0002.18%3.75%Woori Bank2018-2023170,280USD 150,0002.18%3.75%Korea Development Bank2018-2023170,280USD 150,0002.17%3.75%Moori Bank2018-2023170,280USD 150,0002.17%3.75%Hana Bank2018-2023113,520USD 100,0002.17%3.75%	HSBC	2012~2022	111,770	USD 100.000	2.89%	3.00%		1,117.70
Standard Chartered2012-2022111,770USD 100,0002.89%3.00%Deutsche Bank2012-202255,885USD 50,0002.79%3.00%Nomura2015-2025111,190USD 100,0002.60%3.25%Korea Development Bank2015-202555,595USD 50,0002.62%3.25%Woori Bank2015-202555,595USD 50,0002.62%3.25%Hana Bank2015-202555,595USD 50,0002.62%3.25%Woori Bank2017-2027111,610USD 100,0002.52%3.13%Korea Development Bank2017-2027111,610USD 100,0002.31%3.13%Korea Development Bank2017-2027111,610USD 100,0002.31%3.13%Korea Development Bank2018-2028108,600HKD 800,0002.69%3.35%Korea Development Bank2018-2028115,387HKD 850,0002.66%3.35%Shinhan Bank2018-2023170,280USD 150,0002.15%3.75%Woori Bank2018-2023170,280USD 150,0002.18%3.75%Hana Bank2018-2023113,520USD 100,0002.17%3.75%Hana Bank2018-2023113,520USD 100,0002.17%3.75%Hana Bank2018-2023227,040USD 200,0002.17%3.75%Korea Development Bank2018-2023227,040USD 200,0002.17%3.75%Korea Development Bank2018-2023113,520USD 100,0002.17%<	Hana Bank		111,770	USD 100.000	2.87%	3.00%		1,117.70
Deutsche Bank2012-202255,885USD 50,0002.79%3.00%Nomura2015-2025111,190USD 100,0002.60%3.25%Korea Development Bank2015-2025111,190USD 100,0002.62%3.25%Woori Bank2015-202555,595USD 50,0002.62%3.25%Hana Bank2015-202555,595USD 50,0002.62%3.25%Woori Bank2017-2027111,610USD 100,0002.25%3.13%Korea Development Bank2017-2027111,610USD 100,0002.31%3.13%Hana Bank2017-2027111,610USD 100,0002.31%3.13%Korea Development Bank2018-2028108,600HKD 800,0002.69%3.35%Shinhan Bank2018-2028115,387HKD 850,0002.66%3.35%Korea Development Bank2018-2023170,280USD 150,0002.15%3.75%Woori Bank2018-2023170,280USD 150,0002.18%3.75%Hana Bank2018-2023113,520USD 100,0002.17%3.75%Hana Bank2018-2023113,520USD 100,0002.17%3.75%Hana Bank2018-2023227,040USD 200,0002.17%3.75%Shinhan Bank2018-2023227,040USD 200,0002.17%3.75%Citibank2019-2024239,956CHF 200,0001.44%0.00%	Standard Chartered			-				1,117.70
Nomura2015-2025111,190USD 100,0002.60%3.25%Korea Development Bank2015-2025111,190USD 100,0002.62%3.25%Woori Bank2015-202555,595USD 50,0002.62%3.25%Hana Bank2015-202555,595USD 50,0002.62%3.25%Woori Bank2017-2027111,610USD 100,0002.25%3.13%Korea Development Bank2017-2027111,610USD 100,0002.31%3.13%Hana Bank2017-2027111,610USD 100,0002.31%3.13%Korea Development Bank2018-2028108,600HKD 800,0002.69%3.35%Shinhan Bank2018-2028115,387HKD 850,0002.66%3.35%Korea Development Bank2018-2023170,280USD 150,0002.15%3.75%Woori Bank2018-2023170,280USD 150,0002.18%3.75%Hana Bank2018-2023113,520USD 100,0002.17%3.75%Hana Bank2018-2023113,520USD 100,0002.17%3.75%Hana Bank2018-2023227,040USD 200,0002.17%3.75%Shinhan Bank2018-2023227,040USD 200,0002.17%3.75%Citibank2019-2024239,956CHF 200,0001.44%0.00%	Deutsche Bank							1,117.70
Korea Development Bank2015-2025111,190USD 100,0002.62%3.25%Woori Bank2015-202555,595USD 50,0002.62%3.25%Hana Bank2015-202555,595USD 50,0002.62%3.25%Woori Bank2017-2027111,610USD 100,0002.25%3.13%Korea Development Bank2017-2027111,610USD 100,0002.31%3.13%Hana Bank2017-2027111,610USD 100,0002.31%3.13%Korea Development Bank2018-2028108,600HKD 800,0002.69%3.35%Shinhan Bank2018-2028115,387HKD 850,0002.66%3.35%Korea Development Bank2018-2023170,280USD 150,0002.15%3.75%Woori Bank2018-2023170,280USD 150,0002.18%3.75%Hana Bank2018-2023113,520USD 100,0002.17%3.75%Hana Bank2018-2023227,040USD 200,0002.17%3.75%Citibank2019-2024239,956CHF 200,0001.44%0.00%	Nomura							1,111.90
Woori Bank2015-202555,595USD 50,0002.62%3.25%Hana Bank2015-202555,595USD 50,0002.62%3.25%Woori Bank2017-2027111,610USD 100,0002.25%3.13%Korea Development Bank2017-2027111,610USD 100,0002.31%3.13%Hana Bank2017-2027111,610USD 100,0002.31%3.13%Korea Development Bank2018-2028108,600HKD 800,0002.69%3.35%Shinhan Bank2018-2028115,387HKD 850,0002.66%3.35%Korea Development Bank2018-2023170,280USD 150,0002.15%3.75%Woori Bank2018-2023170,280USD 150,0002.18%3.75%Hana Bank2018-2023113,520USD 100,0002.17%3.75%Hana Bank2018-2023227,040USD 200,0002.17%3.75%Citibank2019-2024239,956CHF 200,0001.44%0.00%	Korea Development Bank							1,111.90
Hana Bank2015-202555,595USD 50,0002.62%3.25%Woori Bank2017-2027111,610USD 100,0002.25%3.13%Korea Development Bank2017-2027111,610USD 100,0002.31%3.13%Hana Bank2017-2027111,610USD 100,0002.31%3.13%Korea Development Bank2018-2028108,600HKD 800,0002.69%3.35%Shinhan Bank2018-2028115,387HKD 850,0002.66%3.35%Korea Development Bank2018-2023170,280USD 150,0002.15%3.75%Woori Bank2018-2023170,280USD 150,0002.18%3.75%Hana Bank2018-2023113,520USD 100,0002.17%3.75%Hana Bank2018-2023227,040USD 200,0002.17%3.75%Shinhan Bank2018-2023227,040USD 200,0002.17%3.75%Citibank2019-2024239,956CHF 200,0001.44%0.00%	Woori Bank							1,111.90
Woori Bank2017-2027111,610USD 100,0002.25%3.13%Korea Development Bank2017-2027111,610USD 100,0002.31%3.13%Hana Bank2017-2027111,610USD 100,0002.31%3.13%Korea Development Bank2018-2028108,600HKD 800,0002.69%3.35%Shinhan Bank2018-2028115,387HKD 850,0002.66%3.35%Korea Development Bank2018-2023170,280USD 150,0002.15%3.75%Woori Bank2018-2023170,280USD 150,0002.18%3.75%Hana Bank2018-2023113,520USD 100,0002.17%3.75%Shinhan Bank2018-2023227,040USD 200,0002.17%3.75%Citibank2019-2024239,956CHF 200,0001.44%0.00%	Hana Bank	2015~2025			2.62%	3.25%		1,111.90
Korea Development Bank2017-2027111,610USD 100,0002.31%3.13%Hana Bank2017-2027111,610USD 100,0002.31%3.13%Korea Development Bank2018-2028108,600HKD 800,0002.69%3.35%Shinhan Bank2018-2028115,387HKD 850,0002.66%3.35%Korea Development Bank2018-2023170,280USD 150,0002.15%3.75%Woori Bank2018-2023170,280USD 150,0002.18%3.75%Hana Bank2018-2023113,520USD 100,0002.17%3.75%Shinhan Bank2018-2023227,040USD 200,0002.17%3.75%Citibank2019-2024239,956CHF 200,0001.44%0.00%	Woori Bank							1.116.10
Hana Bank2017-2027111,610USD 100,0002.31%3.13%Korea Development Bank2018-2028108,600HKD 800,0002.69%3.35%Shinhan Bank2018-2028115,387HKD 850,0002.66%3.35%Korea Development Bank2018-2023170,280USD 150,0002.15%3.75%Woori Bank2018-2023170,280USD 150,0002.18%3.75%Hana Bank2018-2023113,520USD 100,0002.17%3.75%Shinhan Bank2018-2023227,040USD 200,0002.17%3.75%Citibank2019-2024239,956CHF 200,0001.44%0.00%	Korea Development Bank							1,116.10
Korea Development Bank2018-2028108,600HKD 800,0002.69%3.35%Shinhan Bank2018-2028115,387HKD 850,0002.66%3.35%Korea Development Bank2018-2023170,280USD 150,0002.15%3.75%Woori Bank2018-2023170,280USD 150,0002.18%3.75%Hana Bank2018-2023113,520USD 100,0002.17%3.75%Shinhan Bank2018-2023227,040USD 200,0002.17%3.75%Citibank2019-2024239,956CHF 200,0001.44%0.00%	Hana Bank							1,116.10
Shinhan Bank2018-2028115,387HKD 850,0002.66%3.35%Korea Development Bank2018-2023170,280USD 150,0002.15%3.75%Woori Bank2018-2023170,280USD 150,0002.18%3.75%Hana Bank2018-2023113,520USD 100,0002.17%3.75%Shinhan Bank2018-2023227,040USD 200,0002.17%3.75%Citibank2019-2024239,956CHF 200,0001.44%0.00%	Korea Development Bank							135.75
Korea Development Bank2018–2023170,280USD 150,0002.15%3.75%Woori Bank2018–2023170,280USD 150,0002.18%3.75%Hana Bank2018–2023113,520USD 100,0002.17%3.75%Shinhan Bank2018–2023227,040USD 200,0002.17%3.75%Citibank2019–2024239,956CHF 200,0001.44%0.00%	Shinhan Bank							135.75
Woori Bank 2018-2023 170,280 USD 150,000 2.18% 3.75% Hana Bank 2018-2023 113,520 USD 100,000 2.17% 3.75% Shinhan Bank 2018-2023 227,040 USD 200,000 2.17% 3.75% Citibank 2019-2024 239,956 CHF 200,000 1.44% 0.00%	Korea Development Bank							1,135.20
Hana Bank2018~2023113,520USD 100,0002.17%3.75%Shinhan Bank2018~2023227,040USD 200,0002.17%3.75%Citibank2019~2024239,956CHF 200,0001.44%0.00%	Woori Bank			-				1,135.20
Shinhan Bank 2018~2023 227,040 USD 200,000 2.17% 3.75% Citibank 2019~2024 239,956 CHF 200,000 1.44% 0.00%	Hana Bank							1,135.20
Citibank 2019-2024 239,956 CHF 200,000 1.44% 0.00%	Shinhan Bank							1,135.20
	Citibank			-				1,199.78
	Korea Development Bank	2019~2027	119,978	CHF 100,000	1.43%	0.05%		1,199.78
	•							USD 0.69

12. Derivatives, Continued

(4) Currency swap contracts which are designated as hedging instruments as of March 31, 2021 are as follows:

In millions of won and thousands of foreign currencies except contract exchange rate information

	-	ncies except contr Contract a	0	Contract inte	Contract interest rate	
Counterparty	Contract year	Pay	Receive	Pay	Receive	exchange rate (in won)
Kookmin Bank	2020~2025 ₩	118,780	USD 100,000	1.29%	2.13%	₩ 1,187.80
Shinhan Bank	2020~2025	118,780	USD 100,000	1.29%	2.13%	1,187.80
Hana Bank	2020~2025	118,780	USD 100,000	1.29%	2.13%	1,187.80
Korea Development Bank	2020~2026	118,910	USD 100,000	0.61%	1.00%	1,189.10
Hana Bank	2020~2026	118,910	USD 100,000	0.61%	1.00%	1,189.10
Woori Bank	2020~2026	118,910	USD 100,000	0.62%	1.00%	1,189.10
Korea Development Bank	2016~2021	121,000	USD 100,000	2.15%	2.50%	1,210.00
Morgan Stanley	2016~2021	121,000	USD 100,000	3M Libor + 2.10%	2.50%	1,210.00
BNP Paribas	2016~2021	121,000	USD 100,000	3M Libor + 2.10%	2.50%	1,210.00
Nomura	2017~2037	52,457	EUR 40,000	2.60%	1.70%	1,311.42
Nomura	2017~2037	59,423	SEK 450,000	2.62%	2.36%	132.05
Korea Development Bank	2019~2022	112,650	USD 100,000	1.80%	3.38%	1,126.50
Kookmin Bank	2019~2022	112,650	USD 100,000	1.80%	3.38%	1,126.50
Woori Bank	2019~2022	112,650	USD 100,000	1.80%	3.38%	1,126.50
Korea Development Bank	2018~2023	320,880	USD 300,000	2.03%	3.75%	1,069.60
BNP Paribas	2019~2024	111,841	CHF 100,000	1.78%	0.13%	1,118.41
Kookmin Bank	2019~2024	111,841	CHF 100,000	1.78%	0.13%	1,118.41
Korea Development Bank	2019~2022	117,340	USD 100,000	1.06%	2.38%	1,173.40
Hana Bank	2019~2022	117,340	USD 100,000	1.06%	2.38%	1,173.40
Kookmin Bank	2019~2022	117,340	USD 100,000	1.06%	2.38%	1,173.40
Woori Bank	2021~2026	220,600	USD 200,000	0.47%	0.75%	1,103.00
Shinhan Bank	2021~2026	220,600	USD 200,000	0.47%	0.75%	1,103.00
Hana Bank	2021~2026	55,150	USD 50,000	0.48%	0.75%	1,103.00
Hana Bank	2017~2022	226,600	USD 200,000	1.94%	2.63%	1,133.00
Korea Development Bank	2017~2022	113,300	USD 100,000	1.94%	2.63%	1,133.00
Nomura	2017~2022	113,300	USD 100,000	1.95%	2.63%	1,133.00
Woori Bank	2017~2022	56,650	USD 50,000	1.95%	2.63%	1,133.00
Kookmin Bank	2017~2022	56,650	USD 50,000	1.95%	2.63%	1,133.00
Korea Development Bank	2018~2023	169,335	USD 150,000	2.26%	3.88%	1,128.90
Woori Bank	2018~2023	169,335	USD 150,000	2.26%	3.88%	1,128.90
Credit Agricole	2018~2023	112,890	USD 100,000	2.26%	3.88%	1,128.90
Hana Bank	2018~2023	56,445	USD 50,000	2.26%	3.88%	1,128.90
Kookmin Bank	2018~2023	56,445	USD 50,000	2.26%	3.88%	1,128.90
Woori Bank	2020~2025	245,560	USD 200,000	0.93%	1.75%	1,227.80
Hana Bank	2020~2025	245,560	USD 200,000	0.93%	1.75%	1,227.80
Korea Development Bank	2020~2025	122,780	USD 100,000	0.93%	1.75%	1,227.80

12. Derivatives, Continued

(5) Interest rate swap contracts which are not designated as hedging instruments as of March 31, 2021 are as follows:

In millions of won

			a	Contract interes	t rate per annum
Counterparty	Contract year		Contract amount	Pay	Receive
Hana Bank	2017~2022	₩	100,000	2.01%	3M CD + 0.24%
Hana Bank	2017~2022		100,000	2.06%	3M CD + 0.27%
Hana Bank	2017~2021		200,000	2.45%	3M CD + 0.32%
Nomura (*)	2018~2038		30,000	2.56%	3.75%
Hana Bank	2018~2023		200,000	2.15%	3M CD + 0.19%
Hana Bank	2018~2023		200,000	2.17%	3M CD + 0.19%
Hana Bank	2018~2023		150,000	2.03%	3M CD + 0.21%
Hana Bank	2019~2024		200,000	1.87%	3M CD + 0.13%
Societe Generale	2017~2022		200,000	3M Libor + 3.44%	3.77%
Nomura	2017~2032		52,457	3M Libor + 2.22%	2.60%
Nomura	2017~2032		59,423	3M Libor + 2.24%	2.62%

(*) 2.56% of the contract paying interest rate is applied for five years from the date of issuance, and 3M CD + 0.10% is applied thereafter. Depending on the counterparty exercising the right, the contract may be early settled on the same date every year from June 15, 2023.

(6) Interest rate swap contracts which are designated as hedging instruments as of March 31, 2021 are as follows:

In thousands of USD

		Contract	Contract inter	est rate per annum
Counterparty	Contract year	amount	Pay	Receive
Export-Import Bank of Korea	2015~2031	USD 15,893	2.67%	6M USD Libor
ING Bank	2015~2031	USD 7,861	2.67%	6M USD Libor
BNP Paribas	2015~2031	USD 7,861	2.67%	6M USD Libor
BNP Paribas	2009~2027	USD 69,509	4.16%	6M USD Libor
KFW	2009~2027	USD 69,509	4.16%	6M USD Libor
Export-Import Bank of Korea	2016~2036	USD 75,929	3.00%	6M USD Libor

(7) Gain and loss on valuation and transaction of derivatives for the three-month periods ended March 31, 2021 and 2020 are as follows and included in finance income and expenses in the consolidated statements of comprehensive income (loss):

In millions of won	Net income effects of Net income effects of valuation gain (loss) transaction gain (loss)		In millions of won		Accumulat comprehensive ir		
	_	March 31, 2021	March 31, 2020	March 31, 2021	March 31, 2020	March 31, 2021	March 31, 2020
Currency forward Currency swap	₩	29,090 275,546	38,922 455,934	7,672 19,944	13,537 15,690	(23,602)	18,487
Interest rate swap Other derivatives	_	8,821	(16,876) (985)	(3,453)	(1,311)	9,646	13,856
	₩_	313,457	476,995	24,163	27,916	(13,956)	32,343

(*) For the three-month period ended March 31, 2021, the net loss on valuation of derivatives applying cash flow hedge accounting of ₩3,324 million, net of tax, is included in other comprehensive income (loss).

13. Other Financial Assets

(1) Other financial assets as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won		March 3	1, 2021	December 3	31, 2020
	-	Current	Non-current	Current	Non-current
Loans	₩	79,847	785,381	78,806	762,555
Less: Allowance for doubtful accounts		(1)	(20,266)	(1)	(20,266)
Less: Present value discount	_	(845)	(30,819)	(842)	(30,090)
		79,001	734,296	77,963	712,199
Long-term / short-term financial instruments	-	1,275,027	650,764	1,483,482	578,621
	₩	1,354,028	1,385,060	1,561,445	1,290,820

(2) Loans as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won			March 31	, 2021	
	_	Face value	Allowance for doubtful accounts	Present value discount	Carrying value
Short-term loans					
Loans for tuition	₩	31,170	-	(845)	30,325
Loans for housing		23,346	-	-	23,346
Fisheries Ioan		3,567	-	-	3,567
Other loans		21,764	(1)	-	21,763
		79,847	(1)	(845)	79,001
Long-term loans					
Loans for tuition		433,198	(9,090)	(30,819)	393,289
Loans for housing		253,118	-	-	253,118
Loans for related parties		43,878	(11,175)	-	32,703
Other loans		55,187	(1)	-	55,186
	_	785,381	(20,266)	(30,819)	734,296
	₩	865,228	(20,267)	(31,664)	813,297

In millions of won			December	31, 2020	
	_	Face value	Allowance for doubtful accounts	Present value discount	Carrying value
Short-term loans					
Loans for tuition	₩	33,864		(842)	33,022
Loans for housing		21,988	-	-	21,988
Fisheries loan		3,816	-	-	3,816
Other loans	_	19,138	(1)		19,137
		78,806	(1)	(842)	77,963
Long-term loans					
Loans for tuition		420,274	(9,091)	(30,090)	381,093
Loans for housing		237,100	-	-	237,100
Loans for related parties		50,682	(1,047)	-	49,635
Other loans	_	54,499	(10,128)		44,371
	_	762,555	(20,266)	(30,090)	712,199
	₩	841,361	(20,267)	(30,932)	790,162

13. Other Financial Assets, Continued

(3) Changes in the allowance for doubtful accounts of loans for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won		March 31, 2021	December 31, 2020
Beginning balance	₩	20,267	15,094
Bad debts expense			5,173
Ending balance	₩	20,267	20,267

(4) Long-term and short-term financial instruments as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won		March 31,	2021	December 31, 2020		
	—	Current	Non-current	Current	Non-current	
Time deposits	₩	1,007,381	198,681	996,265	160,433	
CD		10,000	-	50,000	-	
RP		40,000	-	203,008	-	
Others	_	217,646	452,083	234,209	418,188	
	₩ _	1,275,027	650,764	1,483,482	578,621	

14. Inventories

Inventories as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won			March 31, 2021	
		Acquisition cost	Valuation allowance	Book value
Raw materials	₩	3,412,264	(885)	3,411,379
Merchandises		1,510	-	1,510
Work-in-progress		153,583	-	153,583
Finished goods		66,118	-	66,118
Supplies		2,388,270	(8,316)	2,379,954
Inventories-in-transit		717,834	-	717,834
Other inventories		12,019	<u> </u>	12,019
	₩ _	6,751,598	(9,201)	6,742,397
In millions of won			December 31, 2020	
		Acquisition cost	Valuation allowance	Book value
Raw materials	₩	3,602,073	(885)	3,601,188
Merchandises		234	-	234
Work-in-progress		148,067	-	148,067
Finished goods		42,070	-	42,070
Supplies		2,280,682	(7,892)	2,272,790
Inventories-in-transit		666,967	-	666,967
Other inventories	_	11,593	<u> </u>	11,593
	₩	6,751,686	(8,777)	6,742,909

The reversals of the allowance for loss on inventory valuation due to increase in the net realizable value of inventories deducted from cost of sales for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 were W1,031 million and W2,020 million, respectively.

The amounts of loss from inventory valuation included in other gains or losses for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 were W1,455 million and W4,998 million, respectively.

15. Non-Financial Assets

Non-financial assets as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won		March 31, 1	2021	December 31, 2020		
	—	Current	Non-current	Current	Non-current	
Advanced payments	₩	206,884	54,296	169,737	32,693	
Prepaid expenses		334,301	157,993	216,073	140,730	
Others (*)		507,610	54,336	634,348	72,969	
	₩	1,048,795	266,625	1,020,158	246,392	

(*) Details of others as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won	s of won March 31, 2021		, 2021	December 31, 2020			
		Current	Non-current	Current	Non-current		
Greenhouse gas emissions rights	₩	365,332	-	357,355	-		
Other quick assets		142,278	54,336	276,993	72,969		
	₩	507,610	54,336	634,348	72,969		

16. Consolidated Subsidiaries

(1) Consolidated subsidiaries as of March 31, 2021 and December 31, 2020 are as follows:

				fownership (%)
Subsidiaries	Key operation activities	Location	March 31, 2021	December 3 2020
(area Lludra 9 Nuclear Dower Co. Ltd	Dower concretion	KODEA	100.000/	100.000/
Korea Hydro & Nuclear Power Co., Ltd.	Power generation	KOREA	100.00%	100.00%
Korea South-East Power Co., Ltd.	Power generation	KOREA	100.00%	100.00%
Korea Midland Power Co., Ltd.	Power generation	KOREA	100.00%	100.00%
Korea Western Power Co., Ltd.	Power generation	KOREA	100.00%	100.00%
Corea Southern Power Co., Ltd.	Power generation	KOREA	100.00%	100.00%
Corea East-West Power Co., Ltd.	Power generation	KOREA	100.00%	100.00%
EPCO Engineering & Construction Company, Inc.	Engineering and construction for	KOREA	15 330/	(= ===0(
	utility plant and others	KODEA	65.77%	65.77%
EPCO Plant Service & Engineering Co., Ltd.	Utility plant maintenance and others	KOREA	51.00%	51.00%
EPCO Nuclear Fuel Co., Ltd.	Nuclear fuel	KOREA	96.36%	96.36%
KEPCO KDN Co., Ltd.	Electric power information	KOREA	100 000/	100 000/
EDCO International HangKang Ltd	technology and others	HONG KONG	100.00%	100.00%
EPCO International HongKong Ltd.	Holding company		100.00%	100.00%
EPCO International Philippines Inc.	Holding company	PHILIPPINES	100.00%	100.00%
EPCO Gansu International Ltd.	Holding company	HONG KONG	100.00%	100.00%
EPCO Philippines Holdings Inc.	Holding company	PHILIPPINES	100.00%	100.00%
EPCO Philippines Corporation	Operation of utility plant	PHILIPPINES	100.00%	100.00%
EPCO Ilijan Corporation	Construction and operation of	PHILIPPINES	E1 000/	E1 000/
(EDCO Laborar CAD)	utility plant		51.00%	51.00%
KEPCO Lebanon SARL	Operation of utility plant	LEBANON	100.00%	100.00%
EPCO Neimenggu International Ltd.	Holding company	HONG KONG	100.00%	100.00%
EPCO Shanxi International Ltd.	Holding company	HONG KONG	100.00%	100.00%
COMIPO Global Pte Ltd.	Holding company	SINGAPORE	100.00%	100.00%
EPCO Netherlands B.V.	Holding company	NETHERLANDS	100.00%	100.00%
Korea Imouraren Uranium Investment Corp.	Holding company	FRANCE	100.00%	100.00%
EPCO Australia Pty., Ltd.	Resources development	AUSTRALIA	100.00%	100.00%
OSEP Australia Pty., Ltd.	Resources development	AUSTRALIA	100.00%	100.00%
COMIPO Australia Pty., Ltd.	Resources development	AUSTRALIA	100.00%	100.00%
OWEPO Australia Pty., Ltd.	Resources development	AUSTRALIA	100.00%	100.00%
OSPO Australia Pty., Ltd.	Resources development	AUSTRALIA	100.00%	100.00%
EPCO Middle East Holding Company	Holding company	BAHRAIN	100.00%	100.00%
2atrana Electric Power Company	Construction and operation of utility plant	JORDAN	80.00%	80.00%
(HNP Canada Energy Ltd.	Holding company	CANADA	100.00%	100.00%
EPCO Bylong Australia Pty., Ltd.	Resources development	AUSTRALIA	100.00%	100.00%
Korea Waterbury Uranium Limited Partnership	Resources development	CANADA	80.00%	80.00%
EPCO Holdings de Mexico	Holding company	MEXICO	100.00%	100.00%
ST Electric Power Company, S.A.P.I. de C.V.	Construction and operation of	MEXICO	100.0070	100.007
	utility plant		56.00%	56.00%
EPCO Energy Service Company	Operation of utility plant	MEXICO	100.00%	100.00%
EPCO Netherlands S3 B.V.	Holding company	NETHERLANDS	100.00%	100.00%
PT. KOMIPO Pembangkitan Jawa Bali	Operation of utility plant	INDONESIA	51.00%	51.00%
PT. Cirebon Power Service (*2)	Operation of utility plant	INDONESIA	27.50%	27.50%
OWEPO International Corporation	Operation of utility plant	PHILIPPINES	99.99%	99.99%
COSPO Jordan LLC	Operation of utility plant	JORDAN	100.00%	100.00%
WP America Inc.	Holding company	USA	100.00%	100.00%
WP Renewable Corporation	Holding company	USA	100.00%	100.00%
DG Fairhaven Power, LLC	Power generation	USA	-	100.00%
NF Canada Energy Limited	Holding company	CANADA	100.00%	100.00%
WP Barbados 1 SRL	Holding company	BARBADOS	100.00%	100.00%
California Power Holdings, LLC	Power generation	USA	100.00%	100.00%
Syeonggi Green Energy Co., Ltd.	Power generation	KOREA		
5 65	0		62.01%	62.01%
PT. Tanggamus Electric Power	Power generation	INDONESIA	52.50%	52.50%
Gyeongju Wind Power Co., Ltd.	Power generation	KOREA	70.00%	70.00%
COMIPO America Inc.	Holding company	USA	100.00%	100.00%
WPRC Biomass Holdings, LLC	Holding company	USA	100.00%	100.00%
COSEP USA, Inc.	Power generation	USA	100.00%	100.00%
PT. EWP Indonesia	Holding company	INDONESIA	99.96%	99.96%

16. Consolidated Subsidiaries, Continued

(1) Consolidated subsidiaries as of March 31, 2021 and December 31, 2020 are as follows, continued:

			Percentage o	f ownership (%)
Subsidiaries	Key operation activities	Location	March 31, 2021	December 31 2020
KEPCO Netherlands J3 B.V.	Holding company	NETHERLANDS	100.00%	100.00%
Korea Offshore Wind Power Co., Ltd.	Power generation	KOREA	100.00%	100.00%
Global One Pioneer B.V.	0	NETHERLANDS		
	Holding company		100.00%	100.00%
Global Energy Pioneer B.V.	Holding company	NETHERLANDS	100.00%	100.00%
Mira Power Limited (* 3)	Power generation	PAKISTAN	76.00%	76.00%
KOSEP Material Co., Ltd.	Recycling fly ashes	KOREA	86.22%	86.22%
Commerce and Industry Energy Co., Ltd. (*4)	Power generation	KOREA	85.03%	85.03%
KEPCO KPS Philippines Corp.	Utility plant maintenance and others	PHILIPPINES	99.99%	99.99%
KOSPO Chile SpA	Holding company	CHILE	100.00%	100.00%
PT. KOWEPO Sumsel Operation And Maintenance Services	Utility plant maintenance and others	INDONESIA	95.00%	95.00%
Hee mang sunlight Power Co., Ltd.	Operation of utility plant	KOREA	100.00%	100.00%
Fujeij Wind Power Company	Operation of utility plant	JORDAN	100.00%	100.00%
COSPO Youngnam Power Co., Ltd.	Operation of utility plant	KOREA	50.00%	50.00%
5			50.00%	50.00%
/I Carbon Professional Private Special Asset Investment Trust 1	Holding company	KOREA	_	96.67%
Chitose Solar Power Plant LLC	Power generation	JAPAN	80.10%	80.10%
KEPCO Energy Solution Co., Ltd.	Energy service	KOREA	100.00%	100.00%
KEPCO Solar Co., Ltd.	Power generation	KOREA	100.00%	100.00%
CEPCO Solar CO., Etd. COSPO Power Services Ltda.	6	CHILE		
	Utility plant maintenance and others		65.00%	65.00%
Energy New Industry Specialized Investment Private Investment Trust	Holding company	KOREA	99.01%	99.01%
KOEN Bylong Pty., Ltd.	Resources development	AUSTRALIA	100.00%	100.00%
COMIPO Bylong Pty., Ltd.	Resources development	AUSTRALIA		
COWEPO Bylong Pty., Ltd.	·		100.00%	100.00%
5 5 5	Resources development	AUSTRALIA	100.00%	100.00%
COSPO Bylong Pty., Ltd.	Resources development	AUSTRALIA	100.00%	100.00%
EWP Bylong Pty., Ltd.	Resources development	AUSTRALIA	100.00%	100.00%
OWEPO Lao International	Utility plant maintenance and others	LAOS	100.00%	100.00%
KEPCO US Inc.	Holding company	USA	100.00%	100.00%
KEPCO Alamosa LLC	Holding company	USA	50.10%	50.10%
KEPCO Solar of Alamosa LLC	Power generation	USA	100.00%	100.00%
KEPCO Mangilao Holdings LLC (*5)	Holding company	USA	100.00%	100.00%
Mangilao Investment LLC	Holding company	USA	100.00%	100.00%
KEPCO Mangilao Solar, LLC	Power generation	USA	100.00%	100.00%
Jeju Hanlim Offshore Wind Co., Ltd.	Power generation	KOREA	79.56%	75.99%
PT. Siborpa Eco Power	Construction and operation of utility plant	INDONESIA	55.00%	55.00%
3SK E-New Industry Fund VII	Holding company	KOREA	81.67%	81.67%
e-New Industry LB Fund 1	Holding company	KOREA	76.11%	76.11%
Songhyun e-New Industry Fund				
5 5	Holding company	KOREA	80.65%	80.65%
3SK E-New Industry Fund X	Holding company	KOREA	66.80%	66.80%
PT. Korea Energy Indonesia	Utility plant maintenance and others	INDONESIA	95.00%	95.00%
KOLAT SpA	Utility plant maintenance and others	CHILE	100.00%	100.00%
KEPCO California, LLC	Holding company	USA	100.00%	100.00%
KEPCO Mojave Holdings, LLC	Holding company	USA	100.00%	100.00%
ncheon Fuel Cell Co., Ltd.	Power generation	KOREA	60.00%	60.00%
OEN Service Co., Ltd.	Facility maintenance and service	KOREA	100.00%	100.00%
COMIPO Service Co., Ltd.	Facility maintenance and service	KOREA	100.00%	100.00%
KOWEPO Service Co., Ltd.	Facility maintenance and service	KOREA	100.00%	100.00%
COSPO Service Co., Ltd.	Facility maintenance and service	KOREA	100.00%	100.00%
EWP Service Co., Ltd.	Facility maintenance and service	KOREA	100.00%	100.00%
PT. KOMIPO Energy Indonesia	Utility plant maintenance and others	INDONESIA	95.00%	95.00%
KNF Partners Co., Ltd.	Facility maintenance	KOREA	100.00%	100.00%
(OSPO USA Inc.	Holding company	USA	100.00%	100.00%
Vambu USA LLC	Holding company	USA	100.00%	100.00%
Tamra Offshore Wind Power Co., Ltd.	Power generation	KOREA		
	6		63.00%	63.00%
KEPCO MCS Co., Ltd.	Electric meter reading and others	KOREA	100.00%	100.00%
KEPCO FMS Co., Ltd. Firstkeepers Co., Ltd.	Security service and others	KOREA	100.00%	100.00%
	Facility maintenance	KOREA	100.00%	100.00%

16. Consolidated Subsidiaries, Continued

(1) Consolidated subsidiaries as of March 31, 2021 and December 31, 2020 are as follows, continued:

			Percentage of	ownership (%)
Subsidiaries	Key operation activities	Location	March 31, 2021	December 31, 2020
Secutec Co., Ltd.	Security service	KOREA	100.00%	100.00%
SE Green Energy Co., Ltd.	Power generation	KOREA	84.80%	84.80%
KEPCO Mangilao America LLC (*6)	Holding company	USA	100.00%	100.00%
Mangilao Intermediate Holdings LLC	Holding company	USA	100.00%	100.00%
KEPCO CSC Co., Ltd.	Facility maintenance and service	KOREA	100.00%	100.00%
KOAK Power Limited	Facility maintenance	PAKISTAN	100.00%	100.00%
KOMIPO Europe B.V.	Holding company	NETHERLANDS	100.00%	100.00%
Haenanum Energy Fund	Holding company	KOREA	99.64%	99.64%
Paju Ecoenergy Co., Ltd.	Power generation	KOREA	89.00%	89.00%
Guam Ukudu Power LLC	Power generation	USA	100.00%	100.00%
TS Energy No. 25 Co., Ltd.	Power generation	KOREA	90.00%	90.00%
KPS Partners Co., Ltd.	Facility maintenance and service	KOREA	100.00%	100.00%
KEPCO E&C Service Co., Ltd.	Facility maintenance and service	KOREA	100.00%	100.00%
Moha Solar Co., Ltd.	Power generation	KOREA	100.00%	100.00%
Ogiri Solar Power Co., Ltd.	Power generation	KOREA	70.00%	70.00%
KHNP USA LLC	Holding company	USA	100.00%	100.00%
KOMIPO Vanphong Power Service LLC	Utility plant maintenance and others	VIETNAM	100.00%	100.00%
Energy Innovation Fund I	Holding company	KOREA	71.91%	71.91%
KHNP Chile SpA	Holding company	CHILE	100.00%	-
Yeong Yang Apollon Photovoltaic Co., Ltd.	Power generation	KOREA	100.00%	-
Yeong Yang Corporation Co., Ltd.	Power generation	KOREA	100.00%	-
SolarVader Co., Ltd.	Power generation	KOREA	100.00%	-
Yeong Yang Innovation Co., Ltd.	Power generation	KOREA	100.00%	-
Yeong Yang Horus Photovoltaic Co., Ltd.	Power generation	KOREA	100.00%	-
Yeong Yang Solar Management Co., Ltd.	Power generation	KOREA	100.00%	-

(*1) Considering treasury stocks, the effective percentage of ownership is 66.08%.

- (*2) The effective percentage of ownership is less than 50%. However, this subsidiary is included in the consolidated financial statements as the Group obtained the majority of the voting power through the shareholders' agreement.
- (*3) As of the reporting date, the annual reporting period of all subsidiaries is December 31, except for Mira Power Limited which is November 30.
- (*4) The Group guarantees a certain return on investment related to Commerce and Industry Energy Co., Ltd. for the financial investors. The financial investors have a right to sell their shares to the Group which can be exercised 84 months after the date of investment. Accordingly, the purchase price including the return on investment is classified as a liability.

(*5) As of the end of the reporting period, the Group does not have a shareholding; however, this subsidiary is included in the consolidated financial statements as the Group has control over the entity by virtue of the right to nominate all 4 members of the board of directors.

(*6) As of the end of the reporting period, the Group does not have a shareholding; however, this subsidiary is included in the consolidated financial statements as the Group has control over the entity by virtue of the right to nominate the CEO and key management members.

16. Consolidated Subsidiaries, Continued

In millions of won

(2) Subsidiaries newly included in and excluded from consolidation for the three-month period ended March 31, 2021 are as follows:

Subsidiaries included in consolidation during the three-month period ended March 31, 2021.

Subsidiaries	Reason
KHNP Chile SpA	Newly established
Yeong Yang Apollon Photovoltaic Co., Ltd.	New investment
Yeong Yang Corporation Co., Ltd.	New investment
SolarVader Co., Ltd.	New investment
Yeong Yang Innovation Co., Ltd.	New investment
Yeong Yang Horus Photovoltaic Co., Ltd.	New investment
Yeong Yang Solar Management Co., Ltd.	New investment

Subsidiaries excluded from consolidation during the three-month period ended March 31, 2021.

Subsidiaries	Reason
DG Fairhaven Power, LLC	Sale of shares
VI Carbon Professional Private Special Asset Investment Trust 1	Liquidation

(3) Summary of financial information of consolidated subsidiaries as of and for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

March 31, 2021						
		Total	Total		Profit (loss)	
Subsidiaries	<u> </u>	assets	liabilities	Sales	for the period	
Korea Hydro & Nuclear Power Co., Ltd.	₩	62,010,304	35,489,841	2,956,671	562,997	
Korea South-East Power Co., Ltd.		10,875,361	5,903,372	1,210,110	105,337	
Korea Midland Power Co., Ltd.		13,128,459	9,412,990	1,156,893	67,301	
Korea Western Power Co., Ltd.		10,280,234	6,521,826	1,108,593	15,993	
Korea Southern Power Co., Ltd.		10,645,007	6,414,967	1,141,194	6,305	
Korea East-West Power Co., Ltd.		9,662,026	4,974,349	1,147,575	69,802	
KEPCO Engineering & Construction Company, Inc.		703,236	211,222	80,546	1,631	
KEPCO Plant Service & Engineering Co., Ltd.		1,384,629	335,697	320,774	44,313	
KEPCO Nuclear Fuel Co., Ltd.		936,576	528,886	38,120	3,100	
KEPCO KDN Co., Ltd.		639,986	179,253	129,972	4,943	
KEPCO International HongKong Ltd.		125,479	-	-	235	
KEPCO International Philippines Inc.		138,784	381	-	(2)	
KEPCO Gansu International Ltd.		6,861	534	-	(4)	
KEPCO Philippines Holdings Inc.		171,923	2,478	-	(328)	
KEPCO Philippines Corporation		6,171	23	-	(56)	
KEPCO Ilijan Corporation		341,863	47,702	16,579	8,188	
KEPCO Lebanon SARL		1,725	9,365	-	(15)	
KEPCO Neimenggu International Ltd.		225,221	2,707	-	2,692	
KEPCO Shanxi International Ltd.		529,620	206,615	-	(1,963)	
KOMIPO Global Pte Ltd.		278,083	591	-	2,359	
KEPCO Netherlands B.V.		122,239	260	-	(127)	
Korea Imouraren Uranium Investment Corp.		13,845	128	-	(13)	
KEPCO Australia Pty., Ltd.		476	18	-	12	
KOSEP Australia Pty., Ltd.		37,165	4,174	3,338	1,221	

16. Consolidated Subsidiaries, Continued

(3) Summary of financial information of consolidated subsidiaries as of and for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows, continued:

March 31, 2021						
Subsidiaries		Total assets	Total liabilities	Sales	Profit (loss) for the period	
KOMIPO Australia Pty., Ltd.	₩	47,392	4,375	3,338	566	
KOWEPO Australia Pty., Ltd.		46,226	2,832	3,338	802	
KOSPO Australia Pty., Ltd.		39,896	2,832	3,338	418	
KEPCO Middle East Holding Company		95,010	82,803	0,000	(339)	
Qatrana Electric Power Company		485,944	296,911	5,181	4,913	
KHNP Canada Energy Ltd.		93,819	529	5,101	4,218	
KEPCO Bylong Australia Pty., Ltd.		45,722	367,731		(8,121)	
Korea Waterbury Uranium Limited Partnership		20,917	180		(18)	
KEPCO Holdings de Mexico		153	29	-	(10)	
KST Electric Power Company, S.A.P.I. de C.V.		564,575	432,101	61,997	6,688	
KEPCO Energy Service Company		2,321	514	1,761	535	
KEPCO Netherlands S3 B.V.		45,884	74	.,,	(17)	
PT. KOMIPO Pembangkitan Jawa Bali		14,594	4,048	4,493	1,867	
PT. Cirebon Power Service		1,822	424	1,847	51	
KOWEPO International Corporation		-	10		5	
KOSPO Jordan LLC		33,567	16,464	1,900	462	
EWP America Inc. (*1)		41,675	3,598	3,415	1,588	
KNF Canada Energy Limited		1,988	26	5,415	(10	
EWP Barbados 1 SRL		326,385	1,636	696	(537)	
Gyeonggi Green Energy Co., Ltd.		260,112	233,876	23,273	834	
PT. Tanggamus Electric Power		209,788	166,047	793	3,252	
Gyeongju Wind Power Co., Ltd.		103,606	69,173	4,610	1,332	
KOMIPO America Inc.		110,181	581	4,010	(319)	
KOSEP USA, Inc.		1	5,039		(017)	
PT. EWP Indonesia		43,193	1,170		2,605	
KEPCO Netherlands J3 B.V.		117,653	108		(20)	
Korea Offshore Wind Power Co., Ltd.		358,957	188,719	10,121	3,172	
Global One Pioneer B.V.		176	77		(22)	
Global Energy Pioneer B.V.		344	82	-	(23)	
Mira Power Limited		372,853	282,448	9,175	737	
KOSEP Material Co., Ltd.		2,425	774	615	(233)	
Commerce and Industry Energy Co., Ltd.		88,773	39,687	8,101	789	
KEPCO KPS Philippines Corp.		3,744	693	1,549	127	
KOSPO Chile SpA		133,926	51,590	1,047	(974)	
PT. KOWEPO Sumsel Operation And Maintenance		100,720	01,070		(771)	
Services		109	244	-		
Hee mang sunlight Power Co., Ltd.		6,847	4,014	97	(90)	
Fujeij Wind Power Company		210,424	179,267	-	4,676	
KOSPO Youngnam Power Co., Ltd.		394,587	295,573	77,826	4,352	
Chitose Solar Power Plant LLC		125,076	110,553	3,471	236	
KEPCO Energy Solution Co., Ltd.		316,376	6,050	3,802	665	
KEPCO Solar Co., Ltd.		216,328	8,517	1,912	465	
KOSPO Power Services Ltda.		4,642	1,682	2,680	133	
Energy New Industry Specialized Investment Private		.,	.,	_,3		
Investment Trust (*2)		273,985	2,130	-	477	
KOEN Bylong Pty., Ltd.		7	78	-		
KOMIPO Bylong Pty., Ltd.		7	78	-		
KOWEPO Bylong Pty., Ltd.		7	78	-	(11)	
KOSPO Bylong Pty., Ltd.		122	193	-	()	
EWP Bylong Pty., Ltd.						

16. Consolidated Subsidiaries, Continued

(3) Summary of financial information of consolidated subsidiaries as of and for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows, continued:

In millions of won

March 31, 2021						
Subsidiaries	Total assets	Total liabilities	Sales	Profit (loss) for the period		
				F		
KOWEPO Lao International	₩ 10,200	10	2,059	1,320		
KEPCO US Inc.	16,829	-	-	-		
KEPCO Alamosa LLC	32,699	298	30	19		
KEPCO Solar of Alamosa LLC	59,372	43,803	1,906	186		
KEPCO Mangilao Holdings LLC	26,863	30,133	-	-		
Mangilao Investment LLC	39,796	14	-	-		
KEPCO Mangilao Solar, LLC	90,054	52,828	-	(257)		
Jeju Hanlim Offshore Wind Co., Ltd.	33,382	8,291	-	(643)		
PT. Siborpa Eco Power	10,877	2	-	(39)		
PT. Korea Energy Indonesia	1,855	259	406	28		
KOLAT SpA	31,500	425	-	(66)		
KEPCO California, LLC	43,339	4,877	-	(381)		
KEPCO Mojave Holdings, LLC	96,860	68,520	-	(1,009)		
Incheon Fuel Cell Co., Ltd.	205,979	185,086	-	(315)		
KOEN Service Co., Ltd.	5,950	5,436	8,276	136		
KOMIPO Service Co., Ltd.	3,372	4,482	7,912	(88)		
KOWEPO Service Co., Ltd.	5,710	4,680	7,387	(74)		
KOSPO Service Co., Ltd.	2,783	3,710	4,397	(1,836)		
EWP Service Co., Ltd.	4,234	3,652	5,969	(1,030)		
	2,112	154	3,909	(386)		
PT. KOMIPO Energy Indonesia	1,411	789	1,098			
KNF partners Co., Ltd.			1,090	(105)		
KOSPO USA Inc.	240,881	403	-	(580)		
Nambu USA LLC	150,669	-	-	1		
Tamra Offshore Wind Power Co., Ltd.	148,509	113,379	4,048	523		
KEPCO MCS Co., Ltd.	65,240	36,715	78,167	6,085		
KEPCO FMS Co., Ltd.	5,113	9,658	15,132	(6,351)		
Firstkeepers Co., Ltd.	16,255	14,197	17,061	312		
Secutec Co., Ltd.	11,360	8,890	16,874	768		
SE Green Energy Co., Ltd.	149,671	118,530	8,919	1,522		
KEPCO Mangilao America LLC	1,861	-	-	-		
Mangilao Intermediate Holdings LLC	123,855	103,222	-	(615)		
KEPCO CSC Co., Ltd.	8,324	5,103	9,617	(45)		
KOAK Power Limited	16,454	846	-	(462)		
KOMIPO Europe B.V.	42,620	60	100	(119)		
Haenanum Energy Fund	28,228	164	12	(23)		
Paju Ecoenergy Co., Ltd.	53,347	746	979	(842)		
Guam Ukudu Power LLC	3,737	3,724	-	(162)		
TS Energy No. 25 Co., Ltd.	217,138	177,013	24	(1,747)		
KPS Partners Co., Ltd.	2,338	1,200	2,258	144		
KEPCO E&C Service Co., Ltd.	3,345	1,942	3,894	438		
Moha Solar Co., Ltd.	28,033	28,642	-	(190)		
Ogiri Solar Power Co., Ltd.	1,031	-	-	(1)		
KHNP USA LLC	890	295	240	135		
KOMIPO Vanphong Power Service LLC	1,577	13	-	(220)		
Energy Innovation Fund I	8,153	4	2	(262)		
KHNP Chile SpA	3,104	447	-	10		
Yeong Yang Apollon Photovoltaic Co., Ltd.	23	12	-	(2)		
Yeong Yang Corporation Co., Ltd.	23	2	-	(2)		
SolarVader Co., Ltd.	75	3	-	(2)		
Yeong Yang Innovation Co., Ltd.	83	2	-	(2)		
Yeong Yang Horus Photovoltaic Co., Ltd.	54	3	-	(2)		

(*1) Financial information of EWP America Inc. includes that of three other subsidiaries, EWP Renewable Corporation, California Power Holdings, LLC and EWPRC Biomass Holdings, LLC.

(*2) Financial information of Energy New Industry Specialized Investment Private Investment Trust includes that of four other subsidiaries, BSK E-New Industry Fund VII, e-New Industry LB Fund 1, Songhyun e-New Industry Fund and BSK E-New Industry Fund X.

16. Consolidated Subsidiaries, Continued

(3) Summary of financial information of consolidated subsidiaries as of and for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows, continued:

	500	cember 31, 2020			
Subsidiaries		Total assets	Total liabilities	Sales	Profit (loss) for the period
Korea Hydro & Nuclear Power Co., Ltd.	W	61,859,753	35,652,467	9,938,941	647,64
Korea South-East Power Co., Ltd.	••	10,858,645	5,954,129	4,258,904	(139,149
Korea Midland Power Co., Ltd.		13,028,436	9,357,603	4,293,364	(29,880
Korea Western Power Co., Ltd.		10,357,023	6,594,779	3,605,986	(108,953
Korea Southern Power Co., Ltd.					
		10,658,015	6,411,524	4,015,941	(17,588
Korea East-West Power Co., Ltd.		9,619,485	4,974,645	4,155,416	(65,427
KEPCO Engineering & Construction Company, Inc.		699,244	200,169	431,723	20,16
KEPCO Plant Service & Engineering Co., Ltd.		1,345,857	296,515	1,299,186	85,91
KEPCO Nuclear Fuel Co., Ltd.		798,368	390,155	331,228	14,54
KEPCO KDN Co., Ltd.		647,496	174,192	641,308	45,20
KEPCO International HongKong Ltd.		120,213	-	-	1,57
KEPCO International Philippines Inc.		133,215	366	-	35,18
KEPCO Gansu International Ltd.		7,753	512	-	(19
KEPCO Philippines Holdings Inc.		187,375	127	-	65,79
KEPCO Philippines Corporation		6,173	17	-	(187
KEPCO Ilijan Corporation		322,066	47,234	81,400	39,44
KEPCO Lebanon SARL		1,669	9,195	-	(59
KEPCO Neimenggu International Ltd.		213,444	2,492	-	26,59
KEPCO Shanxi International Ltd.		508,363	196,408	-	2,27
KOMIPO Global Pte Ltd.		263,378	656	-	12,46
KEPCO Netherlands B.V.		117,449	71	-	14,50
Korea Imouraren Uranium Investment Corp.		13,955	123	-	(67
KEPCO Australia Pty., Ltd.		451	17	-	7
KOSEP Australia Pty., Ltd.		34,249	3,500	14,327	2,15
KOMIPO Australia Pty., Ltd.		45,250	3,782	14,327	2,68
KOWEPO Australia Pty., Ltd.		44,270	2,909	14,327	1,66
KOSPO Australia Pty., Ltd.		38,341	2,750	14,327	2,24
KEPCO Middle East Holding Company		90,601	78,553	-	(1,539
Qatrana Electric Power Company		464,507	287,859	21,279	24,71
KHNP Canada Energy Ltd.		63,794	26		(7
KEPCO Bylong Australia Pty., Ltd.		44,691	349,542	-	16,89
Korea Waterbury Uranium Limited Partnership		20,908	165	-	(76
KEPCO Holdings de Mexico		148	27		(14
KST Electric Power Company, S.A.P.I. de C.V.		531,367	410,743	65,695	37,89
KEPCO Energy Service Company		2,255	994	5,880	50
KEPCO Netherlands S3 B.V.		44,042	54	5,000	2,83
PT. KOMIPO Pembangkitan Jawa Bali		12,946	3,298	20,306	4,77
PT. Cirebon Power Service		1,825	550	8,642	4,77
		1,020	10	0,042	54
KOWEPO International Corporation		-		- 9,356	1 5 7
(OSPO Jordan LLC		31,620	15,654		1,57
EWP America Inc. (*1)		37,681	2,683	14,312	(14,32)
KNF Canada Energy Limited		1,871	22	-	(50
EWP Barbados 1 SRL		313,409	1,170	2,950	44,72
Gyeonggi Green Energy Co., Ltd.		265,768	240,366	64,660	(9,96
PT. Tanggamus Electric Power		217,730	184,057	3,491	11,94
Gyeongju Wind Power Co., Ltd.		105,726	68,629	13,939	2,10
KOMIPO America Inc.		105,926	918	342	(1,78
(OSEP USA, Inc.		1	4,837	-	
PT. EWP Indonesia		33,900	1,125	-	7,08
KEPCO Netherlands J3 B.V.		138,824	84	-	28,24
Korea Offshore Wind Power Co., Ltd.		354,643	187,576	26,838	ç
Global One Pioneer B.V.		177	60	-	(70
Global Energy Pioneer B.V.		338	64	-	(70
Mira Power Limited		348,737	266,565	31,172	(2,960
		· · · · · ·		=	(_,,

16. Consolidated Subsidiaries, Continued

(3) Summary of financial information of consolidated subsidiaries as of and for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows, continued:

December 31, 2020							
Subsidiaries		Total assets	Total liabilities	Sales	Profit (loss) for the period		
Commerce and Industry Energy Co., Ltd.	₩	89,681	41,384	31,603	1,62		
(EPCO KPS Philippines Corp.		3,119	284	5,151	15		
(OSPO Chile SpA		128,795	48,813	-	(54		
PT. KOWEPO Sumsel Operation And Maintenance							
Services		108	241	-	(1		
Hee mang sunlight Power Co., Ltd.		7,261	4,339	423	(14		
Fujeij Wind Power Company		194,844	174,051	120	13,72		
COSPO Youngnam Power Co., Ltd.		389,071	294,408	254,966	3,40		
/I Carbon Professional Private Special Asset Investment		309,071	294,400	254,900	5,40		
-		2.004	4				
Trust 1		3,006	4	-	4 5		
Chitose Solar Power Plant LLC		133,643	118,783	17,073	1,52		
KEPCO Energy Solution Co., Ltd.		313,754	4,093	5,585	3,65		
KEPCO Solar Co., Ltd.		230,443	23,098	3,933	1,88		
OSPO Power Services Ltda.		4,354	1,644	10,846	1,01		
Energy New Industry Specialized Investment Private							
Investment Trust (*2)		279,489	24,173	23,682	8,24		
(OEN Bylong Pty., Ltd.		6	75	-	(1		
KOMIPO Bylong Pty., Ltd.		7	76	-	(1		
OWEPO Bylong Pty., Ltd.		6	64	-	,		
COSPO Bylong Pty., Ltd.		153	213	-	(
EWP Bylong Pty., Ltd.		6	35				
KOWEPO Lao International		8,982	392	8,466	4,70		
			372	0,400			
KEPCO US Inc.		16,154	-	-	(2		
KEPCO Alamosa LLC		31,353	270	127	(23		
KEPCO Solar of Alamosa LLC		68,336	42,910	9,096	(2,05		
(EPCO Mangilao Holdings LLC		25,785	28,924	-	(50		
Vangilao Investment LLC		38,090	14	-	(1		
(EPCO Mangilao Solar, LLC		69,830	34,029	-	(25		
Jeju Hanlim Offshore Wind Co., Ltd.		20,525	9,805	-	(3,04		
PT. Siborpa Eco Power		10,491	14	-	(36		
PT. Korea Energy Indonesia		1,746	196	2,428	19		
(OLAT SpA		31,109	425	243	(21		
KEPCO California, LLC		41,973	4,683	-	(1,33		
KEPCO Mojave Holdings, LLC		95,326	67,138		(4,35		
ncheon Fuel Cell Co., Ltd.		192,184	170,976		(97		
COEN Service Co., Ltd.		6,239	5,598	32,150	1:		
KOMIPO Service Co., Ltd.					(47		
		3,381	3,649	28,596			
(OWEPO Service Co., Ltd.		6,045	4,849	29,559	72		
(OSPO Service Co., Ltd.		5,617	4,708	25,103	83		
EWP Service Co., Ltd.		4,568	4,074	23,223	(1		
PT. KOMIPO Energy Indonesia		2,473	154	2,391	!		
KNF Partners Co., Ltd.		1,470	743	5,487	2		
COSPO USA Inc.		120,380	266	-	(1,61		
Jambu USA LLC		42,739	-	-	5		
amra Offshore Wind Power Co., Ltd.		150,957	112,184	22,200	4,5		
EPCO MCS Co., Ltd.		59,227	36,786	342,053	19,19		
EPCO FMS Co., Ltd.		14,390	12,585	89,228	8		
Firstkeepers Co., Ltd.		13,981	12,234	68,538	2,99		
Secutec Co., Ltd.		11,473	9,771	62,256	1,60		
SE Green Energy Co., Ltd.		152,205	122,606	19,731	2,40		
			122,000	17,731	2,40		
KEPCO Mangilao America LLC		1,793	-	-	10 70		
Vangilao Intermediate Holdings LLC		100,609	80,210	-	(3,70		
KEPCO CSC Co., Ltd.		8,817	5,551	38,465	2,4		
KOAK Power Limited		15,864	1,118	-	60		

16. Consolidated Subsidiaries, Continued

(3) Summary of financial information of consolidated subsidiaries as of and for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows, continued:

In millions of won

December 31, 2020							
Subsidiaries	Total Subsidiaries assets		Sales	Profit (loss) for the period			
KOMIPO Europe B.V.	43,198	46	333	(386)			
Haenanum Energy Fund	28,219	132	128	(13)			
Paju Ecoenergy Co., Ltd.	57,320	3,506	3,069	247			
Guam Ukudu Power LLC	3,165	3,589	-	(1,577)			
TS Energy No. 25 Co., Ltd.	184,667	142,709	-	(3,779)			
KPS Partners Co., Ltd.	2,139	1,127	3,562	313			
KEPCO E&C Service Co., Ltd.	2,514	1,549	4,989	464			
Moha Solar Co., Ltd.	7,390	7,809	-	(364)			
Ogiri Solar Power Co., Ltd.	1,032	-	-	-			
KHNP USA LLC	464	23	229	119			
KOMIPO Vanphong Power Service LLC	1,727	12	-	(34)			
Energy Innovation Fund I	8,412	1	25	(201)			

(*1) Financial information of EWP America Inc. includes that of four other subsidiaries, EWP Renewable Corporation, DG Fairhaven Power, LLC, California Power Holdings, LLC and EWPRC Biomass Holdings, LLC.

(*2) Financial information of Energy New Industry Specialized Investment Private Investment Trust includes that of four other subsidiaries, BSK E-New Industry Fund VII, e-New Industry LB Fund 1, Songhyun e-New Industry Fund and BSK E-New Industry Fund X.

16. Consolidated Subsidiaries, Continued

(4) Significant restrictions on abilities to subsidiaries as of March 31, 2021 are as follows:

Company	Nature and extent of any significant restrictions
Gyeonggi Green Energy Co., Ltd.	Acquisition or disposal of assets of more than W35 billion, change in the capacity of cogeneration units (except for the change due to performance improvement of equipment, maintenance) will require unanimous consent of all directors of the Group.
KOSPO Youngnam Power Co., Ltd.	Dividends can only be paid when all conditions of the loan agreement are satisfied, or prior written consent of financial institutions is obtained. Group's shares cannot be wholly or partially transferred without prior written consent of financial institutions.
Incheon Fuel Cell Co., Ltd.	Acquisition or disposal of assets of more than W20 billion, change in the capacity of cogeneration units (except for the change due to performance improvement of equipment, maintenance) will require unanimous consent of all directors of the Group.
Gyeongju Wind Power Co., Ltd.	Dividends and settlement amounts for renewable energy certificate can only be paid when all conditions of the loan agreement are satisfied or prior written consent of financial institutions is obtained.
Korea Offshore Wind Power Co., Ltd.	Principals and interest payments on subordinated loans or dividends and settlement amounts for renewable energy certificate can only be paid when all conditions of the loan agreement are satisfied and prior written consent of financial institutions is obtained.
As of March 31, 2021, the Group has fo	llowing entitlements in relation to its subsidiaries as per its shareholder's

(5) As of March 31, 202 agreements:

Company	Nature and extent of any significant restrictions
KOSPO Youngnam Power Co., Ltd.	The Group holds the right to purchase all shares held by the financial investors of KOSPO Youngnam Power Co., Ltd., a subsidiary of the Group, at face value of the issued shares on the 7th and 12th years from the Group's establishment date.

16. Consolidated Subsidiaries, Continued

(6) Details of non-controlling interests prior to intra-Group eliminations as of and for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won

		March	31, 2021			
Description		D Ilijan ration	KEPCO Plant Service & Engineering Co., Ltd.	KEPCO Engineering & Construction Company, Inc.	Others	Total
Percentage of ownership		49.00%	49.00%	33.92%		
Current assets	¥	284,688	770,464	248,287	966,582	2,270,021
Non-current assets		57,175	614,165	454,949	3,619,298	4,745,587
Current liabilities		(17,915)	(287,922)	(196,996)	(606,018)	(1,108,851)
Non-current liabilities		(29,787)	(47,775)	(14,226)	(2,538,646)	(2,630,434)
Net assets		294,161	1,048,932	492,014	1,441,216	3,276,323
Book value of non-controlling interests		144,139	513,976	166,891	567,212	1,392,218
Sales		16,579	320,774	80,546	267,293	685,192
Profit for the period		8,188	44,313	1,631	28,499	82,631
Profit for the period attributable to						
non-controlling interests		4,012	21,713	553	6,422	32,700
Cash flows from operating activities		30,534	50,557	38,759	280,991	400,841
Cash flows from investing activities Cash flows from financing activities before dividends to non-controlling		902	(42,770)	(45,674)	(91,344)	(178,886)
interests		(33)	(1,134)	(359)	(42,093)	(43,619)
Effect of exchange rate fluctuation Net increase (decrease) of cash and cash		5,036	799	20	4,776	10,631
equivalents		36,439	7,452	(7,254)	152,330	188,967

	December 31, 2020									
Description	_	KEPCO Ilijan Corporation	KEPCO Plant Service & Engineering Co., Ltd.	KEPCO Engineering & Construction Company, Inc.	Others	Total				
Percentage of ownership		49.00%	49.00%	33.92%						
Current assets	₩	236,602	755,454	235,805	801,813	2,029,674				
Non-current assets		85,464	590,403	463,439	3,499,258	4,638,564				
Current liabilities		(12,322)	(254,495)	(186,296)	(414,673)	(867,786)				
Non-current liabilities		(34,912)	(42,020)	(13,873)	(2,511,848)	(2,602,653)				
Net assets		274,832	1,049,342	499,075	1,374,550	3,197,799				
Book value of non-controlling interests		134,668	514,177	169,286	552,035	1,370,166				
Sales		81,400	1,299,186	431,723	956,692	2,769,001				
Profit for the period		39,443	85,916	20,160	107,661	253,180				
Profit for the period attributable to										
non-controlling interests		19,327	42,099	6,838	32,858	101,122				
Cash flows from operating activities		121,835	74,159	15,225	240,987	452,206				
Cash flows from investing activities		7,561	26,748	(34,333)	(661,820)	(661,844)				
Cash flows from financing activities before dividends to non-controlling										
interests		(31,793)	(47,809)	(9,165)	371,448	282,681				
Dividends to non-controlling interests		(30,319)	(42,336)	(4,000)	(4,643)	(81,298)				
Effect of exchange rate fluctuation Net increase (decrease) of cash and cash		(8,153)	(2,171)	(22)	(7,893)	(18,239)				
equivalents		59,131	8,591	(32,295)	(61,921)	(26,494)				

16. Consolidated Subsidiaries, Continued

(7) Changes in goodwill

(i) Details of goodwill as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won		March 31, 2021	December 31, 2020
Acquisition cost Less: Accumulated impairment	₩	98,166	98,166
Carrying book value	₩	98,166	98,166

(ii) Changes in goodwill for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won

		March 31, 2021								
		Beginning	Increase	Decrease	Ending					
Acquisition cost	W	98,166	-	-	98,166					
Less: Accumulated impairment		-	-	-	-					
Carrying book value		98,166	-	-	98,166					
In millions of won										
			December	31, 2020						
		Beginning	Increase	Decrease	Ending					
Acquisition cost	W	97,977	189	-	98,166					
Less: Accumulated impairment		-	-	-	-					
Carrying book value		97,977	189	-	98,166					

(8) Disposals of subsidiaries

The Group has completed the liquidation process of VI Carbon Professional Private Special Asset Investment Trust 1 and has disposed of shares of DG Fairhaven Power, LLC during the three-month period ended March 31, 2021. The Group had completed the liquidation process of EWP Philippines Corporation and had disposed of shares of DG Whitefield, LLC and Springfield Power, LLC during the year ended December 31, 2020.

17. Investments in Associates and Joint Ventures

(1) Investments in associates and joint ventures as of March 31, 2021 and December 31, 2020 are as follows:

lassantana	Kau ananatian aatudti -	Leastion	Percentage		Acquisition	Book
Investees	Key operation activities	Location	of ownership		cost	value
<associates></associates>	lese setting and whether line INC	KODEA	20 470/		04 500	17(0.00)
Korea Gas Corporation (*1)	Importing and wholesaling LNG	KOREA	20.47%	₩	94,500	1,768,03
Gemeng International Energy Co., Ltd.	Power generation	CHINA	34.00%		413,153	693,71
PT. Bayan Resources TBK	Resources development	INDONESIA	20.00%		615,860	497,91
Korea Power Exchange (*2)	Management of power market	KOREA	100.00%		407.000	
	and others	KODEA	24.000/		127,839	274,790
GS Donghae Electric Power Co., Ltd.	Power generation	KOREA	34.00%		204,000	248,95
PT. Cirebon Electric Power	Power generation	INDONESIA	27.50%		40,365	117,62
Hyundai Green Power Co., Ltd.	Power generation	KOREA	29.00%		88,885	121,77
S-Power Co., Ltd.	Power generation	KOREA	49.00%		132,300	116,763
Indeck Niles Development, LLC (*3)	Power generation	USA	52.07%		149,883	113,07
Dongducheon Dream Power Co., Ltd. (*4)	Power generation	KOREA	33.61%		148,105	83,734
Shin Pyeongtaek Power Co., Ltd.	Power generation	KOREA	40.00%		72,000	76,544
SPC Power Corporation	Power generation	PHILIPPINES	38.00%		20,635	71,872
Xe-Pian Xe-Namnoy Power Co., Ltd.	Power generation	LAOS	25.00%		87,426	70,038
Nepal Water & Energy Development Company	Construction and operation of	NEPAL	60.35%			
Private Limited (* 5)	utility plant		00.3370		70,228	64,099
Korea Electric Power Corporation Fund (*6)	Developing electric enterprises	KOREA	98.09%		51,500	40,916
YTN Co., Ltd.	Broadcasting	KOREA	21.43%		59,000	39,740
PT Wampu Electric Power	Power generation	INDONESIA	46.00%		21,292	30,894
Others (Daeryun Power Co., Ltd. and 63 others)					215,472	168,913
				₩	2,612,443	4,599,395
<joint ventures=""></joint>						
Jamaica Public Service Company Limited	Power generation	JAMAICA	40.00%	₩	301,910	273,990
KEPCO SPC Power Corporation (*7)	Construction and operation of	PHILIPPINES	75.20%			
	utility plant		75.2076		94,579	222,71
Datang Chifeng Renewable Power Co., Ltd.	Power generation	CHINA	40.00%		121,928	204,117
Amman Asia Electric Power Company (*7)	Power generation	JORDAN	60.00%		111,476	181,76
Rabigh Electricity Company	Power generation	SAUDI ARABIA	40.00%		109,743	97,676
PT Barito Wahana Tenaga	Power generation	INDONESIA	30.61%		59,431	80,240
Kelar S.A. (*7)	Power generation	CHILE	65.00%		78,060	76,429
RE Holiday Holdings LLC	Power generation	USA	50.00%		42,948	72,968
RE Pioneer Holdings LLC	Power generation	USA	50.00%		27,891	53.01
Solar Philippines Calatagan Corporation	Power generation	PHILIPPINES	38.00%		47,903	50,59
Datang KEPCO Chaoyang Renewable Power Co.,	Power generation	CHINA			11,700	00,07
Ltd.	3		40.00%		39,872	44,939
OneEnergy Asia Limited	Power generation	VIETNAM	40.00%		60,042	43,13
PT. Tanjung Power Indonesia	Power generation	INDONESIA	35.00%		26,892	42,420
South Jamaica Power Company Limited	Power generation	JAMAICA	20.00%		20,521	35,920
Chile Solar JV SpA	Power generation	CHILE	50.00%		37,689	35,796
Shuweihat Asia Power Investment B.V.	Holding company	NETHERLAND	49.00%		44,405	32,513
Others (Chun-cheon Energy Co., Ltd. and 69 others)	Floang company	NETTERLAND	47.0070		44,405 740,684	524,11
Gridia (ondredieon Energy Co., Etd. and 04 Others)				-		2,072,351
				\ <u>.</u>	1,965,974	
				₩_	4,578,417	6,671,746

17. Investments in Associates and Joint Ventures, Continued

- (1) Investments in associates and joint ventures as of March 31, 2021 and December 31, 2020 are as follows, continued:
 - (*1) The effective percentage of ownership is 22.02% considering treasury stocks.
 - (*2) The effective percentage of ownership is 100%. However, the Government regulates the Group's ability to make operating and financial decisions over the entity, as the Government requires maintaining arms-length transactions between KPX and the Group's other subsidiaries. The Group can exercise significant influence by virtue of right to nominate directors to the board of directors of the entity.
 - (*3) Under the shareholder agreement, 50% of the investment is committed by March 2022.
 - (*4) The effective percentage of ownership is 34.01% considering the conversion of redeemable convertible preferred stock into ordinary stock.
 - (*5) The effective percentage of ownership is more than 50% but the Group does not hold control over the entity according to the shareholders' agreement. For this reason, the entity is classified as an associate.
 - (*6) The effective percentage of ownership is more than 50% but the Group does not hold control over relevant business while it exercises significant influence by participating in the Investment Decision Committee. For this reason, the entity is classified as an associate.
 - (*7) The effective percentage of ownership is more than 50%. However, according to the shareholders' agreement, all critical financial and operating decisions must be agreed to by all ownership parties. For this reason, the entities are classified as joint ventures.

17. Investments in Associates and Joint Ventures, Continued

(1) Investments in associates and joint ventures as of March 31, 2021 and December 31, 2020 are as follows, continued:

	December 31, 2	020	Percentage		Acquisition	Book
Investees	Key operation activities	Location	of ownership		cost	value
<associates></associates>						
Korea Gas Corporation (*1)	Importing and wholesaling LNG	KOREA	20.47%	₩	94,500	1,647,32
Gemeng International Energy Co., Ltd.	Power generation	CHINA	34.00%		413,153	679,70
PT. Bayan Resources TBK	Resources development	INDONESIA	20.00%		615,860	425,23
Korea Power Exchange (*2)	Management of power market and others	KOREA	100.00%		127,839	269,12
S Donghae Electric Power Co., Ltd.	Power generation	KOREA	34.00%		204,000	244,42
PT. Cirebon Electric Power	Power generation	INDONESIA	27.50%		40,365	117,8
Tyundai Green Power Co., Ltd.	Power generation	KOREA	29.00%		88,885	132,7
S-Power Co., Ltd.	Power generation	KOREA	49.00%		132,300	110,29
ndeck Niles Development, LLC (*3)	Power generation	USA	24.08%		45,562	20,6
Dongducheon Dream Power Co., Ltd. (*4)	Power generation	KOREA	33.61%		43,302 148,105	20,02
0	Ũ	KOREA	40.00%		72.000	
Shin Pyeongtaek Power Co., Ltd.	Power generation					69,59
SPC Power Corporation	Power generation	PHILIPPINES	38.00%		20,635	69,91
Ke-Pian Xe-Namnoy Power Co., Ltd.	Power generation	LAOS	25.00%		87,426	64,5
Nepal Water & Energy Development Company	Construction and operation of	NEPAL	60.35%			
Private Limited (*5)	utility plant				50,268	42,6
Corea Electric Power Corporation Fund (*6)	Developing electric enterprises	KOREA	98.09%		51,500	41,93
/TN Co., Ltd.	Broadcasting	KOREA	21.43%		59,000	40,5
PT Wampu Electric Power	Power generation	INDONESIA	46.00%		21,292	27,8
Others (Daeryun Power Co., Ltd. and 60 others)				-	209,071	165,7-
				₩_	2,481,761	4,250,78
<joint ventures=""></joint>	5		10.000/			
lamaica Public Service Company Limited	Power generation	JAMAICA	40.00%	₩	301,910	266,2
(EPCO SPC Power Corporation (*7)	Construction and operation of utility plant	PHILIPPINES	75.20%		94,579	201,6
Datang Chifeng Renewable Power Co., Ltd.	Power generation	CHINA	40.00%		121,928	188,4
Amman Asia Electric Power Company (*7)	Power generation	JORDAN	60.00%		111,476	161,2
Rabigh Electricity Company	Power generation	SAUDI ARABIA	40.00%		109,743	97,1
PT Barito Wahana Tenaga	Power generation	INDONESIA	30.61%		59,395	63,0
(elar S.A. (*7)	Power generation	CHILE	65.00%		78,060	71,4
RE Holiday Holdings LLC	Power generation	USA	50.00%		42,948	68,8
RE Pioneer Holdings LLC	Power generation	USA	50.00%		27,891	49,6
Solar Philippines Calatagan Corporation	Power generation	PHILIPPINES	38.00%		47,903	49,0
Datang KEPCO Chaoyang Renewable Power Co.,	Power generation	CHINA	40.00%			
Ltd.					39,872	42,5
DneEnergy Asia Limited	Power generation	VIETNAM	40.00%		56,654	56,6
PT. Tanjung Power Indonesia	Power generation	INDONESIA	35.00%		26,892	33,0
South Jamaica Power Company Limited	Power generation	JAMAICA	20.00%		20,521	31,8
Chile Solar JV SpA	Power generation	CHILE	50.00%		37,689	34,8
Shuweihat Asia Power Investment B.V.	Holding company	NETHERLAND	49.00%		44,405	13,2
Others (Daegu Green Power Co., Ltd. and 66 others)					721,526	490,7
				-	1,943,392	1,919,74
				₩ -	4,425,153	6,170,53

17. Investments in Associates and Joint Ventures, Continued

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- (1) Investments in associates and joint ventures as of March 31, 2021 and December 31, 2020 are as follows, continued:
 - (*1) The effective percentage of ownership is 22.02% considering treasury stocks.
 - (*2) The effective percentage of ownership is 100%. However, the Government regulates the Group's ability to make operating and financial decisions over the entity, as the Government requires maintaining arms-length transactions between KPX and the Group's other subsidiaries. The Group can exercise significant influence by virtue of right to nominate directors to the board of directors of the entity.
 - (*3) Under the shareholder agreement, 50% of the investment is committed by March 2022.
 - (*4) The effective percentage of ownership is 34.01% considering the conversion of redeemable convertible preferred stock into ordinary stock.
 - (*5) The effective percentage of ownership is more than 50% but the Group does not hold control over the entity according to the shareholders' agreement. For this reason, the entity is classified as an associate.
 - (*6) The effective percentage of ownership is more than 50% but the Group does not hold control over relevant business while it exercises significant influence by participating in the Investment Decision Committee. For this reason, the entity is classified as an associate.
 - (*7) The effective percentage of ownership is more than 50%. However, according to the shareholders' agreement, all critical financial and operating decisions must be agreed to by all ownership parties. For this reason, the entities are classified as joint ventures.

(2) The fair value of associates which are actively traded on an open market and have a readily available market value as of March 31, 2021 and December 31, 2020 are as follows:

Investees	<u> </u>	March 31, 2021	December 31, 2020	
<associates></associates>				
Korea Electric Power Industrial Development Co., Ltd.	₩	44,528	45,048	
Korea Gas Corporation		636,930	584,010	
YTN Co., Ltd.		35,550	27,000	
SPC Power Corporation		153,399	139,698	
PT. Bayan Resources TBK		651,195	798,510	

17. Investments in Associates and Joint Ventures, Continued

(3) Changes in investments in associates and joint ventures for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

March 31, 2021									
Investees	Beginning balance	Acquisition	Disposals	Dividends received	Share of Income (loss)	Other comprehens ive income (loss)	Others	Ending balance	
<associates></associates>									
Korea Gas Corporation	₩ 1,647,325	-	-	-	112,954	7,113	646	1,768,038	
Gemeng International Energy Co., Ltd.	679,711	-	-	-	(7,253)	21,252	-	693,710	
PT. Bayan Resources TBK	425,231	-	-	-	49,141	23,552	(7)	497,91	
Korea Power Exchange	269,122	-	-	-	5,668	-	-	274,790	
GS Donghae Electric Power Co., Ltd.	244,426	-	-	-	4,524	-	-	248,950	
PT. Cirebon Electric Power	117,811	-	-	(8,578)	3,250	304	4,839	117,62	
Hyundai Green Power Co., Ltd.	132,774	-	-	(8,889)	(765)	(1,346)	-	121,774	
S-Power Co., Ltd.	110,292	-	-	-	6,471	-	-	116,763	
ndeck Niles Development, LLC	20,627	104,321	-	-	(8,816)	(5,489)	2,434	113,07	
Dongducheon Dream Power Co., Ltd.	80,637	-	-	-	3,097	-	-	83,73	
Shin Pyeongtaek Power Co., Ltd.	69,591	-	-	-	6,947	-	6	76,54	
SPC Power Corporation	69,912	-	-	-	433	1,527	-	71,87	
Ke-Pian Xe-Namnoy Power Co., Ltd.	64,570	-	-	-	2,126	3,342	-	70,03	
Nepal Water & Energy Development	,				_,	-,		,	
Company Private Limited	42,677	19,960	-	-	(232)	1,694	-	64,09	
Korea Electric Power Corporation Fund	41,926		_	-	(529)	(481)	-	40,91	
/TN Co., Ltd.	40,549		_	(270)	(532)	(101)	-	39,740	
PT Wampu Electric Power	27,865			(270)	922	910	1,197	30,89	
Others (Daeryun Power Co., Ltd. and 65 other		6,016	_	(4,218)	970	7,090	(6,686)	168,913	
	₩ 4,250,787	130,297		(21,955)	178,376	59,461	2,429	4,599,395	
<joint ventures=""></joint>									
Jamaica Public Service Company Limited	₩ 266,221	-	-	-	(3,301)	11,076	-	273,99	
KEPCO SPC Power Corporation Datang Chifeng Renewable Power Co.,	201,663	-	-	-	14,633	6,418	-	222,71	
Ltd.	188,478	-	-	-	9,533	6,106	-	204,11	
Amman Asia Electric Power Company	161,253	-	-	-	4,476	16,038	-	181,76	
Rabigh Electricity Company	97,156	-	-	-	(11,871)	12,391	-	97,67	
PT Barito Wahana Tenaga	63,029	36	-	-	(1,775)	18,950	-	80,24	
Kelar S.A.	71,449	-	-	-	1,958	-	3,022	76,42	
RE Holiday Holdings LLC	68,809	-	-	-	907	3,252	-	72,96	
RE Pioneer Holdings LLC	49,639	-	-	-	946	2,426	-	53,01	
Solar Philippines Calatagan Corporation	49,017	-	-	-	965	609	-	50,59	
Datang KEPCO Chaoyang Renewable	,							,	
Power Co., Ltd.	42,530	-	-	-	1,034	1,375	-	44,93	
OneEnergy Asia Limited	56,654	3,388	-	-	(18,930)	2,025	-	43,13	
PT. Tanjung Power Indonesia	33,063	-	-	-	2,700	6,922	(265)	42,420	
South Jamaica Power Company Limited	31,897	-	-	-	2,643	1,380	-	35,920	
Chile Solar JV SpA	34,883	-	-	-	450	463	-	35,796	
Shuweihat Asia Power Investment B.V.	13,264	-		-	1,139	18,110	-	32,513	
Others (Chun-cheon Energy Co., Ltd. and 6									
others)	490,741	19,419	(262)	(5,784)	15,267	11,201	(6,465)	524,117	
	1,919,746	22,843	(262)	(5,784)	20,774	118,742	(3,708)	2,072,35	
	₩ 6,170,533	153,140	(262)	(27,739)	199,150	178,203	(1,279)	6,671,740	

17. Investments in Associates and Joint Ventures, Continued

(3) Changes in investments in associates and joint ventures for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows, continued:

		Decemb	er 31, 2020					
Investees	Beginning balance	Acquisition	Disposals	Dividends received	Share of income (loss)	Other comprehens ive income (loss)	Others	Ending balance
<associates></associates>	Dalarice	Acquisition	Disposais	TCCCIVCU	(1033)	(1033)	0003	Dalarice
Korea Gas Corporation	₩ 1,693,967	-	-	(7,182)	(14,104)	(25,023)	(333)	1,647,325
Gemeng International Energy Co., Ltd.	670,896	-	-	(11,620)	15,965	4,468	(1)	679,708
PT. Bayan Resources TBK	445,141	-	-	(15,720)	17,139	(21,256)	(70)	425,234
Korea Power Exchange	258,899	-	-	-	1,860	1	8,362	269,122
GS Donghae Electric Power Co., Ltd.	255,983	-	-	(25,796)	14,265	-	(26)	244,426
PT. Cirebon Electric Power	123,425	-	-	(9,782)	11,330	434	(7,596)	117,811
Hyundai Green Power Co., Ltd.	124,253	-	-	(8,889)	17,410	-	-	132,774
S-Power Co., Ltd.	115,784	-	-	-	(5,429)	-	(63)	110,292
Indeck Niles Development, LLC	-	45,562	-	-	(13,344)	(9,846)	(1,745)	20,627
Dongducheon Dream Power Co., Ltd.	76,547	-	-	-	4,095	-	(5)	80,637
Shin Pyeongtaek Power Co., Ltd.	66,956	-	-	-	11,877	(3,604)	(5,638)	69,591
SPC Power Corporation	63,583	-	-	(10,764)	5,491	11,649	(47)	69,912
Xe-Pian Xe-Namnoy Power Co., Ltd.	72,935	-	-	-	(2,896)	(5,469)	-	64,570
Nepal Water & Energy Development								
Company Private Limited	31,145	14,697	-	-	(1,699)	(1,466)	-	42,677
Korea Electric Power Corporation Fund	41,126	-	-	-	(908)	1,708	-	41,926
YTN Co., Ltd.	39,747	-	-	(90)	1,086	(6)	(188)	40,549
PT Wampu Electric Power	29,355	-	-	(1,303)	3,245	(1,639)	(1,793)	27,865
Others (Daeryun Power Co., Ltd. and 67 others)	142,060	35,996	(207)	(7,029)	(6,291)	1,138	74	165,741
	₩ 4,251,802	96,255	(207)	(98,175)	59,092	(48,911)	(9,069)	4,250,787
<joint ventures=""></joint>								
Jamaica Public Service Company Limited	₩ 253,607	-	-	(4,352)	24,669	(10,891)	3,188	266,221
KEPCO SPC Power Corporation	214,794	-	-	(48,486)	48,479	(12,995)	(129)	201,663
Datang Chifeng Renewable Power Co.,								
Ltd.	185,307	-	-	(13,453)	15,317	1,307	-	188,478
Amman Asia Electric Power Company	192,164	-	-	(28,281)	20,165	(22,795)	-	161,253
Rabigh Electricity Company	109,096	-	-	(14,956)	25,474	(22,458)	1	97,157
PT Barito Wahana Tenaga	-	59,395	-	-	4,923	(1,289)	-	63,029
Kelar S.A.	70,462	-	-	-	14,864	(9,186)	(4,691)	71,449
RE Holiday Holdings LLC	42,070	-	-	-	33,072	(6,333)	-	68,809
RE Pioneer Holdings LLC	31,156	-	-	(1,246)	24,466	(4,737)	-	49,639
Solar Philippines Calatagan Corporation	48,930	-	-	(6,439)	6,745	(219)	-	49,017
Datang KEPCO Chaoyang Renewable								
Power Co., Ltd.	41,024	-	-	-	1,231	275	-	42,530
OneEnergy Asia Limited	-	56,654	-	-	-	-	-	56,654
PT. Tanjung Power Indonesia	34,327	-	-		7,522	(9,220)	434	33,063
South Jamaica Power Company Limited	13,863	-		-	20,468	(2,432)	(2)	31,897
Chile Solar JV SpA	34,859	-		-	187	(163)	-	34,883
Shuweihat Asia Power Investment B.V.	18,318	-	-	(4,337)	5,919	(6,636)	-	13,264
Others (Daegu Green Power Co., Ltd. and 66	,					•		
others	373,052	173,019	-	(17,969)	(33,469)	(5,605)	1,712	490,740
	1,663,029	289,068		(139,519)	220,032	(113,377)	513	1,919,746
	₩ 5,914,831	385,323	(207)	(237,694)	279,124	(162,288)	(8,556)	6,170,533

17. Investments in Associates and Joint Ventures, Continued

(4) Summary of financial information of associates and joint ventures as of and for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won					
		March 31, 2021			
Investers		Total assets	Total liabilities	Sales	Profit (loss) for
Associates>		Total assets		Sales	the period
Korea Gas Corporation (*)	₩	37,614,691	29,330,845	7,711,406	512,963
Gemeng International Energy Co., Ltd.	vv	7,738,135	5,697,811	534,294	(16,360
PT. Bayan Resources TBK		2,074,666	911,101	558,183	197,561
Korea Power Exchange		338,088	63,297	27,664	6,171
GS Donghae Electric Power Co., Ltd.		2,167,982	1,435,776	184,581	13,305
PT. Cirebon Electric Power		712,986	285,256	69,348	12,920
Hyundai Green Power Co., Ltd.		834,598	414,689	25,170	(1,984
S-Power Co., Ltd.		806,343	565,025	152,816	12,988
Indeck Niles Development, LLC		858,498	695,882	152,010	11,196
Dongducheon Dream Power Co., Ltd.		1,431,607	1,144,049	178,090	12,149
Shin Pyeongtaek Power Co., Ltd.		1,044,116	820,831	160,989	17,011
SPC Power Corporation		273,414	19,304	10,711	10,665
Xe-Pian Xe-Namnoy Power Co., Ltd.		1,163,790	879,301	27,605	8,400
Nepal Water & Energy Development Company		1,105,770	077,301	27,005	0,400
Private Limited		114,167	22,763		(87)
Korea Electric Power Corporation Fund		42,020	310		(247)
YTN Co., Ltd.		289,468	104,014	27,331	(3,181)
PT Wampu Electric Power		202,071	134,910	4,719	1,997
		- , -	- ,		
<joint ventures=""></joint>					
Jamaica Public Service Company Limited		2,108,926	1,453,691	249,561	6,238
KEPCO SPC Power Corporation		323,239	27,076	46,309	19,658
Datang Chifeng Renewable Power Co., Ltd.		785,074	274,782	46,178	24,379
Amman Asia Electric Power Company		734,787	431,842	3,470	7,464
Rabigh Electricity Company		2,339,464	1,945,073	64,388	8,564
PT Barito Wahana Tenaga		262,117	-	-	5,760
Kelar S.A.		611,274	497,710	21,865	3,378
RE Holiday Holdings LLC		325,436	179,501	3,215	1,814
RE Pioneer Holdings LLC		242,051	136,029	14,452	10,220
Solar Philippines Calatagan Corporation		104,503	49,512	4,619	2,601
Datang KEPCO Chaoyang Renewable Power Co., Ltd.		190,329	77,982	8,060	2,585
OneEnergy Asia Limited		47,684	3,623	-	(8,248)
PT. Tanjung Power Indonesia		688,516	567,318	20,800	5,683
South Jamaica Power Company Limited		449,987	270,375	56,369	6,566
Chile Solar JV SpA		75,441	3,849	1,116	647
Shuweihat Asia Power Investment B.V.		66,355	-	-	2,328

(*) The profit for the three-month period ended March 31, 2021 is reduced by the associate entity's net income attributable to non-controlling interests.

17. Investments in Associates and Joint Ventures, Continued

(4) Summary of financial information of associates and joint ventures as of and for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows, continued:

In millions of won

		December 31, 2020			
Investees		Total assets	Total liabilities	Sales	Profit (loss) for the period
<associates></associates>					
Korea Gas Corporation (*)	₩	35,909,775	28,174,619	20,833,722	(172,060)
Gemeng International Energy Co., Ltd.		7,427,157	5,428,013	1,955,707	64,077
PT. Bayan Resources TBK		1,544,875	795,131	1,646,390	219,406
Korea Power Exchange		337,577	68,455	104,698	979
GS Donghae Electric Power Co., Ltd.		2,174,835	1,455,935	685,579	41,955
PT. Cirebon Electric Power		730,020	301,615	246,014	40,676
Hyundai Green Power Co., Ltd.		874,574	416,732	390,442	55,591
S-Power Co., Ltd.		782,561	554,393	421,519	(10,805
Indeck Niles Development, LLC		772,124	738,826	-	(29,392
Dongducheon Dream Power Co., Ltd.		1,374,640	1,095,926	524,890	10,982
Shin Pyeongtaek Power Co., Ltd.		1,020,650	814,369	520,468	32,002
SPC Power Corporation		255,462	17,705	47,091	39,677
Xe-Pian Xe-Namnoy Power Co., Ltd.		1,138,994	876,336	140,069	(11,318
Nepal Water & Energy Development Company					
Private Limited		109,321	41,093	-	(444
Korea Electric Power Corporation Fund		42,988	249	82	(730
YTN Co., Ltd.		295,151	105,923	126,730	7,095
PT Wampu Electric Power		199,841	139,264	20,265	7,372
<joint ventures=""></joint>					
Jamaica Public Service Company Limited		1,664,412	1,027,418	1,042,422	35,916
KEPCO SPC Power Corporation		289,271	21,102	184,481	66,311
Datang Chifeng Renewable Power Co., Ltd.		747,990	276,796	119,955	39,439
Amman Asia Electric Power Company		725,101	456,346	20,586	33,608
Rabigh Electricity Company		2,294,880	1,898,701	293,722	94,92
PT Barito Wahana Tenaga		205,894	-	-	28,63
Kelar S.A.		598,901	492,838	93,375	16,863
RE Holiday Holdings LLC		320,908	183,290	19,659	13,24
RE Pioneer Holdings LLC		236,565	137,287	12,410	8,82
Solar Philippines Calatagan Corporation		97,947	47,098	23,182	15,249
Datang KEPCO Chaoyang Renewable Power Co., Ltd.		182,342	76,018	26,378	2,91
OneEnergy Asia Limited		78,005	150	-	(578
PT. Tanjung Power Indonesia		645,152	550,687	90,255	20,48
South Jamaica Power Company Limited		405,804	246,310	209,596	12,208
Chile Solar JV SpA		74,776	5,011	4,390	1,470
Shuweihat Asia Power Investment B.V.		27,073	4	-	12,080

(*) The profit for the year ended December 31, 2020 is reduced by the associate entity's net income (loss) attributable to non-controlling interests.

17. Investments in Associates and Joint Ventures, Continued

(5) Financial information of associates and joint ventures reconciled to the Group's investments in consolidated financial statements as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won

		March 31,	2021				
		Percentage of	Share in	Investment	Intercompany		
Investees	Net assets	ownership (*)	net assets	differential	transaction	Others	Book value
<associates></associates>							
Korea Gas Corporation (*) ₩	8,283,848	22.02%	1,824,103	-	-	(56,065)	1,768,038
Gemeng International Energy Co., Ltd.	2,040,324	34.00%	693,710	-	-	-	693,710
PT. Bayan Resources TBK	1,163,565	20.00%	232,713	341,583	-	(76,379)	497,917
Korea Power Exchange	274,790	100.00%	274,790	-	-	-	274,790
GS Donghae Electric Power Co., Ltd.	732,205	34.00%	248,950	-	-	-	248,950
PT. Cirebon Electric Power	427,730	27.50%	117,626	-	-	-	117,626
Hyundai Green Power Co., Ltd.	419,909	29.00%	121,774	-	-	-	121,774
S-Power Co., Ltd.	241,319	49.00%	118,246	-	(1,483)	-	116,763
Indeck Niles Development, LLC	162,616	52.07%	84,667	28,410	-	-	113,077
Dongducheon Dream Power Co., Ltd.	287,557	34.01%	97,799	1,757	(3,239)	(12,583)	83,734
Shin Pyeongtaek Power Co., Ltd.	223,286	40.00%	89,314	3,559	(16,329)	-	76,544
SPC Power Corporation	254,110	38.00%	96,562	-	-	(24,690)	71,872
Xe-Pian Xe-Namnoy Power Co., Ltd.	284,490	25.00%	71,123	305	(1,100)	(290)	70,038
Nepal Water & Energy Development							
Company Private Limited	91,404	69.06%	63,127	972	-	-	64,099
Korea Electric Power Corporation Fund	41,709	98.09%	40,913	-	-	3	40,916
YTN Co., Ltd.	185,454	21.43%	39,740	-	-	-	39,740
PT Wampu Electric Power	67,161	46.00%	30,894	-	-	-	30,894
<joint ventures=""></joint>							
Jamaica Public Service Company Limited	655,237	40.00%	262,095	29,357	-	(17,456)	273,996
KEPCO SPC Power Corporation	296,162	75.20%	222,714	-	-	-	222,714
Datang Chifeng Renewable Power Co., Ltd.	510,291	40.00%	204,117	-	-	-	204,117
Amman Asia Electric Power Company	302,945	60.00%	181,767	-	-	-	181,767
Rabigh Electricity Company	394,392	40.00%	157,757	-	(59,276)	(805)	97,676
PT Barito Wahana Tenaga	262,117	30.61%	80,240	-	-	-	80,240
Kelar S.A.	113,563	65.00%	73,816	2,613	-	-	76,429
RE Holiday Holdings LLC	145,935	50.00%	72,968	-	-	-	72,968
RE Pioneer Holdings LLC	106,022	50.00%	53,011	-	-	-	53,011
Solar Philippines Calatagan Corporation	54,992	38.00%	20,897	29,694	-	-	50,591
Datang KEPCO Chaoyang Renewable Power							
Co., Ltd.	112,347	40.00%	44,939	-	-	-	44,939
OneEnergy Asia Limited	44,061	40.00%	17,624	25,513	-	-	43,137
PT. Tanjung Power Indonesia	121,199	35.00%	42,420	-	-	-	42,420
South Jamaica Power Company Limited	179,612	20.00%	35,920	-	-	-	35,920
Chile Solar JV SpA	71,592	50.00%	35,796	-	-	-	35,796
Shuweihat Asia Power Investment B.V.	66,354	49.00%	32,513	-	-	-	32,513

(*) The percentage of ownership shown above is after considering the treasury stocks and others.

17. Investments in Associates and Joint Ventures, Continued

(5) Financial information of associates and joint ventures reconciled to the Group's investments in consolidated financial statements as of March 31, 2021 and December 31, 2020 are as follows, continued:

In millions	of won
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		Densentens -f	Chana In	las conduce ou t			
Investore	Not coopte	Percentage of	Share in	Investment	Intercompany	Othoro	Dook volue
Investees Notestees	Net assets	ownership (*)	net assets	differential	transaction	Others	Book value
Korea Gas Corporation (*)	7,735,156	22.02%	1,703,281			(55,956)	1,647,325
Gemeng International Energy Co., Ltd.	1,999,144	34.00%	679,709	-	-	(55,950)	679,708
PT. Bayan Resources TBK	749,744	20.00%	149,949	351,662	-	(76,377)	425,234
Korea Power Exchange	269,122	100.00%	269,122	331,002	-	(10,377)	425,252
GS Donghae Electric Power Co., Ltd.	718,900	34.00%	209,122	-	-	-	209,122
PT. Cirebon Electric Power	428.405	27.50%	244,420	-	-	-	117,811
Hyundai Green Power Co., Ltd.		27.50%	-	-	-	-	132,774
5	457,842		132,774	-	(1 E 1 0)		132,772
S-Power Co., Ltd.	228,168	49.00%	111,802	-	(1,510)	-	
ndeck Niles Development, LLC	33,298	24.08%	8,017	12,610	-	- (10 500)	20,627
Dongducheon Dream Power Co., Ltd.	278,714	34.01%	94,791	1,757	(3,329)	(12,582)	80,637
Shin Pyeongtaek Power Co., Ltd.	206,281	40.00%	82,512	3,559	(16,480)	-	69,591
SPC Power Corporation	237,757	38.00%	90,348	-	-	(20,436)	69,912
Ke-Pian Xe-Namnoy Power Co., Ltd.	262,658	25.00%	65,665	305	(1,110)	(290)	64,570
Nepal Water & Energy Development	68,228	58.59%	39,975	971	-	1,731	42,677
Company Private Limited	10 700	00.000/	44,000			2	11.00
Korea Electric Power Corporation Fund	42,739	98.09%	41,923	-	-	3	41,926
YTN Co., Ltd.	189,228	21.43%	40,549	-	-	-	40,549
PT Wampu Electric Power	60,577	46.00%	27,865	-	-	-	27,865
<joint ventures=""></joint>							
Jamaica Public Service Company Limited	636,994	40.00%	254,798	29,357	-	(17,934)	266,221
KEPCO SPC Power Corporation	268,169	75.20%	201,663	-	-	-	201,663
Datang Chifeng Renewable Power Co., Ltd.	471,194	40.00%	188,478	-	-	-	188,478
Amman Asia Electric Power Company	268,755	60.00%	161,253	-	-	-	161,253
Rabigh Electricity Company	396,179	40.00%	158,472	-	(60,511)	(804)	97,157
PT Barito Wahana Tenaga	205,894	30.61%	63,029	-	-	-	63,029
Kelar S.A.	106,063	65.00%	68,941	2,508	-	-	71,449
RE Holiday Holdings LLC	137,618	50.00%	68,809	-	-	-	68,809
RE Pioneer Holdings LLC	99,278	50.00%	49,639	-	-	-	49,639
Solar Philippines Calatagan Corporation	50,849	38.00%	19,323	29,694	-	-	49,017
Datang KEPCO Chaoyang Renewable Power Co., Ltd.	106,324	40.00%	42,530	-	-	-	42,530
OneEnergy Asia Limited	77,855	40.00%	31,142	25,512	-	-	56,654
PT. Tanjung Power Indonesia	94,465	35.00%	33,063		-	-	33,063
South Jamaica Power Company Limited	159,494	20.00%	31,899	_	-	(2)	31,897
Chile Solar JV SpA	69,765	50.00%	34,883	_	-	(2)	34,883
	07,705	30.0070	54,005	-	-	-	54,000

(*) The percentage of ownership shown above is after considering the treasury stocks and others.

17. Investments in Associates and Joint Ventures, Continued

(6) As of March 31, 2021 and December 31, 2020, unrecognized equity interest in investments in associates and joint ventures whose book value has been reduced to zero due to accumulated losses are as follows:

In millions of won	March 3	1, 2021	December 31, 2020			
	Unrecognized equity interest	Accumulated unrecognized equity interest	Unrecognized equity interest	Accumulated unrecognized equity interest		
Hadong Mineral Fiber Co., Ltd.	-		-	2		
Eurasia Energy Holdings	7	182	(10)	175		
Gunsan Bio Energy Co., Ltd.	121	3,703	290	3,582		
Daehan Wind Power PSC	(3,855)		3,855	3,855		
DAYONE Energy Co., Ltd.	(1,297)	23,399	(14,035)	24,696		
Nghi Son 2 Power LLC	(91,518)	41,762	30,456	133,280		
Samcheok Eco Materials Co., Ltd.	190	975	(3)	785		
Naepo Green Energy Co., Ltd.	538	2,816	(7,003)	2,278		
Barakah One Company	4,986	74,324	(46,758)	69,338		
Pioneer Gas Power Limited	5,733	21,671	15,824	15,938		
Incheon New Power Co., Ltd.	30	224	194	194		
Bigeum Resident Photovoltaic Power Co., Ltd.	46	162	116	116		
KAPES, Inc.	29	3,227	3,198	3,198		

(7) As of March 31, 2021, shareholders' agreements on investments in associates and joint ventures that may cause future economic resource or cash outflows are as follows:

(i) Gemeng International Energy Co., Ltd.

Gemeng International Energy Co., Ltd. issued put options on 8% of its shares to its financial investors, KEPCO Woori Sprott PEF (NPS Co-Pa PEF). If the investment fund is not collected until the maturity date (December 25, 2023, two years extension is possible), PEF can exercise the option at strike price which is the same as a principal investment price (including operating fees ratio of below 1% per annum), and also, the Group provided a performance guarantee on this agreement.

(ii) Taebaek Wind Power Co., Ltd.

In the case where non-controlling shareholders decide to dispose of their shares in Taebaek Wind Power Co., Ltd. after the warrant period of defect repair for wind power generator has expired, the Group acquires those shares at fair value. The acquisition is to be made after the conditions of the acquisition are discussed among the parties involved, with consideration of various factors such as financial status and business situation.

(iii) Pyeongchang Wind Power Co., Ltd.

In the case where non-controlling shareholders decide to dispose of their shares in Pyeongchang Wind Power Co., Ltd. after commercial operation of the power plant has started, the Group acquires those shares at fair value. The acquisition is to be made after the conditions of the acquisition are discussed among the parties involved, with the careful consideration of various factors such as financial status and business situation. The Group is under agreement of O&M with the entity. Pursuant to the agreement, the Group guarantees a certain level of utilization rate and it is obligated to pay the penalty in the event of suspension in power generating.

(iv) Daeryun Power Co., Ltd.

The Group reserves the right to participate in the transfer of shares in Daeryun Power Co., Ltd. on the same terms as Daeryun E&S Co., Ltd., if Daeryun E&S Co., Ltd. wishes to transfer its shares in Daeryun Power Co., Ltd.

(v) Jeongam Wind Power Co., Ltd.

In the case where non-controlling shareholders decide to dispose of their shares in Jeongam Wind Power Co., Ltd. after the construction of the power plant has been completed, the Group is obligated to acquire those shares at fair value.

17. Investments in Associates and Joint Ventures, Continued

(7) As of March 31, 2021, shareholders' agreements on investments in associates and joint ventures that may cause future economic resource or cash outflows are as follows, continued:

(vi) Daegu Green Power Co., Ltd.

The Group has a right to purchase all the shares of Daegu Green Power Co., Ltd. held by the financial investors at the yield-based transfer amount agreed with the shareholders. The Group can exercise its right 5, 10 and 13 years after the date of the investment. The Group has a right to purchase all or part of the shares of Daegu Green Power Co., Ltd. held by Lotte Engineering & Construction Co. at the yield-based transfer amount agreed with the shareholders.

(vii) Yeonggwang Wind Power Co., Ltd.

In case the Group intends to purchase all or part of the shares from Daehan Green Energy Co., Ltd., which is a non-controlling shareholder, Daehan Green Energy Co., Ltd. has an obligation to evaluate the shares at fair value and transfer them to the Group.

(viii) Chester Solar I SpA

According to the shareholders' agreement, the Group has an obligation to purchase the shares at the agreed yield-based transfer price on the agreed date of exercise and when Sprott Chile Solar I SpA intends to sell its shares.

(ix) Chester Solar IV SpA

According to the shareholders' agreement, the Group has an obligation to purchase the shares at the agreed yield-based transfer price on the agreed date of exercise and when Sprott Chile Solar I SpA intends to sell its shares.

(x) Chester Solar V SpA

According to the shareholders' agreement, the Group has an obligation to purchase the shares at the agreed yield-based transfer price on the agreed date of exercise and when Sprott Chile Solar I SpA intends to sell its shares.

(xi) Diego de Almagro Solar SpA

According to the shareholders' agreement, the Group has an obligation to purchase the shares at the agreed yield-based transfer price on the agreed date of exercise and when Sprott Chile Solar I SpA intends to sell its shares.

(xii) Laurel SpA

According to the shareholders' agreement, the Group has an obligation to purchase the shares at the agreed yield-based transfer price on the agreed date of exercise and when Sprott Chile Solar I SpA intends to sell its shares.

(xiii) Samcheok Eco Materials Co., Ltd.

For Samcheok Eco Materials Co., Ltd., ordinary shareholders have the right to buy the shares of preferred shareholders if preferred shareholders intend to sell their preferred stock until December 26, 2023, and ordinary shareholders shall guarantee the investment principle of preferred shareholders.

(xiv) Hyundai Green Power Co., Ltd.

As of March 31, 2021, the Group has call option against the financial investors (Korea Development Bank and others) and also has an obligation to sell its shares in Hyundai Green Power Co., Ltd. when claimed by the financial investors at certain period of time in the future. Also, at certain period of time in the future, the Group has put option against Hyundai Steel Company and a third party designated by Hyundai Steel Company (collectively, "Hyundai Steel Group"), the operating investor of Hyundai Green Power Co., Ltd., according to the conditions of the agreement and also has an obligation to sell its shares upon request from Hyundai Steel Group.

17. Investments in Associates and Joint Ventures, Continued

(8) Significant restrictions on the Group's abilities on associates or joint ventures as of March 31, 2021 are as follows:

Company	Nature and extent of any significant restrictions					
Daegu Green Power Co., Ltd.	Dividends can only be paid when all conditions of the loan agreement are satisfied or prior written consent of financial institutions is obtained. Shares cannot be wholly or partially transformed without prior written concent of financial institutions.					
Pyeongchang Wind Power Co., Ltd.	transferred without prior written consent of financial institutions. Principals and interests on subordinated loans or dividends can only be paid when all conditions of the loan agreement are satisfied or prior written consent of financial institutions is obtained. Shares cannot be wholly or partially transferred without prior consent of the					
Daeryun Power Co., Ltd.	stakeholders. Principals and interests on subordinated loans or dividends can only be paid when all conditions of the loan agreement are satisfied or prior written consent of financial institutions. Shares cannot be wholly or partially transferred without prior consent of the					
KNH Solar Co., Ltd.	majority of major stakeholders. Principals and interests on subordinated loans or dividends to shareholders cannot be paid without written consent of financial institutions. Also, shares cannot be wholly or partially transferred without the consent of other shareholders.					
Jeongam Wind Power Co., Ltd.	Dividends can only be paid when all conditions of the loan agreement are satisfied and reimbursement to the lender can be restricted depending on the priority of the loans. Also, Shares cannot be wholly or partially transferred without the consent of the stakeholders.					
Korea Power Engineering Service Co., Ltd.	Shares cannot be wholly or partially transferred without the consent of the board of directors.					
Daehan Wind Power PSC	Dividends can only be paid when all conditions of the loan agreement are satisfied. Also, Shares cannot be wholly or partially transferred without the consent of the stakeholders.					
Daejung Offshore Wind Power Co., Ltd.	Before the commencement of the operation, shares cannot be wholly or partially transferred without the consent of the stakeholders.					
Naepo Green Energy Co., Ltd.	Dividends can only be paid when all conditions of the loan agreement are satisfied. Also, Shares cannot be wholly or partially transferred without the consent of the stakeholders.					
Solaseado Solar Power Co., Ltd.	Dividends can only be paid when all conditions of the shareholder's agreement are satisfied. Also, shares cannot be wholly or partially transferred without the consent of the stakeholders.					
Samcheok Eco Materials Co., Ltd.	Dividends can only be paid when all conditions of the shareholder's agreement are satisfied. Also, shares cannot be wholly or partially transferred without the consent of the stakeholders.					
KPGE Inc. Taebaek Guinemi Wind Power Co., Ltd.	Shares cannot be wholly or partially transferred without the consent of the stakeholders. Dividends can only be paid when all conditions of the shareholder's agreement are satisfied. Also, shares cannot be wholly or partially transferred without the consent of the stakeholders.					
Indeck Niles Asset Management, LLC	Shares cannot be wholly or partially transferred without the consent of the stakeholders.					
Indeck Niles Development, LLC Chester Solar IV SpA	Shares cannot be wholly or partially transferred without the consent of the stakeholders. Dividends can only be paid when all conditions of the loan agreement are satisfied. Also, shares cannot be wholly or partially transferred without the consent of the stakeholders.					
Chester Solar V SpA	Dividends can only be paid when all conditions of the loan agreement are satisfied. Also, shares cannot be wholly or partially transferred without the consent of the stakeholders.					
Diego de Almagro Solar Spa	Dividends can only be paid when all conditions of the loan agreement are satisfied. Also, shares cannot be wholly or partially transferred without the consent of the stakeholders.					
Laurel SpA	Dividends can only be paid when all conditions of the loan agreement are satisfied. Also, shares cannot be wholly or partially transferred without the consent of the stakeholders.					
Chester Solar I SpA	Dividends can only be paid when all conditions of the loan agreement are satisfied. Also, shares cannot be wholly or partially transferred without the consent of the stakeholders.					
Kelar S.A.	Dividends can only be paid when all conditions of the loan agreement are satisfied. Also, shares cannot be wholly or partially transferred without the consent of the stakeholders.					
GS Donghae Electric Power Co., Ltd.	Dividends can only be paid when all conditions of the loan agreement are satisfied or prior written consent of financial institutions is obtained.					
Busan Shinho Solar Power Co., Ltd. Honam Wind Power Co., Ltd.	Dividends can only be paid when all conditions of the loan agreement are satisfied. Dividends and settlement amount for renewable energy certificate can only be paid when					
Seokmun Energy Co., Ltd.	all conditions of the loan agreement are satisfied. Dividends can only be paid when all conditions of the loan agreement are satisfied and prior written consent of financial institutions is obtained. Also, principals and interests on subordinated loans can only be paid when written consent of financial institutions is obtained.					
Chun-cheon Energy Co., Ltd.	Dividends can only be paid when all conditions of the loan agreement are satisfied. Also, principals and interests on subordinated loans shall not be paid until the collateralized debt is fully repaid.					

17. Investments in Associates and Joint Ventures, Continued

(8) Significant restrictions on the Group's abilities on associates or joint ventures as of March 31, 2021 are as follows, continued:

Company	Nature and extent of any significant restrictions
Yeonggwangbaeksu Wind Power Co., Ltd.	Dividends and settlement amount for renewable energy certificate can only be paid when all conditions of the loan agreement are satisfied and prior written consent of financial institutions is obtained. Also, principals and interests on subordinated loans can only be paid when written consent of financial institutions is obtained.
Yeonggwang Wind Power Co., Ltd.	Dividends and settlement amount for renewable energy certificate can only be paid when all conditions of the loan agreement are satisfied and prior written consent of financial institutions is obtained.
Jamaica Public Service Company Limited	Dividends can only be paid when all conditions of the loan agreement are satisfied and prior written consent of financial institutions is obtained.
PT. Tanjung Power Indonesia DE Energia SpA	Dividends can only be paid when all conditions of the loan agreement are satisfied. Dividends can only be paid when all conditions of the loan agreement are satisfied.
Daesan Green Energy Co., Ltd.	Dividends and settlement amount for renewable energy certificate can only be paid when all conditions of the loan agreement are satisfied and prior written consent of financial institutions is obtained.
Taebaek Gadeoksan Wind Power Co., Ltd.	Dividends and settlement amount for renewable energy certificate can only be paid when all conditions of the loan agreement are satisfied or prior written consent of financial institutions is obtained. Also, principals and interests on subordinated loans can only be paid when prior written consent of financial institutions is obtained.
Bitsolar Energy Co., Ltd. Omisan Wind Power Co., Ltd.	Dividends can only be paid when all conditions of the loan agreement are satisfied. Principals and interests on subordinated loans or dividends can only be paid when all conditions of the loan agreement are satisfied or prior written consent of financial institutions is obtained. Also, reimbursement to the lender can be restricted depending on the priority of the loans. Shares cannot be wholly or partially transferred without written consent of financial institutions.
Yangyang Wind Power Co., Ltd.	Dividends can only be paid when all conditions of the loan agreement are satisfied or prior written consent of financial institutions is obtained.
Busan Industrial Solar Power Co., Ltd.	Dividends can only be paid when all conditions of the loan agreement are satisfied or prior written consent of financial institutions is obtained.

18. Property, Plant and Equipment

In millions of won

(1) Property, plant and equipment as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won	_	March 31, 2021									
	-	Acquisition cost	Government grants	Accumulated depreciation	Accumulated impairment losses	Book value					
Land	₩	13,988,386	(23,474)	-	(27,566)	13,937,346					
Buildings		21,904,075	(55,943)	(9,365,435)	(7,073)	12,475,624					
Structures		74,930,599	(177,330)	(28,426,079)	(13,205)	46,313,985					
Machinery		95,142,798	(153,163)	(45,048,778)	(515,402)	49,425,455					
Ships		2,482	-	(2,257)		225					
Vehicles		347,742	(535)	(262,823)	(116)	84,268					
Equipment		1,912,260	(201)	(1,523,891)	(42)	388,126					
Tools		1,208,927	(183)	(1,023,493)	(39)	185,212					
Construction-in- progress		31,621,119	(95,723)	-	(157,530)	31,367,866					
Right-of-use assets		7,920,786	-	(3,497,627)	-	4,423,159					
Asset retirement costs		12,247,693	-	(4,861,259)	(146,423)	7,240,011					
Others	_	14,124,231	<u> </u>	(11,458,526)		2,665,705					
	₩	275,351,098	(506,552)	(105,470,168)	(867,396)	168,506,982					

		Acquisition	Covernment	Accurrentated	Accumulated	Deek
	_	Acquisition cost	Government grants	Accumulated depreciation	impairment losses	Book value
Land	₩	13,970,098	(23,475)	-	(26,772)	13,919,851
Buildings		21,773,824	(57,231)	(9,150,218)	(7,074)	12,559,301
Structures		74,136,523	(180,009)	(27,864,461)	(13,207)	46,078,846
Machinery		94,295,027	(157,785)	(43,740,838)	(515,402)	49,881,002
Ships		2,482	-	(2,227)	-	255
Vehicles		338,386	(632)	(259,288)	(115)	78,351
Equipment		1,895,528	(227)	(1,487,643)	(42)	407,616
Tools		1,195,721	(239)	(1,003,295)	(39)	192,148
Construction-in- progress		31,121,255	(79,126)	-	(157,530)	30,884,599
Right-of-use assets		7,905,214	-	(3,363,048)	-	4,542,166
Asset retirement costs		12,260,732	-	(4,701,138)	(146,423)	7,413,171
Others	_	13,979,980		(11,227,899)		2,752,081
	₩	272,874,770	(498,724)	(102,800,055)	(866,604)	168,709,387

December 31, 2020

18. Property, Plant and Equipment, Continued

(2) Changes in property, plant and equipment for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won		March 31, 2021								
	-	Beginning balance	Acquisition	Disposal	Depreciation	Others	Ending balance			
Land	₩	13,943,326	566	(3,809)	(21)	20,758	13,960,820			
(Government grants)		(23,475)	-	1	-	-	(23,474)			
Buildings		12,616,532	3,466	(4,088)	(213,708)	129,365	12,531,567			
(Government grants)		(57,231)	-	-	1,288	-	(55,943)			
Structures		46,258,855	13	(83,287)	(629,964)	945,698	46,491,315			
(Government grants)		(180,009)	-	326	2,370	(17)	(177,330)			
Machinery		50,038,787	90,184	(49,308)	(1,405,041)	903,996	49,578,618			
(Government grants)		(157,785)	-	71	4,417	134	(153,163)			
Ships		255	-	-	(30)	-	225			
Vehicles		78,983	1,473	(41)	(8,575)	12,963	84,803			
(Government grants)		(632)	-	-	171	(74)	(535)			
Equipment		407,843	9,429	(64)	(47,883)	19,002	388,327			
(Government grants)		(227)	-	-	29	(3)	(201)			
Tools		192,387	3,144	(5)	(20,639)	10,508	185,395			
(Government grants)		(239)	-	-	56	-	(183)			
Construction-in-progress		30,963,725	2,355,307	11,869	-	(1,867,312)	31,463,589			
(Government grants)		(79,126)	64	-	-	(16,661)	(95,723)			
Right-of-use assets		4,542,166	26,619	(198)	(147,012)	1,584	4,423,159			
Asset retirement costs		7,413,171	-	(209)	(212,971)	40,020	7,240,011			
Others	-	2,752,081	985	(1,421)	(224,768)	138,828	2,665,705			
	₩	168,709,387	2,491,250	(130,163)	(2,902,281)	338,789	168,506,982			

18. Property, Plant and Equipment, Continued

(2) Changes in property, plant and equipment for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows, continued:

In millions of won		December 31, 2020									
	-	Beginning balance	Acquisition	Disposal	Depreciation	Impairment	Others	Ending balance			
	-	Balarioo	/ loguiorition	Diopodui				Bularioo			
Land	₩	13,848,063	5,330	(31,304)	(273)	-	121,510	13,943,326			
(Government grants)		(21,817)	-	2	-	-	(1,660)	(23,475)			
Buildings		12,445,706	7,225	(16,015)	(875,680)	(2,107)	1,057,403	12,616,532			
(Government grants)		(61,920)	-	-	5,206	-	(517)	(57,231)			
Structures		45,178,870	36,091	(346,612)	(2,313,920)	(3,571)	3,707,997	46,258,855			
(Government grants)		(186,554)	-	2,032	9,526	-	(5,013)	(180,009)			
Machinery		49,907,300	407,521	(283,845)	(5,526,816)	(74,362)	5,608,989	50,038,787			
(Government grants)		(158,907)	-	496	17,468	-	(16,842)	(157,785)			
Ships		201	-	-	(106)	-	160	255			
Vehicles		70,585	3,880	(151)	(35,036)	-	39,705	78,983			
(Government grants)		(2,275)	-	4	2,064	-	(425)	(632)			
Equipment		374,115	72,655	(86)	(186,004)	-	147,163	407,843			
(Government grants)		(241)	-	-	149	-	(135)	(227)			
Tools		164,064	28,048	(193)	(82,862)	-	83,330	192,387			
(Government grants)		(403)	-	-	243	-	(79)	(239)			
Construction-in-progress		28,419,470	12,726,469	(486)	-	7,799	(10,189,527)	30,963,725			
(Government grants)		(61,211)	8,783	-	-	-	(26,698)	(79,126)			
Right-of-use assets		4,783,573	291,334	(827)	(586,254)	-	54,340	4,542,166			
Asset retirement costs		7,374,527	131	(196)	(819,708)	-	858,417	7,413,171			
Others	-	2,628,681	6,470	(8,145)	(984,097)	(366)	1,109,538	2,752,081			
	₩	164,701,827	13,593,937	(685,326)	(11,376,100)	(72,607)	2,547,656	168,709,387			

19. Investment Properties

(1) Investment properties as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won		March 31, 2021								
		Acquisition cost	Government grants	Accumulated depreciation	Book value					
Land Buildings	₩	198,124 59,793	(29)	(34,506)	198,124 25,258					
	₩	257,917	(29)	(34,506)	223,382					
In millions of won			Decembe	r 31, 2020						
		Acquisition cost	Government grants	Accumulated depreciation	Book value					
Land Buildings	₩	200,391 59,347	(29)	(34,514)	200,391 24,804					
	₩	259,738	(29)	(34,514)	225,195					

(2) Changes in investment properties for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won		March 31, 2021							
		Beginning balance	Depreciation	Others	Ending balance				
Land	₩	200,391	-	(2,267)	198,124				
Buildings (Government grants)	-	24,833 (29)	(362)	816	25,287 (29)				
	₩ -	225,195	(362)	(1,451)	223,382				
In millions of won			December 31	, 2020					
	-	Beginning balance	Depreciation	Others	Ending balance				
Land	₩	129,897	-	70,494	200,391				
Buildings (Government grants)		28,696 (13)	(1,454)	(2,409) (17)	24,833 (29)				
	₩	158,580	(1,453)	68,068	225,195				

19. Investment Properties, Continued

(3) Income and expenses related to investment properties for the three-month periods ended March 31, 2021 and 2020 are as follows:

In millions of won		March 31, 2021	March 31, 2020
Rental income Operating and maintenance expenses related to rental income	₩	2,334 (362)	1,279 (357)
	₩	1,972	922

(4) Fair value of investment properties as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won		March 31,	2021	December 31, 2020		
	-	Book value	Fair value	Book value	Fair value	
Land	₩	198,124	296,595	200,391	300,001	
Buildings	-	25,258	46,079	24,804	44,597	
	₩_	223,382	342,674	225,195	344,598	

The Group determined the fair value of investment property on the transition date based on valuations conducted by an independent valuation firm that is independent of the Group. The valuation firm has appropriate qualifications and experience in the valuation of real estate in the Republic of Korea, and the valuation was conducted using a comparison method, which is a method of obtaining economic value based on the marketability of the property. The fair values of the investment properties as of the reporting date were determined in consideration of the fluctuation on the publicly announced individual land price after the KIFRS transition date (January 1, 2010).

(5) All of the Group's investment properties are held under freehold interests.

20. Construction Contracts

(1) Changes in total contract amount in which revenue is not yet recognized for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won			March 31	, 2021	
		Beginning balance	Increase (decrease) Recognized as (*) revenue		Ending balance
Nuclear power plant construction in UAE and others	₩	3,152,725	(31,650)	(131,091)	2,989,984

(*) For the three-month period ended March 31, 2021, the increased balance of contracts from new orders and foreign exchange impact is ₩42,255 million and the decreased balance of contracts due to changes in scope of construction work is ₩73,905 million.

In millions of won			December 3	31, 2020	
		Beginning balance	Increase (decrease) Recognized as (*) revenue		Ending balance
Nuclear power plant construction in UAE and others	₩	2,735,141	1,229,759	(812,175)	3,152,725

(*) For the year ended December 31, 2020, the increased balance of contracts from new orders and foreign exchange impact is W1,512,460 million and the decreased balance of contracts due to changes in scope of construction work is W282,701 million.

(2) Accumulated earned revenue, expense and others related to the Group's construction contracts in progress as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won	March 31, 2021						
	_	Accumulated earned revenue	Accumulated expense	Accumulated profit	Unearned advance receipts		
Nuclear power plant construction in UAE and others	₩	21,542,482	20,302,510	1,239,972	20,494		
In millions of won			December	[.] 31, 2020			
		Accumulated earned revenue	Accumulated expense	Accumulated profit	Unearned advance receipts		
Nuclear power plant construction in UAE and others	₩	21,460,431	20,242,735	1,217,696	97,348		

20. Construction Contracts, Continued

(3) Gross amount due from customers recognized as contract assets and due to customers recognized as contract liabilities for contract work as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won		March 3	1, 2021	December 31, 2020			
	Co	Contract assets Contract liabilities (*1) (*2)		Contract assets (*1)	Contract llabilities (*2)		
Nuclear power plant construction in UAE and others	₩	64,457	110,235	79,662	88,126		

(*1) Included in trade and other receivables, net, in the consolidated statements of financial position.

(*2) Included in non-financial liabilities in the consolidated statements of financial position.

(4) The contract with BOC (purchaser) states that disclosure of information related to UAE nuclear power plant construction projects such as contract date, contractual completion date, completion progress, unbilled construction, impairment losses, etc. are not allowed without consent from the purchaser. BOC did not agree to disclose such information. Accordingly, the Group did not disclose such information based on KIFRS 1115 129.2(2) as it is probable that BOC may file a lawsuit for breach of contract if the Group does so. Also, the Group reported to the audit committee that those items will not be disclosed in the notes to the consolidated financial statements.

(5) Operating segments information related to the contracts for which the Group recognizes revenue based on the percentage-ofcompletion on a cost-based input method for the three-month period ended March 31, 2021 are as follows:

In millions of won		March 31, 2021									
			Effect from chan	ges in accountir		assets from on contracts		eivables from ion contracts			
	-	Expected loss on construction contracts	Changes In estimates of contract revenue and costs	Amounts recognized in current profit or loss	Amounts recognized in future profit or loss	Changes in estimated total contract costs	Gross	Allowance for doubtful accounts	Gross	Allowance for doubtful accounts	
Transmission and distribution Plant maintenance & engineering	₩	-	(6,717)	(14,664)	7,947	77,179	30,928		-	-	
service	-	1,509	12	11	1	1,138	33,529	-	60,499	14,399	
	₩	1,509	(6,705)	(14,653)	7,948	78,317	64,457		60,499	14,399	

21. Intangible Assets other than Goodwill

(1) Intangible assets as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won				March 31, 2021		
	Ac	quisition cost	Government grants	Accumulated amortization	Accumulated impairment losses	Book value
Software	₩	794,618	(117)	(644,134)	-	150,367
Copyrights, patents rights						
and other industrial rights		101,956	-	(52,084)	(9,178)	40,694
Mining rights		621,585	-	(35,026)	(542,867)	43,692
Development expenditures		973,317	(4,685)	(874,750)	(19)	93,863
Intangible assets under						
development		74,204	(7,225)	-	(12,845)	54,134
Usage rights of donated assets and						
others		592,915	-	(413,379)	-	179,536
Leasehold rights		27,843	-	(21,711)	-	6,132
Greenhouse gas emissions rights		66,153	-	-	-	66,153
Others		570,182	(74)	(142,871)	(12,011)	415,226
	₩	3,822,773	(12,101)	(2,183,955)	(576,920)	1,049,797

In millions of won			[December 31, 2020		
	Ac	quisition cost	Government grants	Accumulated amortization	Accumulated impairment losses	Book value
Software	₩	775,667	(136)	(623,504)	-	152,027
Licenses and franchises		547	-	(547)	-	-
Copyrights, patents rights						
and other industrial rights		101,866	-	(49,772)	(9,178)	42,916
Mining rights		604,703	-	(34,062)	(528,251)	42,390
Development expenditures		958,035	(5,043)	(862,850)	(19)	90,123
Intangible assets under						
development		79,862	(7,203)	-	(12,844)	59,815
Usage rights of donated assets and						
others		592,930	-	(408,455)	-	184,475
Leasehold rights		27,843	-	(21,503)	-	6,340
Greenhouse gas emissions rights		61,373	-	-	-	61,373
Others		566,200	(75)	(137,843)	(12,011)	416,271
	₩	3,769,026	(12,457)	(2,138,536)	(562,303)	1,055,730

21. Intangible Assets other than Goodwill, Continued

(2) Changes in intangible assets for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won				March 3	1, 2021		
	-	Beginning balance	Acquisition	Disposal	Amortization	Others	Ending balance
Software	₩	152,163	1,997		(19,886)	16,210	150,484
(Government grants) Copyrights, patents rights		(136)	-	-	19	-	(117)
and other industrial rights		42,916	26	(37)	(1,913)	(298)	40,694
Mining rights		42,390	-	-	(711)	2,013	43,692
Development expenditures		95,166	10	-	(10,138)	13,510	98,548
(Government grants) Intangible assets under		(5,043)	-	-	358	-	(4,685)
development		67,018	9,979	-	-	(15,638)	61,359
(Government grants) Usage rights of donated		(7,203)	-	-	-	(22)	(7,225)
assets and others		184,475	-	-	(4,665)	(274)	179,536
Leasehold rights Greenhouse gas emissions		6,340	-	-	(208)	-	6,132
rights		61,373	44	-	-	4,736	66,153
Others		416,346	402	-	(6,334)	4,886	415,300
(Government grants)	_	(75)		-	1		(74)
	₩_	1,055,730	12,458	(37)	(43,477)	25,123	1,049,797

In millions of won				D	ecember 31, 202	20		
	-	Beginning balance	Acquisition	Disposal	Amortization	Impairment	Others	Ending balance
Software	₩	164,995	14,101	-	(77,501)	-	50,568	152,163
(Government grants) Copyrights, patents rights		(235)	-	-	99	-	-	(136)
and other industrial rights		53,261	369	(390)	(8,352)	-	(1,972)	42,916
Mining rights		43,723	1,664	-	(4,380)	-	1,383	42,390
Development expenditures		93,843	10,273	-	(32,034)	-	23,084	95,166
(Government grants) Intangible assets under		(1,492)	-	-	1,453	-	(5,004)	(5,043)
development		60,490	53,638	-	-	(23)	(47,087)	67,018
(Government grants) Usage rights of donated		(11,029)	-	-	-	-	3,826	(7,203)
assets and others		193,161	-	-	(18,448)	-	9,762	184,475
Leasehold rights Greenhouse gas emissions		5,318	-	-	(831)	-	1,853	6,340
rights		41,656	37,109	(9,271)	-	-	(8,121)	61,373
Others		426,364	3,217	(46)	(30,476)	(3,576)	20,863	416,346
(Government grants)	-	(79)	<u> </u>	<u> </u>	4	<u> </u>	<u> </u>	(75)
	₩	1,069,976	120,371	(9,707)	(170,466)	(3,599)	49,155	1,055,730

21. Intangible Assets other than Goodwill, Continued

(3) Significant specific intangible assets as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won and thousands of Australian dollars

March 31, 2021							
Туре	Description	Currency	Amount	Remaining useful lives			
Software	ERP system and others	KRW	11	1 month			
Copyrights, patents rights and other	Smart technology verification and standard design project conducting right	KRW	3,702	1 year 6 months			
industrial rights	Contributions to ARP NRC DC	KRW	28,176	6 years 9 months			
Mining rights	Mining rights of Bylong mine	AUD	-	- (*)			
Development expenditures	Electricity sales information system	KRW	6,466	11 months			
Usage rights of donated	Sejong Haengbogdosi sharing charge	KRW	25,713	5 years and 8 months			
assets and others	Right of use electricity and gas supply facility (Community district of Songdo)	KRW	9,753	9 years and 3 months			
Others	Occupancy and use of public waters	KRW	85,682	15 years and 10 months			
	Greenhouse gas emissions rights	KRW	66,153	-			
	Business rights	KRW	164,770	28 years and 8 months			

(*) The carrying amount of mining rights is nil, because KEPCO Australia Pty., Ltd. and KEPCO Bylong Australia Pty., Ltd. had recognized impairment losses in full.

In millions of won and thousands of Australian dollars

December 31, 2020								
Туре	Description	Currency	Amount	Remaining useful lives				
Software	ERP system and others	KRW	81	2 months ~ 4 months				
Copyrights, patents rights and other	Smart technology verification and standard design project conducting right	KRW	4,936	1 year 9 months				
industrial rights	Contributions to ARP NRC DC	KRW	29,219	7 years				
Mining rights	Mining rights of Bylong mine	AUD	-	- (*)				
Development expenditures	Electricity sales information system	KRW	8,229	1 year and 2 months				
Usage rights of donated	Sejong Haengbogdosi sharing charge	KRW	26,847	5 years and 11 months				
assets and others	Dangjin power plant load facility usage right	KRW	1,574	3 months				
	Right of use electricity and gas supply facility (Community district of Songdo)	KRW	10,016	9 years and 6 months				
Others	Occupancy and use of public waters	KRW	87,035	16 years and 1 month				
	Greenhouse gas emissions rights	KRW	61,373	-				
	Business rights	KRW	166,207	28 years and 11 months				

(*) The carrying amount of mining rights is nil, because KEPCO Australia Pty., Ltd. and KEPCO Bylong Australia Pty., Ltd. had recognized impairment losses in full.

(4) For the three-month periods ended March 31, 2021 and 2020, the Group recognized research and development expenses of W151,750 million and W154,470 million, respectively.

22. Trade and Other Payables

Trade and other payables as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won		March 31	l, 2021	December 31, 2020		
		Current	Non-current	Current	Non-current	
Trade payables	₩	2,739,197	-	2,606,861	-	
Non-trade payables		1,363,061	2,336,893	1,785,068	2,324,965	
Accrued expenses		1,104,265	2,147	1,197,815	2,038	
Leasehold deposits received		2,395	943	2,336	943	
Other deposits received		83,929	67,137	83,505	67,645	
Lease liabilities		606,755	4,007,281	576,665	4,044,431	
Dividends payable		815,401	-	4,271	-	
Others (*)			40,915		40,390	
	₩	6,715,003	6,455,316	6,256,521	6,480,412	

(*) Details of others as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won		March 31,	2021	December 31, 2020		
	_	Current	Non-current	Current	Non-current	
Advance received from local governments Others	₩		4,278	- -	4,278 36,112	
	₩	-	40,915	<u> </u>	40,390	

23. **Borrowings and Debt Securities**

(1) Borrowings and debt securities as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won	_	March 31, 2021	December 31, 2020
Current liabilities			
Short-term borrowings	₩	1,630,048	1,436,922
Current portion of long-term borrowings		680,088	677,982
Current portion of debt securities		9,446,831	8,565,301
Less: Current portion of discount on long-term borrowings		(1,758)	(1,723)
Less: Current portion of discount on debt securities	_	(3,346)	(3,677)
	_	11,751,863	10,674,805
Non-current liabilities			
Long-term borrowings		2,941,772	3,018,898
Debt securities		55,089,558	56,188,234
Less: Discount on long-term borrowings		(15,455)	(14,899)
Less: Discount on debt securities		(146,917)	(143,823)
Add: Premium on debt securities	_	1,236	1,366
	-	57,870,194	59,049,776
	₩	69,622,057	69,724,581

(2) Repayment schedule of borrowings and debt securities as of March 31, 2021 and December 31, 2020 are as follows:

₩

In millions of won

	March 31	, 2021	
Туре		Borrowings	Debt Securities
Less than 1 year	W	2,310,136	9,446,831
1~ 5 years		1,781,922	38,394,862
Over 5 years		1,159,850	16,694,696
	₩	5,251,908	64,536,389
In millions of won	December	31 2020	
Туре		Borrowings	Debt Securities
Less than 1 year	₩	2,114,904	8,565,301
1~ 5 years		1,564,252	28,746,117
Over 5 years		1,454,646	27,442,117

64,753,535

5,133,802

23. Borrowings and Debt Securities, Continued

(3) Short-term borrowings as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won and thousands of foreign currencies

	5	March 31, 2021			
Туре	Creditor	Interest rate (%)	Maturity	Foreign currency	Local currency
Local short-term borrowings	DB financial investment and others	0.53 ~ 4.60	2021.04.02 ~ 2021.12.31	- W	1,121,705
Electronic short-term bonds	KB Securities and others	0.81 ~ 0.94	2021.04.26 ~ 2021.05.26	-	330,000
Foreign short-term borrowings	Shinhan Bank	0.41 ~ 0.44	2021.04.05~20 21.06.28	USD 51,664	58,561
Foreign short-term borrowings (*)	Korea Development Bank and others	1M Libor + 1.25	2022.04.29	USD 91,057	103,212
Foreign short-term borrowings	DBS Bank	0.50	2021.09.17	USD 14,618	16,570
				W	1,630,048

(*) The contractual maturity is 2022 but is classified as short-term borrowing due to intention of early redemption in 3 months after borrowing.

In millions of won and thousands of foreign currencies

Tupo	Creditor	laterest rate (9/)	Moturity	Foreign	Local
Туре	Creditor	Interest rate (%)	Maturity	currency	currency
Local short-term borrowings	DB financial investment and others	0.80 ~ 4.60	2021.01.05 ~2021.12.31	- W	580,004
Electronic short-term bonds	KB Securities and others	0.75 ~ 1.35	2021.01.13 ~2021.03.18	-	470,000
Foreign short-term borrowings	Shinhan Bank	0.71 ~ 0.74	2021.01.04 ~2021.03.31	USD 55,393	60,268
Foreign short-term borrowings (*)	Korea Development Bank and others	1M Libor + 1.25	2022.04.29	USD 73,704	81,290
Local bank overdraft	Woori Bank	Standard overdraft rate + 1.26	2021.02.26	-	29,960
Local bank overdraft	Korea Development Bank and others	1.42 ~ 1.88	2021.01.07 ~ 2021.04.26	-	215,400
				₩	1,436,922

(*) The contractual maturity is 2022 but is classified as short-term borrowing due to intention of early redemption in 3 months after borrowing.

23. Borrowings and Debt Securities, Continued

(4) Long-term borrowings as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won and thousands of foreign currencies

March 31, 2021 Foreign Local Туре Interest rate (%) Maturity currency currency Local long-term borrowings Korea Development Others 0.50 2021~2044 - 14/ 2.837 Bank Facility 2.50~4.60 2021~2028 47,590 Operating funds 2.33 2022 20,000 Operating funds 1yr KoFC bond rate 2022~2023 24,300 + 0.81~0.95 **Commercial Paper** 3M CD+0.13~0.32 2021~2024 1,150,000 Hana Bank Facility 4.60 2028 10,734 Facility 3yr KTB rate-1.25 2021~2035 17,325 Standard overdraft rate+1.50~2.45 IBK PF Refinancing CD+1.25 2030 9,304 Export-Import Bank of Project loans 1.50 2026 16,204 Korea Facility 1.32 2028 -32,000 Operating funds 1.78 2023 15,700 Korea Energy Agency Development of power 3yr KTB rate-2.25 2023~2025 2,249 resources Facility 3yr KTB rate-2.25 2021~2024 1,394 Project loans 2023 1,197 Others KTB rate-2.25 2024~2028 13.632 Shinhan Bank and others Facility CB rate+1.10 2028 16,101 Others 3.95 2034 88,006 Others Standard overdraft 2034 88,006 rate+1.00 Kookmin Bank Facility MOR+0.79 2021~2031 49,382 3M CD+1.79 Others Facility 440.096 2026~2037 $1.75 \sim 6.80$ Facility CB rate+1.10~1.20 2023~2037 84,268 3M CD+1.60 Standard overdraft rate+1.50 PF Refinancing 4.10 2030 25,844 3.90~7.90 Others 2023~2039 222,541 2,378,710 Foreign long-term borrowings Korea Energy Agency Project loans 2021~2023 USD 8,744 9,911 USD 96,044 108,866 1M Libor+1.80~3.20 Export-Import Bank Direct loan and others 2036 of Korea and others Direct loan and others 3M Libor+2.75~3.70 2027 JOD 132,228 211,397 PF Loan 6M Libor+1.70~2.50 2032 USD 108,461 122,941 Others 3.88 2021 USD 289,887 328,587 POSCO and others Shareholder's loan 8.00 2025 USD 12,900 14,622 Shareholder's loan 8.00 2031 JOD 4,853 7,759 Samsung Life Insurance Syndicated Loan JPY 4,392,932 45,130 3.10 2032 and others Woori Bank and others Syndicated Loan JPY 6M Libor+2.00 2032 JPY 2,833,750 29,112 IFC and others Others 6M Libor+5.00 USD 224,278 254,219 2031 Federal Financing Bank PF Loan 2.39~6.00 2031~2038 USD 97,579 110,606 and others 1,243,150 3,621,860 Less: Discount on long-term borrowings (17, 213)Less: Current portion of long-term borrowings (680,088) Add: Current portion of discount on long-term borrowings 1,758

₩ 2,926,317

23. Borrowings and Debt Securities, Continued

(4) Long-term borrowings as of March 31, 2021 and December 31, 2020 are as follows, continued:

In millions of won and thousands of foreign currencies

_				Foreign	Local
T	уре	Interest rate (%)	Maturity	currency	currency
.ocal long-term borrowings					
Corea Development	Others	0.50	2021~2044	- ₩	2,946
Bank	Facility	2.50~4.60	2021~2028	-	50,293
	Operating funds	2.33	2022	-	20,000
	Operating funds	1yr KoFC bond rate	2022~2023	-	24,300
	opolating lando	+ 0.81~0.95	2022 2020		2.,000
ana Bank	Commercial Paper	3M CD+0.13~0.32	2021~2024	-	1,150,000
	Facility	4.60	2028	-	11,088
	Facility	3yr KTB rate-1.25	2021~2035	-	43,419
	. aonty	Standard overdraft	2021 2000		107117
		rate+1.50~2.45			
βK	PF Refinancing	CD+1.25	2030	-	9,543
xport-Import Bank of	Project loans	1.50	2026	-	16,204
Korea	Facility	1.32	2028		32,000
tor ca	Operating funds	1.78	2023		15,700
orea Energy Agency	Development of power	3yr KTB rate-2.25	2023~2025	-	2,509
Agency	resources	Jyi Kidiate-2.20	2023~2023	-	2,509
	Facility	3yr KTB rate-2.25	2021~2024		1,527
	Project loans	Syn KID Tate-2.25	2021~2024	-	1,197
	,	- KTR rate 2.25	2023	-	
hinhan Dank	Others	KTB rate-2.25	2024~2028 2028	-	14,045
hinhan Bank	Facility	CB rate+1.10		-	16,632
	Others	3.95	2034	-	89,257
	Others	Standard overdraft	2034	-	89,257
- Insta Develo	E 114	rate+1.00	0001 0001		44 546
ookmin Bank	Facility	MOR+0.79	2021~2031	-	46,512
U	E 114	3M CD+1.79	000/ 0007		F10 0/6
thers	Facility	1.75~6.80	2026~2037	-	510,262
	Facility	CB rate+1.10~1.20	2023~2037	-	89,506
		3M CD+1.60			
		Standard overdraft			
		rate+1.50~2.45			
	PF Refinancing	4.10	2030	-	26,509
	Others	3.90~7.90	2023~2039	-	222,356
					2,485,062
oreign long-term borrowing	as				
prea Energy Agency	Project loans	-	2021~2023	USD 8,744	9,513
kport-Import Bank	Direct loan and others	1M Libor+1.80~3.20	2036	USD 96,014	104,463
of Korea and others	Direct loan and others	3M Libor+2.75~3.70	2027	JOD 132,228	202,912
	PF Loan	6M Libor+1.70~2.50	2032	USD 111,225	121,013
	Others	3.88	2021	USD 289,509	314,986
OSCO and others	Shareholder's loan	8.00	2023	USD 14,061	15,298
	Shareholder's loan	8.00	2023	JOD 4,853	7,447
amsung Life Insurance	Syndicated Loan	3.10	2032	JPY 4,682,816	49,369
and others	Syndicated Eban	5.10	2032	51 1 4,002,010	47,507
oori Bank and others	Syndicated Loan	JPY 6M Libor+2.00	2032	JPY 3,020,746	31,847
C and others	Others	6M Libor+5.00	2032	USD 224,115	243,837
	PF Loan	2.39~6.00	2031~2038	USD 97,347	105,913
odoral Einancing Dank	FILUAII	2.39~0.00	2031~2030	030 97,347	105,913
•			-	USD 4,798	5 220
and others	Othoro				5,220
and others	Others	-	-	000 4,770	
and others	Others	-	-	000 4,770	1,211,818
and others thers		-	-	000 4,770	1,211,818 3,696,880
and others thers ess: Discount on long-term	n borrowings	-	-	000 4,770	1,211,818 3,696,880 (16,622)
others ess: Discount on long-term ess: Current portion of long	n borrowings	-	-	000 4,170	1,211,818 3,696,880 (16,622) (677,982) 1,723

₩ 3,003,999

23. Borrowings and Debt Securities, Continued

(5) Local debt securities as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won						
	Issue date	Maturity	Interest rate (%)		March 31, 2021	December 31, 2020
Electricity Bonds	2011.05.06 ~ 2020.11.04	2021.04.25 ~ 2049.10.24	1.02~4.58	₩	27,310,000	27,810,000
Corporate Bonds (*)	2009.10.16 ~ 2021.02.16	2021.04.12 ~ 2051.01.26	1.00~6.00		26,303,167	26,463,577
					53,613,167	54,273,577
Less: Discount on loc	al debt securities				(46,379)	(46,730)
Less: Current portion	of local debt securitie	S			(8,182,807)	(7,243,217)
Add: Current portion of	of discount on local de	ebt securities			1,926	2,108
				₩	45,385,907	46,985,738

(*) Among the corporate bonds, each holder of Hee mang sunlight Power Co., Ltd.'s private equity bonds, amounting to \U2,697 million, may exercise the right of early redemption on the 5th year (March 31, 2021) from the date of issuance of the bond and every year on March 31 thereafter, until the year before the redemption date.

(6) Foreign debt securities as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won and thousands of foreign currencies

		March 31, 2	2021		
Туре	Issue date	Maturity	Interest rate (%)	Foreign currency	Local currency
FY-96	1996.04.01~1996.12.06	2026.12.01~2096.04.01	6.00~7.95	USD 278,701₩	315,908
FY-97	1997.01.31~1997.08.04	2027.02.01~2027.08.01	6.75~7.00	USD 314,717	356,732
FY-04	2004.04.23	2034.04.23	5.13	USD 286,920	325,22
FY-11	2011.07.13	2021.07.13	4.75	USD 500,000	566,75
FY-12	2012.09.19	2022.09.19	3.00	USD 750,000	850,12
FY-14	2014.07.30	2029.07.30	3.57	USD 100,000	113,35
FY-15	2015.06.15	2025.06.15	3.25	USD 300,000	340,05
FY-16	2016.01.21	2021.07.21	2.50	USD 300,000	340,05
FY-17	2017.06.19~2017.07.25	2022.06.19~2027.07.25	2.63~3.13	USD 800,000	906,80
FY-17	2017.10.30	2037.10.30	1.70	EUR 40,000	53,13
FY-17	2017.11.16	2037.11.16	2.36	SEK 450,000	58,39
FY-18	2018.06.07~2018.07.25	2023.06.07~2023.07.25	3.75~3.88	USD 1,400,000	1,586,90
FY-18	2018.03.13	2028.03.13	3.35	HKD 1,650,000	240,55
FY-19	2019.01.22~2019.06.24	2022.01.22~2024.06.24	2.50~3.38	USD 800,000	906,80
FY-19	2019.02.27	2024.02.27	0.13	CHF 200,000	240,62
FY-19	2019.07.19	2024.07.19~2027.07.19	0.00~0.05	CHF 300,000	360,93
FY-19	2019.07.22	2022.07.22	2.38	USD 300,000	340,05
FY-19	2019.10.30	2024.10.30	3M BBSW+0.97	AUD 300,000	258,40
FY-19	2019.12.19	2037.12.31	3.30~5.70	USD 387,098	438,77
FY-20	2020.02.03	2025.02.03	2.13	USD 300,000	340,05
FY-20	2020.05.06	2025.05.06	1.75	USD 500,000	566,75
FY-20	2020.06.15	2025.06.15	1.13	USD 500,000	566,75
FY-20	2020.08.03	2026.02.03	1.00	USD 300,000	340,05
FY-21	2021.01.27	2026.01.27	0.75	USD 450,000	510,07
				-	10,923,22
ess: Discou	unt on foreign debt securities				(103,884
	im on foreign debt securities				1,23
	nt portion of foreign debt secur	ities			(1,264,024
	t portion of discount on foreigr				1,420

9,557,970 ₩

23. Borrowings and Debt Securities, Continued

(6) Foreign debt securities as of March 31, 2021 and December 31, 2020 are as follows, continued:

In millions of won and thousands of foreign currencies

December 31, 2020						
Туре	Issue date	Maturity	Interest rate (%)	Foreign currency	Local currency	
FY-96	1996.04.01~1996.12.06	2026.12.01~2096.04.01	6.00~7.95	USD 278,701₩	303,22	
FY-97	1997.01.31~1997.08.04	2027.02.01~2027.08.01	6.75~7.00	USD 314,717	342,41	
FY-04	2004.04.23	2034.04.23	5.13	USD 286,920	312,16	
FY-11	2011.07.13	2021.07.13	4.75	USD 500,000	544,00	
FY-12	2012.09.19	2022.09.19	3.00	USD 750,000	816,00	
FY-14	2014.07.30	2029.07.30	3.57	USD 100,000	108,80	
FY-15	2015.06.15	2025.06.15	3.25	USD 300,000	326,40	
FY-16	2016.01.21	2021.07.21	2.50	USD 300,000	326,4	
FY-17	2017.06.19~2017.07.25	2022.06.19~2027.07.25	2.63~3.13	USD 800,000	870,40	
FY-17	2017.10.30	2037.10.30	1.70	EUR 40,000	53,53	
FY-17	2017.11.16	2037.11.16	2.36	SEK 450,000	59,7	
FY-18	2018.01.29~2018.07.25	2021.01.29~2023.07.25	3.00~3.88	USD 1,800,000	1,958,4	
FY-18	2018.03.13	2028.03.13	3.35	HKD 1,650,000	231,5	
FY-19	2019.01.22~2019.06.24	2022.01.22~2024.06.24	2.50~3.38	USD 800,000	870,4	
FY-19	2019.02.27	2024.02.27	0.13	CHF 200,000	246,8	
FY-19	2019.07.19	2024.07.19~2027.07.19	0.00~0.05	CHF 300,000	370,2	
FY-19	2019.07.22	2022.07.22	2.38	USD 300,000	326,4	
FY-19	2019.10.30	2024.10.30	3M BBSW+0.97	AUD 300,000	250,9	
FY-19	2019.12.19	2037.12.31	3.30~5.70	USD 387,098	421,1	
FY-20	2020.02.03	2025.02.03	2.13	USD 300,000	326,4	
FY-20	2020.05.06	2025.05.06	1.75	USD 500,000	544,0	
FY-20	2020.06.15	2025.06.15	1.13	USD 500,000	544,0	
FY-20	2020.08.03	2026.02.03	1.00	USD 300,000	326,3	
				-	10,479,9	
ss: Discou	unt on foreign debt securities				(100,77	
	m on foreign debt securities				1,3	
	t portion of foreign debt secur	ities			(1,322,08	
	t portion of discount on foreigr				1,5	

₩ 9,060,039

(7) Changes in borrowings and debt securities for the three-month periods ended March 31, 2021 and 2020 are as follows:

In millions of won	-	March 31, 2021	March 31, 2020
Beginning balance	\mathbf{W}	69,724,581	67,876,541
Cash flow		(556,056)	519,362
Effect of exchange rate fluctuations		457,016	617,470
Others	_	(3,484)	(25,066)
Ending balance	₩ _	69,622,057	68,988,307

24. Lease

1) Group as a lessee

(1) Lease contracts

The Group applies the short-term leases recognition exemption to its lease contracts that have a lease term of 12 months or less from the commencement date, and recognized ₩5,917 million and ₩14,158 million respectively, as expense for the three-month periods ended March 31, 2021 and 2020. The Group also applies the leases of low-value assets recognition exemption to leases contracts with underlying assets considered to be low value (i.e., approximately less than ₩5 million), and recognized ₩423 million and ₩569 million respectively, as expense for the three-month periods ended March 31, 2021 and 2020. The Group has lease contracts for various items such as consecutive voyage charter contracts, power purchase agreements (PPA), real estate lease contracts including buildings, switchyard, and land for electric substation, vehicles, and other equipment.

(2) Right-of-use assets as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won		March 31, 2021				
	_	Acquisition cost	Accumulated depreciation	Book value		
Land	₩	810,740	(118,423)	692,317		
Buildings		86,336	(36,626)	49,710		
Structures		24,259	(4,057)	20,202		
Machinery		1,308	(645)	663		
Ships		4,280,331	(948,603)	3,331,728		
Vehicles		29,986	(15,880)	14,106		
Others (*)		2,687,826	(2,373,393)	314,433		
	₩	7,920,786	(3,497,627)	4,423,159		

(*) Including a power purchase agreement ("PPA") with CGN Yulchon Generation Co., Ltd.

In millions of won		December 31, 2020			
		Acquisition cost	Accumulated depreciation	Book value	
Land Buildings Structures Machinery Ships Vehicles Others (*)	₩	811,014 82,749 24,175 1,308 4,280,331 29,281 2,676,356	(104,435) (35,527) (3,689) (613) (842,968) (15,756) (2,360,060)	706,579 47,222 20,486 695 3,437,363 13,525 316,296	
	₩	7,905,214	(3,363,048)	4,542,166	

(*) Including power purchase agreements ("PPA") with GS EPS and two other LNG combined power supplier.

24. Lease, Continued

(3) Changes in right-of-use assets for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won		March 31, 2021						
	_	Beginning balance	Increase	Depreciation	Decrease	Others	Ending balance	
Land	₩	706,579	1,462	(14,089)	-	(1,635)	692,317	
Buildings		47,222	9,965	(8,495)	(198)	1,216	49,710	
Structures		20,486	-	(284)	-	-	20,202	
Machinery		695	-	(32)	-	-	663	
Ships		3,437,363	-	(105,635)	-	-	3,331,728	
Vehicles		13,525	3,028	(2,071)	-	(376)	14,106	
Others	-	316,296	12,164	(16,406)		2,379	314,433	
	₩	4,542,166	26,619	(147,012)	(198)	1,584	4,423,159	

In millions of won		December 31, 2020						
	-	Beginning balance	Increase	Depreciation	Decrease	Others	Ending balance	
Land	₩	644,074	12,269	(52,069)	-	102,305	706,579	
Buildings		34,577	53,182	(37,609)	(803)	(2,125)	47,222	
Structures		25,644	260	(1,485)	-	(3,933)	20,486	
Machinery		824	-	(129)	-	-	695	
Ships		3,688,289	183,789	(427,221)	-	(7,494)	3,437,363	
Vehicles		13,708	9,009	(7,747)	(21)	(1,424)	13,525	
Others	_	376,457	32,825	(59,994)	(3)	(32,989)	316,296	
	₩	4,783,573	291,334	(586,254)	(827)	54,340	4,542,166	

24. Lease, Continued

(4) Lease liabilities as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won	-	March 31, 2021	December 31, 2020
Less than 1 year	₩	637,759	614,442
1 ~ 5 years		2,166,057	2,133,538
More than 5 years		2,386,815	2,461,557
-		5,190,631	5,209,537
Less: Discount	_	(576,595)	(588,441)
Present value of lease payment	₩ _	4,614,036	4,621,096

(5) The details of the liquidity classification of lease liabilities as March 31, 2021 and December 31, 2020 are as follows:

In millions of won	-	March 31, 2021	December 31, 2020
Current lease liabilities Non-current lease liabilities	₩	606,755 4,007,281	576,665 4,044,431
	₩	4,614,036	4,621,096

(6) Changes in lease liabilities for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won				March 3	1, 2021		
	_	Beginning balance	Increase	Decrease	Interest expenses	Others (*)	Ending balance
Lease liabilities	₩	4,621,096	21,077	(197,609)	23,534	145,938	4,614,036
In millions of won				December	31, 2020		
	_	Beginning balance	Increase	Decrease	Interest expenses	Others (*)	Ending balance
Lease liabilities	₩	5,070,133	280,114	(725,759)	111,782	(115,174)	4,621,096

(*) Including translation effect of foreign currency lease liabilities and others.

24. Lease, Continued

(7) Details of expense relating to lease contracts as lessee for the three-month periods ended March 31, 2021 and 2020 are as follows:

In millions of won	_	March 31, 2021	March 31, 2020
Depreciation of right-of-use assets	₩	147,012	148,636
Interest expenses of lease liabilities		23,534	30,446
Leases expenses for short-term leases		5,917	14,158
Leases expenses for leases of low-value assets		423	569
Variable lease payments	_	21,573	10,863
	₩	198,459	204,672

(8) The total cash outflow related to the lease contracts, including cash outflows due to short-term leases and leases of low-value asset, amounts to \\$225,522 million and \\$255,903 million, for the three-month periods ended March 31, 2021 and 2020, respectively.

24. Lease, Continued

2) Group as a lessor

(1) Finance lease contracts

The Group entered into power purchase agreements ("PPA") with Jordan Electric Power Company to provide a 373MW level Qatrana gas combined power plant over a 25-year lease term, and an 89.1MW level Fujeij wind power plant over a 20-year lease term. Also, the Group has provided fly-ash pipe conduit as finance leases with an average lease term of 7 years. In addition, the Group provides 28 energy storage system installation projects and 118 energy efficiency contracts as finance leases with a lease term of 2 to 10 years. Also, the Group entered into a PPA with the Comission Federal de Electricidad in Mexico to provide for 25 years (from December 2013 to November 2038) all electricity generated from the power plant after completion of its construction and collect rates consisting of fixed costs (to recover the capital) and variable costs during the contracted period.

(2) Profit and loss related to finance lease for the three-month periods ended March 31, 2021 and 2020 are as follows:

In millions of won		March 31, 2021	March 31, 2020
Finance income on the net investment in the lease	\\\/	28.168	30,846

(3) Maturity analysis of the lease payments receivable and reconciliation of the undiscounted lease payments to the net investment in the lease as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won	—	March 31, 2021	December 31, 2020
Less than 1 year	W	165,515	162,211
1 ~ 2 years		155,712	148,485
2 ~ 3 years		150,383	144,913
3 ~ 4 years		146,820	139,605
4 ~ 5 years		143,249	136,962
More than 5 years		1,615,039	1,583,576
		2,376,718	2,315,752
Less: Unearned finance income	_	(1,217,179)	(1,192,686)
Net investment in the lease (*)	₩	1,159,539	1,123,066

(*) Including the present value of unguaranteed residual value amounting to ₩17,485 million and ₩16,407 million, as of March 31, 2021 and December 31, 2020, respectively.

The implicit interest rate for a lease term is determined on the lease contract date. The implicit interest rate of the finance lease contracts is from 1.39% up to 16.60% per year as of March 31, 2021. (prior year : 1.39% ~ 16.60%)

(4) Changes in the allowance for doubtful accounts of finance lease receivables for the March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won	Marc	h 31, 2021	December 31, 2020
Beginning balance	₩	990	862
Bad debt expense		220	128
Ending balance	₩	1,210	990

25. Employment Benefits

(1) Employment benefit obligations as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won	March 31, 2021	December 31, 2020
Net defined benefit asset ₩	922	7,231
Net defined benefit obligations	1,886,912	1,907,013
Other long-term employee benefit obligations	3,672	3,847

(2) Principal assumptions on actuarial valuation as of March 31, 2021 and December 31, 2020 are as follows:

	March 31, 2021	December 31, 2020
Discount rate	2.13% ~ 2.38%	1.87% ~ 2.12%
Future salary and benefit levels	4.28%	4.28%
Weighted average duration	10.50 years	10.77 years

(3) Details of expense relating to defined benefit plans for the three-month periods ended March 31, 2021 and 2020 are as follows:

In millions of won		March 31, 2021	March 31, 2020	
Current service cost	W	128,629	114,569	
Interest cost		21,806	19,458	
Expected return on plan assets		(12,896)	(10,351)	
Past service cost		<u> </u>	(2,027)	
	₩	137,539	121,649	

Expenses described above are recognized in those items below in the consolidated financial statements.

In millions of won		March 31, 2021	March 31, 2020	
Cost of sales	₩	101,701	90,066	
Selling and administrative expenses		21,714	18,892	
Others (Construction-in-progress and others)		14,124	12,691	
	₩	137,539	121,649	

In addition, for the three-month periods ended March 31, 2021 and 2020, employee benefit obligations expenses of W16,354 million and W11,687 million, respectively, are recognized as cost of sales, and W2,984 million and W253 million, respectively, are recognized as selling and administrative expenses, and W3,119 million and W2,381 million, respectively, are recognized as construction-in-progress and others, relates to the Group's defined contribution plans.

25. Employment Benefits, Continued

(4) Details of defined benefit obligations as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won	_	March 31, 2021	December 31, 2020
Present value of defined benefit obligation from funded plans	₩	4,526,799	4,570,614
Fair value of plan assets	_	(2,640,809)	(2,670,832)
Net liabilities incurred from defined benefit plans	₩	1,885,990	1,899,782

(5) Changes in the present value of defined benefit obligations for three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won	_	March 31, 2021	December 31, 2020
Beginning balance	₩	4,570,614	4,035,400
Current service cost		128,629	509,520
Interest cost		21,806	83,248
Remeasurement component		(109,621)	84,385
Past service cost		-	(2,027)
Actual payments		(84,648)	(139,956)
Others	_	19	44
Ending balance	₩.	4,526,799	4,570,614

(6) Changes in the fair value of plan assets for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won		March 31, 2021	December 31, 2020
Beginning balance	₩	2,670,832	2,111,313
Expected return		12,896	42,742
Remeasurement component		(878)	(390)
Contributions by the employers		673	582,275
Actual payments		(42,714)	(65,108)
Ending balance	₩	2,640,809	2,670,832

In addition, loss on accumulated remeasurement component amounting to ₩39,893 million and ₩169,234 million has been recognized as other comprehensive income or loss for the three-month period ended March 31, 2021 and for the year ended December 31, 2020, respectively.

25. Employment Benefits, Continued

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

	•	•	
In millions of won		March 31, 2021	December 31, 2020
Equity instruments	W	352,568	253,358
Debt instruments		891,191	822,582
Bank deposit		140,082	284,655
Others	_	1,256,968	1,310,237
	₩	2,640,809	2,670,832

For the three-month period ended March 31, 2021 and for the year ended December 31, 2020, actual returns on plan assets amounted to W12,018 million and W42,352 million, respectively.

(8) Remeasurement component recognized in other comprehensive income (loss) for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won	_	March 31, 2021	December 31, 2020
Actuarial gain from changes in financial assumptions	₩	(112,315)	(2,979)
Experience adjustments, etc.		2,694	87,364
Expected return	_	878	390
	₩	(108,743)	84,775

Remeasurement component recognized as other comprehensive income or loss is included in retained earnings.

26. Provisions

(1) Provisions as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won		March 31, 2021		December 31, 2020	
	_	Current	Non-current	Current	Non-current
Employment benefits					
Provisions for employment benefits	₩	1,109,945	-	1,024,574	-
Litigation					
Litigation provisions		40,567	65,454	46,287	66,715
Decommissioning cost					
Nuclear plants		-	17,054,931	-	16,974,884
Spent fuel		482,092	871,589	487,529	866,472
Radioactive waste		59,044	1,841,771	46,369	1,845,244
PCBs		-	117,310	-	119,019
Other recovery provisions		-	26,317	-	25,840
Others					
Power plant regional support program		186,728	-	144,272	-
Transmission regional support program		180,094	-	96,895	-
Provisions for financial guarantee		21,056	72,459	22,250	44,104
Provisions for RPS		21,863	-	9,126	-
Provisions for greenhouse gas emissions					
obligations		419,016	-	393,121	-
Others	_	171,667	136,046	181,241	133,294
	₩	2,692,072	20,185,877	2,451,664	20,075,572

(2) Changes in provisions for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won		March 31, 2021					
	-	Beginning balance	Increase in provision	Payment	Reversal	Others	Ending balance
Employment benefits							
Provisions for employment benefits	₩	1,024,574	288,355	(202,990)	-	6	1,109,945
Litigation							
Litigation provisions		113,002	2,713	(7,394)	(2,300)	-	106,021
Decommissioning cost							
Nuclear plants		16,974,884	94,033	(13,986)	-	-	17,054,931
Spent fuel		1,354,001	84,652	(84,972)	-	-	1,353,681
Radioactive waste		1,891,613	10,300	(1,098)	-	-	1,900,815
PCBs		119,019	545	(2,254)	-	-	117,310
Other recovery provisions		25,840	126	-	-	351	26,317
Others							
Power plant regional support program		144,272	44,228	(7,140)	-	5,368	186,728
Transmission regional support program		96,895	106,734	(23,535)	-	-	180,094
Provisions for financial guarantee		66,354	28,753	(1,722)	(134)	264	93,515
Provisions for RPS		9,126	114,727	(101,990)	-	-	21,863
Provisions for greenhouse gas							
emissions obligations		393,121	56,413	-	(30,518)	-	419,016
Others	-	314,535	3,720	(7,716)	(3,445)	619	307,713
	₩_	22,527,236	835,299	(454,797)	(36,397)	6,608	22,877,949

26. Provisions, Continued

(2) Changes in provisions for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows, continued:

In millions of won		December 31, 2020							
	-	Beginning balance	Increase in provision	Payment	Reversal	Others	Ending balance		
Employment benefits									
Provisions for employment benefits	₩	975,619	1,078,382	(1,028,218)	-	(1,209)	1,024,574		
Litigation									
Litigation provisions		88,398	81,990	(34,662)	(22,724)	-	113,002		
Decommissioning cost									
Nuclear plants		15,994,039	1,028,580	(47,735)	-	-	16,974,884		
Spent fuel		1,355,280	394,642	(395,921)	-	-	1,354,001		
Radioactive waste		1,888,082	71,529	(67,998)	-	-	1,891,613		
PCBs		152,981	3,017	(14,839)	(22,140)	-	119,019		
Other recovery provisions		10,773	15,280	-	-	(213)	25,840		
Others									
Power plant regional support program		140,133	39,445	(42,935)	-	7,629	144,272		
Transmission regional support program		139,785	151,796	(194,686)	-	-	96,895		
Provisions for tax		-	-	(24)	25	(1)	-		
Provisions for financial guarantee		81,357	11,303	(20,962)	(5,317)	(27)	66,354		
Provisions for RPS		2,889	494,199	(487,962)	-	-	9,126		
Provisions for greenhouse gas									
emissions obligations		682,459	331,684	(633,482)	65,389	(52,929)	393,121		
Others	_	158,974	210,051	(48,919)	(4,593)	(978)	314,535		
	₩	21,670,769	3,911,898	(3,018,343)	10,640	(47,728)	22,527,236		
	=	2.18.01107	3,711,070	(0,010)	. 5,610	(,120)	22,827,200		

27. Government Grants

(1) Government grants as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won		March 31, 2021	December 31, 2020
Land	w	(23,474)	(23,475)
Buildings		(55,943)	(57,231)
Structures		(177,330)	(180,009)
Machinery		(153,163)	(157,785)
Vehicles		(535)	(632)
Equipment		(201)	(227)
Tools		(183)	(239)
Construction-in-progress		(95,723)	(79,126)
Investment properties		(29)	(29)
Software		(117)	(136)
Development expenditures		(4,685)	(5,043)
Intangible assets under development		(7,225)	(7,203)
Other intangible assets		(74)	(75)
	₩.	(518,682)	(511,210)

27. Government Grants, Continued

(2) Changes in government grants for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won	-	Beginning balance	Receipt	Acquisition	March 31, 2021 Offset the items of depreciation expense and others	Disposal	Others	Ending balance
Cash	₩	-	(16,757)	-	-	-	16,757	-
Land		(23,475)	-	-	-	1	-	(23,474)
Buildings		(57,231)	-	-	1,288	-	-	(55,943)
Structures		(180,009)	-	-	2,370	326	(17)	(177,330)
Machinery		(157,785)	-	-	4,417	71	134	(153,163)
Vehicles		(632)	-	-	171	-	(74)	(535)
Equipment		(227)	-	-	29	-	(3)	(201)
Tools		(239)	-	-	56	-	-	(183)
Construction-in-progress		(79,126)	-	64	-	-	(16,661)	(95,723)
Investment properties		(29)	-	-	-	-	-	(29)
Software		(136)	-	-	19	-	-	(117)
Development expenditures Intangible assets under		(5,043)	-	-	358	-	-	(4,685)
development		(7,203)	-	-	-	-	(22)	(7,225)
Other intangible assets	-	(75)	-		1			(74)
	₩_	(511,210)	(16,757)	64	8,709	398	114	(518,682)

In millions of won				D	ecember 31, 202	0		
		Beginning balance	Receipt	Acquisition	Offset the items of depreciation expense and others	Disposal	Others	Ending balance
Cash	₩	-	(41,209)	-	-	-	41,209	-
Land		(21,817)	-	-	-	2	(1,660)	(23,475)
Buildings		(61,920)	-	-	5,206	-	(517)	(57,231)
Structures		(186,554)	-	-	9,526	2,032	(5,013)	(180,009)
Machinery		(158,907)	-	-	17,468	496	(16,842)	(157,785)
Vehicles		(2,275)	-	-	2,064	4	(425)	(632)
Equipment		(241)	-	-	149	-	(135)	(227)
Tools		(403)	-	-	243	-	(79)	(239)
Construction-in-progress		(61,211)	-	8,783	-	-	(26,698)	(79,126)
Investment properties		(13)	-	-	1	-	(17)	(29)
Software		(235)	-	-	99	-	-	(136)
Development expenditures Intangible assets under		(1,492)	-	-	1,453	-	(5,004)	(5,043)
development		(11,029)	-	-	-	-	3,826	(7,203)
Other intangible assets	-	(79)	-		4	<u> </u>	-	(75)
	₩	(506,176)	(41,209)	8,783	36,213	2,534	(11,355)	(511,210)

28. Deferred Revenue

Deferred revenue for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows which are included in current and non-current non-financial liabilities in the consolidated statements of financial position:

In millions of won		March 31, 2021	December 31, 2020
Beginning balance	₩	9,868,189	9,201,538
Increase		260,292	1,310,128
Recognized as revenue		(161,314)	(643,477)
Ending balance	₩	9,967,167	9,868,189

29. Non-financial Liabilities

Non-financial liabilities as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won		March 31,	, 2021	December 31, 2020		
	_	Current	Non-current	Current	Non-current	
Advance received	₩	3,754,219	356,637	3,693,043	331,596	
Unearned revenue		40,381	6,058	35,068	6,122	
Deferred revenue		632,956	9,334,211	625,596	9,242,593	
Withholdings		391,406	4,942	257,059	9,909	
Others	_	1,480,126	84,513	1,360,684	71,721	
	₩	6,299,088	9,786,361	5,971,450	9,661,941	

30. Contributed Capital

(1) Details of shares issued as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won except share information

	March 31, 2021						
	Shares authorized	Shares issued	Par value per share (in won)	Owned by government (*)	Owned by others	Total	
Common shares	1,200,000,000	641,964,077	₩ 5,000	1,640,385	1,569,435	3,209,820	

(*) Korea Development Bank's interest of ₩1,056,176 million is included.

In millions of won except share information

	December 31, 2020						
	Shares authorized	Shares issued	Par v per s (in v	hare	Owned by government (*)	Owned by others	Total
Common shares	1,200,000,000	641,964,077	₩	5,000	1,640,385	1,569,435	3,209,820

(*) Korea Development Bank's interest of ₩1,056,176 million is included.

(2) Details in number of floating capital stock for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

March 31, 2021	December 31, 2020
641,964,077	641,964,077
641,964,077	641,964,077
	641,964,077

(3) Details of share premium as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won	_	March 31, 2021	December 31, 2020
Share premium	₩	843,758	843,758

31. Retained Earnings and Dividends Paid

(1) Details of retained earnings as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won		March 31, 2021	December 31, 2020	
Legal reserve (*)	₩	1,604,910	1,604,910	
Voluntary reserves		33,282,816	32,179,066	
Retained earnings before appropriations		15,616,196	17,349,625	
Retained earnings	₩	50,503,922	51,133,601	

(*) The KEPCO Act requires KEPCO to appropriate a legal reserve equal to at least 20 percent of net income for each accounting period until the reserve equals 50 percent of KEPCO's common stock. The legal reserve is not available for cash dividends; however, this reserve may be credited to paid-in capital or offset against accumulated deficit by the resolution of the shareholders.

(2) Details of voluntary reserves as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won	_	March 31, 2021	December 31, 2020
Reserve for investment on social overhead capital	₩	5,277,449	5,277,449
Reserve for research and human development (*)		330,000	330,000
Reserve for business expansion		27,465,367	26,361,617
Reserve for equalizing dividends		210,000	210,000
	₩	33,282,816	32,179,066

(*) The reserve for research and human development is appropriated by KEPCO to use as qualified tax credits to reduce corporate tax liabilities. The reserve is available for cash dividends for a certain period as defined by the Restriction of Special Taxation Act of Korea.

(3) Changes in retained earnings for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

51,133,601 85,716	49,202,133
85 716	1 001 017
,	1,991,347 3,181
	(62,857)
(780,628)	-
-	(203)
4,455	
50,503,922	51,133,601
	(1,552) 62,330 (780,628) 4,455

31. Retained Earnings and Dividends Paid, Continued

(4) Dividends paid for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won	Number of shares issued	Number of treasury stocks			nds paid share won)	Dividends paid
Common shares	641,964,077	-	641,964,077	₩	1,216	780,628
In millions of won			December 31, 2020			
	Number of shares issued	Number of treasury stocks	Number of shares eligible for dividends	Dividends paid per share (In won)		Dividends pald
Common shares	641,964,077	-	641,964,077	₩	-	-

(5) Changes in retained earnings of investments in associates and joint ventures for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won	_	March 31, 2021	December 31, 2020
Beginning balance	₩ —	361	(2,820)
Changes		(1,552)	3,181
Ending balance		(1,191)	361

(6) Changes in remeasurement components related to defined benefit liability for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won	_	March 31, 2021	December 31, 2020
Beginning balance	₩-	(169,234)	(117,779)
Changes		104,843	(77,828)
Income tax effect		(42,513)	14,971
Transfer to reserve for business expansion		67,011	11,402
Ending balance	₩	(39,893)	(169,234)

32. Hybrid Bonds

Hybrid bonds classified as equity (non-controlling interest) as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won	Hybrid bond	Issued date	Maturity	Yield (%)		March 31, 2021	December 31, 2020
Korea South-East Power Co., Ltd. Korea South-East	1st hybrid bond	2012.12.07	2042.12.06	4.38	₩	170,000	170,000
Power Co., Ltd. Expense of issuance	2nd hybrid bond	2012.12.07	2042.12.06	4.44		230,000 (1,090)	230,000 (1,090)
					₩.	398,910	398,910

Although these instruments have contractual maturity dates, the contractual agreements allow these subsidiaries to indefinitely extend the maturity dates and defer the payment of interest without modification to the other terms of the instruments. When the Group decides not to pay dividends on ordinary shares, they are not required to pay interest on the hybrid bonds.

Substantially, as these instruments have no contractual obligation to pay principal and interest, these instruments have been classified as equity (non-controlling interest) in the Group's consolidated financial statements.

33. Other Components of Equity

(1) Other components of equity of the parent as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won	_	March 31, 2021	December 31, 2020
Other capital surplus Accumulated other comprehensive income (loss) Other equity	₩	1,223,716 (255,408) 13,294,973	1,224,105 (409,577) 13,294,973
	₩	14,263,281	14,109,501

(2) Changes in other capital surplus for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won			March 31, 2021		December 31, 2020			
		Gains on disposal of treasury stocks	Others	Subtotal	Gains on disposal of treasury stocks	Others	Subtotal	
Beginning balance Issuance of share	₩	387,524	836,581	1,224,105	387,524	838,840	1,226,364	
capital of subsidiary Others		-	(389)	(389)	-	(148) (2,111)	(148) (2,111)	
Ending balance	₩	387,524	836,192	1,223,716	387,524	836,581	1,224,105	

33. Other Components of Equity, Continued

(3) Changes in accumulated other comprehensive income (loss) for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won		March 31, 2021							
	-	Financial asset at fair value through other comprehensive income valuation reserve	Shares in other comprehensive income of investments in associates and joint ventures	Reserve for overseas operations translation credit	Reserve for gain (loss) on valuation of derivatives	Total			
Beginning balance Changes in the unrealized	₩	(101,132)	10,091	(340,930)	22,394	(409,577)			
fair value of financial assets at FVOCI, net of tax Shares in other comprehensive income of associates and		18,734	-	-	-	18,734			
joint ventures, net of tax		-	138,539	-	-	138,539			
Foreign currency translation of foreign operations, net of tax Net change in the unrealized fair value of derivatives using		-	-	7,085	-	7,085			
cash flow hedge accounting, net of tax Others	-	(4,455)		-	(5,734)	(5,734) (4,455)			
Ending balance	₩	(86,853)	148,630	(333,845)	16,660	(255,408)			

In millions of won				December 31, 2020		
	-	Financial asset at fair value through other comprehensive income valuation reserve	Shares in other comprehensive income (loss) of investments in associates and joint ventures	Reserve for overseas operations translation credit	Reserve for gain (loss) on valuation of derivatives	Total
Beginning balance Changes in the unrealized fair value of financial assets at	₩	(92,599)	142,896	(294,898)	(36,129)	(280,730)
FVOCI, net of tax Shares in other comprehensive income(loss) of associates and		(8,533)	-	-	-	(8,533)
joint ventures, net of tax Foreign currency translation		-	(132,805)	-	-	(132,805)
of foreign operations, net of tax Net change in the unrealized fair value of derivatives using cash flow hedge accounting, net		-		(46,032)	-	(46,032)
of tax	-	<u> </u>		<u> </u>	58,523	58,523
Ending balance	₩.	(101,132)	10,091	(340,930)	22,394	(409,577)

(4) Other equity as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won	-	March 31, 2021	December 31, 2020
Statutory revaluation reserve Changes in other equity	₩.	13,295,098 (125)	13,295,098 (125)
	₩_	13,294,973	13,294,973

34. Sales

Details of sales for the three-month periods ended March 31, 2021 and 2020 are as follows:

In millions of won			March 31, 2021		March 31, 2020			
	_	Domestic	Overseas	Total	Domestic	Overseas	Total	
[Type of goods a	nd serv	ices]						
Sales of goods	₩	14,569,101	116,119	14,685,220	14,550,236	62,609	14,612,845	
Electricity		14,277,666	-	14,277,666	14,304,384	-	14,304,384	
Heat supply		102,592	-	102,592	104,868	-	104,868	
Others Sales related to rendering of		188,843	116,119	304,962	140,984	62,609	203,593	
services Sales related to construction		54,122	43,553	97,675	52,233	67,992	120,225	
services Revenue related to transfer of assets from		25,804	105,287	131,091	28,006	179,415	207,421	
customers	_	161,314		161,314	152,636		152,636	
	₩	14,810,341	264,959	15,075,300	14,783,111	310,016	15,093,127	
[Timing of revent Performance obligations satisfied at a point in time	ue recoų ₩	gnition] 14,569,101	116,119	14,685,220	14,550,236	62,609	14,612,845	
Performance obligations satisfied over time		241,240	148,840	390,080	232,875	247,407	480,282	
over time	₩	·				· ·	· .	
	~~ =	14,810,341	264,959	15,075,300	14,783,111	310,016	15,093,127	

35. Selling and Administrative Expenses

Selling and administrative expenses for the three-month periods ended March 31, 2021 and 2020 are as follows:

In millions of won	-	March 31, 2021	March 31, 2020
Salaries	W	268,388	196,094
Retirement benefit expense		24,698	19,145
Welfare and benefit expense		31,007	28,128
Insurance expense		4,320	2,579
Depreciation		67,870	53,126
Amortization of intangible assets		23,697	17,322
Bad debt expense		(5,099)	18,477
Commission		78,655	108,417
Advertising expense		6,523	5,409
Training expense		729	983
Vehicle maintenance expense		1,960	2,097
Publishing expense		859	837
Business promotion expense		706	834
Rent expense		6,412	5,586
Telecommunication expense		2,249	2,195
Transportation expense		182	428
Taxes and dues		9,662	7,148
Expendable supplies expense		1,769	1,939
Water, light and heating expense		3,813	4,479
Repairs and maintenance expense		8,481	13,614
Ordinary development expense		47,203	41,970
Travel expense		2,989	3,458
Clothing expense		892	696
Survey and analysis expense		166	188
Membership fee		481	541
Others		25,208	30,108
	₩.	613,820	565,798

36. Other Income and Expenses

(1) Other income for the three-month periods ended March 31, 2021 and 2020 are as follows:

In millions of won	-	March 31, 2021	March 31, 2020
Reversal of other provisions	W	2,181	1,570
Reversal of other allowance for doubtful accounts		-	24
Gains on government grants		128	71
Gains on assets contributed		2,905	10,437
Gains on liabilities exempted		97	830
Compensation and reparations revenue		33,664	19,495
Revenue from research contracts		278	937
Rental income		50,531	46,867
Others		10,125	6,293
	₩.	99,909	86,524

(2) Other expenses for the three-month periods ended March 31, 2021 and 2020 are as follows:

In millions of won		March 31, 2021	March 31, 2020
Compensation and indemnification expense	W	300	313
Accretion expenses of other provisions		364	56
Depreciation expenses on investment properties		362	370
Depreciation expenses on idle assets		976	1,639
Other bad debt expense		3,780	35
Donations		6,469	11,143
Others		6,905	3,057
	₩	19,156	16,613

37. Other Gains (Losses)

Composition of other gains (losses) for the three-month periods ended March 31, 2021 and 2020 are as follows:

In millions of won		March 31, 2021	March 31, 2020
Other gains			
Gains on disposal of property, plant and equipment	₩	9,146	27,357
Gains on disposal of investment properties		-	34,423
Gains on foreign currency translation		9,456	12,018
Gains on foreign currency transaction		7,926	7,830
Gains on insurance proceeds		154	-
Others		61,768	61,244
Other losses			
Losses on disposal of property, plant and equipment		(8,420)	(7,786)
Losses on disposal of intangible assets		(37)	-
Losses on foreign currency translation		(3,615)	(8,581)
Losses on foreign currency transaction		(13,537)	(22,100)
Others		(43,331)	(42,465)
	₩.	19,510	61,940

38. Finance Income

Finance income for the three-month periods ended March 31, 2021 and 2020 are as follows:

In millions of won	-	March 31, 2021	March 31, 2020
Interest income	₩	53,983	66,506
Dividends income		2,363	42
Gains on disposal of financial assets		580	-
Gains on valuation of financial assets at fair value through profit or loss		2,047	6,225
Gains on valuation of derivatives		333,164	559,180
Gains on transaction of derivatives		39,675	39,897
Gains on foreign currency translation		72,056	124,239
Gains on foreign currency transactions		4,124	4,527
Other financial assets	_	863	149
	₩	508,855	800,765

39. Finance Expenses

Finance expenses for the three-month periods ended March 31, 2021 and 2020 are as follows:

In millions of won	_	March 31, 2021	March 31, 2020
Interest expense	₩	462,813	516,383
Losses on sale of financial assets		84	47
Losses on valuation of financial assets at fair value through profit or loss		2,059	225
Losses on valuation of derivatives		19,707	82,185
Losses on transaction of derivatives		15,512	11,981
Losses on foreign currency translation		530,132	808,759
Losses on foreign currency transaction		13,400	3,867
Other		1,149	589
	₩	1,044,856	1,424,036

Capitalization rates for the three-month periods ended March 31, 2021 and 2020 are 2.24%~4.36% and 2.50%~4.60%, respectively.

40. Income Taxes

Income tax expense is calculated by adjusting adjustments recognized in the current period, changes in deferred tax assets and liabilities resulting from temporary differences, and income tax expense related to items recognized as other than profit or loss. The average effective tax rate for the current and previous period is 64.64% and 63.02%, respectively.

41. Assets Held-for-Sale

Assets held-for-sale as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won		March 31, 2021	December 31, 2020
Buildings	₩	1	1
Others (*)			924
	₩	1	925

(*) As DG Fairhaven Power, LLC were sold during the three-month period ended March 31, 2021, the assets of DG Fairhaven Power, LLC were classified as assets held-for-sale as of December 31, 2020.

42. Expenses Classified by Nature

Expenses classified by nature for the three-month periods ended March 31, 2021 and 2020 are as follows:

In millions of won			March 31, 2021	
		Selling and administrative expenses	Cost of sales	Total
Raw materials used	₩	-	3,683,260	3,683,260
Salaries		268,388	1,026,692	1,295,080
Retirement benefit expense		24,698	118,055	142,753
Welfare and benefit expense		31,007	118,709	149,716
Insurance expense		4,320	25,768	30,088
Depreciation		67,870	2,833,435	2,901,305
Amortization of intangible assets		23,697	19,780	43,477
Bad debts expense		(5,099)	-	(5,099)
Commission		78,655	58,792	137,447
Advertising expense		6,523	1,208	7,731
Training expense		729	1,541	2,270
Vehicle maintenance expense		1,960	1,768	3,728
Publishing expense		859	677	1,536
Business promotion expense		706	814	1,520
Rent expense		6,412	25,355	31,767
Telecommunication expense		2,249	2,788	5,037
Transportation expense		182	5,975	6,157
Taxes and dues		9,662	91,606	101,268
Expendable supplies expense		1,769	9,202	10,971
Water, light and heating expense		3,813	10,278	14,091
Repairs and maintenance expense		8,481	475,216	483,697
Ordinary development expense		47,203	104,547	151,750
Travel expense		2,989	16,890	19,879
Clothing expense		892	1,760	2,652
Survey and analysis expense		166	704	870
Membership fee		481	5,296	5,777
Power purchase		-	4,998,938	4,998,938
Others		25,208	250,779	275,987
	₩	613,820	13,889,833	14,503,653

42. Expenses Classified by Nature, Continued

Expenses classified by nature for the three-month periods ended March 31, 2021 and 2020 are as follows, continued:

In millions of won			March 31, 2020	
		Selling and administrative expenses	Cost of sales	Total
Raw materials used	₩	-	3,790,815	3,790,815
Salaries		196,094	1,035,352	1,231,446
Retirement benefit expense		19,145	101,753	120,898
Welfare and benefit expense		28,128	112,575	140,703
Insurance expense		2,579	22,998	25,577
Depreciation		53,126	2,745,824	2,798,950
Amortization of intangible assets		17,322	20,793	38,115
Bad debts expense		18,477	-	18,477
Commission		108,417	114,978	223,395
Advertising expense		5,409	1,309	6,718
Training expense		983	2,019	3,002
Vehicle maintenance expense		2,097	1,805	3,902
Publishing expense		837	772	1,609
Business promotion expense		834	899	1,733
Rent expense		5,586	14,459	20,045
Telecommunication expense		2,195	2,747	4,942
Transportation expense		428	1,357	1,785
Taxes and dues		7,148	91,965	99,113
Expendable supplies expense		1,939	10,170	12,109
Water, light and heating expense		4,479	8,303	12,782
Repairs and maintenance expense		13,614	532,266	545,880
Ordinary development expense		41,970	112,500	154,470
Travel expense		3,458	16,382	19,840
Clothing expense		696	571	1,267
Survey and analysis expense		188	754	942
Membership fee		541	4,493	5,034
Power purchase		-	4,819,457	4,819,457
Others		30,108	529,459	559,567
	₩	565,798	14,096,775	14,662,573

43. **Earnings Per Share**

(1) Basic earnings per share for the three-month periods ended March 31, 2021 and 2020 are as follows:

In won				
	Туре		March 31, 2021	March 31, 2020
Basic earnings per share		₩	134	36

(2) Profit for the period and weighted average number of common shares used in the calculation of basic earnings per share for the three-month periods ended March 31, 2021 and 2020 are as follows:

In millions of won except number of shares

Туре		March 31, 2021	March 31, 2020
Net income attributable to controlling interest	₩	85,716	22,979
Profit used in the calculation of total basic earnings per share		85,716	22,979
Weighted average number of common shares		641,964,077	641,964,077

(3) Weighted average number of common shares used in the calculation of basic earnings per share for the three-month periods ended March 31, 2021 and 2020 are as follows:

In number of shares		
Туре	March 31, 2021	March 31, 2020
The number of common shares issued at beginning of the year	641,964,077	641,964,077
Weighted average number of common shares	641,964,077	641,964,077

(4) There are no potential dilutive instruments and diluted earnings per share are same as basic earnings per share for the threemonth periods ended March 31, 2021 and 2020.

44. Risk Management

(1) Capital risk management

The Group manages its capital to ensure that entities in the Group will be able to continue while maximizing the return to shareholder through the optimization of the debt and equity balance. The capital structure of the Group consists of net debt (offset by cash and cash equivalents) and equity. The Group's overall capital risk management strategy remains consistent with the prior year.

Details of the Group's capital management accounts as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won	-	March 31, 2021	December 31, 2020
Total borrowings and debt securities	₩	69,622,057	69,724,581
Cash and cash equivalents		1,953,723	2,029,584
Net borrowings and debt securities		67,668,334	67,694,997
Total equity		70,212,999	70,666,846
Debt to equity ratio		96.38%	95.79%

(2) Financial risk management

The Group is exposed to various risks related to its financial instruments, such as, market risk (currency risk, interest rate risk, price risk), and credit risk. The Group monitors and manages the financial risks relating to the operations of the Group through internal risk reports which analyze exposures by degree and magnitude of risks. The Group uses derivative financial instruments to hedge certain risk exposures. The Group's overall financial risk management strategy remains consistent with the prior year.

(i) Credit risk

Credit risk is the risk of finance loss to the Group if a customer or counterparty to a financial instrument fails to meet its contractual obligations, and arises primarily from the sales activities, securities and derivatives. In addition, credit risk exposure may exist within financial guarantees and unused line of credits. As these financial institutions the Group makes transactions with are reputable financial institutions, the credit risk from them are considered limited. The Group decides credit transaction limits based on evaluation of client's credit, through information obtained from the credit bureau and disclosed financial position at committing contracts.

① Credit risk management

Electricity sales, the main operations of the Group are the necessity for daily life and industrial activities of Korean nationals and have importance as one of the national key industries. The Group dominates the domestic market supplying electricity to customers. The Group is not exposed to significant credit risk as customers of the Group are diverse and are from various industries and areas. The Group uses publicly available information and its own internal data related to trade receivables, to rate its major customers and to measure the credit risk that a counter party will default on a contractual obligation. For the incurred but not recognized loss, it is measured considering overdue period.

2 Impairment and allowance account

In accordance with the Group policies, individual material financial assets are assessed on a regular basis, trade receivables that are assessed not to be impaired individually are, in addition, assessed for impairment on a collective basis. Value of the acquired collateral (including the confirmation of feasibility) and estimated collectable amounts are included in this assessment.

Allowance for bad debts assessed on a collective basis are recognized for (i) the group of assets which individually are not material and (ii) incurred but not recognized losses that are assessed using statistical methods, judgment and past experience.

44. Risk Management, Continued

(2) Financial risk management, continued

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

In millions of won	March 31, 2021	December 31, 2020
Cash and cash equivalents	1,953,723	2,029,584
Financial assets at fair value through profit or loss (*1)	3,188,305	1,808,404
Derivative assets (trading)	196,882	110,764
Financial assets at amortized cost	19,409	14,422
Loans	813,297	790,162
Long-term/short-term financial instruments	1,925,791	2,062,103
Derivative assets (applying hedge accounting)	96,761	55,649
Trade and other receivables	8,691,096	9,780,039
Financial guarantee contracts (*2)	3,361,091	3,224,696

(*1) Equity investments held by the Group are excluded.

(*2) Maximum exposure associated with the financial guarantee contracts is the maximum amounts of the obligation.

As of the reporting date, there are no financial assets and non-financial assets that were acquired through the exercise of the right of collateralized assets and reinforcement of credit arrangement.

(ii) Market risk

Market risk is the risk that the Group's fair values of the financial instruments or future cash flows are affected by the changes in the market. Market risk consists of interest rate risk, currency risk and other price risk.

44. Risk Management, Continued

(2) Financial risk management, continued

(iii) Sensitivity analysis

Significant assets and liabilities with uncertainties in underlying assumptions

① Defined benefit obligation

A sensitivity analysis of defined benefit obligation assuming a 1%p increase and decrease movements in the actuarial valuation assumptions as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won			March 31	1, 2021	December 31, 2020		
Туре	Accounts		1%p Increase	1%p Decrease	1%p Increase	1%p Decrease	
Future salary increases	Increase (decrease) in defined benefit obligation	₩	481,090	(420,699)	488,087	(425,708)	
Discount rate	Increase (decrease) in defined benefit obligation		(427,263)	504,021	(443,527)	524,856	

Changes of employee benefits assuming a 1%p increase and decrease movements in discount rate on plan asset for the three-month periods ended March 31, 2021 and 2020 are W6,492 million and W5,236 million, respectively.

Provisions

Changes in provisions due to movements in underlying assumptions as of March 31, 2021 and December 31, 2020 are as follows:

Type Accounts		March 31, 2021	December 31, 2020	
PCBs	Inflation rate	1.06%	1.06%	
	Discount rate	1.83%	1.83%	
Nuclear plants	Inflation rate	1.07%	1.07%	
·	Discount rate	2.20%	2.20%	
Spent fuel	Inflation rate	2.93%	2.93%	
-	Discount rate	4.49%	4.49%	

A sensitivity analysis of provisions assuming a 0.1%p increase and decrease movements in the underlying assumptions as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won			March 31	, 2021	December 31, 2020		
Туре	Accounts		0.1%p Increase	0.1%p Decrease	0.1%p Increase	0.1%p Decrease	
Discount rate	PCBs	₩	(263)	264	(292)	293	
	Nuclear plants		(324,587)	334,477	(326,926)	336,928	
	Spent fuel		(51,546)	53,558	(51,558)	53,571	
Inflation rate	PCBs		266	(265)	295	(294)	
	Nuclear plants		359,628	(349,345)	357,676	(347,450)	
	Spent fuel		54,332	(52,362)	54,345	(52,375)	

44. Risk Management, Continued

(2) Financial risk management, continued

Management judgment effected by uncertainties in underlying assumptions

① Foreign currency risk

The Group undertakes transactions denominated in foreign currencies; consequently, exposures to exchange rate fluctuations arise. The carrying amounts of the Group's foreign currency denominated monetary assets and monetary liabilities as of March 31, 2021 and December 31, 2020 are as follows:

In thousands of foreign currencies	Ass	ets	Liabilities		
Туре	March 31, 2021	December 31, 2020	March 31, 2021	December 31, 2020	
AED	51,191	39,678	47,015	31,594	
AUD	131	133	715,869	707,538	
BDT	85,761	93,442	-	-	
BWP	981	890	-	-	
EGP	-		948	948	
CAD	140	247	1,870	1,840	
CHF	-	-	500,398	500,406	
CZK	-		2,224	2,033	
EUR	294	310	41,059	121,069	
GBP	-		36	43	
HKD	-		1,651,872	1,651,839	
IDR	294,922	342,496	477,279	555,241	
INR	1,212,928	1,231,895	188,673	155,134	
JOD	1,758	1,673	2	-	
JPY	1,080,638	825,269	6,702	484,585	
KZT	1,510	1,510	-	-	
MGA	6,945,584	5,645,349	-	-	
MMK	11,032	11,032	-	-	
MYR	35,285		-	-	
PHP	175,444	191,122	113,352	104,161	
PKR	490,368	371,328	1,627	12,222	
SAR	2,257	2,178	-	-	
SEK	-	-	449,135	449,824	
USD	1,416,288	1,445,522	11,264,781	12,234,563	
UYU	103,570	78,265	1,439	1,585	
VND	929,332	672,563	-	-	
ZAR	278	303	-	-	

A sensitivity analysis on the Group's income for the period assuming a 10% increase and decrease in currency exchange rates as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won		March 31	, 2021	December 31, 2020		
Туре		10% Increase 10% Decrease		10% Increase	10% Decrease	
Increase (decrease) of profit before income tax Increase (decrease) of	₩	(1,268,453)	1,268,453	(1,336,821)	1,336,821	
equity (*)		(1,268,453)	1,268,453	(1,336,821)	1,336,821	

(*) The effect on the shareholders' equity excluding the impact of income taxes.

The sensitivity analysis above is conducted for monetary assets and liabilities denominated in foreign currencies other than functional currency, without consideration of hedge effect of related derivatives, as of March 31, 2021 and December 31, 2020.

To manage its foreign currency risk related to foreign currency denominated receivables and payables, the Group has a policy to enter into currency forward agreements. In addition, to manage its foreign currency risk related to foreign currency denominated expected sales transactions and purchase transactions, the Group enters into currency forward agreements.

44. Risk Management, Continued

(2) Financial risk management, continued

There is an economic relationship between the hedged item and the hedging instrument as the terms of cross-currency swap agreement is consistent with the terms of expected transaction (repayment of foreign debt securities and others). The hedging ratio is 1:1 as the risk of cross-currency swap agreement matches the hedged instrument. As of March 31, 2021, the hedging instrument (cross-currency swap) hedges the risk of the hedged item(repayment of foreign debt securities and others).

② Interest rate risk

The Group is exposed to interest rate risk due to its borrowing with floating interest rates. A 1%p increase or decrease is used when reporting interest rate risk internally to key management personnel and represents management's assessment of the reasonably possible change in interest rates.

The Group's borrowings and debt securities with floating interest rates as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won

Туре		March 31, 2021	December 31, 2020	
Short-term borrowings	₩	161,773	171,518	
Long-term borrowings		2,182,496	2,191,322	
Debt securities		258,405	250,968	
	₩	2,602,674	2,613,808	

A sensitivity analysis on the Group's long-term borrowings and debt securities assuming a 1%p increase and decrease in interest rates, without consideration of hedge effect of related derivatives for the three-month periods ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won		March	31, 2021	December 31, 2020	
Туре		1%p Increase	1%p Decrease	1%p Increase	1%p Decrease
Increase (decrease) of profit before income tax	₩	(6,507)	6,507	(26,138)	26,138
Increase (decrease) of shareholder's equity (*)		(6,507)	6,507	(26,138)	26,138

(*) The effect on the shareholders' equity excluding the impact of income taxes.

The Group manages its interest rate risk by having a balanced portfolio of fixed and variable rate loans and borrowings. To manage this, the Group enters into interest rate swaps, in which it agrees to exchange, at specified intervals, the difference between fixed and variable rate interest amounts calculated by reference to an agreed-upon notional principal amount. The above analysis measures the interest rate risk before reflecting the hedge effect by related derivatives.

44. Risk Management, Continued

(2) Financial risk management, continued

③ Electricity rates risk

The Group is exposed to electricity rates risk due to changes in government regulations and policies on national power supply schemes and electricity billing rates, in consideration of the national economy.

A sensitivity analysis on the Group's income for the period assuming a 1% increase and decrease in price of electricity for the three-month periods ended March 31, 2021 and 2020 is as follows:

In millions of won		March	31, 2021	March 31, 2020		
Туре	_	1% Increase	1% Decrease	1% Increase	1% Decrease	
Increase (decrease) of profit before income tax	₩	142,777	(142,777)	143,044	(143,044)	
Increase (decrease) of shareholder's equity (*)		142,777	(142,777)	143,044	(143,044)	

(*) The effect on the equity excluding the impact of income taxes.

44. Risk Management, Continued

(2) Financial risk management, continued

(iv) Liquidity risk

The Group has established an appropriate liquidity risk management framework for the management of the Group's short, medium and long-term funding and liquidity management requirements. The Group manages liquidity risk by continuously monitoring forecasted and actual cash flows, and by matching the maturity profiles of financial assets and liabilities.

In addition, the Group has established credit lines on its trade financing and bank overdrafts, and through payment guarantees it has received, it maintains an adequate credit (borrowing) line. In addition, the Group has the ability to utilize excess cash or long-term borrowings for major construction investments.

The expected maturities for non-derivative financial liabilities as of March 31, 2021 and December 31, 2020 in detail are as follows:

In millions of won				March 31, 2021		
	_	Less than			More than	
Туре		1 year	1~2 Years	2~5 Years	5 years	Total
Borrowings and debt securities	₩	13,419,885	10,077,626	24,655,647	34,816,837	82,969,995
Finance lease liabilities		637,759	556,349	1,609,708	2,386,815	5,190,631
Trade and other payables		6,108,248	378,049	904,015	1,165,971	8,556,283
Financial guarantee contracts (*)	_	25,048	350,300	982,059	2,003,684	3,361,091
	₩_	20,190,940	11,362,324	28,151,429	40,373,307	100,078,000
In millions of won			C	December 31, 2020		
		Less than			More than	
Туре		1 year	1~2 Years	2~5 Years	5 years	Total
Borrowings and debt securities	₩	12,413,346	10,919,041	24,778,020	34,215,888	82,326,295
Finance lease liabilities		614,442	569,161	1,564,377	2,461,557	5,209,537
Trade and other payables		5,679,856	373,907	894,903	1,167,171	8,115,837
Financial guarantee contracts (*)	_	926,244	348,860	26,230	1,923,362	3,224,696
	₩	19,633,888	12,210,969	27,263,530	39,767,978	98,876,365

(*) This represents the total guarantee amounts associated with the financial guarantee contracts. Financial guarantee liabilities which are recognized as of March 31, 2021 and December 31, 2020 are ₩93,515million and ₩66,354 million, respectively.

44. Risk Management, Continued

(2) Financial risk management, continued

The following table shows the details of maturities of non-derivative financial liabilities as of March 31, 2021 and December 31, 2020. This table, based on the undiscounted cash flows of the non-derivative financial liabilities including estimated interests, has been prepared based on the respective liabilities' earliest maturity date.

The expected maturities for non-derivative financial assets as of March 31, 2021 and December 31, 2020 in detail are as follows:

In millions of won		March 31, 2021						
Туре		Less than 1 year	1~5 Years	More than 5 years	Other (*)	Total		
Cash and cash equivalents Financial assets at fair value through	₩	1,953,723	-	-	-	1,953,723		
other comprehensive income		-	-	-	368,001	368,001		
Financial assets at amortized cost		18,207	1,202	-	-	19,409		
Loans Long-term/short-term financial		79,847	345,698	419,416	-	844,961		
instruments Financial assets at fair value through		1,275,027	250,970	400	399,394	1,925,791		
profit or loss		2,605,386	24,823	2,760	630,320	3,263,289		
Trade and other receivables	_	6,789,082	1,163,622	743,371		8,696,075		
	₩	12,721,272	1,786,315	1,165,947	1,397,715	17,071,249		

In millions of won		December 31, 2020							
Туре		Less than 1 year	1~5 Years	More than 5 years	Other (*)	Total			
Cash and cash equivalents	₩	2,029,584	-	-	-	2,029,584			
Financial assets at fair value through other comprehensive income		-	-	-	358,559	358,559			
Financial assets at amortized cost		13,149	1,265	8	-	14,422			
Loans Long-term/short-term financial		78,805	385,571	325,212	31,506	821,094			
instruments Financial assets at fair value through		1,483,482	252,349	386	325,886	2,062,103			
profit or loss		1,196,101	-	2,690	682,591	1,881,382			
Trade and other receivables	_	7,920,005	1,160,400	704,494	-	9,784,899			
	₩	12,721,126	1,799,585	1,032,790	1,398,542	16,952,043			

(*) The maturities cannot be presently determined.

44. Risk Management, Continued

(2) Financial risk management, continued

Derivative liabilities classified by maturity periods which from reporting date to maturity dates as per the contracts as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won			I	March 31, 2021		
Туре		Less than 1 year	1~2 Years	2~5 Years	More than 5 years	Total
Net settlement - Trading	₩	-	-	-	-	-
Gross settlement		(0,400)	(7,020)		1,962	((((() ()
- Trading - Hedging	_	(8,423) (24,016)	(7,930) (6,366)	(52,305) (61,624)	(36,024)	(66,696) (128,030)
	₩	(32,439)	(14,296)	(113,929)	(34,062)	(194,726)
In millions of won			De	ecember 31, 2020		
		Less than			More than	
Туре		1 year	1~2 Years	2~5 Years	5 years	Total
Net settlement						
- Trading	₩	-	-	-	-	-
Gross settlement - Trading		(12,777)	(22,827)	(118,704)	(4,380)	(158,688)
- Hedging		(37,858)	(39,528)	(75,450)	(55,208)	(208,044)
	_	<u>_</u>		<u> </u>	<u>_</u>	. ,
	₩	(50,635)	(62,355)	(194,154)	(59,588)	(366,732)

44. Risk Management, Continued

(3) Fair value risk

The fair value of the Group's actively-traded financial instruments (i.e., FVTPL, FVOCI, etc.) is based on the traded market-price as of the reporting period end. The fair value of the Group's financial assets is the amount which the asset could be exchanged for or the amount a liability could be settled for.

The fair values of financial instruments where no active market exists or where quoted prices are not otherwise available are determined by using valuation techniques. Valuation techniques include using recent arm's length market transactions between knowledgeable, willing parties, if available, reference to the current fair value of another instrument that is substantially the same, discounted cash flow analysis and option pricing models. If there is a valuation technique commonly used by market participants to price the instrument and that technique has been demonstrated to provide reliable estimates of prices obtained in actual market transactions, the Group uses that technique.

For trade receivables and payables, the Group considers the carrying value net of impairment as fair value. While for disclosure purposes, the fair value of financial liabilities is estimated by discounting a financial instruments with similar contractual cash flows based on the effective interest method.

(i) Fair value and book value of financial assets and liabilities as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won		March 31	, 2021	December	31, 2020
Туре		Book value	Fair value	Book value	Fair value
Assets recognized at fair value					
Financial assets at fair value through					
other comprehensive income	₩	368,001	368,001	358,559	358,559
Derivative assets (trading)		196,882	196,882	110,764	110,764
Derivative assets (applying hedge accounting)		96,761	96,761	55,649	55,649
Financial assets at fair value through					
profit or loss	_	3,263,289	3,263,289	1,881,382	1,881,382
	₩=	3,924,933	3,924,933	2,406,354	2,406,354
Assets carried at amortized cost					
Financial assets at amortized cost	₩	19,409	19,409	14,422	14,422
Loans and receivables		813,297	813,297	790,162	790,162
Long-term financial instruments		650,764	650,764	578,621	578,621
Short-term financial instruments		1,275,027	1,275,027	1,483,482	1,483,482
Trade and other receivables		8,691,096	8,691,096	9,780,039	9,780,039
Cash and cash equivalents		1,953,723	1,953,723	2,029,584	2,029,584
	₩_	13,403,316	13,403,316	14,676,310	14,676,310
Liabilities recognized at fair value					
Derivative liabilities (trading)	₩	71,861	71,861	157,926	157,926
Derivative liabilities (applying hedge					
accounting)		122,100	122,100	207,193	207,193
	₩_	193,961	193,961	365,119	365,119
Liabilities carried at amortized cost					
Secured borrowings	₩	195,297	195,297	63,614	63,614
Unsecured bond		64,387,362	68,355,910	64,607,401	68,839,316
Lease liabilities		4,614,036	4,614,036	4,621,096	4,621,096
Unsecured borrowings		5,039,398	5,744,434	4,808,206	5,513,242
Trade and other payables (*)		8,556,283	8,556,283	8,115,837	8,115,837
Bank overdraft		-	-	245,360	245,360
	₩	82,792,376	87,465,960	82,461,514	87,398,465

(*) Excludes lease liabilities.

44. Risk Management, Continued

(3) Fair value risk, continued

(ii) Interest rates used for determining fair value

The interest rates used to discount estimated cash flows, when applicable, are based on the government yield curve at the reporting date plus an adequate credit spread.

The discount rate used for calculating fair value as of March 31, 2021 and December 31, 2020 are as follows:

Туре	March 31, 2021	December 31, 2020
Derivatives	(-) 0.73% ~ 3.08%	(-) 0.73% ~ 3.08%
Borrowings and debt securities	(-) 0.64% ~ 4.38%	(-) 0.53% ~ 4.38%
Finance lease	0.43% ~ 16.60%	0.57% ~ 16.60%

(iii) 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 March 31, 2021 and December 31, 2020 are as follows:

In millions of won			March 31, 2	2021	
Туре		Level 1	Level 2	Level 3	Total
Financial assets at fair value					
Financial assets at fair value through other					
comprehensive income	₩	202,967	-	165,034	368,001
Derivative assets		-	293,643	-	293,643
Financial assets at fair value through			0.057.544		
profit or loss			3,257,514	5,775	3,263,289
	₩	202,967	3,551,157	170,809	3,924,933
Financial liabilities at fair value					
Derivative liabilities	₩	<u> </u>	193,961	<u> </u>	193,961
In millions of won			December 31	, 2020	
Туре		Level 1	Level 2	Level 3	Total
Financial assets at fair value					
Financial assets at fair value through other comprehensive income	₩	194,670	-	163,889	358,559
Derivative assets		-	166,413	-	166,413
Financial assets at fair value through					
profit or loss		-	1,875,690	5,692	1,881,382
	₩	194,670	2,042,103	169,581	2,406,354
Financial liabilities at fair value					
Derivative liabilities	₩	-	365,119	-	365,119

The fair value of financial assets (FVTPL and FVOCI) publicly traded is measured at the closing bid price quoted at the end of the reporting period. Meanwhile, the fair value of unquoted financial assets (FVTPL and FVOCI) is calculated using the valuation results from an external pricing service in which weighted average borrowing rates of interest of evaluated companies are used as a discount rate. The fair value of derivatives is measured using valuation model which is determined at the present value of estimated future cash flows discounted at current market interest rate.

44. Risk Management, Continued

(3) Fair value risk, continued

Changes of financial assets and liabilities which are classified as level 3 for the three-month period ended March 31, 2021 and for the year ended December 31, 2020 are as follows:

In millions of won		March 31, 2021							
	-	Beginning balance	Acquisitions	Reclassified category	Valuation	Disposal	Foreign currency translation	Ending balance	
Financial assets at fair value Financial assets at fair value through profit or loss Cooperative Financial assets at fair value through other comprehensive income	₩	5,692	-	-	83		-	5,775	
Unlisted securities		163,889	1,000	-	(27)	-	172	165,034	

In millions of won		December 31, 2020							
		Beginning balance	Acquisitions	Reclassified category	Valuation	Disposal	Forelgn currency translation	Ending balance	
Financial assets at fair value Financial assets at fair value through profit or loss Cooperative Financial assets at fair value through other comprehensive income	₩	5,156	359	-	623	(446)	-	5,692	
Unlisted securities		177,968	2,900	-	(23,128)	(1)	6,150	163,889	

45. Service Concession Arrangements

(1) Gas Complex · Thermal Power Plant at Ilijan, Philippines (BOT)

(i) Significant terms and concession period of the arrangement

The Group has entered into a contract with National Power Corporation (the "NPC"), based in the Republic of the Philippines whereby the Group can collect the electricity rates which are composed of fixed costs and variable costs during the concession period from 2002 to 2022 after building, rehabilitating, and operating the power plant.

(ii) Rights and classification of the arrangement

The Group has the rights to use and own the power plant during the concession period from 2002 to 2022. At the end of the concession period, the Group has an obligation to transfer its ownership of the power plant to NPC.

(iii) The Group's expected future collections of service concession arrangements as of March 31, 2021 are as follows:

In millions of won Type	_	Amounts
Less than 1 year 1 ~ 2 years	₩	118,399 19,733
	₩	138,132

(2) Hydroelectric Power Generation at Semangka, Indonesia (BOT)

(i) Significant terms and concession period of the arrangement

The Group has entered into a contract with PT. Perusahaan Listrik Negara (the "PT PLN") whereby the Group provides electricity generated and charge tariff rates designed to recover capital cost, fixed O&M cost, water usage cost, variable O&M cost and special facilities cost during the concession period after building, rehabilitating, and operating the power plant for approximately 30 years (2018~2048) subsequent to the completion of plant construction.

(ii) Rights and classification of the arrangement

The Group has the rights to use and own the power plant during the concession period from 2018 to 2048. At the end of the concession period, PT PLN has an option to take over the ownership of the power plant from the Group.

(iii) The Group's expected future collections of service concession arrangements as of March 31, 2021 are as follows:

In millions of won Type	_	Amounts
Less than 1 year	W	28,257
1 ~ 2 years		28,289
2 ~ 3 years		28,420
Over 3 years	_	538,088
	W	623,054

46. Related Parties

(1) Related parties of the Group as of March 31, 2021 are as follows:

Туре	Related party
Parent	Republic of Korea government
Subsidiaries (131 subsidiaries)	 Korea Hydro & Nuclear Power Co., Ltd., Korea South-East Power Co., Ltd., Korea Midland Power Co., Ltd., Korea Southern Power Co., Ltd., Korea East-West Power Co., Ltd., KEPCO Engineering & Construction Company. Inc., KEPCO Plant Service & Engineering Co., Ltd., KEPCO Nuclear Fuel Co., Ltd., KEPCO KDN Co., Ltd., Gyeongji Green Energy Co., Ltd., Korea Offshore Wind Power Co., Ltd., KOSEP Material Co., Ltd., KEPCO International Philippines Inc., KEPCO Philippines Corporation, KEPCO Ilijan Corporation, KEPCO Gansu International Ltd., KEPCO International Philippines Inc., KEPCO Philippines Corporation, KEPCO Ilijan Corporation, KEPCO Gansu International Ltd., KEPCO Hastralia Pty., Ltd., KCPCO Sharxi International Ltd., KOSEP Australia Pty., Ltd., KOMIPO Australia Pty., Ltd., KOVEPO Australia Pty., Ltd., KOVEPO Australia Pty., Ltd., KOPCO Neutherlands B.V., Korea Imouraren Uranium Investment Corp., KEPCO Middle East Holding Company, Qatrana Electric Power Company, KOVEPO International Corporation, KOSPO Jordan LLC, Korea Waterbury Uranium Limited Partnership, PT. Cirebon Power Service, EWP America Inc., KHNP Canada Energy Ltd., KEPCO Bylong Australia Pty., Ltd., KNF Canada Energy Limited, KEPCO Holdings de Mexico, KST Electric Power Company, S.A., Le C.V., KEPCO Energy Service Company, KEPCO Netherlands S3 B.V., PT. KOMIPO Pembangkitan Jawa Bali, EWP Barbados 1 SRL, PT. Tanggamus Electric Power, KOMIPO America Inc., KOSEP USA, Inc., PT. EWP Indonesia, KEPCO Netherlands J3 B.V., Global One Pioneer B.V., Global Energy Pioneer B.V., Mira Power Limited, KEPCO Solar Co., Ltd., Chitose Solar Power Piont LLC., KEPCO Solar Co., Ltd., KEPCO Energy Solution Co., Ltd., KOSPO Power Services Company, KOSPO Power Service, Company, KOSPO Power Service, KCM Power Co., Ltd., KOYEPO Solar Co., Ltd., KEPCO Solar Co., Ltd., KEPCO Solar Co., Ltd., KEPCO Bylong Pty., Ltd., KOSPO Power Services Co., Ltd., Chitose Solar Power Plant LLC., KEPCO Solar Co., Ltd., KEPCO Energy Solution Co., Ltd., KOSPO Power Services Ltd.a., KOEN B
Associates (81 associates)	Dongducheon Dream Power Co., Ltd., Korea Gas Corporation, Daegu Photovoltaic Co., Ltd., Haeng Bok Do Si Photovoltaic Power Co., Ltd., Korea Electric Power Industrial Development Co., Ltd., Goseong Green Power Co., Ltd., Gangneung Eco Power Co., Ltd., Shin Pyeongtaek Power Co., Ltd., Noeul Green Energy Co., Ltd., YTN Co., Ltd., Samcheok Eco Materials Co., Ltd., Gangwon Wind Power Co., Ltd., Gwangyang Green Energy Co., Ltd., Hyundai Green Power Co., Ltd., Korea Power Exchange, Taebaek Wind Power Co., Ltd., Taebaek Guinemi Wind Power Co., Ltd., Pyeongchang Wind Power Co., Ltd., Daeryun Power Co., Ltd., Changjuk Wind Power Co., Ltd., KNH Solar Co., Ltd., S-Power Co., Ltd., SPC Power Corporation, Gemeng International Energy Co., Ltd., PT. Cirebon Electric Power, KNOC Nigerian East Oil Co., Ltd., KNOC Nigerian West Oil Co., Ltd., PT Wampu Electric Power, PT. Bayan Resources TBK, Nepal Water & Energy Development Company Private Limited, Pioneer Gas Power Limited, Eurasia Energy Holdings, Xe-Pian Xe-Namnoy Power Co., Ltd., PT. Mutiara Jawa, Jinbhuvish Power Generation Pvt. Ltd., Daejung Offshore Wind Power Co., Ltd., GS Donghae Electric Power Co., Ltd., Busan Green Energy Co., Ltd., Gunsan Bio Energy Co., Ltd., Korea Electric Vehicle Charging Service, Korea Nuclear Partners Co., Ltd., Korea Electric Power Corporation Fund, Energy Infra Asset Management Co., Ltd., Daegu clean Energy Co., Ltd., Yaksu ESS Co., Ltd., PND solar Co., Ltd., Korea Energy Solutions Co., Ltd., ITR Co., Ltd., Structure test network Co., Ltd., Namjeongsusang Solar Power Operation Co., Ltd., Ideck Niles Development, LLC, Indeck Niles Asset Management, LLC, Hanwha Corporation-linked Sunlight Power Special Private Equity Investment Trust No. 1, Suwon New Power Co., Ltd., KPGE Inc., Gwangbaek Solar Power Investment Co., Ltd., Jeju SolarOne Co., Ltd., Muan Sunshine Solar Power Plant Co., Ltd., SureDataLab Co., Ltd., SEP Co., Ltd., Hankook Electric Power Information Co., Ltd., Tornix Co., Ltd., O2&B Global Co., Ltd., SureDataLab Co., Ltd., Sep Co., Ltd.

46. Related Parties, Continued

(1) Related parties of the Group as of March 31, 2021 are as follows, continued:

Туре	Related party
Joint ventures (86 joint ventures)	Daegu Green Power Co., Ltd., KEPCO SPC Power Corporation, KAPES, Inc., Honam Wind Power Co., Ltd., Jeongam Wind Power Co., Ltd., Korea Power Engineering Service Co., Ltd., Seokmun Energy Co., Ltd., Incheon New Power Co., Ltd., Chun-cheon Energy Co., Ltd., Yeonggwangbaeksu Wind Power Co., Ltd., KW Nuclear Components Co., Ltd., KEPCO-Uhde Inc., Busan Shinho Solar Power Co., Ltd., Global Trade Of Power System Co., Ltd., Expressway Solar-light Power Generation Co., Ltd., Gansu Datang Yumen Wind Power Co., Ltd., Datang KEPCO Chaoyang Renewable Power Co., Ltd., Rabigh Electricity Company, Rabigh Operation & Maintenance Company Limited, Datang KEPCO Chaoyang Renewable Power Co., Ltd., Shuweihat Asia Power Investment B.V., Shuweihat Asia Operation & Maintenance Company Limited, KV Holdings, Inc., Amman Asia Electric Power Company, Kelar S.A., PT. Tanjung Power Indonesia, Nghi Son 2 Power LLC, Daehan Wind Power PSC, MOMENTUM, Barakah One Company, Nawah Energy Company, Yeonggwang Wind Power Co., Ltd., Chester Solar IV SpA, Chester Solar V SpA, Diego de Almagro Solar SpA, South Jamaica Power Company Limited, Daesan Green Energy Co., Ltd., RE Holiday Holdings LLC, RE Poineer Holdings LLC, RE Barren Ridge 1 Holdings LLC, Re Astoria 2 LandCo LLC, RE Barren Ridge LandCo LLC, Laurel SpA, KIAMCO KOWEPO Bannerton Hold Co., Pty., Ltd., Chie Solar JV SpA, Taebaek Gadeoksan Wind Power Co., Ltd., Cheong-Song Noraesan Wind Power Co., Ltd., Chester Solar I SpA, Solar Philippines Calatagan Corporation, Saemangeum Solar Power Co., Ltd., Chuaren Solar SpA, Solar Philippines Calatagan Corporation, Saemangeum Solar Power Co., Ltd., Chungsongmeon BongSan wind power Co., Ltd., Yangyang Wind Power Co., Ltd., Horus Solar, S.A. de C.V., Samsu Wind Power Co., Ltd., Sasado Solar Power Co., Ltd., Samsu Wind Power Co., Ltd., Sasado Solar Power Co., Ltd., Samsu Wind Power Co., Ltd., Solaseado Solar Power Co., Ltd., Sam-Yang Photovoltaic Power Co., Ltd., NH-Amundi Glo

Others (3 others)

Korea Development Bank, Ulleungdo Natural Energy Co., Ltd., EWP Philippines Corporation

46. Related Parties, Continued

(2) Transactions between the Group and its subsidiaries are eliminated during the consolidation and are not disclosed in notes.

(3) Related party transactions for the three-month periods ended March 31, 2021 and 2020 are as follows:

<Sales and Others>

In millions of won			Sales and	others
Company name	Transaction type		March 31, 2021	March 31, 2020
<associates></associates>				
Korea Gas Corporation	Electricity sales	₩	28,412	32,422
GS Donghae Electric Power Co., Ltd.	Electricity sales		1,457	14,197
Dongducheon Dream Power Co., Ltd.	Electricity sales		1,994	1,907
Shin Pyeongtaek Power Co., Ltd.	Electricity sales		7,589	5,504
Hyundai Green Power Co., Ltd.	Electricity sales and		.,	-,
y	design service		9,513	10,262
S-Power Co., Ltd.	Service		1,199	1,522
Korea Electric Power Industrial Development Co., Ltd.	Service		4,166	3,857
Korea Power Exchange	Service		3,065	4,186
Daeryun Power Co., Ltd.	Electricity sales		534	496
Goseong Green Power Co., Ltd.	Electricity sales		50,474	3,364
Gangwon Wind Power Co., Ltd.	Electricity sales		1,730	2,015
PT. Cirebon Electric Power	Others		9,136	5,234
Busan Green Energy Co., Ltd.	Electricity sales		16	4
Hyundai Ecoenergy Co., Ltd.	Electricity sales		43	42
Samcheok Eco Materials Co., Ltd.	Electricity sales		142	183
Noeul Green Energy Co., Ltd.	Electricity sales		8	8
Gangneung Eco Power Co., Ltd.	Service		3,453	2,312
Others (YeongGwang Yaksu Wind Electric Co., Ltd. and 37 others)	Electricity sales		4,262	9,459
<joint ventures=""></joint>				
Barakah One Company	Others		81,641	155,919
Chun-cheon Energy Co., Ltd.	Electricity sales		481	569
KAPES, Inc.	Commission		93	96
Daegu Green Power Co., Ltd.	Electricity sales		263	306
Daesan Green Energy Co., Ltd.	Electricity sales		33	19
Nawah Energy Company	Service		22,243	40,600
KEPCO SPC Power Corporation	Others		319	332
Amman Asia Electric Power Company	Others		3,056	4,765
Seokmun Energy Co., Ltd.	Service		325	759
Yeongam Solar Power Co., Ltd.	Electricity sales		88	-
Solaseado Solar Power Co., Ltd.	Electricity sales		-	66
Yeonggwang Wind Power Co., Ltd.	Electricity sales		251	241
Rabigh Electricity Company	Service		191	89
Kelar S.A.	Service		3,821	62
Cheongna Energy Co., Ltd.	Electricity sales		6,722	2,828
Yeonggwangbaeksu Wind Power Co., Ltd.	Electricity sales		450	441
Others (Busan Shinho Solar Power Co., Ltd. and 34 others)	Electricity sales		11,598	3,984
<others></others>				
Korea Development Bank	Electricity sales		940	861
	Interest income		379	2,439

46. Related Parties, Continued

(3) Related party transactions for the three-month periods ended March 31, 2021 and 2020 are as follows, continued:

<Purchase and Others>

In millions of won			Purchase a	and others
Company name	Transaction type		March 31, 2021	March 31, 2020
<associates></associates>				
Korea Gas Corporation	Electricity sales	₩	1,197,960	1,134,037
GS Donghae Electric Power Co., Ltd.	Electricity sales		173,804	183,028
Dongducheon Dream Power Co., Ltd.	Electricity sales		178,080	182,247
Shin Pyeongtaek Power Co., Ltd.	Electricity sales		161,083	181,577
Hyundai Green Power Co., Ltd.	Design service		-	119,667
S-Power Co., Ltd.	Service		136,267	139,691
Korea Electric Power Industrial Development Co., Ltd.	Service		54,220	36,943
Korea Power Exchange	Service		22,762	24,971
Daeryun Power Co., Ltd.	Electricity sales		42,189	33,063
Goseong Green Power Co., Ltd.	Electricity sales		48,491	0
Gangwon Wind Power Co., Ltd.	Electricity sales		5,276	6,326
Busan Green Energy Co., Ltd.	Electricity sales		1,819	5,399
Hyundai Ecoenergy Co., Ltd.	Electricity sales		4,048	4,923
Samcheok Eco Materials Co., Ltd.	Electricity sales		2,467	2,776
Noeul Green Energy Co., Ltd.	Electricity sales		989	2,883
Gangneung Eco Power Co., Ltd.	Service		-	92
Others (YeongGwang Yaksu Wind Electric Co., Ltd. and 37 others)	Electricity sales		45,502	10,141
<joint ventures=""></joint>				
Barakah One Company	Others		-	2,166
Chun-cheon Energy Co., Ltd.	Electricity sales		76,385	81,900
KAPES, Inc.	Commission		282	29,805
Daegu Green Power Co., Ltd.	Electricity sales		67,505	76,443
Daesan Green Energy Co., Ltd.	Electricity sales		31,101	0
Amman Asia Electric Power Company	Others		-	143
Seokmun Energy Co., Ltd.	Service		10,092	13,240
Yeongam Solar Power Co., Ltd.	Electricity sales		1,404	0
Solaseado Solar Power Co., Ltd.	Electricity sales		8,201	0
Yeonggwang Wind Power Co., Ltd.	Electricity sales		6,491	6,807
Cheongna Energy Co., Ltd.	Electricity sales		62	60
Yeonggwangbaeksu Wind Power Co., Ltd.	Electricity sales		3,931	4,081
Others (Busan Shinho Solar Power Co., Ltd. and 34 others)	Electricity sales		11,242	6,309
<others></others>				
Korea Development Bank	Interest expense		720	1,155

46. Related Parties, Continued

(4) Receivables and payables arising from related party transactions as of March 31, 2021 and December 31, 2020 are as follows:

IIn millions of won			Receivables		Payables		
Company name	Туре		March 31, 2021	December 31, 2020	March 31, 2021	December 31, 2020	
<associates></associates>							
Korea Gas Corporation	Trade receivables	₩	7,095	9,969	-	-	
	Non-trade receivables and others		824	95	-	-	
	Trade payables		-	-	413,628	428,763	
	Non-trade payables and others		-	-	825	617	
GS Donghae Electric power Co., Ltd.	Trade receivables		197	386	-	-	
	Non-trade receivables and others		254	321	-	-	
	Trade payables		-	-	81,799	91,213	
	Non-trade payables and others		-	-	-	36	
Goseong Green Power Co., Ltd.	Trade receivables		2,378	2,181	-	-	
	Non-trade receivables and others		16,476	9,214	-	-	
	Trade payables		-	-	4,905	-	
	Non-trade payables and others		-	-	63,669	64,986	
Korea Power Exchange	Trade receivables		575	1,608	-	-	
	Non-trade receivables and others		24	24	-	-	
	Trade payables		-	-	1,291	1,362	
	Non-trade payables and others		-	-	71,312	70,456	
Dongducheon Dream Power Co., Ltd.	Trade receivables		560	388	-	-	
	Non-trade receivables and others		240	213	-	-	
	Trade payables		-	-	58,736	65,794	
Shin Pyeongtaek Power Co., Ltd.	Trade receivables		1,548	1,348	-	-	
	Non-trade receivables and others		2,527	2,823	-	-	
	Trade payables		-	-	52,111	47,948	
	Non-trade payables and others		-	-	402	85	
S-Power Co., Ltd.	Trade receivables		69	137	-	-	
	Non-trade receivables and others		48	46	-	-	
	Trade payables		-	-	51,300	23,415	
Daeryun Power Co., Ltd.	Trade receivables		162	189	-	-	
	Trade payables		-	-	10,699	16,079	
Busan Green Energy Co., Ltd.	Trade receivables		5	5	-	-	
	Non-trade receivables and others		7,582	13,946	-	-	
Hyundai Green Power Co., Ltd.	Trade receivables		588	554	-	-	
	Trade payables		-	-	-	9,825	
Others (Korea Electric Power Industrial	Trade receivables		447	1,576	-	-	
Development Co., Ltd. and 31 others)	Non-trade receivables and others		8,783	8,165	-	-	
	Trade payables		-	-	7,285	4,996	
	Non-trade payables and others		-	-	3,552	4,785	

46. **Related Parties, Continued**

(4) Receivables and payables arising from related party transactions as of March 31, 2021 and December 31, 2020 are as follows, continued:

In millio	one of	won
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In millions of won			Recei	vables	Payables		
		-	March	December	March	December	
Company name	Туре		31, 2021	31, 2020	31, 2021	31, 2020	
<joint ventures=""></joint>							
Barakah One Company	Non-trade payables and others	₩	-	-	107,966	85,548	
Nawah Energy Company	Trade receivables		46,394	49,280	-	-	
	Non-trade receivables and others		3,754	2,062	-	-	
Chun-cheon Energy Co., Ltd.	Trade receivables		101	98	-	-	
55	Non-trade receivables and others		165	165	-	-	
	Trade payables		-	-	27,113	27,428	
Daegu Green Power Co., Ltd.	Trade receivables		60	44	-	-	
5	Non-trade receivables and others		54	55	-	-	
	Trade payables		-	-	20,587	26,213	
KAPES, Inc.	Trade receivables		1	2	-	-	
	Non-trade receivables and others		91	5,172	-	-	
	Non-trade payables and others		-	-	11	20,577	
Seokmun Energy Co., Ltd.	Trade receivables		36	62	-	-	
55	Non-trade receivables and others		8,796	9,460	-	-	
	Trade payables		-	-	5,191	4,898	
	Non-trade payables and others		-	-	-	9,559	
DAYONE Energy Co., Ltd.	Trade receivables		55	57	-	-	
05	Non-trade receivables and others		10,379	11,749	-	-	
	Trade payables		-	-	389	10	
	Non-trade payables and others		-	-	9,453	9,119	
Amman Asia Electric Power Company	Non-trade payables and others		-	-	20,494	20,134	
Yeongam Solar Power Co., Ltd.	Trade receivables		22	26	-	-	
5	Trade payables		-	-	269	14,652	
Kelar S.A.	Trade receivables		2,635	2,183	-	-	
	Non-trade receivables and others		12,523	10,893	-	-	
Others (Daesan Green Energy Co., Ltd.	Trade receivables		5,683	9,014	-	-	
and 27 others)	Non-trade receivables and others		22,525	9,228	-	-	
,	Trade payables		-	-	8,279	12,136	
	Non-trade payables and others		-	-	1,363	7,232	
<others></others>							
Korea Development Bank	Accrued interest income		141	51	-	-	
	Non-trade receivables and others		189,728	206,916	-	-	
	Non-trade payables and others		-	-	120	123	
	Derivatives		36,450	20,167	9,427	20,001	

46. Related Parties, Continued

(5) Loans and others arising from related party transactions as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won

Туре	Company name	Beginning balance	Loans	Collection	Others	Ending balance
Associates	KNOC Nigerian East Oil Co., Ltd.,					
	KNOC Nigerian West Oil Co., Ltd. ₩	27,149	34	-	1,049	28,232
	(Allowance for doubtful accounts)	(5,246)	-	-	(1,388)	(6,634)
Associates	Xe-Pian Xe-Namnoy Power Co., Ltd.	19,692	-	-	823	20,515
Associates	PT Wampu Electric Power	12,358	-	-	517	12,875
Associates	Gunsan Bio Energy Co., Ltd.	12,396	-	-	-	12,396
	(Allowance for doubtful accounts)	(10,128)	-	-	-	(10,128)
Associates	Bigeum Resident Photovoltaic Power					
	Čo., Ltd.	3,500	-	-	-	3,500
Associates	Daejung Offshore Wind Power Co., Ltd.	1,000	-	-	-	1,000
Joint ventures	Solaseado Solar Power Co., Ltd.	64,000	-	-	-	64,000
Joint ventures	Recursos Solares PV de Mexico II, S.A.					
	de C.V.	4,844	283	(283)	203	5,047
Joint ventures	Horus Solar, S.A. de C.V.	13,380	192	-	560	14,132
Joint ventures	Sunmex Renovables, S.A. de C.V.	1,842	-	-	77	1,919
Joint ventures	Kelar S.A.	39,616	-	-	1,997	41,613
Joint ventures	DE Energia SpA	6,232	-	-	261	6,493
Joint ventures	Daehan Wind Power PSC	10,700	1,927	-	447	13,074
Joint ventures	PT. Tanjung Power Indonesia	705	-	-	29	734
Joint ventures	Bitsolar Energy Co., Ltd.	3,165	-	-	-	3,165
Joint ventures	Pulau Indah Power Plant Sdn. Bhd.	-	10,007	-	(371)	9,636
Joint ventures	Guadalupe Solar SpA		804			804
	₩.	205,205	13,247	(283)	4,204	222,373

(6) Borrowings arising from related party transactions as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won

Related parties	Туре		December 31, 2020	Borrowings	Repayment	Others	March 31, 2021
Korea Development	Facility	₩	50,293	-	(2,703)	-	47,590
Bank	Others		2,946	-	(109)	-	2,837
	Operating funds		144,300	-	(100,000)	-	44,300
	Syndicated Loan		15,923	-	(983)	(384)	14,556
	EBL		40,093	9,660		1,845	51,598
		₩	253,555	9,660	(103,795)	1,461	160,881

46. Related Parties, Continued

(7) Guarantees provided to related parties as of March 31, 2021 are as follows:

In millions of won and thousands of foreign currencies

Primary guarantor	Principal obligor	Type of guarantees	Credit limit	Guarantee
Korea Electric Power Corporation	Shuweihat Asia Operation & Maintenance Company	Performance guarantees	USD 11,000	Shuweihat Asia Power Investment B.V.
Korea Electric Power Corporation	Rabigh Operation & Maintenance Company Limited	Performance guarantees and others	USD 1,387	Rabigh Electricity Company
Korea Electric Power Corporation	Nghi Son 2 Power LLC	Performance guarantees	USD 70,000	SMBC Ho Chi Minh and others
		Debt guarantees	USD 285,000	SMBC Singapore
Korea Electric Power Corporation	Barakah One Company	Debt guarantees Performance guarantees and others	USD 1,223,355 USD 4,439,920	Export-Import Bank of Korea and others
Korea Electric Power Corporation	RE Holiday Holdings LLC	Performance guarantees (*11)	USD 206,494	EPS Renewables Holdings, LLC, Santander Bank and others
Korea Electric Power Corporation	RE Pioneer Holdings LLC	Performance guarantees	USD 158,718	EPS Renewables Holdings, LLC, Santander Bank and others
Korea Electric Power Corporation	RE Barren Ridge 1 Holdings LLC	Performance guarantees (*11)	USD 135,783	Firstar Development, LLC, Santander Bank and others
Korea Electric Power	Rabigh Electricity Company	Performance guarantees	SAR 6,508	Hana Bank
Corporation	Shuusibat Asia Dawar	Performance guarantees	SAR 68,054	INC Dept
Korea Electric Power Corporation	Shuweihat Asia Power Investment B.V.	Performance guarantees	USD 100,000	ING Bank
Korea Electric Power Corporation	Amman Asia Electric Power Company	Performance guarantees	USD 16,800	Shinhan Bank
Korea Electric Power Corporation	Pulau Indah Power Plant Sdn. Bhd.	Performance guarantees	MYR 7,500	Maybank
Korea Western Power Co., Ltd.	Cheongna Energy Co., Ltd.	Collateralized money invested Guarantees for supplemental funding and others (*1)	KRW 11,006 -	Kookmin Bank and others
Korea Western Power Co., Ltd.	Xe-Pian Xe-Namnoy Power Co., Ltd.	Payment guarantees for business reserve	USD 2,500	Krung Thai Bank
		Collateralized money invested Impounding bonus guarantees	KRW 70,038 USD 5,000	SK E&C
Korea Western Power Co., Ltd.	Rabigh Operation & Maintenance Company Limited	Performance guarantees and others	SAR 11,200	National Bank of Kuwait
Korea Western Power Co., Ltd.	Daegu Photovoltaic Co., Ltd.	Collateralized money invested	KRW 2,194	Korea Development Bank
Korea Western Power Co., Ltd.	Dongducheon Dream Power Co., Ltd.	Collateralized money invested (*6) Debt guarantees	KRW 47,698 KRW 20,300	Kookmin Bank and others BNK Securities
Korea Western Power Co., Ltd.	PT. Mutiara Jawa	Collateralized money invested	KRW 20,300 KRW 1,309	Woori Bank
Korea Western Power Co., Ltd.	Haeng Bok Do Si Photovoltaic Power Co., Ltd.	Collateralized money invested	KRW 209	Nonghyup Bank
Korea Western Power Co., Ltd.	Shin Pyeongtaek Power Co., Ltd.	Collateralized money invested Guarantees for supplemental funding (*1)	KRW 76,544 -	Kookmin Bank and others
Korea Western Power Co., Ltd.	Haemodum Solar Co., Ltd.	Collateralized money invested	KRW 3,070	Nonghyup Bank
Korea Western Power Co., Ltd.	Sam-Yang Photovoltaic Power Co., Ltd.	Collateralized money invested Guarantees for supplemental funding (*1)	KRW 5,237 -	Korea Development Bank and others
Korea Western Power Co., Ltd.	Muan Solar Park Co., Ltd.	Collateralized money invested	KRW 4,704	IBK and others
Korea Western Power Co., Ltd.	Anjwa Smart Farm & Solar City Co., Ltd.	Collateralized money invested Guarantees for supplemental funding (*1)	KRW 5,695 -	Hana Bank and others

46. Related Parties, Continued

(7) Guarantees provided to related parties as of March 31, 2021 are as follows, continued:

In millions of won and thous Primary guarantor	Principal obligor	Type of guarantees	Credit limit	Guarantee
Korea Western Power Co., Ltd.	Seoroseoro Sunny Power Plant Co., Ltd.	Collateralized money invested Guarantees for supplemental funding (*1)	KRW 638	Hana Bank and others
Korea Western Power Co., Ltd.	YuDang Solar Co., Ltd.	Collateralized money invested Guarantees for supplemental funding (*1)	KRW 453	Hana Bank and others
Korea Western Power Co., Ltd.	Hapcheon Floating Photovoltaic Power Plant Inc.	Collateralized money invested	KRW 7,440	Nonghyup Bank and others
Korea East-West Power Co., Ltd.	Busan Shinho Solar Power Co., Ltd.	Collateralized money invested	KRW 5,184	Korea Development Bank and others
Korea East-West Power Co., Ltd.	Seokmun Energy Co., Ltd.	Collateralized money invested Guarantees for supplemental funding (*1)	KRW 14,604	Kookmin Bank and others
Korea East-West Power Co., Ltd.	Chun-cheon Energy Co., Ltd.	Collateralized money invested Guarantees for supplemental funding (*1)	KRW 27,836 KRW 90,800	Kookmin Bank and others
Korea East-West Power Co., Ltd.	Honam Wind Power Co., Ltd.	Collateralized money invested Guarantees for supplemental funding (*1)	KRW 3,949 -	Shinhan Bank and others
Korea East-West Power Co., Ltd.	GS Donghae Electric Power Co., Ltd.	Collateralized money invested Guarantees for supplemental funding (*1)	KRW 248,950 -	Korea Development Bank and others
Korea East-West Power Co., Ltd.	Yeonggwangbaeksu Wind Power Co., Ltd.	Collateralized money invested	KRW 3,221	Kookmin Bank and others
Korea East-West Power Co., Ltd.	Yeonggwang Wind Power Co., Ltd.	Collateralized money invested	KRW 17,002	KDB Capital Corporation and others
Korea East-West Power Co., Ltd.	Daesan Green Energy Co., Ltd.	Collateralized money invested Guarantees for supplemental funding (*1)	KRW 24,312 KRW 18,989	IBK
Korea East-West Power Co., Ltd.	Taebaek Gadeoksan Wind Power Co., Ltd.	Collateralized money invested	KRW 13,555	Samsung Fire & Marine Insurance Co., Ltd. and others
Korea East-West Power Co., Ltd.	PT. Tanjung Power Indonesia	Debt guarantees Other guarantees Guarantees for supplemental funding (*1) Collateralized money invested	USD 24,544 USD 3,150 - KRW 42,420	Sumitomo mitsui banking PT Adaro Indonesia Sumitomo mitsui banking and others MUFG and others
Korea East-West Power Co., Ltd.	South Jamaica Power Company Limited	Performance guarantees Collateralized money invested	USD 14,400 KRW 35,920	Credit Agricole Corporate & Investment Bank Seoul JCSD Trustee Services Limited and
Korea East-West Power Co.,	DE Energia SpA	Collateralized money invested	KRW 8,530	others Mirae Asset Daewoo Co., Ltd. and
Ltd.	-	Debt guarantees Payment guarantees (*9)	USD 5,728 USD 1,066	others Hana Bank
Korea East-West Power Co., Ltd.	Bitsolar Energy Co., Ltd.	Collateralized money invested	KRW 352	Mirae Asset Life Insurance Co., Ltd. and others
Korea East-West Power Co., Ltd.	Busan Industrial Solar Power Co., Ltd.	Collateralized money invested Guarantees for supplemental funding (*1)	KRW 420	Shinhan Bank and others
Korea East-West Power Co., Ltd.	Yangyang Wind Power Co., Ltd.	Collateralized money invested Guarantees for supplemental funding (*1)	KRW 10,432	Hana Bank and others
Korea Southern Power Co., Ltd.	KNH Solar Co., Ltd.	Collateralized money invested Performance guarantees and guarantees for supplemental funding (*1)	KRW 2,016 -	Shinhan Bank and others
Korea Southern Power Co., Ltd.	Daeryun Power Co., Ltd.	Collateralized money invested Guarantees for supplemental funding and others (*1)	KRW 27,637 KRW 8,000	Korea Development Bank and others

46. Related Parties, Continued

(7) Guarantees provided to related parties as of March 31, 2021 are as follows, continued:

In millions of won and thousands of foreign currencies

Primary guarantor	Principal obligor	Type of guarantees	Credit limit	Guarantee
Korea Southern Power Co., Ltd.	Daegu Green Power Co., Ltd.	Collateralized money invested Performance guarantees	KRW 24,594	Shinhan Bank and others
Korea Southern Power Co., Ltd.	Kelar S.A.	Performance guarantees	USD 57,987	Hana Bank, MUFG
Korea Southern Power Co., Ltd.	Daehan Wind Power PSC	Performance guarantees Payment guarantees (*8)	USD 3,600 USD 1,898	Shinhan Bank Hana Bank
Korea Southern Power	Pyeongchang Wind Power Co.,	Collateralized money invested	KRW 5,152	Woori Bank and Shinhan
Co., Ltd.	Ltd.	Performance guarantees	-	Bank and others
Korea Southern Power Co., Ltd.	Taebaek Guinemi Wind Power Co., Ltd.	Collateralized money invested	KRW 3,262	IBK
Korea Southern Power	Jeongam Wind Power Co., Ltd.	Performance guarantees	-	SK Securities.Co., LTD.,
Co., Ltd.	C C	Collateralized money invested	KRW 4,747	KDB Capital Corporation, and others
Korea Southern Power Co., Ltd.	Samcheok Eco Materials Co., Ltd.	Payment guarantees (*3)	-	SEM Investment Co., Ltd.
Korea Southern Power Co., Ltd.	Solaseado Solar Power Co., Ltd.	Collateralized money invested	KRW 6,746	Kookmin Bank and others
Korea Southern Power Co., Ltd.	Naepo Green Energy Co., Ltd.	Collateralized money invested (*10) Guarantees for supplemental funding (*1)	- KRW 30,000	IBK and others
		Guarantees for other supplemental funding and performance guarantees (*1)	-	
Korea Southern Power	Omisan Wind Power Co., Ltd.	Collateralized money invested	KRW 10,716	Shinhan Bank and others
Co., Ltd.		Guarantees for other supplemental	-	
		funding and performance guarantees (*1)		
COSPO Chile SpA	Kelar S.A.	Collateralized money invested	KRW 76,429	Export-Import Bank of Korea and others
OSPO Chile SpA	Chester Solar I SpA	Collateralized money invested	KRW 1,783	IBK
COSPO Chile SpA	Chester Solar IV SpA	Collateralized money invested	KRW 994	IBK
OSPO Chile SpA	Chester Solar V SpA Diego de Almagro Solar Spa	Collateralized money invested Collateralized money invested	KRW 243 KRW 1,419	IBK IBK
OSPO Chile SpA	Laurel SpA	Collateralized money invested	KRW 1,419	IBK
Korea Midland Power Co., Ltd.	YeongGwang Yaksu Wind Electric Co., Ltd.	Collateralized money invested	KRW 364	IBK and others
Korea Midland Power Co., Ltd.	Hyundai Green Power Co., Ltd.	Collateralized money invested	KRW 121,774	Korea Development Bank and others
Korea Midland Power Co., Ltd.	PT. Cirebon Electric Power	Debt guarantees	USD 10,038	Mizuho Bank
Korea Midland Power Co., Ltd.	PT Wampu Electric Power	Debt guarantees	USD 4,817	SMBC
Korea Midland Power Co., Ltd.	Green Energy Electricity Generation Co., Ltd.	Collateralized money invested Guarantees for supplemental funding and others (*1)	KRW 1,652 -	IBK IBK and others
Korea Midland Power Co., Ltd.	Yaksu ESS Co., Ltd.	Collateralized money invested	KRW 521	IBK
Korea Midland Power Co., Ltd.	Namjeongsusang Solar Power Operation Co., Ltd.	Collateralized money invested	KRW 367	IBK
Korea Midland Power Co., Ltd.	Gwangbaek Solar Power Investment Co., Ltd.	Collateralized money invested	KRW 4,777	Kyobo Life Insurance Co., Ltd. and others
Korea Midland Power Co., Ltd.	Muan Sunshine Solar Power Plant Co., Ltd.	Collateralized money invested	KRW 1,249	IBK
Korea Midland Power Co., Ltd.	Goesan Solar Park Co., Ltd.	Collateralized money invested	KRW 1,806	IBK
Korea Midland Power Co., Ltd.	Bitgoel Eco Energy Co., Ltd.	Collateralized money invested Guarantees for supplemental funding (*1)	KRW 4,616 -	IBK and others
Korea Midland Power Co., Ltd.	Energyco LLC	Collateralized money invested	KRW 1,992	Nonghyup Bank
Korea Midland Power Co., Ltd.	Jeju Gimnyeong Wind Power Co., Ltd.	Collateralized money invested	KRW 551	Nonghyup Bank
Korea Midland Power Co., Ltd.	Dongbu Highway Solar Co., Ltd.	Collateralized money invested	KRW 190	Nonghyup Bank

46. **Related Parties, Continued**

(7) Guarantees provided to related parties as of March 31, 2021 are as follows, continued:

In millions of won and thousands of foreign currencies

Primary guarantor	Principal obligor	Type of guarantees	Credit limit	
Korea Midland Power Co., Ltd.	Seobu Highway Solar Co., Ltd.	Collateralized money invested	KRW 195	Nonghyup Bank
Korea South-East Power Co., Ltd.	DAYONE Energy Co., Ltd.	Collateralized money invested (*4) Guarantees for supplemental funding and others (*1, 5)	- KRW 76,800	IBK NH investment & securities Co., Ltd. and others
Korea South-East Power Co., Ltd.	RES Technology AD	Collateralized money invested	KRW 15,282	UniCredit Bulbank and others
Korea South-East Power Co., Ltd.	ASM-BG Investicii AD	Collateralized money invested	KRW 15,766	UniCredit Bulbank and others
Korea South-East Power Co., Ltd.	Expressway Solar-light Power Generation Co., Ltd.	Guarantees for supplemental funding (*1, 2)	KRW 2,500	Woori Bank
Korea South-East Power Co., Ltd.	Goseong Green Power Co., Ltd.	Collateralized money invested	KRW 1,965	Kyobo Life Insurance Co., Ltd. and others
Korea South-East Power Co., Ltd.	Gangneung Eco Power Co., Ltd.	Collateralized money invested	KRW 2,337	Kyobo Life Insurance Co., Ltd. and others
Korea South-East Power Co., Ltd.	PND solar Co., Ltd.	Collateralized money invested	KRW 981	IBK
Korea South-East Power Co., Ltd.	Hyundai Eco Energy Co., Ltd.	Collateralized money invested	KRW 4,282	Samsung Life Insurance and others
Korea South-East Power Co., Ltd.	Jaeun Resident Wind Power Plant Co., Ltd.	Collateralized money invested	KRW 2,154	IBK
Korea South-East Power Co., Ltd.	Cheongsong Myeonbongsan Wind Power Plant Co., Ltd.	Collateralized money invested	KRW 4,017	Kyobo Life Insurance Co., Ltd. and others
Korea South-East Power Co., Ltd.	Youngam Solar Power Co., Ltd.	Collateralized money invested	KRW 4,430	Kookmin Bank and others
Korea South-East Power Co., Ltd.	Samsu Wind Power Co., Ltd.	Collateralized money invested	KRW 2,558	Shinhan Bank and others
Korea South-East Power Co., Ltd.	Saemangeum Heemang Photovoltaic Co., Ltd.	Collateralized money invested	KRW 10,974	Woori Bank and others
Korea Hydro & Nuclear Power Co., Ltd.	Noeul Green Energy Co., Ltd.	Collateralized money invested	KRW 3,989	Hana Bank and others
Korea Hydro & Nuclear Power Co., Ltd.	Busan Green Energy Co., Ltd.	Collateralized money invested	KRW 7,582	Shinhan Bank and others
Korea Hydro & Nuclear Power Co., Ltd.	Cheong-Song Noraesan Wind Power Co., Ltd.	Collateralized money invested	KRW 3,647	Woori Bank and others
KEPCO Plant Service & Engineering Co., Ltd.	Incheon New Power Co., Ltd.	Collateralized money invested (*7) Guarantees for supplemental funding (*1)	-	Shinhan Bank

(*1) The Group guarantees to provide supplemental funding for business with respect to excessive business expenses or insufficient repayment of borrowings.

(*2) The Group has granted the right to Hana Financial Investment Co., Ltd., as an agent for the creditors to Expressway Solar-light Power Generation Co., Ltd. ("ESPG"), to the effect that in the event of acceleration of ESPG's payment obligations under certain borrowings to such creditors, Hana Financial may demand the Group to dispose of shares in ESPG held by the Group and apply the resulting proceeds to repayment of ESPG's obligations.

(*3) Controlling and non-controlling common shareholders of Samcheok Eco Materials Co., Ltd. have pre-emption rights, if preferred shareholders intend to sell their shares until December 26, 2023. The promised yield of the preferred stock is guaranteed through the transaction. As of March 31, 2021, the Group has recognized derivative liabilities of W6,760 million related to the guarantee. Meanwhile, the Group is under an agreement with Samcheok Eco Materials Co., Ltd. that if a damage incurs related to the fulfillment of obligations pursuant to the mandatory contract of coal ash supply, compensation for the expected amount of the damage should be settled. (*4) The Group recognized an impairment loss on all of the equity securities of DAYONE Energy Co., Ltd. before the prior year, and the

acquisition cost of the securities provided as collateral is $\frac{1}{2}$ 47,067 million.

(*5) Pursuant to the guarantee agreement, the Group recognized other provisions of W26,772 million as the possibility of economic benefit outflow to fulfill the obligation was deemed probable and the amount could be reasonably estimated.

(*6) The common stocks of Dongducheon Dream Power Co., Ltd. held by the Group were pledged as collateral.

(*7) The Group recognized an impairment loss on all of the equity securities of Incheon New Power Co., Ltd. before the prior year, and the acquisition cost of the securities provided as collateral is ₩461 million.

(*8) The Group provided a payment guarantee to Daehan Wind Power PSC for opening LC for Debt Service Reserve Account (DSRA).

(*9) This includes a guarantee related to LC for debt repayment allowance provided to DE Energia SpA, a joint venture of the Group.

(*10) The Group recognized an impairment loss on all of the equity securities of Naepo Green Energy Co., Ltd. before the prior year, and the acquisition cost of the securities provided as collateral is \\$29,200 million.

(*11) The credit limits of guarantees to RE Holiday Holdings LLC and RE Barren Ridge 1 Holdings LLC include the credit limits of guarantees to their subsidiaries.

46. Related Parties, Continued

(8) As of March 31, 2021, there is no financial guarantee provided by related parties.

(9) Derivatives transactions with related parties as of March 31, 2021 are as follows:

(i) Currency Swap

In millions of won and thousands of foreign currencies except contract exchange rate information

			Contract Amount		Contract Interest rate per annum		
Counterparty	Contract year	Pay	Receive	Pay (%)	Receive (%)	-	exchange rate
Korea Development	2019~2024 ₩	177,600	USD 150,000	1.24%	2.50%	₩	1,184.00
Bank	2020~2025	241,320	USD 200,000	0.54%	1.13%		1,206.60
	2015~2025	111,190	USD 100,000	2.62%	3.25%		1,111.90
	2017~2027	111,610	USD 100,000	2.31%	3.13%		1,116.10
	2018~2028	108,600	HKD 800,000	2.69%	3.35%		135.75
	2018~2023	170,280	USD 150,000	2.15%	3.75%		1,135.20
	2019~2027	119,978	CHF 100,000	1.43%	0.05%		1,199.78
	2020~2026	118,910	USD 100,000	0.61%	1.00%		1,189.10
	2016~2021	121,000	USD 100,000	2.15%	2.50%		1,210.00
	2019~2022	112,650	USD 100,000	1.80%	3.38%		1,126.50
	2018~2023	320,880	USD 300,000	2.03%	3.75%		1,069.60
	2019~2022	117,340	USD 100,000	1.06%	2.38%		1,173.40
	2017~2022	113,300	USD 100,000	1.94%	2.63%		1,133.00
	2018~2023	169,335	USD 150,000	2.26%	3.88%		1,128.90
	2020~2025	122,780	USD 100,000	0.93%	1.75%		1,227.80

(ii) Currency forward

In millions of won and thousands of USD except contract exchange rate information

				Contrac	t amounts		Contract
Counterparty	Contract date	Maturity date		Pay	Receive	-	exchange rate
Korea Developme Bank	2017.12.27 2021.03.18	2021.07.12 2021.04.15	₩	104,849 11,238	USD 100,000 USD 10,000	₩	1,048.49 1,123.75

(10) The Group considers all standing directors of the Board who serve as executive officers responsible for planning, operations and/or control of business activities, as key management personnel, except a standing director who is a member of the Audit Committee. The Group recorded salaries and other compensations related to the key management personnel as follows:

In millions of won Type	Ma	rch 31, 2021	March 31, 2020
Salaries	W	189	189
Employee benefits		8	14
	₩	197	203

47. Statement of Cash Flows

(1) Significant non-cash transactions for the three-month periods ended March 31, 2021 and 2020 are as follows:

In millions of won			
Transactions		March 31, 2021	March 31, 2020
Transfer from construction-in-progress to other assets Recognition of asset retirement cost and related provision for	₩	1,867,312	1,874,217
decommissioning costs		39,977	114,813
Transfer from provision for disposal of used nuclear fuel to accrued expenses Transfer from long-term borrowings and debt securities to current portion of		84,972	149,790
long-term borrowings and debt securities		10,121,815	7,739,777
Transfer from inventory to stored nuclear fuel		147,081	152,499
Transfer of right-of-use assets due to change in accounting policy and others		26,619	113,871

(2) Changes in liabilities incurred from financing activities for the three-month periods ended March 31, 2021 and 2020 are as follows:

In millions of won	_			March 31, 202	1	
			_			
		Beginning balance	Cash flows	Increase	Effect of exchange rate fluctuations and others	Ending balance
Borrowings and debt securities	₩	69,724,581	(556,056)	-	453,532	69,622,057
Lease liabilities	_	4,621,096	(174,075)	21,077	145,938	4,614,036
	₩_	74,345,677	(730,131)	21,077	599,470	74,236,093
In millions of won				March 31, 202	0	
				Non-cas	h changes	
		Beginning balance	Cash flows	Increase	Effect of exchange rate fluctuations and others	Ending balance
Borrowings and debt securities	₩	67,876,541	519,362	-	592,404	68,988,307
Lease liabilities	_	5,070,133	(199,867)	108,102	236,555	5,214,923
	₩	72,946,674	319,495	108,102	828,959	74,203,230

48. Commitments for Expenditure

(1) The commitments for acquisition of property, plant and equipment as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won Contracts		March 31, 2021		December 31, 2020		
		Commitment amounts	Remaining liability balances	Commitment amounts	Remaining liability balances	
Purchase of cable (PVC, 1C, 2000SQ) 153,000M and						
others (Shin-Buyyung-Youngseo) Purchase of cable (PVC, 1C, 2500SQ) 103,374M and	₩	56,574	16,038	56,574	16,038	
others (Bukdangjin-Shin-Tangjung) Purchase of GIS (362kV, 6300A, 63kA) 23CB – Youngseo		45,390	32,876	45,390	32,876	
S/S Purchase of GIS (362kV, 6300A, 63kA) 26CB – Hwasung		36,143	25,292	36,143	29,898	
S/S Purchase of GIS (362kV, 6300A, 63kA) 27CB –		40,010	8,328	40,010	8,328	
Kwangyang S/S		37,744	140	37,744	2,244	
Purchase of cable (FR CNCO-W, 1C, 325SQ) 1,400,000M		-	-	59,716	37,249	
Purchase of switch (Eco) 9,360 units		-	-	40,631	24,031	
Purchase of cable (TR CNCE-W,1C,600SQ) 551,200M Purchase of cable (TR CNCE-W/AL,1C,400SQ)		40,535	20,007	37,288	23,100	
4,464,000M		86,218	32,822	82,622	51,130	
Purchase of cable (FR CNCO-W,1C,325SQ) 1,092,000M Concrete pole (10M, general purpose, 350KGF) 102,435		45,362	31,576	42,068	35,358	
ea and five other equipments Purchase of cable (PVC, 1C, 2500SQ) 100,548M and		91,831	65,944	91,889	80,904	
others		54,714	54,714	-	-	
Purchase of GIS (362kV, 6300A, 63kA) 25CB – Migeum S/S		32,000	32,000	-	-	
Advanced E-Type low-pressure electronic power meter 1,320,000 ea		43,850	43,188			
Construction of Shin-Kori units (#5,6)		8,625,387	2,957,571	8,625,387	3,256,117	
Construction of Shin-Hanul units (#1,2)		9,443,634	35,918	9,443,635	160,512	
Other 29 contracts		517,526	497,032	107,586	58,466	
Service of designing Seoul Combined units (#1,2)		31,841	934	31,841	984	
Service of designing Shin-Boryeong units (#1,2) Purchase of furnace for construction of Shin-Seocheon		121,179	243	121,163	521	
thermal power plant Purchase of turbine generator for construction of Shin-		305,209	24,340	305,209	29,042	
Seocheon thermal power plant		105,226	7,858	105,226	8,279	
Electricity construction of Shin-Seocheon thermal power		284,789	0 1 2 /	202.224	13,524	
plant		284,789 166,287	8,124 11,182	282,234 166,287	13,524	
Purchase of main machine for Jeju LNG combined Service of designing Taean units (#9,10)		112,813	12,933	112,813	12,933	
Purchase of gas turbine and turbine equipment of						
Gimpo combined heat & power plant Purchase of steam turbine, HRSG and POWER BLOCK of		104,600	41,840	104,600	41,840	
Gimpo combined heat & power plant		210,900	147,630	210,900	147,630	
Construction of Gimpo combined heat & power plant Purchase of coal handling machine for construction of		119,212	116,260		-	
Samcheok units (#1,2) Purchase of furnace main equipment for construction of		285,158	20,451	285,158	22,751	
Samcheok units (#1,2) Purchase of turbine main equipment for Samcheok units		1,065,141	-	1,065,141	11,609	
(#1,2)		211,349	-	211,349	125	
Purchase of main equipment for Namieju		140,144	3	140,144	112	

48. Commitments for Expenditure, Continued

(2) As of March 31, 2021, details of contracts for inventory purchase commitment are as follows:

The Group imports all of its uranium ore concentrates from sources outside Korea (including the United States, United Kingdom, Kazakhstan, France, Russia, South Africa, Canada and Australia) which are paid for with currencies other than Won, primarily in U.S. dollars. In order to ensure stable supply, the Group entered into long-term and medium-term contracts with various suppliers, and supplements such supplies with purchases of fuels on spot markets. The long-term and medium-term contract periods vary among contractors and the stages of fuel manufacturing process. Contract prices for processing of uranium are generally based on market prices. Contract periods for ore concentrates, conversion, enrichment and design and fabrication are as follows:

Туре	Periods	Contracted quantity
Concentrate	2020 ~ 2030	32,435 Ton U3O8
Transformed	2020 ~ 2030	18,088 Ton U
Enrichment	2020 ~ 2030	17,667 Ton SWU

In addition, the contracted quantity of the molded uranium between Korea Hydro & Nuclear Power Co., Ltd. and KEPCO Nuclear Fuel Co., Ltd., which are subsidiaries of the Group, is 1,625 Ton U (contract period : 2014~2024).

49. Contingencies and Commitments

(1) Ongoing litigations and claims related with contingent liabilities and contingent assets as of March 31, 2021 and December 31, 2020 are as follows:

In millions of won	March 31, 2021		December 31,	2020
	Number of cases	Claim amount	Number of cases	Claim amount
As the defendant	683 W	627,836	663 W	550,535
As the plaintiff	209	733,852	200	729,798

A group of plaintiffs (consisting of 2,167 individuals) filed a lawsuit against NSSC (Nuclear Safety and Security Commission) regarding NSSC's approval on May 18, 2015 of extending the operation of Wolsong unit 1 nuclear power plant. The appeal has been dismissed on May 29, 2020, resulting in plaintiffs' loss. Also, Greenpeace and others filed an administrative litigation against NSSC requesting cancelation of the construction permit of Shin-Kori unit 5 and 6 in September 12, 2016 and lost the lawsuit in February 14, 2019. They appealed the case in March 18, 2019, but the appeal had been dismissed on January 8, 2021. Thus plaintiffs filed an appeal to the Supreme Court of Korea. The Group joined these litigations as a stakeholder after obtaining permission from the court.

As of March 31, 2021, in connection with Shin-Hanul unit 3 & 4, the Group has received communications from a vendor for costs incurred for the preliminary work of the main equipment and associated compensation due to the discontinuation of the construction. The Group does not believe that it has a present obligation to this vendor, and that it is probable that the Group will prevail if a lawsuit is filed against the Group. In addition, the Group cannot reliably estimate the potential economic outflow related to the obligation as of March 31, 2021.

The Group is the defendant against a number of claims. The following is potentially significant ongoing claims pertaining to the Group:

- There is an ongoing claim against the Group from a group of plaintiffs (consisting of 3,910 individuals) regarding the contribution to plan assets and payment of retirement benefits. The Group recognized W11,730 million as litigation provisions in relation to the lawsuit.
- ② There are multiple ongoing claims against the Group related to ordinary wages, requesting payment of unpaid wages. The Group believes that the possibility of the outflow of economic benefits is probable on the ongoing and the expected lawsuits. Accordingly, the Group recognized ₩10,347 million as litigation provisions in relation to the lawsuit as of March 31, 2021.

49. Contingencies and Commitments, Continued

(1) Ongoing litigations and claims related with contingent liabilities and contingent assets as of March 31, 2021 and December 31, 2020 are as follows, continued:

In addition to the abovementioned significant ongoing claims, there are 10 arbitration cases pertaining to the Group as of March 31, 2021 and the significant arbitration cases for the three-month period ended March 31, 2021 are as follows:

- The Group has been accused of breach of contract in relation to ERP software, which is provided by SAP Korea Ltd. The litigation was filed in the International Court of Arbitration of the International Chamber of Commerce. The Group has recognized W1,319 million of litigation provision in relation to the lawsuit.
- ② In relation to the electric power IT modernization project in Kerala, India, Enzen, a subcontractor, filed an arbitration against the Group to the Indian Council of Arbitration due to disagreements in the contract, but the Group has not recognized any provision because the amount and timing of economic benefit outflow cannot be reasonably estimated.
- ③ Two companies including GE Energy Products France SNC filed an arbitration against the Group to Korea Commercial Arbitration Board regarding additional payment of construction costs, but the Group has not recognized any provision because the probability of economic benefit outflow is remote and the related amount cannot be reliably estimated.

(2) Guarantees of payments and commitments provided to other companies as of March 31, 2021 are as follows:

- ① The Group has outstanding borrowings with a limit of USD 275,600 thousand from its creditors such as International Finance Corporation. Regarding the borrowing contract, the Group has guaranteed capital contribution of USD 69,808 thousand and additional contribution up to USD 19,000 thousand for contingencies, if any. Moreover, for one of the electricity purchasers, Central Power Purchasing Agency Guarantee Ltd., the Group has provided payment guarantee up to USD 2,777 thousand, in case of construction delay or insufficient contract volume after commencement of the construction.
- ② The Group has provided PT. Perusahaan Listrik Negara performance guarantee up to USD 2,293 thousand and investment guarantee up to USD 43,500 thousand to Mizuho bank and others in proportion to its ownership in the electricity purchase contract with PT. Cirebon Energi Prasarana in relation to the second electric power generation business in Cirebon, Indonesia.
- ③ The Group has provided MUFG Bank, Ltd. (MUFG) borrowing guarantee up to USD 41,258 thousand in proportion to its ownership in the equity bridge loan (EBL) guarantee with PT. Cirebon Energi Prasarana in relation to the second electric power generation business in Cirebon, Indonesia.
- ④ The Group has provided the Export-Import Bank of Korea, BNP Paribas and ING Bank with the guarantees of mutual investment of USD 2,192 thousand, which is equivalent to the ownership interest of PT BS Energy and PT Nusantara Hydro Alam, in order to guarantee the expenses related to hydroelectric power business of Tanggamus, Indonesia.
- (5) The Group has provided USD 16,000 thousand of business performance guarantees to AEP Texas, Inc., for the construction, ownership, operation, and related cost-bearing implementation of electric power transmission equipment regarding Concho Valley solar business in the United States.
- (6) The Group has provided the syndicate of lenders of PT Indo Raya Tenaga, the business corporation of PT Barito Wahana Tenaga, a guarantee by establishing the right of pledge on the shares of PT Barito Wahana Tenaga for project financing of PT Barito Wahana Tenaga as of March 31, 2021.
- The Group has provided a guarantee to complete the construction of the waste oil refining power generation plant of Next energy Co.,Ltd. (contract amount : ₩14,700 million) to the financial institution agents, thus the Group is liable to compensate to financial institution agents for the any damages incurred in the event of incompletion of the construction. Also, the power generation guarantee agreement was concluded in connection with the consignment service for management and operations (the repayment period of the principal of the loan) after the completion of the construction. If the amount of power generated falls short of the contracted power generation amount, the Group will be liable to pay compensation for the shortage. The Group has recognized a provision based on the assessment of expected outflow of resources.

49. Contingencies and Commitments, Continued

(2) Guarantees of payments and commitments provided to other companies as of March 31, 2021 are as follows, continued:

- (8) The Group has provided Axia Power Holdings B.V. and others performance guarantee up to USD 54,000 thousand for the implementation of Cirebon thermal power generation project in Indonesia.
- (9) The Group has provided PT Perusahaan Listrik Negara performance guarantee up to IDR 35,907,215 thousand for the implementation of Tanjung Jati power plant operation project in Indonesia.
- In the Group has provided Export-Import Bank of Korea and others performance guarantee up to USD 12,090 thousand for the excess project costs of hydroelectric power business of Tanggamus, Indonesia.
- ① The Group has provided Export-Import Bank of Korea and others borrowing guarantee up to USD 5,911 thousand for the DSRA guarantee of hydroelectric power business of Tanggamus, Indonesia.
- ② The Group has provided PT. Cirebon Energi Prasarana guarantees for supplemental funding up to USD 43,500 thousand for the fulfillment of investment obligations regarding Cirebon 2 coal-fired power generation project in Indonesia.

49. Contingencies and Commitments, Continued

(3) Credit lines provided by financial institutions as of March 31, 2021 are as follows:

In millions of won and thousands of foreign currencies

Commitments	Financial institutions	Currency	Credit limit
Commitments on Bank-overdraft	Nonghyup Bank and others	KRW	1,886,500
Commitments on Bank-daylight overdraft	Nonghyup Bank and others Nonghyup Bank	KRW	280,000
Limit amount available for CP	Hana Bank	KRW	1,150,000
Limit amount available for card	Hana Bank and others	KRW	47,104
	Banco de Oro	PHP	5,000
Loan limit	Kookmin Bank and others	KRW	1,649,383
	DBS Bank and others	USD	1,909,700
Cortification of novmont on noveblos from		USD	8,700
Certification of payment on payables from foreign country	Nonghyup Bank	030	8,700
Certification of payment on L/C	Shinhan Bank and others	USD	938,400
	Shinhan Bank	JPY	409,434
	Mizuho Bank	MXN	3,666
Certification of Performance guarantee on	Seoul Guarantee Insurance and others	KRW	71,942
contract	First Abu Dhabi Bank and others	USD	1,041,116
	Korea Development Bank and others	JPY	637,670
	Hana Bank	EUR	4,065
	Shinhan Bank	INR	6,806
	Hana Bank	CAD	148
	Maybank	MYR	7,500
	Hana Bank	SAR	68,054
Certification of bidding	Hana Bank	USD	10,025
	Hana Bank	EUR	8
Advance payment bond, Warranty bond,	Seoul Guarantee Insurance	KRW	40,153
Retention bond and others	Export-Import Bank of Korea and others	USD	550,510
	Hana Bank	SAR	6,508
	Hana Bank	MXN	20,538
Others	Nonghyup Bank and others	KRW	663,832
	Export-Import Bank of Korea and others	USD	2,583,713
	Shinhan Bank	JPY	381,210
	Standard Chartered	AED	50
	Shinhan Bank	MXN	6,471
Inclusive credit	Hana Bank	KRW	8,000
	Hana Bank and others	USD	30,722
	Shinhan Bank	INR	70,028
Trade finance	BNP Paribas and others	USD	750,000

49. Contingencies and Commitments, Continued

(4) As of March 31, 2021, blank check and assets provided as collaterals or pledges to financial institutions by the Group are follows:

In millions of won and thousands of foreign currencies

Guarantor	Guarantee	Type of guarantee	Currency	Amount	Description
Mira Power Limited	International Finance Corporation and others	Property, plant and equipment and others	USD	275,600	Collateral for borrowings (*1)
Tamra Offshore Wind Power Co., Ltd.	Kyobo Life Insurance Co., Ltd. and others	Property, plant and equipment and others	KRW	171,600	Collateral for borrowings (*2)
SE Green Energy Co., Ltd.	DB Insurance Co., Ltd. and others	Property, plant and equipment and others	KRW	149,500	Collateral for borrowings (*2)
Gyeonggi Green Energy Co., Ltd.	Korea Development Bank and others	Cash and cash equivalents and others	KRW	327,080	Collateral for borrowings (*2)
Commerce and Industry Energy Co., Ltd.	IBK and others	Land, buildings, structures and machinery and others	KRW	110,500	Collateral for borrowings (*2)
KOSPO Youngnam Power Co., Ltd.	Shinhan Bank and others	Cash and cash equivalents and others	KRW	396,120	Collateral for borrowings (*2)
Gyeongju Wind Power Co., Ltd.	Samsung Fire & Marine Insurance Co., Ltd. and others	Property, plant and equipment and others	KRW	110,240	Collateral for borrowings (*2)
Korea Offshore Wind Power Co., Ltd.	Woori Bank and others	Utility plant and others	KRW	190,800	Collateral for borrowings (*2)
Qatrana Electric Power Company	The Islamic Development Bank and others	Finance lease receivable and property, plant and equipment and others	JOD	236,570	Collateral for borrowings (*1)
KST Electric Power Company, S.A.P.I. de C.V.	The Export – Import Bank of Korea and others	Finance lease receivable and property, plant and equipment and others	USD	401,277	Collateral for debt securities (*1)
Incheon Fuel Cell Co., Ltd.	Kookmin Bank and others	Cash and cash equivalents and others	KRW	276,960	Collateral for borrowings (*2)
TS Energy No. 25 Co., Ltd.	Kyobo Life Insurance Co., Ltd. and others	Property, plant and equipment and others	KRW	521,281	Collateral for borrowings (*2)

(*1) This is based on the amount of loan commitment limit.

(*2) As of March 31, 2021, the Group has established guarantees for pledge for transfer of rights of long-term borrowings, pledge for insurance claims, pledge for shares, etc.

The Group has W1,197 million of project loans from Korea Energy Agency as of March 31, 2021. The Group has provided a blank check as a repayment guarantee.

49. Contingencies and Commitments, Continued

- (5) The Group temporarily suspended operations of the Gangneung hydroelectric generating plant, with a carrying amount of W68,703 million as of March 31, 2021, to improve the quality of water used in generating electricity. The expenses related to the suspension of operations of W10 million and depreciation on the idle assets of W976 million are recorded in other expenses for the three-month period ended March 31, 2021. Regarding the improvement of water quality, the results of damages compensation for the local residents cannot be reasonably estimated, and the Group is in negotiations with Gangneung City and related stakeholders to restart the Gangneung hydroelectric generating plant as of March 31, 2021.
- (6) Due to the Korean government's announcement of suspension of operation in the Gaeseong Industrial District, it is uncertain if the Group can exercise the property rights for the Group's facility in the Gaeseong Industrial District as of March 31, 2021. The book value of facility is W15,256 million and the amount of trade receivables related to the companies residing in Gaeseong industrial complex is W2,911 million. The outcome of this event cannot be reasonably estimated as of March 31, 2021.
- (7) In connection with the electric power IT modernization project in Kerala, India, negotiations are underway due to disagreements in the contract regarding the existence and the scope of a warranty obligation. However, the Group has not recognized any provision because the amount and timing of economic benefit outflow cannot be reasonably estimated as of March 31, 2021.
- (8) To prevent the spread of COVID-19, a variety of prevention and control measures, including movement restrictions, are being implemented worldwide, and as a result, the global economy is being affected extensively. In addition, various forms of government policies are being announced to cope with COVID-19. The Group was unable to reasonably estimate the impact of COVID-19 and the impact of the government support policies on the Group's consolidated financial statements as of March 31, 2021, and the resulting effects have not been reflected in the consolidated financial statements.

50. Subsequent Events

Subsequent to March 31, 2021, Korea Hydro & Nuclear Power Co., Ltd., Korea South-East Power Co., Ltd., Korea Midland Power Co., Ltd., Korea Western Power Co., Ltd., Korea Southern Power Co., Ltd., and Korea East-West Power Co., Ltd. issued corporate bonds and global bond for operation, repayment of debts, payment for purchases and others as follows:

In millions of won and thousands of USL Company	С Туре	Issue date	Maturity	Interest rate		Amount
Korea Hydro & Nuclear Power Co., Ltd.	Unsecured corporate bond (Global bond)	2021.04.27	2026.04.27	1.25%		USD 500,000
Korea South-East Power Co., Ltd.	#49-1 Corporate bond	2021.04.08	2026.04.08	1.82%	₩	140,000
	#49-2 Corporate bond	2021.04.08	2028.04.08	1.99%		50,000
Korea Midland Power Co., Ltd.	#60 non-guaranteed Corporate bond	2021.04.02	2024.04.02	1.45%		90,000
	#61 non-guaranteed Corporate bond	2021.04.21	2026.04.21	1.85%		190,000
Korea Western Power Co., Ltd.	#48-1 Corporate bond	2021.04.29	2024.04.29	1.39%		60,000
	#48-2 Corporate bond	2021.04.29	2026.04.29	1.87%		150,000
	#48-3 Corporate bond	2021.04.29	2031.04.29	2.18%		20,000
Korea Southern Power Co., Ltd.	#58-1 Unsecured public bond	2021.04.14	2022.04.14	0.86%		150,000
	#58-2 Unsecured public bond	2021.04.14	2023.04.14	1.14%		70,000
Korea East-West Power Co., Ltd.	#21-1 Corporate bond	2021.05.04	2024.05.03	1.41%		80,000

51. Adjusted Operating Profit

The operating profit in the Group's consolidated statements of comprehensive income (loss) prepared in accordance with KIFRS included in this report differs from that in its consolidated statements of comprehensive income (loss) prepared in accordance with IFRS as issued by IASB. The table below sets forth a reconciliation of the Group's results from operating activities as presented in the Group's consolidated interim statements of comprehensive income (loss) prepared in accordance with KIFRS for each of the three-month periods ended March 31, 2021 and 2020 to the operating profit as presented in the Group's consolidated interim statements of comprehensive in accordance with IFRS as issued by IASB for each of the corresponding periods.

In millions of won		Varch 31, 2021	March 31, 2020
Operating profit on the consolidated interim statements of	W	571,647	430,554
comprehensive income (loss) Add	VV		
Other income			
Reversal of other provisions		2,181	1,570
Reversal of other allowance for doubtful accounts		2,101	24
Gains on government grants		128	71
Gains on assets contributed		2,905	10,437
Gains on liabilities exempted		97	830
Compensation and reparations revenue		33,664	19,495
Revenue from research contracts		278	937
Rental income		50,531	46,867
Others		10,125	6,293
Other gains		10,120	0,2,0
Gains on disposal of property, plant and equipment		9,146	27,357
Gains on disposal of investment properties		-	34,423
Gains on foreign currency translation		9,456	12,018
Gains on foreign currency transactions		7,926	7,830
Gains on insurance proceeds		154	-
Others		61,768	61,244
Deduct			,
Other expense			
Compensation and reparations expense		(300)	(313)
Accretion expenses of other provisions		(364)	(56)
Depreciation expenses on investment properties		(362)	(370)
Depreciation expenses on idle assets		(976)	(1,639)
Other bad debts expense		(3,780)	(35)
Donations		(6,469)	(11,143)
Others		(6,905)	(3,057)
Other losses			
Losses on disposal of property, plant and equipment		(8,420)	(7,786)
Impairment loss on property, plant and equipment		(37)	-
Losses on foreign currency translation		(3,615)	(8,581)
Losses on foreign currency transactions		(13,537)	(22,100)
Others		(43,331)	(42,465)
Adjusted operating profit	₩	671,910	562,405