

# **KOREA WATER RESOURCES CORPORATION**

**SEPARATE FINANCIAL STATEMENTS  
AS OF AND FOR THE YEARS ENDED  
DECEMBER 31, 2017 AND 2016**

**ATTACHMENT: INDEPENDENT AUDITORS' REPORT**

**KOREA WATER RESOURCES CORPORATION**

## Contents

	<b>Page</b>
<b>Independent Auditors' Report</b>	<b>1</b>
Separate Statements of Financial Position	5
Separate Statements of Comprehensive Income (Loss)	7
Separate Statements of Changes in Shareholders' Equity	8
Separate Statements of Cash Flows	9
Notes to Separate Financial Statements	11

## **INDEPENDENT AUDITORS' REPORT**

English Translation of Independent Auditors' Report Originally Issued in Korean on February 27, 2018

### **To the Shareholders and the Board of Directors of Korea Water Resources Corporation:**

#### **Report on the Separate Financial Statements**

We have audited the accompanying separate financial statements of Korea Water Resources Corporation (the "Company"), which comprise the separate statements of financial position as of December 31, 2017 and 2016, respectively, and the related separate statements of comprehensive income (loss), separate statements of changes in shareholders' equity and separate statements of cash flows, all expressed in Korean won, for the years ended December 31, 2017 and 2016, respectively, and a summary of significant accounting policies and other explanatory information.

#### **Management's Responsibility for the Separate Financial Statements**

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

#### **Auditors' Responsibility**

Our responsibility is to express an audit opinion on these separate financial statements based on our audits. We conducted our audits in accordance with Korean Standards on Auditing ("KSAs"). Those standards require that we comply with ethical requirements and plan and perform the audits to obtain reasonable assurance about whether the separate financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence obtained is sufficient and appropriate to provide a basis for our audit opinion.

## **Opinion**

In our opinion, the separate financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2016, respectively, and its financial performance and its cash flows for the years ended December 31, 2017 and 2016, respectively, in accordance with Korean Government-Owned and Quasi-Government Accounting Regulations and Standards.

## **Emphasis of Matter**

The following matters may be helpful to the readers in their understanding of the separate financial statements:

### **1. Uncertainty in the Gyeong-in Canal Project**

As other matters that do not have any impact on our audit conclusion, the readers of the report need to pay attention to Note 44.

As described in Note 44 to the separate financial statements, in accordance with the government's resolution at the National Policy Coordination Conference (December 11, 2008), the Company invested a sum of ₩15,043 hundred million (book value) as of December 31, 2017, in the Gyeong-in Canal Project, which is currently recognized as intangible assets.

As of December 31, 2017, as a result of the resolution at the National Policy Coordination Conference (May 22, 2014), the Company is negotiating with the Ministry of Maritime Affairs and Fisheries to settle the procedures of progressing property rights and the changes in business plans in accordance with the Port Act, as a support measure for the Gyeong-in Canal Project, whose recoverable amount of the major waterway investment cost could fluctuate significantly depending on the outcome of the negotiation. As the negotiation (December 2017, with current government) has not been confirmed, there is a significant uncertainty related to impairment of the intangible assets.

2. Adaption of Korean Government-Owned and Quasi-Government Accounting Regulations and Standards

As described in Note 2 to the separate financial statements, if there is no accounting treatment for certain transactions specified under Korean Government-Owned and Quasi-Government Accounting Regulations and Standards, the Company accounts for such transactions in accordance with Korean International Financial Reporting Standards.



February 27, 2018

Notice to Readers

This report is effective as of February 27, 2018, the auditors' report date. Certain subsequent events or circumstances may have occurred between the auditors' report date and the time the auditors' report is read. Such events or circumstances could significantly affect the financial statements and may result in modifications to the auditors' report.

# **KOREA WATER RESOURCES CORPORATION**

**SEPARATE FINANCIAL STATEMENTS  
AS OF AND FOR THE YEARS ENDED  
DECEMBER 31, 2017 AND 2016**

The accompanying separate financial statements, including all footnote disclosures, were prepared by, and are the responsibility of, Korea Water Resources Corporation.

**Lee, Hak Soo  
Chief Executive Officer  
Korea Water Resources Corporation**

**KOREA WATER RESOURCES CORPORATION**  
**SEPARATE STATEMENTS OF FINANCIAL POSITION**  
**AS OF DECEMBER 31, 2017 AND 2016**

	<u>December 31, 2017</u>	<u>December 31, 2016</u>
	(In thousands of Korean won)	
<b>ASSETS</b>		
<b>CURRENT ASSETS:</b>		
Cash and cash equivalents (Notes 6, 7 and 38)	₩118,656,945	₩81,919,921
Short-term loans and receivables (Notes 12 and 38)	8,640,246	-
Short-term financial instruments (Notes 11 and 38)	23,897,420	79,605,251
Derivative assets (Notes 8 and 38)	2,180,359	13,940,759
Trade and other receivables, net (Notes 9, 38 and 41)	309,615,889	290,915,237
Inventories (Note 13)	6,416,510,928	5,838,015,694
Other non-financial assets (Note 14)	<u>64,006,943</u>	<u>55,263,517</u>
<b>TOTAL CURRENT ASSETS</b>	<u>6,943,508,730</u>	<u>6,359,660,379</u>
<b>NON-CURRENT ASSETS:</b>		
Non-current AFS financial assets (Notes 10 and 38)	23,029,647	16,938,771
Long-term loans and receivables (Notes 12 and 38)	17,762,987	19,436,514
Non-current derivative assets (Notes 8 and 38)	28,672,132	62,389,624
Long-term trade and other receivables, net (Notes 9 and 38)	166,794,603	168,139,293
Property, plant and equipment (Notes 16 and 23)	1,543,250,115	1,458,180,460
Intangible assets other than goodwill (Notes 17, 23, 24 and 44)	11,382,495,040	11,498,123,045
Investments in subsidiaries (Note 15)	226,884,342	175,695,632
Investments in associates (Note 15)	87,254,297	88,707,657
Other non-financial assets (Note 14)	3,044,095	3,313,038
Deferred tax assets (Note 36)	<u>39,149,937</u>	<u>49,248,837</u>
<b>TOTAL NON-CURRENT ASSETS</b>	<u>13,518,337,195</u>	<u>13,540,172,871</u>
<b>TOTAL ASSETS</b>	<u>₩20,461,845,925</u>	<u>₩19,899,833,250</u>

(Continued)

**KOREA WATER RESOURCES CORPORATION**  
**SEPARATE STATEMENTS OF FINANCIAL POSITION (CONTINUED)**  
**AS OF DECEMBER 31, 2017 AND 2016**

	<u>December 31, 2017</u>	<u>December 31, 2016</u>
	(In thousands of Korean won)	
<b>LIABILITIES</b>		
<b>CURRENT LIABILITIES:</b>		
Trade and other payables (Notes 18, 38 and 41)	₩323,157,056	₩322,807,212
Current portion of long-term borrowings (Notes 19 and 38)	64,402,646	73,952,246
Current portion of debentures, net (Notes 19 and 38)	1,341,689,500	1,494,543,000
Derivative liabilities (Notes 8, 20 and 38)	20,161,613	-
Current tax liabilities	1,737,320	-
Other non-financial liabilities (Note 25)	1,134,670,473	1,136,493,495
Provisions (Note 22)	99,472,152	116,464,377
<b>TOTAL CURRENT LIABILITIES</b>	<u>2,985,290,760</u>	<u>3,144,260,330</u>
<b>NON-CURRENT LIABILITIES:</b>		
Long-term borrowings (Notes 19 and 38)	42,179,600	74,579,000
Debentures, net (Notes 19 and 38)	9,932,699,270	9,799,643,323
Derivative liabilities (Notes 8, 20 and 38)	35,837,762	26,977,212
Other non-financial liabilities (Notes 24 and 25)	41,392,575	41,659,075
Employee benefits (Note 21)	164,163,501	139,655,169
Provisions (Notes 22 and 43)	60,387,705	69,727,023
Deferred tax liabilities (Note 36)	-	-
<b>TOTAL NON-CURRENT LIABILITIES</b>	<u>10,276,660,413</u>	<u>10,152,240,802</u>
<b>TOTAL LIABILITIES</b>	<u>13,261,951,173</u>	<u>13,296,501,132</u>
<b>EQUITY:</b>		
Issued capital (Notes 1 and 26)	8,101,944,480	7,687,517,325
Retained earnings (accumulated deficit) (Notes 27 and 28)	(917,017,301)	(1,080,255,882)
Other equity components (Note 29)	14,967,573	(3,929,325)
<b>TOTAL EQUITY</b>	<u>7,199,894,752</u>	<u>6,603,332,118</u>
<b>TOTAL EQUITY AND LIABILITIES</b>	<u><u>₩20,461,845,925</u></u>	<u><u>₩19,899,833,250</u></u>
(Concluded)		

See accompanying notes to separate financial statements.



**KOREA WATER RESOURCES CORPORATION**  
**SEPARATE STATEMENTS OF COMPREHENSIVE INCOME (LOSS)**  
**FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016**

	2017	2016
	(In thousands of Korean won)	
REVENUE (Notes 5, 30, 40 and 41)	₩3,262,683,279	₩3,444,159,584
COST OF SALES (Notes 37 and 41)	<u>(2,697,952,363)</u>	<u>(2,953,519,061)</u>
GROSS PROFIT	<u>564,730,916</u>	<u>490,640,523</u>
Selling, general and administrative expenses (Notes 31 and 37)	<u>(145,672,699)</u>	<u>(144,580,682)</u>
OPERATING PROFIT	<u>419,058,217</u>	<u>346,059,841</u>
Other income (Notes 9, 24 and 32)	49,965,921	20,031,721
Other expenses (Notes 9 and 32)	(38,390,719)	(119,462,491)
Other loss, net (Notes 17 and 33)	(1,889,366)	(143,012,042)
Financial income (Notes 8, 34 and 38)	124,924,466	43,039,468
Financial costs (Notes 8, 35 and 38)	(383,289,611)	(328,540,921)
Gain on disposal of investments in associates and subsidiaries	-	102,204
Impairment loss on investments in associates (Note 15)	<u>(1,453,360)</u>	<u>(12,137,717)</u>
NET INCOME (LOSS) BEFORE INCOME TAX EXPENSE (BENEFIT)	<u>168,925,548</u>	<u>(193,919,937)</u>
Income tax expense (benefit) (Note 36)	<u>7,365,656</u>	<u>(48,287,753)</u>
NET INCOME (LOSS) FOR THE YEAR	<u>161,559,892</u>	<u>(145,632,184)</u>
OTHER COMPREHENSIVE INCOME (LOSS):		
Items that will not be reclassified to profit or loss:		
Defined benefit plan actuarial (Note 27)	<u>1,678,689</u>	<u>(1,155,534)</u>
Total items that will not be reclassified to profit or loss	<u>1,678,689</u>	<u>(1,155,534)</u>
Items that are, or may be, reclassified subsequently to profit or loss:		
Effective portion of unrealized change in fair values of cash flow hedges	<u>18,896,898</u>	<u>1,331,329</u>
Total items that are, or may be, reclassified subsequently to profit or loss (Notes 8 and 29)	<u>18,896,898</u>	<u>1,331,329</u>
OTHER COMPREHENSIVE INCOME (LOSS) FOR THE YEAR, NET OF INCOME TAX	<u>20,575,587</u>	<u>175,795</u>
TOTAL COMPREHENSIVE INCOME (LOSS) FOR THE YEAR	<u>₩182,135,479</u>	<u>₩(145,456,389)</u>

See accompanying notes to separate financial statements.

**KOREA WATER RESOURCES CORPORATION**  
**SEPARATE STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY**  
**FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016**

	Issued capital	Retained earnings	Other equity components	Total equity
	(In thousands of Korean won)			
Balance at January 1, 2016	₩7,193,548,343	₩(2,384,847,331)	₩1,446,118,512	₩6,254,819,524
Comprehensive income (loss) for the year:				
Net loss	-	(145,632,184)	-	(145,632,184)
Other comprehensive income (loss)	-	1,450,223,633	(1,450,047,837)	175,796
Total comprehensive income (loss) for the year	-	1,304,591,449	(1,450,047,837)	(145,456,388)
Transactions with owners of the Company:				
Increase in paid-in capital	493,968,982	-	-	493,968,982
Total transactions with owners of the Company	493,968,982	-	-	493,968,982
Balance at December 31, 2016	<u>₩7,687,517,325</u>	<u>₩(1,080,255,882)</u>	<u>₩(3,929,325)</u>	<u>₩6,603,332,118</u>
Balance at January 1, 2017	<u>₩7,687,517,325</u>	<u>₩(1,080,255,882)</u>	<u>₩(3,929,325)</u>	<u>₩6,603,332,118</u>
Comprehensive income (loss) for the year:				
Net income	-	161,559,892	-	161,559,892
Other comprehensive income (loss)	-	1,678,689	18,896,898	20,575,587
Total comprehensive income (loss) for the year	-	163,238,581	18,896,898	182,135,479
Transactions with owners of the Company				
Increase in paid-in capital	414,427,155	-	-	414,427,155
Total transactions with owners of the Company	414,427,155	-	-	414,427,155
Balance at December 31, 2017	<u>₩8,101,944,480</u>	<u>₩(917,017,301)</u>	<u>₩14,967,573</u>	<u>₩7,199,894,752</u>

See accompanying notes to separate financial statements.

**KOREA WATER RESOURCES CORPORATION**  
**SEPARATE STATEMENTS OF CASH FLOWS**  
**FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016**

	2017	2016
	(In thousands of Korean won)	
Cash flows from operating activities:		
Net income (loss) for the year	₩161,559,892	₩(145,632,184)
Adjustments for:		
Expenses for employee benefits	29,860,010	30,636,947
Depreciation	87,164,921	84,804,018
Amortization	614,222,548	608,094,834
Allowance for bad and doubtful debts	(33,848)	(872,973)
Other bad debt expense	508,991	47,353
Recovery of provisions	-	(4,506,879)
Provisions recognized	97,923,850	172,350,736
Gain on disposal of property, plant and equipment, net	(646,979)	(177,727)
Impairment loss on property, plant and equipment	-	-
Impairment loss on intangible assets	2,536,346	143,018,579
Interest income	(12,195,190)	(8,774,307)
Dividend income	(742,237)	(501,273)
Loss (gain) on valuation of derivatives, net	84,655,000	(33,760,000)
Loss (gain) on derivative transactions, net	27,332,000	-
Loss (gain) on foreign currency translation, net	(83,522,242)	33,801,992
Loss (gain) on foreign currency transactions, net	(24,425,419)	312,500
Interest expense	262,545,872	294,422,542
Loss on redemption of debenture	3,778,767	-
Gain on disposal of investments in associates and Subsidiaries	-	(102,204)
Impairment loss on investments in associates	1,453,360	12,137,717
Income tax expense (benefit)	7,365,655	(48,287,753)
Others, net	(266,500)	(266,500)
Changes in:		
Trade accounts receivable	(5,844,011)	77,020,082
Inventories	(446,802,122)	(451,372,691)
Other operating assets	(17,375,956)	65,648,919
Long-term trade accounts receivable	-	(64,248)
Trade accounts payable	4,584,089	1,807,441
Other operating liabilities	(300,873,366)	63,661,791
Payment of employee benefits	(3,137,048)	(3,465,094)
Cash generated from operating activities	489,626,383	889,981,618
Dividends received	742,237	501,273
Interest received	9,395,310	80,917
Interest paid	(241,046,888)	(476,135,852)
Income taxes paid	(2,098,422)	-
Net cash provided by operating activities	256,618,620	414,427,956

(Continued)

**KOREA WATER RESOURCES CORPORATION**  
**SEPARATE STATEMENTS OF CASH FLOWS (CONTINUED)**  
**FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016**

	2017	2016
	(In thousands of Korean won)	
Cash flows from investing activities:		
Acquisition of short-term financial instruments	₩(304,296,299)	₩-
Proceeds from sale of short-term financial instruments	360,004,130	36,913,692
Acquisition of AFS financial assets	(6,275,822)	(2,252,000)
Proceeds from sale of AFS financial assets	184,946	119,108
Increase in long-term loans	(47,365,219)	(1,142,738)
Collection of long-term loans	36,359,122	2,540,497
Increase in deposit	(49,993,982)	(53,201,199)
Decrease in deposit	49,708,280	43,569,838
Acquisition of property, plant and equipment	(129,202,291)	(99,132,553)
Proceeds from sale of property, plant and equipment	2,772,560	3,890,108
Acquisition of intangible assets	(566,662,977)	(706,121,665)
Proceeds from sale of intangible assets	39,600,001	43
Government grants returned	-	-
Contributions for construction received	-	900,000
Acquisition of investments in associates and subsidiaries	-	(91,924,000)
Proceeds from sale of investments in associates and subsidiaries	-	426,004
Net cash used in investing activities	<u>(615,167,551)</u>	<u>(865,414,865)</u>
Cash flows from financing activities:		
Additional acquisition of investment in subsidiaries	(51,188,710)	(50,811,282)
Repayment of current portion of long-term borrowings	(1,536,107,000)	(42,159,340)
Repayment of debentures	(12,557,000)	-
Settlement of derivatives	(26,446,767)	(1,336,581,000)
Proceeds from debentures	1,607,543,277	1,372,440,000
Increase in long-term borrowings	(385,000)	(1,185,400)
Equity investments from government	414,427,155	493,968,982
Dividends paid	-	-
Net cash (used in) provided by financing activities	<u>395,285,955</u>	<u>435,671,960</u>
Net decrease in cash and cash equivalents	36,737,024	(15,314,949)
Cash and cash equivalents at January 1	81,919,921	97,589,362
Effect of changes in exchange rates on cash and cash equivalents denominated in foreign currencies	-	(354,492)
Cash and cash equivalents at December 31	<u>₩118,656,945</u>	<u>₩81,919,921</u>
(Concluded)		

See accompanying notes to separate financial statements.

**KOREA WATER RESOURCES CORPORATION**  
**NOTES TO SEPARATE FINANCIAL STATEMENTS**  
**AS OF AND FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016**

**1. REPORTING ENTITY:**

Korea Water Resources Corporation (the “Company”) was incorporated in 1967 in accordance with the Korea Water Resources Development Corporation Act of the Republic of Korea.

The Company was reorganized as Industrial Sites & Water Resources Development Corporation on December 24, 1973, pursuant to the Act for Promotion of Industrial Site Development and had been reorganized again as Korea Water Resources Corporation, pursuant to the Korea Water Resources Corporation Act (the “K-water Act”) on July 1, 1988.

The Company is engaged in the business of promoting public interests by developing and managing water resources, facilitating water supply and improving the quality of water. In addition, the Company is involved in developing projects for industrial complexes and special-purpose areas in accordance with the K-water Act.

As of December 31, 2017, issued capital of the Company amounts to ₩8,109 billion, and the present ownership of the Company is as follows:

	(Unit: In thousands of Korean won)	
	Share capital	Percentage of ownership
Government of the Republic of Korea	₩7,500,557,930	92.5%
Korea Development Bank	601,390,088	7.4%
Local government	7,026,278	0.1%
	₩8,108,974,296	100.0%

**2. BASIS OF PREPARATION:**

(1) Basis of preparation

The Company prepared separate financial statements in accordance with the Korean Government-Owned and Quasi-Government Accounting Regulations and Standards. If there are no regulations other than Korean Government-Owned and Quasi-Government Accounting Regulations and Standards, accounting standards of the Company are adopted in accordance with Korean International Financial Reporting Standards (“K-IFRSs”).

These separate financial statements are prepared in accordance with K-IFRS 1027, *Separate Financial Statements*, presented by a parent, an investor with joint control of or significant influence over, an investee, in which the investments are accounted for at cost or at the accounting standard in accordance with K-IFRS 1039, *Financial Instruments: Recognition and Measurement*. Accounting standards that the Company adopted in accordance with Korean Government-Owned

and Quasi-Government Accounting Regulations and Standards are as follows:

- (i) Government grants (Article 44: *Accounting of Government Grants*)  
Government grants used for the acquisition of certain assets are deducted from the acquisition cost of the acquired assets, and such grants are offset against the depreciation expenses of the acquired assets during the useful lives of the assets. Government grants received for consignment management service provided by the Company are recognized as other income.
  - (ii) Contribution to the Employee Welfare Fund (Article 49: Contribution to the Employee Welfare Fund)  
The Company contributes to the employee welfare fund, and contributions are recognized as operating expenses in accordance with Employee Welfare Fund Act.
  - (iii) Presentation of financial statements (Article 2)  
Financial statements are prepared and accounts are created and classified in accordance with guidelines set by the Minister of Strategy and Finance.
  - (iv) Allowance for doubtful accounts (Article 11 of Quasi-Government Accounting Regulations)  
Allowance for doubtful accounts is calculated based on the evaluation of accounts receivable aging. Accounts receivable for which collection is certain, such as amounts due from national and local governments and amounts relating to industrial complexes, are excluded from the analysis of aging.
- (2) Amendments to K-IFRSs and new interpretations that are mandatorily effective for the current year

In the current year, the Company has applied a number of amendments to K-IFRSs and new interpretations issued that are mandatorily effective accounting periods beginning on or after January 1, 2017.

- (i) Amendments to K-IFRS 1007 – *Statement of Cash Flows*  
The amendments require an entity to provide disclosures that enable users of financial statements to evaluate changes in liabilities arising from financing activities, including both cash and non-cash changes. Consistent with the transition provisions of the amendments, the Company has not disclosed comparative information for the prior period. The application of these amendments has no material impact on the disclosures or the amounts recognized in the Company's separate financial statements.

(ii) Amendments to K-IFRS 1012 – *Income Taxes*

The amendments clarify that in evaluating the deferred tax assets arising from deductible temporary difference of debt instruments measured at fair value, the carrying amount of an asset does not limit the estimation of probable future taxable profits. The application of these amendments has no material impact on the disclosures or the amounts recognized in the Company's separate financial statements.

(iii) Annual Improvements to K-IFRS 2014-2016 Cycle

The Company has applied the amendments to K-IFRS 1112—Share-based Payment included in the annual improvements to K-IFRS 2014-2016 Cycle for the first time in the current year. The other amendments included in this package are not yet mandatorily effective, and they have not been early adopted by the Company.

The amendments state that an entity need not provide summarized financial information for interests in subsidiaries, associates or joint ventures that are classified (or included in a disposal group that is classified) as held for sale. The amendments clarify that this is the only concession from the disclosure requirements for K-IFRS 1112

(3) New and revised K-IFRSs in issue, but not yet effective

(i) Amendments to K-IFRS 1109 – *Financial Instruments*

The amendments to K-IFRS 1109 contain the requirements for the classification and measurement of financial assets and financial liabilities based on a business model whose objective is achieved both by collecting contractual cash flows and selling financial assets and based on the contractual terms that give rise on specified dates to cash flows, impairment methodology based on the expected credit losses, broadened types of instruments that qualify as hedging instruments, the types of risk components of non-financial items that are eligible for hedge accounting and the change in the hedge effectiveness test. The amendments are effective for annual periods beginning on or after January 1, 2018.

(ii) Amendments to K-IFRS 1115 – *Revenue from Contracts with Customers*

The core principle under K-IFRS 1115 is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The amendments introduce a five-step approach to revenue recognition and measurement: 1) Identify the contract with a customer, 2) Identify the performance obligations in the contract, 3) Determine the transaction price, 4) Allocate the transaction price to the performance obligations in the contract and 5) Recognize revenue when (or as) the entity satisfies a performance obligation. This standard will supersede K-IFRS 1011 - Construction Contracts, K-IFRS 1018- Revenue, K-IFRS 2113 - Customer Loyalty Programmes, K-IFRS 2115-Agreements for the Construction of Real Estate, K-IFRS 2118 - Transfers of Assets from Customers and K-IFRS 2031-Revenue-Barter Transactions Involving Advertising Services. The amendments are effective for annual periods beginning on or after January 1, 2018.

(iii) Amendments to K-IFRS 1116 – *Leases*

IFRS 16 introduces a comprehensive model for the identification of lease arrangements and accounting treatments for both lessors and lessees. K-IFRS 16 will supersede the current lease guidance including K-IFRS 1017 *Leases* and the related interpretations when it becomes effective. The amendments are effective for annual periods beginning on or after January 1, 2019.

K-IFRS 1116 distinguishes leases and service contracts on the basis of whether an identified asset is controlled by a customer. Distinctions of operating leases and finance leases are removed for lessee accounting and is replaced by a model where a right-of-use asset and corresponding liability have to be recognized for all leases by lessees except for short-term leases and leases of low value assets.

The right-of-use asset is initially measured at cost and subsequently measured at cost (subject to certain exceptions) less accumulated depreciation and impairment losses, adjusted for any remeasurement of the lease liability. The lease liability is initially measured at the present value of the lease payments that are not paid at that date. Subsequently, the lease liability is adjusted for interest and lease payments, as well as the impact of lease modifications, among others. Furthermore, the classification of cash flows will also be affected as operating lease payments under K-IFRS 1017 are presented as operating cash flows; whereas under the K-IFRS 1116 model, the lease payments will be split into a principal and an interest portion that will be presented as financing and operating cash flows respectively.

In contrast to lessee accounting, K-IFRS 1116 substantially carries forward the lessor accounting requirements in K-IFRS 1017, and continues to require a lessor to classify a lease either as an operating lease or a finance lease. Furthermore, extensive disclosures are required by K-IFRS 1116. The Company is currently assessing its potential impact.

(iv) Amendments to K-IFRS 2122, *Foreign Currency Transactions and Advance Consideration*

The interpretation addresses how to determine the ‘date of transaction’ for the purpose of determining the exchange rate to use on initial recognition of an asset, expense or income when consideration for that item has been paid or received in advance in a foreign currency that resulted in the recognition of a non-monetary asset or non-monetary liability (e.g. a non-refundable deposit or deferred revenue).

The interpretation specifies that the date of transaction is the date on which the entity initially recognizes the non-monetary asset or non-monetary liability arising from the payment or receipt of advance consideration. If there are multiple payments or receipts in advance, the interpretation requires an entity to determine the date of transaction for each payment or receipt of advance consideration.

The interpretation is effective for annual periods beginning on or after January 1, 2018, with earlier application permitted. Entities can apply the interpretation either retrospectively or prospectively. Specific transition provisions apply to prospective application.

The Company does not anticipate that the application of the amendments in the future will



have an impact on the Company's separate financial statements because the Company already accounts for transactions involving the payment or receipt of advance consideration in a foreign currency in a way that is consistent with the amendments.

(v) Annual Improvements to K-IFRS 2014-2016 Cycle

The annual improvements include amendments to K-IFRS 1101 First-time Adoption and K-IFRS 1028 Investment in Associates and Joint Ventures. The amendments to K-IFRS 1028 clarify that the option for a venture capital organization and other similar entities to measure investments in associates and joint ventures at fair value through profit or loss ("FVTPL") is available separately for each associate or joint venture, and that election should be made at initial recognition of the associate or joint venture. In respect of the option for an entity that is not an investment entity ("IE") to retain the fair value measurement applied by its associates and joint ventures that are IEs when applying the equity method, the amendments make a similar clarification that this choice is available for each IE associate or IE joint venture. The amendments apply retrospectively with earlier application permitted.

Both the amendments to K-IFRS 1101 and K-IFRS 1028 are effective for annual periods beginning on or after January 1, 2018. The Company does not anticipate that the application of the amendments in the future will have any impact on the Company's separate financial statements as the Company is neither a first-time adopter of K-IFRS nor a venture capital organization. Furthermore, the Company does not have any associate or joint venture that is an IE.

The Company believes the application of these amendments will have no significant impact on its separate financial statements.

### **3. SIGNIFICANT ACCOUNTING POLICIES:**

The principal accounting policies are set out below. Except for the effect of the amendments to K-IFRSs and new interpretations set out below, the principal accounting policies used to prepare the separate financial statements as of and for the year ended December 31, 2017, are consistent with the accounting policies used to prepare the separate financial statements as of and for the year ended December 31, 2016.

The separate financial statements have been prepared on the historical cost basis, except for certain non-current assets and financial instruments that are measured at fair values, as explained in the accounting policies below. Historical cost is based on the fair values of the consideration given.

(1) Investments in subsidiaries, joint ventures and associates

The Company has elected to use book value under previous generally accepted accounting principles as deemed cost for subsidiaries and associates at the date of transition to K-IFRS. After the date of transition, subsidiaries and associates are measured at cost.

The requirements of K-IFRS 1036, *Impairment of Assets*, are applied to determine whether it is necessary to recognize any impairment loss with respect to the Company's investment in a subsidiary or an associate. When necessary, the entire carrying amount of the investment is tested for impairment by comparing its recoverable amount (higher of value in use and fair value, less costs to sell) with its carrying amount; any impairment loss recognized forms part of the carrying amount of the investment. Any reversal of that impairment loss is recognized in accordance with K-IFRS 1036 to the extent that the recoverable amount of the investment subsequently increases.

(2) Non-current assets held for sale

Non-current assets and disposal groups are classified as held for sale if their carrying amount will be recovered principally through a sale transaction rather than through continuing use. This condition is regarded as met only when the sale is highly probable and the non-current asset (or disposal group) is available for immediate sale in its present condition. Management must be committed to the sale, which should be expected to qualify for recognition as a completed sale within one year from the date of classification.

Non-current assets (and disposal groups) classified as held for sale are measured at the lower of their previous carrying amount and fair value, less costs to sell.

(3) Revenue recognition

Revenue is measured at the fair value of the consideration received or receivable. Revenue is reduced for estimated customer returns, rebates and other similar allowances. The Company recognizes revenue when the amount of revenue can be reliably measured; when it is probable that future economic benefits will flow to the entity; and when specific criteria have been met for each of the Company's activities, as described below.

1) Sale of goods

Revenue from the sale of goods is recognized when the Company has transferred to the buyer the significant risks and rewards of ownership of the goods.

2) Rendering of services

Revenue from a contract to provide services is recognized by reference to the stage of completion of the contract. Depending on the nature of the transaction, the Company determines the stage of completion by reference to surveys of work performed, services performed to date as a percentage of total services to be performed or the proportion that costs incurred to date bear to the estimated total costs of the transaction, as applicable.

3) Dividend and interest income

Dividend income from investments is recognized when the shareholders' right to receive payment has been established (provided that it is probable that the economic benefits will flow to the Company and the amount of income can be measured reliably).

Interest income from a financial asset is recognized when it is probable that the economic benefits will flow to the Company and the amount of income can be measured reliably. Interest income is accrued on a time basis, by reference to the principal outstanding and at the effective interest rate applicable, which is the rate that exactly discounts estimated future cash receipts through the expected life of the financial asset to that asset's net carrying amount on initial recognition.

4) Rental income

The Company's policy for recognition of revenue from operating leases is described in Note 3 (4).

5) Service concession arrangements

The Company's essential businesses (dam (inclusive of current dam maintenance and downstream business) and regional water supply) in K-IFRS 2112(5) are met. These businesses apply to public-to-private service concession arrangement due to the grantor controls or regulate what services the operator must provide with the infrastructure. The service concession arrangements recognize the Company's sales and cost of goods sold via constructional processes to the extent that related costs of sales are highly probable of being recoverable.

(4) Leases

Leases are classified as finance leases whenever the terms of the lease transfer substantially all the risks and rewards of ownership to the lessee. All other leases are classified as operating leases.

1) The Company as lessor

Amounts due from lessees under finance leases are recognized as receivables at the amount of the Company's net investment in the leases. Finance lease income is allocated to accounting periods so as to reflect a constant periodic rate of return on the Company's net investment outstanding in respect of the leases.

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

2) The Company as lessee

Assets held under finance leases are initially recognized as assets of the Company at their fair value at the inception of the lease or, if lower, at the present value of the minimum lease payments. The corresponding liability to the lessor is included in the separate statements of financial position as a finance lease obligation.

Lease payments are apportioned between finance expenses and reduction of the lease obligation, so as to achieve a constant rate of interest on the remaining balance of the liability. Finance expenses are recognized immediately in profit or loss, unless they are directly attributable to qualifying assets, in which case, they are capitalized in accordance with the Company's general policy on borrowing costs (see Note 3 (6)). Contingent rentals are recognized as expenses in the periods in which they are incurred.

Operating lease payments are recognized as an expense on a straight-line basis over the lease term, except where another systematic basis is more representative of the time pattern in which economic benefits from the leased asset are consumed. Contingent rentals arising under operating leases are recognized as an expense in the period in which they are incurred.

In the event that lease incentives are received to enter into operating leases, such incentives are recognized as a liability. The aggregate benefit of incentives is recognized as a reduction of rental expense on a straight-line basis, except where another systematic basis is more representative of the time pattern in which economic benefits from the leased asset are consumed.

(5) Foreign currencies

The individual financial statements of each group entity are presented in the currency of the primary economic environment in which the entity operates (its functional currency). For the purpose of the separate financial statements, the results and financial position of each group entity are expressed in Korean won, which is the functional currency of the entity and the presentation currency for the separate financial statements.

In preparing the financial statements of the individual entities, transactions in currencies other than the entity's functional currency (foreign currencies) are recognized at the rates of exchange prevailing at the dates of the transactions. At the end of each reporting period, monetary items denominated in foreign currencies are retranslated at the rates prevailing at that date. Non-monetary items carried at fair value that are denominated in foreign currencies are retranslated at the rates prevailing at the date when the fair value was determined. Non-monetary items that are measured in terms of historical cost in a foreign currency are not retranslated.

Exchange differences are recognized in profit or loss in the period in which they arise, except for:

- exchange differences on foreign currency borrowings relating to assets under construction for future productive use, which are included in the cost of those assets when they are regarded as an adjustment to interest costs on those foreign currency borrowings;
- exchange differences on transactions entered into in order to hedge certain foreign currency risks (see Note 3 (16) for hedging accounting policies); and

- exchange differences on monetary items receivable from, or payable to, a foreign operation for which settlement is neither planned nor likely to occur (therefore, forming part of the net investment in the foreign operation), which are recognized initially in other comprehensive income and reclassified from equity to profit or loss on disposal or partial disposal of the net investment.

#### (6) Borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of qualifying assets, which are assets that necessarily take a substantial period of time to get ready for their intended use or sale, are added to the cost of those assets until the assets are substantially ready for their intended use or sale.

Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the borrowing costs eligible for capitalization.

All other borrowing costs are recognized in profit or loss in the period in which they are incurred.

#### (7) Retirement benefit costs and termination benefits

Contributions to defined contribution retirement benefit plans are recognized as an expense when employees have rendered service entitling them to the contributions.

For defined benefit retirement 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. Remeasurement, comprising actuarial gains and losses, the effect of the changes on the asset ceiling (if applicable) and the return on plan assets (excluding interest), is reflected immediately in the separate statements of financial position, with a charge or credit recognized in other comprehensive income in the period in which they occur. Remeasurement recognized in other comprehensive income is reflected immediately in retained earnings, and will not be reclassified to profit or loss. Past service cost is recognized in profit or loss in the period of a plan amendment. Net interest is calculated by applying the discount rate at the beginning of the period to the net defined benefit liability or asset. Defined benefit costs are composed of service cost (including current service cost and past service cost, as well as gains and losses on curtailments and settlements), net interest expense (income) and remeasurement.

The Company presents the service cost and net interest expense (income) components in profit or loss and the remeasurement component in other comprehensive income. Curtailment gains and losses are accounted for as past service costs.

The retirement benefit obligation recognized in the separate statements of financial position represents the actual deficit or surplus in the Company's defined benefit plans. Any surplus resulting from this calculation is limited to the present value of any economic benefits available in the form of refunds from the plans or reductions in future contributions to the plans.

A liability for a termination benefit is recognized at the earlier of when the entity can no longer withdraw the offer of the termination benefit or when the entity recognizes any related restructuring costs.

Discretionary contributions made by employees or third parties reduce service cost upon payment of those contributions to the plan. When the formal terms of the plans specify that there will be contributions from employees or third parties, the accounting depends on whether the contributions are linked to service, as follows:

If the contributions are not linked to services (e. g., contributions are required to reduce a deficit arising from losses on plan assets or from actuarial losses), they are reflected in the remeasurement of the net defined benefit liability (asset).

If contributions are linked to services, they reduce service costs. For the amount of contribution that is dependent on the number of years of service, the entity reduces service cost by attributing the contributions to periods of service using the attribution method required by K-IFRS 1019 paragraph 70 for the gross benefits. For the amount of contribution that is independent of the number of years of service, the entity reduces service cost in the period in which the related service is rendered.

## (8) Taxation

Income tax expense represents the sum of the tax currently payable and deferred tax.

### 1) Current tax

The tax currently payable is based on taxable profit for the year. Taxable profit differs from profit as reported in the separate statements of comprehensive income (loss) because of items of income or expense that are taxable or deductible in other years and items that are never taxable or deductible. The Company's liability for current tax is calculated using tax rates that have been enacted or substantively enacted by the end of the reporting period.

### 2) Deferred tax

Deferred tax is recognized on temporary differences between the carrying amounts of assets and liabilities in the separate financial statements and the corresponding tax bases used in the computation of taxable profit. Deferred tax liabilities are generally recognized for all taxable temporary differences. Deferred tax assets are generally recognized for all deductible temporary differences to the extent it is probable that taxable profits will be available against which those deductible temporary differences can be utilized. Such deferred tax assets and liabilities are not recognized if the temporary difference arises from goodwill or from the initial recognition (other than in a business combination) of other assets and liabilities in a transaction that affects neither the taxable profit nor the accounting profit.

The carrying amount of deferred tax assets is reviewed at the end of each reporting period and reduced to the extent it is no longer probable that sufficient taxable profits will be available to allow all, or part, of the asset to be recovered.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the period in which the liability is settled or the asset realized, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period. The measurement of deferred tax liabilities and assets reflects the tax consequences that would follow from the manner in which the Company expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities.

3) Current and deferred taxes for the year

Current and deferred taxes are recognized in profit or loss, except when they relate to items that are recognized in other comprehensive income or directly in equity, in which case, the current tax and deferred tax are also recognized in other comprehensive income or directly in equity. Where current tax or deferred tax arises from the initial accounting for a business combination, the tax effect is included in the accounting for the business combination.

(9) Property, plant and equipment

Property, plant and equipment are stated at cost, less subsequent accumulated depreciation and accumulated impairment losses. The cost of an item of property, plant and equipment is directly attributable to their purchase or construction, which includes any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management. It also includes the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located.

Subsequent costs are recognized in the carrying amount of an asset or as a separate asset if it is probable that future economic benefits associated with the assets will flow into the Company and the cost of an asset can be measured reliably. Routine maintenance and repairs are expensed as incurred.

The Company does not depreciate land. Depreciation expense is computed using the straight-line method, based on the estimated useful lives of the assets as follows:

	Useful lives (years)
Buildings	30
Structures	30
Machinery	20
Ships	10
Vehicles	5
Other property, plant and equipment	5

If each part of an item of property, plant and equipment has a cost that is significant in relation to the total cost of the item, it is depreciated separately.

The Company reviews the depreciation method; the estimated useful lives; and residual values of property, plant and equipment at the end of each annual reporting period. If expectations differ from previous estimates, the changes are accounted for as a change in an accounting estimate.

An item of property, plant and equipment is derecognized upon disposal or when no future economic benefits are expected to arise from the continued use of the asset. Any gain or loss arising on derecognition of the property (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in profit or loss in the period in which the property is derecognized.

(10) Intangible assets

1) Intangible assets acquired separately

Intangible assets with finite useful lives that are acquired separately are carried at cost, less accumulated amortization and accumulated impairment losses. Amortization is recognized on a straight-line basis over their estimated useful lives. The estimated useful life and amortization method are reviewed at the end of each reporting period, with the effect of any changes in estimate being accounted for on a prospective basis. Intangible assets with indefinite useful lives that are acquired separately are carried at cost, less accumulated impairment losses.

2) Internally generated intangible assets - Research and development expenditure

Expenditure on research activities is recognized as an expense in the period in which it is incurred.

Expenditure arising from development (or from the development phase of an internal project) is recognized as an intangible asset if, and only if, the development project is designed to produce new or substantially improved products, and the Company can demonstrate the technical and economic feasibility and measure reliably the resources attributable to the intangible asset during its development.

The amount initially recognized for internally generated intangible assets is the sum of the expenditure incurred from the date when the intangible asset first meets the recognition criteria. Where no internally generated intangible asset can be recognized, development expenditure is recognized in profit or loss in the period in which it is incurred.

Subsequent to initial recognition, internally generated intangible assets are reported at cost, less accumulated amortization and accumulated impairment losses, on the same basis as intangible assets that are acquired separately.

3) Derecognition of intangible assets

An intangible asset is derecognized on disposal or when no future economic benefits are expected from its use. Gains or losses arising from derecognition of an intangible asset, measured as the difference between the net disposal proceeds and the carrying amount of the asset, are recognized in profit or loss when the asset is derecognized.



4) Amortization of intangible assets

The Company does not amortize club memberships, which has no limits to the periods. Amortization expense is computed using the straight-line method based on the estimated useful lives of the assets as follows:

	Useful lives (years)
Usage rights of dam water	50
Usage rights of water supply plant	20
Concession assets usage rights	Concession period
Other intangible assets	5

(11) Impairment of tangible and intangible assets

At the end of each reporting period, the Company reviews the carrying amounts of its tangible and intangible assets to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss (if any). When it is not possible to estimate the recoverable amount of an individual asset, the Company estimates the recoverable amount of the cash-generating unit to which the asset belongs. Where a reasonable and consistent basis of allocation can be identified, corporate assets are also allocated to individual cash-generating units, or otherwise, they are allocated to the smallest group of cash-generating units for which a reasonable and consistent allocation basis can be identified.

Intangible assets with indefinite useful lives and intangible assets not yet available for use are tested for impairment at least annually and whenever there is an indication that the asset may be impaired.

Recoverable amount is the higher of fair value, less costs to sell and value in use. If the recoverable amount of an asset (or a cash-generating unit) is estimated to be less than its carrying amount, the carrying amount of the asset (or the cash-generating unit) is reduced to its recoverable amount and the reduced amount is recognized in profit or loss.

Where an impairment loss subsequently reverses, the carrying amount of the asset (or a cash-generating unit) is increased to the revised estimate of its recoverable amount so that the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognized for the asset (or the cash-generating unit) in prior years. A reversal of an impairment loss is recognized immediately in profit or loss.

## (12) Inventories

Inventories are stated at the lower of cost or net realizable value. Cost of inventories, except for those in transit, is measured using the weighted-average method and consists of the purchase price, cost of conversion and other costs incurred in bringing the inventories to their present location and condition. Net realizable value represents the estimated selling price for inventories, less all estimated costs of completion and costs necessary to make the sale.

When inventories are sold, the carrying amount of those inventories is recognized as an expense (cost of sales) in the period in which the related revenue is recognized. The amount of any write-down of inventories to net realizable value and all losses of inventories are recognized as an expense in the period the write-down or loss occurs. The amount of any reversal of any write-down of inventories, arising from an increase in net realizable value, is recognized as a reduction in the amount of inventories recognized as an expense in the period in which the reversal occurs.

## (13) Provisions

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

The amount recognized as a provision is the best estimate of the consideration required to settle the present obligation at the end of the reporting period, taking into account the risks and uncertainties surrounding the obligation. When a provision is measured using the cash flows estimated to settle the present obligation, its carrying amount is the present value of those cash flows (where the effect of the time value of money is material). The discount rate used is a pretax rate that reflects current market assessments of the time value of money and the risks specific to the liability. Where discounting is used, the increase in the provision due to the passage is recognized in profit or loss as borrowing cost.

When some, or all, of the economic benefits required to settle a provision are expected to be recovered from a third party, a receivable is recognized as an asset if it is virtually certain that reimbursement will be received and the amount of the receivable can be measured reliably.

At the end of each reporting period, the remaining provision balance is reviewed and assessed to determine if the current best estimate is being recognized. If the existence of an obligation to transfer economic benefit is no longer probable, the related provision is reversed during the period.

#### (14) Financial instruments

Financial assets and financial liabilities are recognized when an entity becomes a party to the contractual provisions of the instruments. Financial assets and financial liabilities are initially measured at fair value. Transaction costs that are directly attributable to the acquisition or issue of financial assets and financial liabilities are added to, or deducted from, the fair value of the financial assets or financial liabilities, as appropriate, on initial recognition. Transaction costs directly attributable to the acquisition of financial assets or financial liabilities at FVTPL are recognized immediately in profit or loss.

All regular-way purchases or sales of financial assets are recognized and derecognized on a trade-date basis. Regular-way purchases or sales are purchases or sales of financial assets that require delivery of assets within the time frame established by regulation or convention in the marketplace.

Financial assets are classified into the following specified categories: ‘financial assets at FVTPL,’ ‘held-to-maturity investments,’ ‘available-for-sale (“AFS”) financial assets’ and ‘loans and receivables.’ The classification depends on the nature and purpose of the financial assets, and is determined at the time of initial recognition.

##### 1) Effective interest method

The effective interest method is a method of calculating the amortized cost of a debt instrument and allocating interest income over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash receipts (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts) through the expected life of the debt instrument, or (where appropriate) a shorter period, to the net carrying amount on initial recognition.

Income is recognized on an effective interest basis for debt instruments other than those financial assets classified as at FVTPL.

##### 2) Financial assets at FVTPL

Financial assets are classified as at FVTPL when a financial asset is contingent consideration that may be paid by an acquirer as part of business combination to which K-IFRS 1103 applies.

A financial asset is classified as held for trading if:

- it has been acquired principally for the purpose of selling in the near term;
- on initial recognition, it is part of a portfolio of identified financial instruments that the Company manages together and has a recent actual pattern of short-term profit taking; or
- it is a derivative that is not designated and effective as a hedging instrument.

A financial asset other than a financial asset held for trading or contingent consideration that may be paid by an acquirer as part of a business combination may be designated as at FVTPL upon initial recognition if:

- such designation eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise;
- the financial asset forms part of a group of financial assets or financial liabilities, or both, which is managed and its performance is evaluated on a fair value basis, in accordance with the Company's documented risk management or investment strategy, and information about the grouping is provided internally on that basis; or
- it forms part of a contract containing one or more embedded derivatives, and K-IFRS 1039 permits the entire combined contract (asset or liability) to be designated as at FVTPL.

Financial assets at FVTPL are stated at fair value, with any gains or losses arising on remeasurement recognized in profit or loss. The net gain or loss recognized in profit or loss incorporates any dividend or interest earned on the financial asset and is included in the 'Other gains and losses' line item in the separate statements of comprehensive income (loss).

### 3) Held-to-maturity investments

Non-derivative financial assets with fixed or determinable payments and fixed maturity dates for which the Company has the positive intent and ability to hold to maturity are classified as held-to-maturity investments. Held-to-maturity investments are measured at amortized cost using the effective interest method, less any impairment, with revenue recognized on an effective yield basis.

4) AFS financial assets

AFS financial assets are non-derivatives that are either designated as AFS or are not classified as (a) loans and receivables, (b) held-to-maturity investments or (c) financial assets at FVTPL.

They are subsequently measured at fair value at the end of each reporting period. Changes in the carrying amount of AFS monetary financial assets relating to changes in foreign currency rates (see below), interest income calculated using the effective interest method and dividends on AFS equity investments are recognized in profit or loss. Other changes in the carrying amount of AFS financial assets are recognized in other comprehensive income. When the investment is disposed of or determined to be impaired, the cumulative gain or loss previously accumulated in other comprehensive income is reclassified to profit or loss.

Dividends on AFS equity instruments are recognized in profit or loss when the Company's right to receive the dividends is established.

The fair value of AFS monetary financial assets denominated in a foreign currency is determined in that foreign currency and translated at the spot rate prevailing at the end of the reporting period. The foreign exchange gains and losses that are recognized in profit or loss are determined based on the amortized cost of the monetary asset. Other foreign exchange gains and losses are recognized in other comprehensive income.

AFS equity investments that do not have a quoted market price in an active market and whose fair value cannot be reliably measured and derivatives that are linked to, and must be settled by, delivery of such unquoted equity investments are measured at cost, less any identified impairment losses at the end of each reporting period.

5) Loans and receivables

Trade receivables, loans and other receivables that have fixed or determinable payments and are not quoted in an active market are classified as 'loans and receivables.' Loans and receivables are measured at amortized cost using the effective interest method, less any impairment. Interest income is recognized by applying the effective interest rate, except for short-term receivables, when the effect of discounting is immaterial.

6) Impairment of financial assets

Financial assets, other than those at FVTPL, are assessed for indicators of impairment at the end of each reporting period. Financial assets are considered to be impaired when there is objective evidence that, as a result of one or more events that occurred after the initial recognition of the financial asset, the estimated future cash flows of the investment have been affected.

For AFS equity investments, a significant or prolonged decline in the fair value of the security below its cost is considered to be objective evidence of impairment.

For all other financial assets, objective evidence of impairment includes:

- significant financial difficulty of the issuer or counterparty;
- default or delinquency in interest or principal payments;
- probability that the borrower will enter bankruptcy or financial reorganization; or
- disappearance of an active market for that financial asset because of financial difficulties.

For certain categories of financial assets such as trade receivables, assets that are assessed not to be impaired individually are, in addition, assessed for impairment on a collective basis. Objective evidence of impairment for a portfolio of receivables could include the Company's past experience of collecting payments, an increase in the number of delayed payments in the portfolio past the average credit period of 30 days, as well as observable changes in national or local economic conditions that correlate with default on receivables.

For financial assets carried at amortized cost, the amount of impairment loss recognized is the difference between the asset's carrying amount and the present value of estimated future cash flows, discounted at the financial asset's original effective interest rate.

For financial assets that are carried at cost, the amount of impairment loss recognized is the difference between the asset's carrying amount and the present value of estimated future cash flows, discounted at the current market rate of return for a similar financial asset. Such impairment loss will not be reversed in subsequent periods.

The carrying amount of the financial asset is reduced by the impairment loss directly for all financial assets, with the exception of trade receivables, where the carrying amount is reduced through the use of an allowance account. When a trade receivable is considered uncollectible, it is written off against the allowance account. Subsequent recoveries of amounts previously written off are credited against the allowance account. Changes in the carrying amount of the allowance account are recognized in profit or loss.

When an AFS financial asset is considered to be impaired, cumulative gains or losses previously recognized in other comprehensive income are reclassified to profit or loss in the period.

For financial assets measured at amortized cost, if, in a subsequent period, the amount of the impairment loss decreases and the decrease can be related objectively to an event occurring after the impairment was recognized, the previously recognized impairment loss is reversed through profit or loss to the extent that the carrying amount of the investment at the date the impairment is reversed does not exceed what the amortized cost would have been had the impairment not been recognized.

In respect of AFS equity securities, impairment losses previously recognized in profit or loss are not reversed through profit or loss. Any increase in fair value subsequent to an impairment loss is recognized in other comprehensive income. In respect of AFS debt securities, impairment losses are subsequently reversed through profit or loss if an increase in the fair value of the investment can be objectively related to an event occurring after the recognition of the impairment loss.

7) Derecognition of financial assets

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

On derecognition of a financial asset in its entirety, the difference between the asset's carrying amount and the sum of the consideration received and receivable and the cumulative gain or loss that had been recognized in other comprehensive income and accumulated in equity is recognized in profit or loss.

On derecognition of a financial asset other than in its entirety (e.g., when the Company retains an option to repurchase part of a transferred asset or retains a residual interest, and such a retained interest indicates that the transferor has neither transferred nor retained substantially all the risks and rewards of ownership and has retained control of the transferred asset), the Company allocates the previous carrying amount of the financial asset between the part it continues to recognize under continuing involvement and the part it no longer recognizes on the basis of the relative fair value of those parts on the date of the transfer. The difference between the carrying amount allocated to the part that is no longer recognized and the sum of the consideration received for the part that is no longer recognized and any cumulative gain or loss allocated to it that had been recognized in other comprehensive income is recognized in profit or loss. A cumulative gain or loss that had been recognized in other comprehensive income is allocated between the part that continues to be recognized and the part that is no longer recognized on the basis of the relative fair value of those parts.

## (15) Financial liabilities and equity instruments

### 1) Classification as debt or equity

Debt and equity instruments are classified as either financial liabilities or equity in accordance with the substance of the contractual arrangement and the definitions of a financial liability and an equity instrument.

### 2) Equity instruments

An equity instrument is any contract that evidences a residual interest in the assets of an entity after deducting all of its liabilities. Equity instruments issued by the Company are recognized at the proceeds received, net of direct issue costs.

Repurchase of the Company's own equity instruments is recognized and deducted directly in equity. No gain or loss is recognized in profit or loss on the purchase, sale, issue or cancellation of the Company's own equity instruments.

### 3) Compound instruments

The component parts of compound instruments (convertible bonds) issued by the Company are classified separately as financial liabilities and equity in accordance with the substance of the contractual arrangements and the definitions of a financial liability and an equity instrument. Conversion option that will be settled by the exchange of a fixed amount of cash or another financial asset for a fixed number of the Company's own equity instruments is an equity instrument.

At the date of issue, the fair value of a liability component is estimated using the prevailing market interest rate for a similar non-convertible instrument. This amount is recorded as a liability on an amortized cost basis using the effective interest method until extinguished upon conversion or at the instrument's maturity date.

The conversion option classified as equity is determined by deducting the amount of the liability component from the fair value of the compound instrument as a whole. This is recognized and included in equity, net of income tax effects, and is not subsequently remeasured. In addition, the conversion option classified as equity will remain in equity until the conversion option is exercised; in which case, the balance recognized in equity will be transferred to share premium. No gain or loss is recognized in profit or loss upon conversion or expiration of the conversion option.

Transaction costs that relate to the issue of the convertible notes are allocated to liability and equity components in proportion to the allocation of gross proceeds. Transaction costs relating to equity component are recognized directly in equity. Transaction costs relating to the liability component are included in the carrying amount of the liability component and are amortized over the lives of the convertible notes using the effective interest method.



4) Financial liabilities

Financial liabilities are recognized when the Company becomes a party to the contractual provisions of the instruments. Financial liabilities are initially measured at fair value. Transaction cost that is directly attributable to the issue of financial liabilities is deducted from the fair value of the financial liabilities on initial recognition. Transaction costs directly attributable to acquisition of financial liabilities at FVTPL are recognized immediately in profit or loss.

Financial liabilities are classified as either financial liabilities at FVTPL or other financial liabilities.

5) Financial liabilities at FVTPL

Financial liabilities are classified as at FVTPL when a financial liability is contingent consideration that may be paid by an acquirer as part of a business combination to which K-IFRS 1103 applies, is held for trading or is designated as at FVTPL.

A financial liability is classified as held for trading if:

- it has been acquired principally for the purpose of repurchasing in the near term;
- on initial recognition, it is part of a portfolio of identified financial instruments that the Company manages together and has a recent actual pattern of short-term profit taking; or
- it is a derivative that is not designated and effective as a hedging instrument.

A financial liability other than a financial liability held for trading or contingent consideration that may be paid by an acquirer as part of a business combination may be designated as at FVTPL upon initial recognition if:

- such designation eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise;
- the financial liability forms part of a group of financial assets or financial liabilities, or both, which is managed and its performance is evaluated on a fair value basis, in accordance with the Company's documented risk management or investment strategy, and information about the grouping is provided internally on that basis; or
- it forms part of a contract containing one or more embedded derivatives, and K-IFRS 1039 permits the entire combined contract (asset or liability) to be designated as at FVTPL.

Financial liabilities at FVTPL are stated at fair value, with any gains or losses arising on remeasurement recognized in profit or loss. The net gain or loss recognized in profit or loss incorporates any interest paid on the financial liability and is included in the 'Other gains and losses' line item in the separate statements of comprehensive income (loss).

6) Other financial liabilities

Other financial liabilities are subsequently measured at amortized cost using the effective interest method, with interest expense recognized on an effective yield basis.

The effective interest method is a method of calculating the amortized cost of a financial liability and allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments, including all fees and points paid or received (that form an integral part of the effective interest rate), transaction costs and other premiums or discounts through the expected life of the financial liability, or (where appropriate) a shorter period, to the net carrying amount on initial recognition.

7) Financial guarantee contracts

A financial guarantee contract is a contract that requires the issuer to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payments when due in accordance with the terms of a debt instrument.

Financial guarantee contract liabilities are initially measured at their fair values and, if not designated as at FVTPL, are subsequently measured at the higher of:

- the amount of the obligation under the contract, as determined in accordance with K-IFRS 1037, *Provisions, Contingent Liabilities and Contingent Assets*; or
- the amount initially recognized, less cumulative amortization recognized in accordance with K-IFRS 1018.

8) Derecognition of financial liabilities

The Company derecognize financial liabilities when its obligations are discharged, canceled or expired. The difference between the carrying amount of the financial liability derecognized and the consideration paid and payable is recognized in profit or loss.

## (16) Derivative financial instruments

The Company enters into a variety of derivative financial instruments to manage its exposure to interest rate and foreign exchange rate risk, including foreign exchange forward contracts, interest rate swaps (“IRSS”) and cross-currency swaps.

Derivatives are initially recognized at fair value at the date the derivative contract is entered into and are subsequently remeasured to their fair value at the end of each reporting period. The resulting gain or loss is recognized in profit or loss immediately, unless the derivative is designated and effective as a hedging instrument; in which case, the timing of the recognition in profit or loss depends on the nature of the hedge relationship.

A derivative with a positive fair value is recognized as a financial asset, and a derivative with a negative fair value is recognized as a financial liability. A derivative is presented as a non-current asset or a non-current liability if the remaining maturity of the instrument is more than 12 months and it is not expected to be realized or settled within 12 months. Other derivatives are presented as current assets or current liabilities.

### 1) Embedded derivatives

Derivatives embedded in non-derivative host contracts are treated as separate derivatives when they meet the definition of a derivative, their risks and characteristics are closely related to those of the host contracts and the contracts are not measured at FVTPL.

### 2) Hedge accounting

The Company designates certain hedging instruments, which include derivatives, embedded derivatives and non-derivatives in respect of foreign currency risk, as either fair value hedges, cash flow hedges or hedges of net investments in foreign operations. Hedges of foreign exchange risk on firm commitments are accounted for as cash flow hedges.

At the inception of the hedge relationship, the entity documents the relationship between the hedging instrument and the hedged item, along with its risk management objectives and its strategy for undertaking various hedge transactions. Furthermore, at the inception of the hedge and on an ongoing basis, the Company documents whether the hedging instrument is highly effective in offsetting changes in fair values or cash flows of the hedged item.

### 3) Fair value hedges

Changes in the fair value of derivatives that are designated and qualify as fair value hedges are recognized in profit or loss immediately, together with any changes in the fair value of the hedged asset or liability that are attributable to the hedged risk. The change in the fair value of the hedging instrument and the change in the hedged item attributable to the hedged risk are recognized in the line of the separate statements of comprehensive income (loss) relating to the hedged item.

Hedge accounting is discontinued when the Company revokes the hedging relationship; when the hedging instrument expires or is sold, terminated or exercised; or when it no longer qualifies for hedge accounting. The fair value adjustment to the carrying amount of the hedged item arising from the hedged risk is amortized to profit or loss from that date.

#### 4) Cash flow hedges

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is recognized in other comprehensive income. The gain or loss relating to the ineffective portion is recognized immediately in profit or loss and is included in the 'Financial income and cost' line item.

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

Hedge accounting is discontinued when the Company revokes the hedging relationship; when the hedging instrument expires or is sold, terminated or exercised; or when it no longer qualifies for hedge accounting. Any gain or loss accumulated in equity at that time remains in equity and is recognized when the forecast transaction is ultimately recognized in profit or loss. When a forecast transaction is no longer expected to occur, the gain or loss accumulated in equity is recognized immediately in profit or loss.

#### (17) Fair value

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, regardless of whether that price is directly observable or estimated using another valuation technique. In estimating the fair value of an asset or a liability, the Company takes into account the characteristics of the asset or liability if market participants would take those characteristics into account when pricing the asset or liability at the measurement date. Fair value for measurement and/or disclosure purposes in these separate financial statements is determined on such a basis, except for share-based payment transactions that are within the scope of K-IFRS 1102, *Share-Based Payment*; leasing transactions that are within the scope of K-IFRS 1017, *Leases*; and measurements that have some similarities to fair value, but are not fair value, such as net realizable value in K-IFRS 1002, *Inventories*, or value in use in K-IFRS 1036.

In addition, for financial reporting purposes, fair value measurements are categorized into Level 1, Level 2 or Level 3 based on the degree to which the inputs to the fair value measurements are observable and the significance of the inputs to the fair value measurement in its entirety.

(18) Accounting treatment related to the emission rights cap and trade scheme

The Company classifies the emission rights as intangible assets. Emission rights allowances that the government allocated free of charge are measured at nil, and emission rights allowances purchased are measured at cost, which the Company paid to purchase the allowances. If emission rights that the government allocated free of charge are sufficient to settle the emission rights allowances allotted for vintage year, the emissions liabilities are measured at nil. However, for the emission liabilities that exceed the allowances allocated free of charge, the shortfall is measured at best estimate at the end of the reporting period.

(19) The approval date for issuance of separate financial statements

The Company's separate financial statements for submission to Ministry of Strategy and Finance are approved by the board of directors on February 27, 2018.

**4. SIGNIFICANT ACCOUNTING JUDGMENTS AND KEY SOURCES OF ESTIMATION UNCERTAINTIES:**

In the application of the Company's accounting policies, which are described in Note 3, management is required to make judgments, estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimate is revised if the revision affects only that period or in the period of the revision and future periods if the revision affects both current and future periods.

(1) Defined benefit obligation

The Company's defined benefit obligation is determined based on the actuarial valuation carried out at the end of each annual reporting period. Actuarial assumptions are the Company's best estimates of the variables, such as discount rates, rates of expected future salary increases and mortality rates.

(2) Warranty provision

Provisions for the expected cost of warranty obligations are recognized at the best estimate of the expenditure required to settle the Company's current and future obligations. Provisions are determined by the estimate based on past experience.

(3) Deferred tax

Recognition and measurement of deferred tax assets and liabilities require the management's judgment, in particular, whether to recognize if the scope of deferred tax assets is affected by management's judgment and assumption in the future.

(4) Estimated useful lives of property, plant, equipment and intangible assets

Useful lives for depreciation and amortization are determined by the management's judgment.

**5. SEGMENT INFORMATION:**

(1) The Company discloses operating segment

The Company is not required to disclose operating segment information. The Company instead has elected to present certain financial information for its six business units as described below.

Business segments	Main goods and services
Multiregional waterworks business	Operational management of multiregional waterworks
Multipurpose dams' operation business	Operational management of multipurpose dams
Site development business	Sales and rent of land
Construction business	Construction of tangible assets (waterworks, dams, etc.)
Local waterworks and sewage treatment business	Operation and management of local waterworks and sewage treatment
Other businesses	Foreign business, aggregate business, consignment business, Kyung-in canal operation business, Four River Restoration operation business and renewable energy business

(2) The following table provides information of operations for each operating segment for the years ended December 31, 2017 and 2016:

(i) 2017

(Unit: In thousands of Korean won)

	Multiregional waterworks business	Multipurpose dams' operation business	Site development business	Construction business	Local waterworks and sewage treatment business	Other businesses	Total
Total revenue	₩1,116,183,837	₩468,331,165	₩544,912,165	₩504,936,865	₩184,804,454	₩443,514,793	₩3,262,683,279
External revenue	1,116,183,837	468,331,165	544,912,165	504,936,865	184,804,454	443,514,793	3,262,683,279
Operating profit	98,600,351	107,062,370	136,684,875	-	20,820,177	55,890,444	419,058,217
Depreciation and amortization	474,451,763	127,486,179	1,567,915	22,727	27,907,434	69,951,451	701,387,469

(ii) 2016

(Unit: In thousands of Korean won)

	Multiregional waterworks business	Multipurpose dams' operation business	Site development business	Construction business	Local waterworks and sewage treatment business	Other businesses	Total
Total revenue	₩1,049,862,339	₩431,491,083	₩689,740,883	₩655,301,585	₩172,798,258	₩444,965,435	₩3,444,159,583
External revenue	1,049,862,339	431,491,083	689,740,883	655,301,585	172,798,258	444,965,435	3,444,159,583
Operating profit	99,445,483	71,004,803	105,967,287	-	31,663,222	37,979,046	346,059,841
Depreciation and amortization	469,271,072	124,605,239	-	198,014	23,770,665	75,053,862	692,898,852

The Company does not provide information of asset and liability for each operating segment and regional financial information because most of the sales are done domestically.

## 6. CASH AND CASH EQUIVALENTS:

Details of cash and cash equivalents as of December 31, 2017 and 2016, are as follows:

	(Unit: In thousands of Korean won)	
	December 31, 2017	December 31, 2016
Demand deposits	₩41,554,365	₩32,425,172
Cash equivalents classified as short-term investment assets	77,102,580	49,494,749
	<u>₩118,656,945</u>	<u>₩81,919,921</u>

## 7. RESTRICTED FINANCIAL INSTRUMENTS:

Details of cash and cash equivalents that are restricted in use as of December 31, 2017 and 2016, are as follows:

		(Unit: In thousands of Korean won)	
	Description	December 31, 2017	December 31, 2016
Cash and cash equivalents	Restricted in use for designated purpose (*)	₩40,202,215	₩29,784,724

(\*) Restricted cash and cash equivalents consist of advance payments received from customers in light of local waterworks, and use is restricted for designated purposes.

## 8. DERIVATIVE INSTRUMENTS:

(1) Details of derivative instruments as of December 31, 2017 and 2016, are as follows:

	(Unit: In thousands of Korean won)			
	December 31, 2017		December 31, 2016	
	Current	Non-current	Current	Non-current
Financial derivative assets:				
Currency swap	₩2,180,359	₩-	₩13,940,759	₩38,055,471
IRS	-	28,672,132	-	24,334,153
	<u>₩2,180,359</u>	<u>₩28,672,132</u>	<u>₩13,940,759</u>	<u>₩62,389,624</u>
Financial derivative liabilities:				
Currency swap	₩20,161,613	₩24,759,399	₩-	₩14,628,459
IRS	-	11,078,363	-	12,348,753
	<u>₩20,161,613</u>	<u>₩35,837,762</u>	<u>₩-</u>	<u>₩26,977,212</u>



## (2) Purpose

### (i) Currency swap

The Company entered into currency swap contracts to hedge cash flow risk associated with change in foreign exchange rate and interest rate of foreign currency debentures.

### (ii) Rate swap

The Company entered into IRS contracts to hedge cash flow risk associated with change in interest rate of Korean won-denominated debentures.

## (3) Details of risks and the Company's strategy

### (i) Details of risks

The Company is exposed to risks of fluctuations in exchange rates of Korean won against foreign currencies and interest rate appreciation on the repayment of foreign currency-denominated debentures. Also, the Company is exposed to cash flow risk associated with change in interest rate of Korean won-denominated debentures.

### (ii) Strategy

The Company entered into cross-currency IRS contracts to fix the principal and interest amount in Korean won and IRS contracts to fix the interest rate of Korean won-denominated debentures.

## (4) Details of cross-currency swaps (cash flow hedge) as of December 31, 2017, are as follows:

(Unit: In thousands of Korean won, JPY and USD)

Counterparty	Contract period	Notional amount		Interest rate		Contract foreign exchange rate
		Payment	Receipt	Payment (%)	Receipt (%)	
BNP-PARIBAS	10/01/2013-10/01/2018	₩161,934,000	JPY 15,000,000	3.28	2.00	10.80
Societe Generale	10/16/2014-04/16/2018	105,990,000	USD 100,000	2.11	2.00	1,059.90
BNP-PARIBAS	10/16/2014-04/16/2018	105,990,000	USD 100,000	2.11	2.00	1,059.90
Standard Chartered	10/16/2014-04/16/2018	105,990,000	USD 100,000	2.11	2.00	1,059.90
KDB	05/20/2016-05/20/2031	117,250,000	USD 100,000	1.84	2.77	1,172.50
KDB	05/23/2017-05/23/2022	111,900,000	USD 100,000	2.055	2.75	1,119.00
KEB	05/23/2017-05/23/2022	167,850,000	USD 150,000	2.045	2.75	1,119.00
KB	05/23/2017-05/23/2022	111,900,000	USD 100,000	2.05	2.75	1,119.00

(5) Details of IRSs (cash flow hedge) as of December 31, 2017, are as follows:

(Unit: In thousands of Korean won)

Counterparty	Contract period	Notional amount	Interest rate	
			Payment (%)	Receipt (%)
Standard Chartered	07/16/2010-07/16/2020	₩50,000,000	4.97	Pegged with IRS Index
Standard Chartered	08/09/2010-08/09/2020	40,000,000	4.86	Pegged with IRS Index
BNP-PARIBAS	08/09/2010-08/09/2020	30,000,000	4.86	Pegged with IRS Index
BNP-PARIBAS	08/09/2010-08/09/2020	30,000,000	4.86	Pegged with IRS Index
BNP-PARIBAS	11/23/2010-11/23/2020	20,000,000	4.59	Pegged with BPSTAR Index
Nomura Financial	08/20/2014-08/20/2029	50,000,000	3.109	4.07
Nomura Financial	09/04/2014-09/04/2029	50,000,000	3.073	4.06
BNP-PARIBAS	09/15/2014-09/15/2029	100,000,000	3.10	4.06
Nomura Financial	01/26/2016-01/26/2036	30,000,000	2.038	2.91
Societe Generale	03/09/2017-06/09/2022	30,000,000	2.11	CD+0.24
Nomura Financial	11/09/2017-11/09/2037	50,000,000	2.555(*)	2.86

(\*) CD+15bp after 10 years

(6) Valuation gain (loss) and transaction gain (loss) of derivative instruments for the years ended December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)

	Valuation gain (loss)				Transaction gain (loss)	
	Finance income (loss)		Other comprehensive income (*)		Finance gain (loss)	
	2017	2016	2017	2016	2017	2016
Cash flow hedge	₩(84,655,000)	₩33,760,000	₩18,896,898	₩1,331,329	₩(27,332,000)	₩-

(\*) Net of tax effects

## 9. TRADE AND OTHER RECEIVABLES:

(1) Details of trade accounts receivable as of December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2017			December 31, 2016		
	Gross	Allowance for doubtful accounts	Book value	Gross	Allowance for doubtful accounts	Book value
<u>Current:</u>						
Trade receivables	₩219,833,373	₩(195,234)	₩219,638,139	₩212,060,889	₩(253,683)	₩211,807,206
Other receivables	96,973,158	(6,995,408)	89,977,750	85,680,714	(6,572,684)	79,108,030
Total	₩316,806,531	₩(7,190,642)	₩309,615,889	₩297,741,603	₩(6,826,367)	₩290,915,236
	Present value			Present value		
	Gross	discount	Book value	Gross	discount	Book value
<u>Non-Current:</u>						
Trade receivables	₩703,701	₩(33,730)	₩669,971	₩2,656,775	₩(132,707)	₩2,524,068
Other receivables	166,124,633	-	166,124,632	165,615,225	-	165,615,225
Total	₩166,828,334	₩(33,730)	₩166,794,603	₩168,272,000	₩(132,707)	₩168,139,293

(2) Details of other receivables as of December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2017			December 31, 2016		
	Gross	Allowance for doubtful accounts	Book value	Gross	Allowance for doubtful accounts	Book value
<b>Current:</b>						
Accounts receivable	₩62,142,763	₩(6,995,408)	₩55,147,355	₩62,259,151	₩(6,572,684)	₩55,686,467
Accrued income	34,682,917	-	34,682,917	23,050,417	-	23,050,417
Deposit	147,478	-	147,478	371,146	-	371,146
<b>Total</b>	<b>₩96,973,158</b>	<b>₩(6,995,408)</b>	<b>₩89,977,750</b>	<b>₩85,680,714</b>	<b>₩(6,572,684)</b>	<b>₩79,108,030</b>
	Gross	Present value discount	Book value	Gross	Present value discount	Book value
<b>Non-Current:</b>						
Deposit	₩166,124,633	₩-	₩166,124,633	₩165,615,225	₩-	₩165,615,225
<b>Total</b>	<b>₩166,124,633</b>	<b>₩-</b>	<b>₩166,124,633</b>	<b>₩165,615,225</b>	<b>₩-</b>	<b>₩165,615,225</b>

(3) Credit risk and allowance for doubtful accounts

The above trade and other receivables are classified as loans and receivables and measured at amortized cost. Trade accounts receivable are non-interest bearing and are generally on 30 days' term.

(i) Details of the aging of trade accounts receivable as of December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2017	December 31, 2016
Neither overdue nor impaired trade accounts receivable	₩203,216,722	₩191,184,419
Overdue, but not impaired trade accounts receivable	16,922,384	22,366,802
- More than 24 months	8,989,830	11,702,250
- 12 months–24 months	2,541,374	1,318,937
- 6 months–12 months	4,529,669	6,111,968
- 3 months–6 months	850,853	3,233,647
- 1 month–3 months	10,658	-
Trade accounts receivable tested for impairment	397,968	1,166,443
- More than 24 months	78,659	75,060
- 12 months–24 months	174,249	12,676
- 6 months–12 months	94,964	134,211
- 3 months–6 months	13,999	885,650
- 1 month–3 months	36,097	58,846
	220,537,074	214,717,664
Less allowance for doubtful accounts	(195,234)	(253,683)
	₩220,341,840	₩214,463,981

(ii) Details of the aging of other receivables as of December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2017	December 31, 2016
Neither overdue nor impaired trade accounts receivable	₩221,543,141	₩242,873,621
Overdue, but not impaired trade accounts receivable	33,083,032	1,158,066
- More than 24 months	11,072	9,832
- 12 months–24 months	10,626,424	-
- 6 months–12 months	11,618,832	938,498
- 3 months–6 months	6,871,884	187,909
- 1 month–3 months	3,954,820	21,827
Trade accounts receivable tested for impairment	8,471,618	7,264,252
- More than 24 months	6,438,384	6,305,308
- 12 months–24 months	648,998	362,856
- 6 months–12 months	267,690	110,939
- 3 months–6 months	1,078,960	193,965
- 1 month–3 months	37,586	291,184
	263,097,791	251,295,939
Less allowance for doubtful accounts	(6,995,408)	(6,572,684)
	₩256,102,383	₩244,723,255

(4) Changes in allowance for trade and other receivables for the years ended December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)

	2017		2016	
	Trade accounts receivable	Other receivables	Trade accounts receivable	Other receivables
Beginning balance	₩253,683	₩6,572,684	₩1,070,420	₩6,692,141
Bad debt expense	-	508,991	-	47,353
Impairment loss recognized	(33,848)	-	(775,275)	(97,698)
Write-off	(24,601)	(86,267)	(41,462)	(69,112)
Ending balance	₩195,234	₩6,995,408	₩253,683	₩6,572,684

## 10. AFS FINANCIAL ASSETS:

(1) Changes in AFS financial assets for the years ended December 31, 2017 and 2016, are as follows:

(i) 2017

	(Unit: In thousands of Korean won)				
	<u>Beginning balance</u>	<u>Acquisitions</u>	<u>Disposals</u>	<u>Assessment</u>	<u>Ending balance</u>
Non-market equity securities	₩16,938,771	₩6,275,822	₩(184,946)	₩-	₩23,029,647

(ii) 2016

	(Unit: In thousands of Korean won)				
	<u>Beginning balance</u>	<u>Acquisitions</u>	<u>Disposals</u>	<u>Assessment</u>	<u>Ending balance</u>
Non-market equity securities	₩14,805,879	₩2,252,000	₩(119,108)	₩-	₩16,938,771

(2) Details of AFS financial assets as of December 31, 2017 and 2016, are as follows:

	(Unit: In thousands of Korean won)	
	<u>December 31, 2017</u>	<u>December 31, 2016</u>
Non-current unlisted securities:		
Korea Construction Management Corporation (*1)	₩4,000,000	₩4,000,000
Global Infra Fund	17,380,105	12,758,051
P-waters Corporation (*1)	180,720	180,720
Luzon Clean Water (Bulacan) (*1,2)	1,468,822	-
Total	<u>₩23,029,647</u>	<u>₩16,938,771</u>

(\*1) Investments in equity securities that do not have a quoted market price in an active market and whose fair value cannot be reliably measured are measured at cost.

(\*2) For the year ended December 31, 2017, the Company has acquired 67,500,000 stocks of Luzon Clean Water (Bulacan).

# **11. SHORT-TERM FINANCIAL INSTRUMENTS:**

Details of short-term financial instruments as of December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)

	<u>December 31, 2017</u>	<u>December 31, 2016</u>
Money market trust	₩19,897,420	₩79,605,251
Time deposit	<u>4,000,000</u>	<u>-</u>
Total	<u>₩23,897,420</u>	<u>₩79,605,251</u>

## 12. OTHER FINANCIAL ASSETS:

Details of other financial assets as of December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2017		December 31, 2016	
	Current	Non-Current	Current	Non-Current
Loans to employees	₩-	₩9,824,472	₩-	₩11,204,560
Other loans	8,640,246	7,938,515	-	8,231,954
Total	₩8,640,246	₩17,762,987	₩-	₩19,436,514

## 13. INVENTORIES:

Details of inventories as of December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2017		December 31, 2016	
	Acquisition cost	Book value	Acquisition cost	Book value
Raw material	₩3,727,340	₩3,727,340	₩2,992,081	₩2,992,081
Finished goods	6,404,515,538	6,404,515,538	5,826,664,810	5,826,664,810
Stored goods	8,135,069	8,135,069	8,358,666	8,358,666
Other inventories	132,981	132,981	137	137
Total	₩6,416,510,928	₩6,416,510,928	₩5,838,015,694	₩5,838,015,694

## 14. OTHER NON-FINANCIAL ASSETS:

Details of other non-financial assets as of December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2017		December 31, 2016	
	Current	Non-current	Current	Non-current
Advance payments	₩56,005,936	₩-	₩51,355,257	₩-
Prepaid expenses	8,001,006	-	3,908,261	-
Others	-	3,044,094	-	3,313,038
Total	₩64,006,942	₩3,044,094	₩55,263,518	₩3,313,038

## 15. INVESTMENTS IN SUBSIDIARIES AND ASSOCIATES:

Details of investments in subsidiaries and associates as of December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)						
Companies	Principal activity	Country of incorporation	Ownership (%)	Acquisition cost	Book value	
					December 31, 2017	December 31, 2016
Subsidiaries:						
KDS Hydro Pte. Ltd.	Investment for Patrind hydropower project in Pakistan	Singapore	80.00%	₩103,921,368	₩103,681,084	₩97,325,110
Waterway Plus Co., Ltd.	Marina business at Kyung-in Canal	Korea	100.00%	5,900,000	5,900,000	5,900,000
K-Water Thailand Co., Ltd.	Water management project in Thailand	Thailand	99.99%	28,831	28,831	28,831
JSC Nenskra Hydro Co. Ltd.	Georgia Nenskra hydropower project	Georgia	100.00%	<u>117,274,427</u>	<u>117,274,427</u>	<u>72,441,691</u>
				<u>₩227,124,626</u>	<u>₩226,884,342</u>	<u>₩175,695,632</u>
Associates:						
KWPP Holdings Co.	Angat dam hydropower project in Philippines	Philippines	38.50%	₩268	₩268	₩268
Angat Hydropower Co. (*)	Angat dam hydropower project in Philippines	Philippines	40.00%	<u>100,845,106</u>	<u>87,254,029</u>	<u>88,707,390</u>
				₩100,845,374	₩87,254,297	₩88,707,658

(\*) The Company recognized an impairment of ₩1,453,360 thousand (₩12,137,717 thousand for 2016), which pertains to the difference between the acquisition cost and the Company's share of the investee's net assets.



## 16. PROPERTY, PLANT AND EQUIPMENT:

(1) Details of property, plant and equipment as of December 31, 2017 and 2016, are as follows:

(i) December 31, 2017

	(Unit: In thousands of Korean won)			
	Acquisition cost	Government grant	Accumulated depreciation and impairment	Net book value
Land	₩182,629,054	₩-	₩-	₩182,629,054
Buildings	483,306,339	(786,451)	(191,825,035)	290,694,853
Structures	413,702,562	-	(126,439,746)	287,262,816
Machinery and equipment	1,049,743,378	-	(536,635,722)	513,107,656
Ships	13,568,210	-	(9,768,322)	3,799,888
Vehicles	14,139,966	-	(8,330,207)	5,809,759
Furniture and fixtures	66,486,074	-	(45,994,428)	20,491,646
Tools	79,808,199	-	(67,590,587)	12,217,612
Construction in progress	227,236,831	-	-	227,236,831
	<u>₩2,530,620,613</u>	<u>₩(786,451)</u>	<u>₩(986,584,047)</u>	<u>₩1,543,250,115</u>

(ii) December 31, 2016

	(Unit: In thousands of Korean won)			
	Acquisition cost	Government grant	Accumulated depreciation and impairment	Net book value
Land	₩182,608,107	₩-	₩-	₩182,608,107
Buildings	472,748,005	(827,286)	(176,551,094)	295,369,625
Structures	413,080,888	-	(112,513,980)	300,566,908
Machinery and equipment	980,393,106	-	(498,841,143)	481,551,963
Ships	12,657,902	-	(9,447,879)	3,210,023
Vehicles	12,394,107	-	(8,410,375)	3,983,732
Furniture and fixtures	62,898,917	-	(46,682,389)	16,216,528
Tools	75,536,098	-	(64,372,490)	11,163,608
Construction in progress	163,509,966	-	-	163,509,966
	<u>₩2,375,827,096</u>	<u>₩(827,286)</u>	<u>₩(916,819,350)</u>	<u>₩1,458,180,460</u>

(2) Changes in property, plant and equipment for the years ended December 31, 2017 and 2016, are as follows:

(i) 2017

(Unit: In thousands of Korean won)

	Net book value at January 1, 2017	Acquisitions (*1)	Disposals	Depreciation	Transfer	Others (*2)	Net book value at December 31, 2017
Land	₩182,608,107	₩22,131	₩(1,184)	₩-	₩-	₩-	₩182,629,054
Buildings	295,369,625	49,402	(1,229,193)	(16,087,588)	12,592,606	-	290,694,852
Structures	300,566,908	5,731	(58,662)	(14,030,709)	779,548	-	287,262,816
Machinery and equipment	481,551,963	15,992	(812,149)	(43,839,072)	30,039,822	46,151,099	513,107,655
Ships	3,210,023	-	(15,407)	(741,275)	1,346,547	-	3,799,888
Vehicles	3,983,732	3,353,790	(46)	(1,534,962)	7,245	-	5,809,759
Furniture and fixtures	16,216,528	10,625,138	(1,451)	(6,394,424)	45,856	-	20,491,647
Tools	11,163,608	3,014	(7,489)	(4,536,891)	5,595,370	-	12,217,612
Construction in progress	163,509,966	115,185,985	-	-	(50,406,994)	(1,052,125)	227,236,832
	<u>₩1,458,180,460</u>	<u>₩129,261,183</u>	<u>₩(2,125,581)</u>	<u>₩(87,164,921)</u>	<u>₩-</u>	<u>₩45,098,974</u>	<u>₩1,543,250,115</u>

(\*1) Included in additions are capitalized borrowing costs of ₩58,891 thousand.

(\*2) Others included ₩46,151,099 thousand transferred from intangible assets.

(ii) 2016

(Unit: In thousands of Korean won)

	Net book value at January 1, 2016	Acquisitions	Disposals	Depreciation	Transfer	Others (*)	Net book value at December 31, 2016
Land	₩182,368,264	₩1,391	₩-	₩-	₩-	₩238,452	₩182,608,107
Buildings	279,096,561	-	(1,203,595)	(14,838,534)	9,829,097	22,486,096	295,369,625
Structures	282,800,399	-	(150,336)	(13,422,651)	818,436	30,521,060	300,566,908
Machinery and equipment	498,845,428	-	(1,001,187)	(43,694,408)	15,350,507	12,051,623	481,551,963
Ships	3,692,405	-	(94,453)	(760,821)	185,340	187,552	3,210,023
Vehicles	3,426,062	1,706,945	(57)	(1,168,711)	-	19,493	3,983,732
Furniture and fixtures	15,799,977	6,330,609	(7,882)	(5,906,176)	-	-	16,216,528
Tools	11,769,604	-	(12,742)	(5,012,717)	4,338,510	80,953	11,163,608
Construction in progress	118,261,940	91,093,608	-	-	(30,521,890)	(15,323,692)	163,509,966
	<u>₩1,396,060,640</u>	<u>₩99,132,553</u>	<u>₩(2,470,252)</u>	<u>₩(84,804,018)</u>	<u>₩-</u>	<u>₩50,261,537</u>	<u>₩1,458,180,460</u>

(\*) Others included ₩51,001,938 thousand transferred from intangible assets.

## 17. INTANGIBLE ASSETS OTHER THAN GOODWILL:

(1) Details of intangible assets as of December 31, 2017 and 2016, are as follows:

(i) December 31, 2017

	(Unit: In thousands of Korean won)				
	Acquisition cost	Contributions toward construction	Government grants	Accumulated amortization and impairment	Net book value
Software	₩130,408,388	₩-	₩-	₩(91,559,955)	₩38,848,433
Industrial proprietary rights	449,094	-	-	(359,800)	89,294
Intangible assets under development	2,980,918,042	-	(6,334,196)	(1,168,853,888)	1,805,729,958
Concession assets usage rights	16,675,020,674	(4,889,628)	(41,035,237)	(8,098,756,667)	8,530,339,142
Other intangible assets	6,277,319,636	-	-	(5,269,831,423)	1,007,488,213
	<u>₩26,064,115,834</u>	<u>₩(4,889,628)</u>	<u>₩(47,369,433)</u>	<u>₩(14,629,361,733)</u>	<u>₩11,382,495,040</u>

(ii) December 31, 2016

	(Unit: In thousands of Korean won)				
	Acquisition cost	Contributions toward construction	Government grants	Accumulated amortization and impairment	Net book value
Software	₩107,578,042	₩-	₩-	₩(88,340,676)	₩19,237,366
Industrial proprietary rights	449,094	-	-	(332,787)	116,307
Intangible assets under development	2,807,472,002	-	(6,334,196)	(1,166,317,543)	1,634,820,263
Concession assets usage rights	16,370,465,107	(5,375,471)	(44,590,329)	(7,484,038,413)	8,836,460,894
Other intangible assets	6,277,319,636	-	-	(5,269,831,421)	1,007,488,215
	<u>₩25,563,283,881</u>	<u>₩(5,375,471)</u>	<u>₩(50,924,525)</u>	<u>₩(14,008,860,840)</u>	<u>₩11,498,123,045</u>

(2) Changes in intangible assets for the years ended December 31, 2017 and 2016, are as follows:

(i) 2017

(Unit: In thousands of Korean won)

	Net book value at January 1, 2017	Additions (*1)	Disposals	Amortization	Impairment loss (*2)	Transfer	Others (*3)	Net book value at December 31, 2017
Software	₩19,237,366	₩22,128,936	(₩1)	₩(3,518,216)	₩-	₩-	₩1,000,348	₩38,848,433
Industrial proprietary rights	116,307	-	-	(27,013)	-	-	-	89,294
Intangible assets under development	1,634,820,264	563,692,728	-	-	(2,536,346)	(344,147,366)	(46,099,322)	1,805,729,958
Concession assets usage rights	8,836,460,895	8,200	(39,600,000)	(610,677,319)	-	344,147,366	-	8,530,339,142
Other intangible assets	1,007,488,213	-	-	-	-	-	-	1,007,488,213
	<u>₩11,498,123,045</u>	<u>₩585,829,864</u>	<u>₩(39,600,001)</u>	<u>₩(614,222,548)</u>	<u>₩(2,536,346)</u>	<u>₩-</u>	<u>₩(45,098,974)</u>	<u>₩11,382,495,040</u>

(\*1) Included in additions are capitalized borrowing costs of ₩19,166,886 thousand.

(\*2) An impairment loss of ₩2,536,346 thousand was recognized, as the recoverable amount was determined to be lower than the net book value.

(\*3) Included in others are transfers of fixed assets amounting to ₩46,151,099 thousand.

## (ii) 2016

(Unit: In thousands of Korean won)

	Net book value at January 1, 2016	Additions (*1)	Disposals	Amortization	Impairment loss (*2)	Transfer	Others (*3)	Net book value at December 31, 2016
Software	₩17,610,738	₩5,519,733	(₩43)	₩(3,893,062)	₩-	₩-	₩-	₩19,237,366
Industrial proprietary rights	146,822	1,700	-	(32,215)	-	-	-	116,307
Intangible assets under development	1,677,101,208	718,134,582	-	-	(143,018,579)	(566,322,045)	(51,074,904)	1,634,820,262
Concession assets usage rights	8,902,396,700	-	(28,800,000)	(604,169,557)	-	566,322,045	711,707	8,836,460,895
Other intangible assets	1,007,488,215	-	-	-	-	-	-	1,007,488,215
	<u>₩11,604,743,683</u>	<u>₩723,656,015</u>	<u>₩(28,800,043)</u>	<u>₩(608,094,834)</u>	<u>₩(143,018,579)</u>	<u>₩-</u>	<u>₩(50,363,197)</u>	<u>₩11,498,123,045</u>

(\*1) Included in additions are capitalized borrowing costs of ₩17,534,348 thousand.

(\*2) An impairment loss of ₩143,018,579 thousand was recognized, as the recoverable amount was determined to be lower than the net book value.

(\*3) Included in others are transfers of fixed assets amounting to ₩51,001,938 thousand and transfers of inventory assets amounting to ₩72,416 thousand.

(3) Significant individual intangible assets as of December 31, 2017 and 2016, are detailed as follows:

(i) December 31, 2017

(Unit: In thousands of Korean won)			
	Description	Amount	Residual useful life (*)
Software	Development expense, other intangible assets and construction in progress for data processing	₩38,848,433	3.51
Industrial proprietary rights	Copyright, patents and industrial proprietary rights	89,294	3.35
Intangible assets under development	Water facilities under construction	1,805,729,958	-
Concession assets usage rights	Management right of water facilities in capital area	7,629,551,458	20.54
	Usage rights of water dams, usage rights of hydrogen dams, concession asset usage rights and management right of aggregate complex	900,787,684	Concession period
Other intangible assets	Waterfront business rights	1,000,000,000	Concession period
	Membership	7,488,213	Indefinite

(\*) Weighted-average residual useful life

(ii) December 31, 2016

(Unit: In thousands of Korean won)			
	Description	Amount	Residual useful life (*)
Software	Development expense, other intangible assets and construction in progress for data processing	₩19,237,366	2.99
Industrial proprietary rights	Copyright, patents and industrial proprietary rights	116,307	4.73
Intangible assets under development	Water facilities under construction	1,634,820,263	-
Concession assets usage rights	Management right of water facilities in capital area	7,888,444,426	22.04
	Usage rights of water dams, usage rights of hydrogen dams, concession asset usage rights and management right of aggregate complex	948,016,468	Concession period
Other intangible assets	Waterfront business rights	1,000,000,000	Concession period
	Membership	7,488,213	Indefinite

(\*) Weighted-average residual useful life

## 18. TRADE AND OTHER PAYABLES:

Details of trade and other payables as of December 31, 2017 and 2016, are as follows:

	(Unit: In thousands of Korean won)	
	December 31, 2017	December 31, 2016
Trade accounts payable	₩20,906,173	₩16,322,083
Non-trade payables	179,034,929	189,887,491
Accrued expenses	120,211,866	104,306,358
Dividends payable	312,406	312,406
Others	2,691,682	11,978,874
	<u>₩323,157,056</u>	<u>₩322,807,212</u>

## 19. BORROWINGS AND DEBENTURES:

(1) Details of borrowings and debentures as of December 31, 2017 and 2016, are as follows:

	(Unit: In thousands of Korean won)	
	December 31, 2017	December 31, 2016
Current:		
Current portion of long-term borrowings	₩64,402,646	₩73,952,246
Current portion of debentures	<u>1,341,689,500</u>	<u>1,494,543,000</u>
	<u>1,406,092,146</u>	<u>1,568,495,246</u>
Non-current:		
Long-term borrowings	42,179,600	74,579,000
Debentures	9,937,819,000	9,802,014,500
Less: Present value of discount on debentures	<u>(5,119,730)</u>	<u>(2,371,177)</u>
	<u>9,974,878,870</u>	<u>9,874,222,323</u>
	<u>₩11,380,971,016</u>	<u>₩11,442,717,569</u>

(2) Redemption plan of borrowings and debentures as of December 31, 2017 and 2016, is as follows:

(i) December 31, 2017

	(Unit: In thousands of Korean won)		
	Borrowings	Debentures	Total
Within a year	₩64,402,646	₩1,341,689,500	₩1,406,092,146
1 year–5 years	38,620,400	4,780,679,000	4,819,299,400
After 5 years	<u>3,559,200</u>	<u>5,157,140,000</u>	<u>5,160,699,200</u>
	<u>₩106,582,246</u>	<u>₩11,279,508,500</u>	<u>₩11,386,090,746</u>

(ii) December 31, 2016

	(Unit: In thousands of Korean won)		
	Borrowings	Debentures	Total
Within a year	₩73,952,246	₩1,494,543,000	₩1,568,495,246
1 year–5 years	69,527,000	5,341,164,500	5,410,691,500
After 5 years	5,052,000	4,460,850,000	4,465,902,000
	₩148,531,246	₩11,296,557,500	₩11,445,088,746

(3) Details of long-term borrowings as of December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)					
	Financial institutions	Interest rate	Maturity	December 31, 2017	December 31, 2016
Long-term borrowings	Korea Development Bank	Floating interest rate	2025	₩74,194,000	₩115,618,000
denominated in Korean won	Korea Labor Welfare Corporation	2.00%	2020	-	525,000
	Global Infra Fund	Floating interest rate	2018	32,388,246	32,388,246
				106,582,246	148,531,246
Less: Current portion of long-term borrowings				(64,402,646)	(73,952,246)
				₩42,179,600	₩74,579,000

(4) Details of debentures as of December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won, JPY and USD)						
Series	Interest rate	Maturity	December 31, 2017		December 31, 2016	
			Foreign currency	Korean won	Foreign currency	Korean won
100th–236th	5.49%, etc.	01/18/2018 –12/21/2047	-	₩10,300,000,000	-	₩10,290,000,000
Land compensation (14-01–17-12)	3.11%, etc.	01/31/2018 –12/31/2020	-	33,592,000	-	53,426,000
Euro bonds	2.77%, etc.	04/16/2018 –05/20/2031	USD 750,000 JPY 15,000,000	945,916,500	USD 660,000 JPY 15,000,000	953,131,500
				11,279,508,500		11,296,557,500
Less: Present value of discount				(5,119,730)		(2,371,177)
Less: Current portion				(1,341,689,500)		(1,494,543,000)
				₩9,932,699,270		₩9,799,643,323



## 20. OTHER FINANCIAL LIABILITIES:

Details of other financial liabilities as of December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2017		December 31, 2016	
	Current	Non-current	Current	Non-current
Derivative liabilities	₩20,161,613	₩35,837,762	₩-	₩26,977,212

## 21. EMPLOYEE BENEFITS:

### (1) Defined contribution retirement benefit plan

The Company sponsors defined contribution plan for certain qualified employees. The plan assets are managed independently from the Company's assets by the plan administrator. If employees leave before they meet the requirements to be qualified for the defined contribution plan, the Company's contribution payable is reduced by the amount of the contribution lost.

- (i) The amount of contribution recognized in the comprehensive income for the years ended December 31, 2017 and 2016, is as follows:

(Unit: In thousands of Korean won)

	2017	2016
Cost of goods sold	₩11,905,681	₩12,260,751
Operating cost	4,993,589	1,775,488
Others	470,894	415,696
	<u>₩17,370,164</u>	<u>₩14,451,935</u>

### (2) Defined retirement benefit plan

- (i) Actuarial assumptions as of December 31, 2017 and 2016, are as follows:

	December 31, 2017	December 31, 2016
Discount rate/expected rate on plan assets	2.47%	2.16%
Future salary increase rate	4.97%	4.97%

- (ii) Details of expenses recognized in profit or loss for the years ended December 31, 2017 and 2016, are as follows:

	(Unit: In thousands of Korean won)	
	2017	2016
Current service cost	₩26,061,214	₩23,381,241
Interest on obligation	4,028,510	2,926,978
Interest on plan assets	(229,714)	(196,260)
Past service cost	-	4,524,988
	<u>₩29,860,010</u>	<u>₩30,636,947</u>

The amount recognized in employee expenses in the accompanying separate statements of comprehensive income (loss) was as follows:

	(Unit: In thousands of Korean won)	
	2017	2016
Cost of sales	₩20,407,222	₩24,075,456
Selling, general and administrative expenses	3,753,523	3,916,575
Others	5,699,265	2,644,916
	<u>₩29,860,010</u>	<u>₩30,636,947</u>

- (iii) Present value of defined benefit obligations and fair value of plan assets as of December 31, 2017 and 2016, are as follows:

	(Unit: In thousands of Korean won)	
	December 31, 2017	December 31, 2016
Present value of defined benefit obligations	₩176,304,894	₩151,622,011
Fair value of plan assets	<u>(12,141,393)</u>	<u>(11,966,842)</u>
Recognized as defined benefit liabilities in the condensed separate interim statements of financial position	<u>₩164,163,501</u>	<u>₩139,655,169</u>

- (iv) Movements in present value of defined benefit obligations for the years ended December 31, 2017 and 2016, are as follows:

	(Unit: In thousands of Korean won)	
	2017	2016
Beginning balance	₩151,622,011	₩122,727,273
Past service cost	-	4,524,987
Current service cost	26,061,214	23,381,241
Interest expense	4,028,510	2,926,978
Actuarial loss	(2,236,133)	1,597,074
Benefits paid	<u>(3,170,708)</u>	<u>(3,535,542)</u>
Ending balance	<u>₩176,304,894</u>	<u>₩151,622,011</u>

(v) Movements in plan assets for the years ended December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)

	2017	2016
Beginning balance	₩11,966,842	₩11,768,408
Transfer to the defined contribution plan	-	-
Operating commissions	(33,173)	(36,880)
Interest on plan assets	229,714	196,260
Actuarial loss	(21,504)	72,623
Defined benefits payments	481,827	-
Benefits paid by the plan	(482,313)	(33,569)
Ending balance	₩12,141,393	₩11,966,842

(vi) Accumulated actuarial loss recorded in other comprehensive income as of December 31, 2017 and 2016, is as follows:

(Unit: In thousands of Korean won)

	December 31, 2017	December 31, 2016
Accumulated actuarial loss	₩41,785,055	₩43,463,744

(vii) Main categories of the plan assets and the expected return on plan assets by categories as of December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)

	Expected return on plan assets		Fair value of plan assets	
	December 31, 2017	December 31, 2016	December 31, 2017	December 31, 2016
Derivative liabilities	2.47%	2.16%	₩12,141,393	₩11,966,842

For the year ended December 31, 2017, the actual return on the plan assets is ₩208,210 thousand.

## 22. PROVISIONS:

(1) Details of provisions as of December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2017		December 31, 2016	
	Current	Non-current	Current	Non-current
Provision for benefits	₩86,679,602	₩-	₩81,340,357	₩-
Provision for greenhouse gases exhaustion	1,498,816	-	27,020	-
Provision for litigation	-	37,641,847	-	44,703,748
Provision for restoration	-	22,745,858	-	25,023,275
Provision for financial guarantee	-	-	-	-
Provision for other current liabilities	11,293,734	-	35,097,000	-
	<u>₩99,472,152</u>	<u>₩60,387,705</u>	<u>₩116,464,377</u>	<u>₩69,727,023</u>

(2) Changes in provisions for the years ended December 31, 2017 and 2016, are as follows:

(i) 2017

(Unit: In thousands of Korean won)

	Book value at January 1, 2017	Increase	Utilization	Reversal	Book value at December 31, 2017
Provision for benefits	₩81,340,357	₩76,265,041	₩(70,925,796)	₩-	₩86,679,602
Provision for litigation	44,703,748	16,690,932	(23,752,833)	-	37,641,847
Provision for restoration	25,023,275	3,496,081	(5,773,498)	-	22,745,858
Provision for greenhouse gases exhaustion	27,020	1,471,796	-	-	1,498,816
Provision for other current liabilities	35,097,000	-	(23,803,266)	-	11,293,734
	<u>₩186,191,400</u>	<u>₩97,923,850</u>	<u>₩(124,255,393)</u>	<u>₩-</u>	<u>₩159,859,857</u>

(ii) 2016

(Unit: In thousands of Korean won)

	Book value at January 1, 2016	Increase	Utilization	Reversal	Book value at December 31, 2016
Provision for benefits	₩73,247,027	₩88,363,047	₩(80,269,717)	₩-	₩81,340,357
Provision for litigation	4,768,326	44,242,600	(4,307,178)	-	44,703,748
Provision for restoration	20,375,187	4,648,088	-	-	25,023,275
Provision for greenhouse gases exhaustion	291,405	-	-	(264,385)	27,020
Provision for financial guarantee	4,242,493	-	-	(4,242,493)	-
Provision for other current liabilities	-	35,097,000	-	-	35,097,000
	<u>₩102,924,438</u>	<u>₩172,350,735</u>	<u>₩(84,576,895)</u>	<u>₩(4,506,878)</u>	<u>₩186,191,400</u>

## 23. GOVERNMENT GRANTS:

(1) Details of government grants as of December 31, 2017 and 2016, are as follows:

	(Unit: In thousands of Korean won)	
	December 31, 2017	December 31, 2016
Buildings	₩(786,451)	₩(827,286)
Intangible assets under development	(6,334,196)	(6,334,196)
Concession assets' usage rights	(41,035,237)	(44,590,329)
	<u>₩(48,155,884)</u>	<u>₩(51,751,811)</u>

(2) Details of government grants related to assets for the years ended December 31, 2017 and 2016, are as follows:

(i) 2017

	(Unit: In thousands of Korean won)						
	Book value at January 1, 2017	Received	Acquisitions	Offset against depreciation	Profit	Others	Book value at December 31, 2017
Buildings	₩(827,286)	₩-	₩-	₩40,835	₩-	₩-	₩(786,451)
Intangible assets under development	(6,334,196)	-	-	-	-	-	(6,334,196)
Concession assets' usage rights	(44,590,329)	-	-	3,555,092	-	-	(41,035,237)
	<u>₩(51,751,811)</u>	<u>₩-</u>	<u>₩-</u>	<u>₩3,595,927</u>	<u>₩-</u>	<u>₩-</u>	<u>₩(48,155,884)</u>

(ii) 2016

	(Unit: In thousands of Korean won)						
	Book value at January 1, 2016	Received	Acquisitions	Offset against depreciation	Profit	Others	Book value at December 31, 2016
Buildings	₩(868,121)	₩-	₩-	₩40,835	₩-	₩-	₩(827,286)
Intangible assets under development	(6,334,196)	-	-	-	-	-	(6,334,196)
Concession assets' usage rights	(48,145,421)	-	-	3,555,092	-	-	(44,590,329)
	<u>₩(55,347,738)</u>	<u>₩-</u>	<u>₩-</u>	<u>₩3,595,927</u>	<u>₩-</u>	<u>₩-</u>	<u>₩(51,751,811)</u>

## 24. CUSTOMERS' CONTRIBUTION TO CONSTRUCTION COSTS:

- (1) Revenue generated from customers' contribution to construction costs recognized as profit or loss for the years ended December 31, 2017 and 2016, is as follows:

	(Unit: In thousands of Korean won)	
	2017	2016
Offset against deferred construction income	₩266,500	₩266,500
Offset against depreciation	485,843	485,843
	<u>₩752,343</u>	<u>₩752,343</u>

- (2) Changes in deferred income related to customers' contribution to construction costs for the years ended December 31, 2017 and 2016, are as follows:

	(Unit: In thousands of Korean won)	
	2017	2016
Beginning balance	₩41,659,075	₩41,025,575
Increase	-	900,000
Decrease	(266,500)	(266,500)
Ending balance	<u>₩41,392,575</u>	<u>₩41,659,075</u>

- (3) Changes in construction costs for the years ended December 31, 2017 and 2016, are as follows:

	(Unit: In thousands of Korean won)	
	2017	2016
Beginning balance	₩5,375,471	₩5,861,313
Increase	-	-
Decrease	(485,843)	(485,843)
Ending balance	<u>₩4,889,628</u>	<u>₩5,375,470</u>

## 25. NON-FINANCIAL LIABILITIES:

(1) Other non-financial liabilities as of December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2017		December 31, 2016	
	Current	Non-current	Current	Non-current
Advance received	₩1,104,964,920	₩-	₩1,106,464,501	₩-
Prepaid income	160,675	-	253,873	-
Withholdings	20,859,257	-	20,862,301	-
Deferred income	-	41,392,575	-	41,659,075
Others	8,685,620	-	8,912,821	-
	<u>₩1,134,670,472</u>	<u>₩41,392,575</u>	<u>₩1,136,493,496</u>	<u>₩41,659,075</u>

## 26. ISSUED CAPITAL:

(1) Details of issued capital as of December 31, 2017 and 2016, are as follows:

(i) December 31, 2017

(Unit: In thousands of Korean won)

	Government	Others	Total
Share capital	₩7,500,557,930	₩608,416,366	₩8,108,974,296

(ii) December 31, 2016

(Unit: In thousands of Korean won)

	Government	Others	Total
Share capital	₩7,084,131,930	₩608,416,366	₩7,692,548,296

(2) Details of discount on shares issued as of December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2017	December 31, 2016
Discount on shares issued	₩7,029,816	₩5,030,971

## 27. **RETAINED EARNINGS:**

- (1) Details of retained earnings (accumulated deficit) as of December 31, 2017 and 2016, are as follows:

	(Unit: In thousands of Korean won)	
	<u>December 31, 2017</u>	<u>December 31, 2016</u>
Unappropriated retained earnings		
(accumulated deficit)	₩(917,017,301)	₩(1,080,255,882)

- (\*) In accordance with the K-water Act, an amount equal to at least 20% of net income in each fiscal year is required to be appropriated as a legal reserve, until the reserve equals 50% of share capital. The legal reserve may not be utilized for cash dividends, but may only be used to offset a deficit, if any, or be transferred to share capital.

- (2) Changes in retained earnings (accumulated deficit) for the years ended December 31, 2017 and 2016, are as follows:

	(Unit: In thousands of Korean won)	
	<u>2017</u>	<u>2016</u>
Beginning balance	₩(1,080,255,882)	₩(2,384,847,331)
Net income (loss)	161,559,892	(145,632,184)
Loss reserves	-	1,451,379,166
Actuarial gain (loss)	<u>1,678,689</u>	<u>(1,155,533)</u>
Ending balance	<u>₩(917,017,301)</u>	<u>₩(1,080,255,882)</u>



(3) Dividends paid for the years ended December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)

	2017		2016	
	Investment	Dividend	Investment	Dividend
Investment	₩8,108,974,296	₩-	₩7,692,548,296	₩-

(4) Changes in actuarial loss for the years ended December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)

	2017	2016
Beginning balance	₩(43,463,744)	₩(42,308,210)
Changes for the year	2,214,629	(1,524,451)
Tax effect	(535,940)	368,917
Ending balance	₩(41,785,055)	₩(43,463,744)

## **28. SEPARATE STATEMENTS OF APPROPRIATION OF RETAINED EARNINGS (ACCUMULATED DEFICIT):**

Separate statements of appropriation of retained earnings (accumulated deficit) for the years ended December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)

	2017	2016
<b>I. Unappropriated retained earnings (accumulated deficit)</b>	₩(917,017,301)	₩(1,080,255,882)
Balance at beginning of year	(1,080,255,882)	(933,468,165)
Net income (loss) for the year	161,559,892	(145,632,183)
Actuarial gains (loss)	1,678,689	(1,155,534)
<b>II. Disposal of deficit (appropriation of retained earnings)</b>	-	-
<b>III. Unappropriated retained earnings (accumulated deficit) to be carried over to subsequent year</b>	₩(917,017,301)	₩(1,080,255,882)

## 29. OTHER COMPONENTS OF EQUITY:

(1) Details of other components of equity as of December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)

	<u>December 31, 2017</u>	<u>December 31, 2016</u>
Accumulated other comprehensive	₩14,967,573	<del>₩</del> (3,929,325)

(2) Changes in accumulated other comprehensive for the years ended December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)

	<u>2017</u>		<u>2016</u>	
	<u>Derivate</u>	<u>AFS financial assets</u>	<u>Derivate</u>	<u>AFS financial assets</u>
Beginning balance	₩(3,869,081)	₩(60,244)	₩(5,200,410)	₩(60,244)
Changes	24,929,945	-	1,756,371	-
Tax effects	<u>(6,033,047)</u>	<u>-</u>	<u>(425,042)</u>	<u>-</u>
Ending balance	<u>₩15,027,817</u>	<u>₩(60,244)</u>	<u>₩(3,869,081)</u>	<u>₩(60,244)</u>

(3) Changes in other capital for the years ended December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)

	<u>2017</u>	<u>2016</u>
Beginning balance	₩-	₩1,449,018,998
Changes	<u>-</u>	<u>(1,449,018,998)</u>
Ending balance	<u>₩-</u>	<u>₩-</u>

### 30. **REVENUE:**

Details of revenue from continuous operations of the Company for the years ended December 31, 2017 and 2016, are as follows:

	(Unit: In thousands of Korean won)	
	2017	2016
Revenue from selling product:		
Held-for-sale land revenue	₩544,912,165	₩689,740,883
Water supply business revenue	1,116,183,837	1,049,862,339
Multiple-purpose dams' business revenue	562,389,990	532,644,307
Ara waterway operation business revenue	96,769,956	130,335,962
	<u>2,320,255,948</u>	<u>2,402,583,491</u>
Revenue from providing service:		
Local waterworks' business revenue	157,493,061	150,882,692
Sewage treatment business revenue	27,311,394	21,915,566
Four River management business revenue	27,663,636	28,237,272
	<u>212,468,091</u>	<u>201,035,530</u>
Revenue from construction contract:		
Water resource revenue	92,539,679	194,749,723
Sewage construction revenue	9,437,524	9,377,716
Private investment construction revenue (waterworks)	303,732,462	325,147,600
Private investment construction revenue (multiple-purpose dams)	41,948,556	65,112,668
Private investment construction revenue (local)	49,038,559	55,438,165
Private investment construction revenue (Kyung-in Canal Project)	8,240,085	5,475,714
	<u>504,936,865</u>	<u>655,301,586</u>
Other revenue:		
Foreign business revenue	8,844,312	3,819,502
Aggregate business revenue	19,564,695	26,006,826
Incidental business revenue	196,613,368	155,412,649
	<u>225,022,375</u>	<u>185,238,977</u>
	<u>₩3,262,683,279</u>	<u>₩3,444,159,584</u>

### 31. SELLING, GENERAL AND ADMINISTRATIVE EXPENSES:

Details of the selling, general and administrative expenses for the years ended December 31, 2017 and 2016, are as follows:

	(Unit: In thousands of Korean won)	
	2017	2016
Wages and salaries	₩40,681,372	₩43,374,553
Contribution to the Employee Welfare Fund	6,500,000	6,900,000
Expenses for employee benefits	8,747,112	5,692,063
Other employee benefits	6,269,943	6,763,899
Insurance	523,947	1,073,155
Depreciation	4,136,501	4,124,148
Amortization	578,302	739,478
Reversal of bad debt expense	(33,848)	(775,275)
Commissions	7,649,653	8,395,579
Advertisement	11,697,748	11,598,611
Training	6,613,249	5,050,261
Vehicle maintenance	342,837	343,486
Printing	471,301	557,539
Entertainment	119,335	88,276
Rent	1,293,245	1,225,724
Communications	2,341,477	2,342,660
Taxes and dues	1,853,162	1,154,010
Supplies	702,853	701,437
Utilities	1,500,219	1,441,192
Repairs	9,518,156	9,858,348
Development	27,923,041	27,004,933
Travel	2,194,583	2,503,485
Clothing	388,285	150,210
Research and analysis	88,144	62,527
Sales promotions	805,292	1,242,001
Sales commission	894,216	1,301,169
Others	1,872,574	1,667,213
	<u>₩145,672,699</u>	<u>₩144,580,682</u>

### 32. OTHER INCOME AND OTHER EXPENSES:

(1) Details of other income for the years ended December 31, 2017 and 2016, are as follows:

	(Unit: In thousands of Korean won)	
	2017	2016
Reversal of allowance for bad debts	₩-	₩97,698
Customers' contribution to construction	266,500	266,500
Rent income	2,142,666	1,878,686
Others	47,556,755	17,788,837
	<u>₩49,965,921</u>	<u>₩20,031,721</u>

(2) Details of other expenses for the years ended December 31, 2017 and 2016, are as follows:

	(Unit: In thousands of Korean won)	
	2017	2016
Transfer of provision for other current liabilities	₩22,142,824	₩117,857,622
Other bad debt expense	508,991	47,353
Donations	1,904,907	1,380,789
Expenses for cancellation of contract	-	-
Others	13,833,997	176,727
	<u>₩38,390,719</u>	<u>₩119,462,491</u>

### 33. OTHER GAINS AND LOSSES:

Details of other gains and losses for the years ended December 31, 2017 and 2016, are as follows:

	(Unit: In thousands of Korean won)	
	2017	2016
Gain on disposal of property, plant and equipment	₩2,085,381	₩3,266,905
Loss on disposal of property, plant and equipment	(1,438,401)	(3,089,178)
Impairment loss on intangible assets (*)	(2,536,346)	(143,018,578)
Others, net	-	(171,191)
	<u>₩(1,889,366)</u>	<u>₩(143,012,042)</u>

(\*) As recovered amount was decided, which is investment cost in respect to Four River Restoration Project, an impairment loss of ₩143,018,579 thousand was recognized in 2016.

### 34. **FINANCE INCOME:**

(1) Details of the finance income for the years ended December 31, 2017 and 2016, are as follows:

	2017	2016
Interest income	₩12,195,190	₩8,774,307
Dividends	742,237	501,273
Gain on valuation of derivative instruments	-	33,760,000
Gain on foreign currency translation	84,655,000	3,888
Gain on foreign currency transactions	27,332,039	-
	<u>₩124,924,466</u>	<u>₩43,039,468</u>

(2) Details of the interest income for the years ended December 31, 2017 and 2016, are as follows:

	2017	2016
Cash and cash equivalents	₩6,610,691	₩5,164,253
Trade and other receivables	5,584,499	3,610,054
	<u>₩12,195,190</u>	<u>₩8,774,307</u>

### 35. FINANCE COSTS:

(1) Details of finance costs for the years ended December 31, 2017 and 2016, are as follows:

	(Unit: In thousands of Korean won)	
	2017	2016
Interest expenses	₩262,545,872	₩294,422,542
Loss on valuation of derivative instruments	84,655,000	-
Loss on settlement of derivative instruments	27,332,000	-
Loss on foreign currency translation	1,132,758	33,805,879
Loss on foreign currency transactions	3,845,214	312,500
Loss on redemption of debenture	3,778,767	-
	<u>₩383,289,611</u>	<u>₩328,540,921</u>

(2) Details of interest expenses for the years ended December 31, 2017 and 2016, are as follows:

	(Unit: In thousands of Korean won)	
	2017	2016
Trade and other payables	₩94,095	₩20,490
Long-term borrowings	2,936,969	2,607,334
Debentures	380,748,220	425,836,565
Derivative liabilities	29,685,478	20,106,463
	<u>413,464,762</u>	<u>448,570,852</u>
Less: Capitalized borrowing costs	<u>(150,918,890)</u>	<u>(154,148,310)</u>
	<u>₩262,545,872</u>	<u>₩294,422,542</u>

Weighted-average interest rate used to capitalize the borrowing costs for the year ended December 31, 2017, is 2.82% (3.64% for 2016).

### 36. INCOME TAX EXPENSE:

- (1) The component of income tax expense (benefit) for the years ended December 31, 2017 and 2016, is as follows:

	(Unit: In thousands of Korean won)	
	2017	2016
Current tax expense	₩2,935,617	₩-
Adjustment for prior years	900,125	1,017,209
Income taxes directly charged to equity	(6,568,987)	(56,125)
Origination and reversal of temporary differences	10,098,900	(49,248,837)
Total income tax expense (benefit)	<u>₩7,365,655</u>	<u>₩(48,287,753)</u>

- (2) Reconciliation of effective tax rate for the years ended December 31, 2017 and 2016, is as follows:

	(Unit: In thousands of Korean won)	
	2017	2016
Net income (loss) before income tax expense	₩168,925,548	₩(193,919,937)
Tax rate	24.2%	24.2%
Income tax using the Company's statutory tax rate	40,879,983	(46,928,625)
Adjustments:		
Effect of graduated tax rates	(462,000)	(462,000)
Current adjustments for prior periods	900,125	1,017,208
Effect of tax investigation	-	-
Non-taxable income	(41,273)	(425,114)
Non-deductible expenses	6,568,986	27,089,985
Temporary difference not recognized as deferred income tax	(40,480,166)	(29,004,321)
Income tax expense (benefit)	<u>₩7,365,655</u>	<u>₩(48,712,867)</u>
Average effective tax rate	4.36%	(*)

(\*) Due to loss before income tax expense, effective tax rate need not be calculated.

- (3) Income tax expenses recognized as other comprehensive income (loss) for the years ended December 31, 2017 and 2016, are as follows:

	(Unit: In thousands of Korean won)	
	2017	2016
Gain (loss) on valuation of derivative instruments	₩(6,033,047)	₩(425,042)
Net change in fair value of AFS financial assets	-	-
Defined benefit plan actuarial gain (loss)	(535,940)	368,917
	<u>₩(6,568,987)</u>	<u>₩(56,125)</u>



(4) Deferred tax assets (liabilities) recognized in separate financial statements as of December 31, 2017 and 2016, are as follows:

(i) December 31, 2017

	(Unit: In thousands of Korean won)			
	Beginning balance	Profit or loss	Other comprehensive income (loss)	Ending balance
Depreciation	₩6,375,172	₩3,246,806	₩-	₩9,621,978
Government grant	12,523,938	(870,214)	-	11,653,724
Contribution toward construction	1,300,864	(117,574)	-	1,183,290
Deferred revenue contribution toward construction	10,346,410	(329,407)	-	10,017,003
Defined benefit liabilities	22,943,746	11,453,990	(535,940)	33,861,796
Plan assets	(2,895,976)	(42,241)	-	(2,938,217)
AFS financial assets	19,234	-	-	19,234
Investment securities	58,149	3,289,040	-	3,347,189
Acquisition tax (Gyeong-in Canal Project)	149,041	(7,352)	-	141,689
Accrued administrative expenses	6,055,633	(551,135)	-	5,504,498
Allowance for doubtful accounts in excess of limit	769,110	30,561	-	799,671
Depreciation by exemption law	(3,221,889)	176,508	-	(3,045,381)
Interest capitalized on inventory during construction period	(142,396,463)	(25,918,449)	-	(168,314,912)
Tax on excessive appreciation of land value (inventories)	(2,750,858)	(1,953,546)	-	(4,704,404)
Accrued income	(11,829)	1,721	-	(10,108)
Tax and dues (land excessive profit tax)	(3,601)	-	-	(3,601)
Reserve for temporary depreciation	(15,960,292)	500,937	-	(15,459,355)
Understatement of impairment loss	(242,000,000)	-	-	(242,000,000)
Dividends payable (Bosung gun)	(5,430)	-	-	(5,430)
Acquisition tax (land)	(37,450)	-	-	(37,450)
Provision for litigation	18,848,459	(7,172,311)	-	11,676,148
Payment guarantee for foreign-related party	107,552	8,729	-	116,281
Adjustment of K-IFRS conversion	1,235,247	3,575,551	(6,033,047)	(1,222,249)
Debentures	1,225,815	-	-	1,225,815
Provision for greenhouse gases exhaustion	6,539	356,174	-	362,713
Foreign currency deposits	-	4,612	-	4,612
Adjustments for foreign exchange rates	5,545,146	-	-	5,545,146
Common input tax	244,243	(725)	-	243,518
Deficit carried forward	1,731,527,342	(23,363,284)	-	1,708,164,058
Other	(14,781,552)	1,425,849	-	(13,355,703)
Total	1,395,216,300	(36,255,760)	(6,568,987)	1,352,391,553
Except for reorganization of deferred tax assets (liabilities)	(1,345,967,463)	32,725,847	-	(1,313,241,616)
Ending balance	₩49,248,837	₩(3,529,913)	₩(6,568,987)	₩39,149,937

## (ii) December 31, 2016

	(Unit: In thousands of Korean won)			
	Beginning balance	Profit or loss	Other comprehensive income (loss)	Ending balance
Depreciation	₩6,005,433	₩369,739	₩-	₩6,375,172
Government grant	13,394,153	(870,215)	-	12,523,938
Contribution toward construction	1,418,438	(117,574)	-	1,300,864
Deferred revenue contribution toward construction	10,831,599	(485,189)	-	10,346,410
Defined benefit liabilities	22,936,232	(361,403)	368,917	22,943,746
Plan assets	(2,847,955)	(48,021)	-	(2,895,976)
AFS financial assets	19,234	-	-	19,234
Investment securities	58,149	-	-	58,149
Acquisition tax (Gyeong-in Canal Project)	-	149,041	-	149,041
Accrued administrative expenses	4,930,795	1,124,838	-	6,055,633
Allowance for doubtful accounts in excess of limit	785,820	(16,710)	-	769,110
Depreciation by exemption law	(3,601,506)	379,617	-	(3,221,889)
Interest capitalized on inventory during construction period	(121,514,026)	(20,882,437)	-	(142,396,463)
Tax on excessive appreciation of land value (inventories)	(2,271,180)	(479,678)	-	(2,750,858)
Accrued income	(65,856)	54,027	-	(11,829)
Tax and dues (land excessive profit tax)	(3,601)	-	-	(3,601)
Reserve for temporary depreciation	(16,243,428)	283,136	-	(15,960,292)
Understatement of impairment loss	(242,000,000)	-	-	(242,000,000)
Dividends payable (Bosung gun)	(5,430)	-	-	(5,430)
Acquisition tax (land)	(37,450)	-	-	(37,450)
Provision for litigation	1,153,934	17,694,525	-	18,848,459
Payment guarantee for foreign-related party	177,244	(69,692)	-	107,552
Adjustment of K-IFRS conversion	1,660,289	-	(425,042)	1,235,247
Debentures	1,225,815	-	-	1,225,815
Provision for greenhouse gases exhaustion	70,520	(63,981)	-	6,539
Foreign currency deposits	(90,750)	90,750	-	-
Adjustments for foreign exchange rates	5,545,146	-	-	5,545,146
Common input tax	244,969	(726)	-	244,243
Deficit carried forward	1,651,537,244	79,990,098	-	1,731,527,342
Other	(16,350,690)	1,569,138	-	(14,781,552)
Total	1,316,963,142	78,309,283	(56,125)	1,395,216,300
Except for reorganization of deferred tax assets (liabilities)	(1,316,963,142)	(29,004,321)	-	(1,345,967,463)
Ending balance	₩-	₩49,304,962	₩(56,125)	₩49,248,837

- (5) Temporary differences, which are not recognized as deferred tax assets, as of December 31, 2017 and 2016, are as follows:

	(Unit: In thousands of Korean won)	
	<u>December 31, 2017</u>	<u>December 31, 2016</u>
Tax deficit	₩1,313,241,616	₩1,345,967,463

Accumulated tax deficits that are not recognized as deferred income tax assets are expected to expire in eight to nine years.

- (6) Deferred tax assets (liabilities) as of December 31, 2017 and 2016, are as follows:

	(Unit: In thousands of Korean won)	
	<u>December 31, 2017</u>	<u>December 31, 2016</u>
Deferred tax assets	₩39,149,937	₩49,248,837
Deferred tax liabilities	<u>-</u>	<u>-</u>
	<u>₩39,149,937</u>	<u>₩49,248,837</u>

### 37. NATURE OF EXPENSES:

Details of nature of expenses for the years ended December 31, 2017 and 2016, are as follows:

#### (i) 2017

	Changes in inventories	Selling, general and administrative expenses	Cost of sales	Total
Changes in inventories:				
- Raw material	₩(735,260)	₩-	₩-	₩(735,260)
- Product	(577,850,728)	-	-	(577,850,728)
- Raw material used	-	-	1,864,639,049	1,864,639,049
Wages and salaries	-	40,681,372	349,941,166	390,622,538
Expenses for employee benefits	-	8,747,112	35,545,162	44,292,274
Other employee benefits	-	6,269,943	39,038,040	45,307,983
Insurance	-	523,947	1,121,475	1,645,422
Depreciation	-	4,136,501	82,614,736	86,751,237
Amortization	-	578,302	613,355,482	613,933,784
Bad debt expense (refund)	-	(33,848)	-	(33,848)
Commissions	-	7,649,653	49,834,974	57,484,627
Advertisements	-	11,697,748	1,040,920	12,738,668
Training	-	6,613,249	1,058,162	7,671,411
Vehicle maintenance	-	342,837	2,043,479	2,386,316
Printing	-	471,301	686,715	1,158,016
Entertainment	-	119,335	16,562	135,897
Rent	-	1,293,245	3,387,925	4,681,170
Communications	-	2,341,477	5,647,383	7,988,860
Tax and dues	-	1,853,162	75,889,993	77,743,155
Supplies	-	702,853	2,015,555	2,718,408
Utilities	-	1,500,219	3,510,705	5,010,924
Repair	-	9,518,156	104,212,494	113,730,650
Development	-	27,923,041	7,280,825	35,203,866
Travel	-	2,194,583	17,172,893	19,367,476
Clothing	-	388,285	5,488	393,773
Research and analysis	-	88,144	2,914,886	3,003,030
Sales promotion	-	805,292	-	805,292
Sales commission	-	894,216	-	894,216
Others	-	8,372,574	13,564,282	21,936,856
	<u>₩(578,585,988)</u>	<u>₩145,672,699</u>	<u>₩3,276,538,351</u>	<u>₩2,843,625,062</u>

## (ii) 2016

(Unit: In thousands of Korean won)

	Changes in inventories	Selling, general and administrative expenses	Cost of sales	Total
Changes in inventories:				
- Raw material	₩55,351	₩-	₩-	₩55,351
- Product	(588,333,880)	-	-	(588,333,880)
- Raw material used	-	-	2,151,410,509	2,151,410,509
Wages and salaries	-	43,374,553	335,829,949	379,204,502
Expenses for employee benefits	-	5,692,063	36,336,207	42,028,270
Other employee benefits	-	6,763,899	41,590,313	48,354,212
Insurance	-	1,073,155	1,129,495	2,202,650
Depreciation	-	4,124,148	80,679,871	84,804,019
Amortization	-	739,478	607,355,356	608,094,834
Bad debt expense (refund)	-	(775,275)	-	(775,275)
Commissions	-	8,395,579	46,047,296	54,442,875
Advertisements	-	11,598,611	1,062,657	12,661,268
Training	-	5,050,261	1,117,995	6,168,256
Vehicle maintenance	-	343,486	1,889,238	2,232,724
Printing	-	557,539	682,020	1,239,559
Entertainment	-	88,276	38,631	126,907
Rent	-	1,225,724	3,251,657	4,477,381
Communications	-	2,342,660	5,649,137	7,991,797
Tax and dues	-	1,154,010	76,840,485	77,994,495
Supplies	-	701,437	1,894,934	2,596,371
Utilities	-	1,441,192	3,291,448	4,732,640
Repair	-	9,858,348	104,106,445	113,964,793
Development	-	27,004,933	9,269,543	36,274,476
Travel	-	2,503,485	16,909,457	19,412,942
Clothing	-	150,210	6,816	157,026
Research and analysis	-	62,527	3,824,821	3,887,348
Sales promotion	-	1,242,001	-	1,242,001
Sales commission	-	1,301,169	-	1,301,169
Others	-	8,567,213	11,583,310	20,150,523
	<u>₩(588,278,529)</u>	<u>₩144,580,682</u>	<u>₩3,541,797,590</u>	<u>₩3,098,099,743</u>

### 38. CATEGORIES OF FINANCIAL INSTRUMENTS:

(1) The financial assets and liabilities by categories as of December 31, 2017 and 2016, are detailed as follows:

(i) December 31, 2017

(Unit: In thousands of Korean won)

	Financial assets at FVTPL	Loans and receivables	Derivative hedging instrument designated	Total
Current financial assets				
Cash and cash equivalents	₩-	₩ 118,656,945	₩-	₩ 118,656,945
Loans and receivables	-	8,640,246	-	8,640,246
Short-term financial assets	23,897,420	-	-	23,897,420
Trade and other receivables	-	309,615,890	-	309,615,890
Derivative instrument assets	-	-	2,180,359	2,180,359
Total	₩23,897,420	₩436,913,081	₩2,180,359	₩462,990,860

(Unit: In thousands of Korean won)

	Loans and receivables	AFS financial assets	Derivative hedging instrument designated	Total
Non-current financial assets				
AFS assets	₩-	₩ 23,029,647	₩-	₩ 23,029,647
Loans and receivables	17,762,987	-	-	17,762,987
Derivative instrument assets	-	-	28,672,132	28,672,132
Subtotal	17,762,987	23,029,647	28,672,132	69,464,766
Trade and other receivables	166,794,603	-	-	166,794,603
Total	₩184,557,590	₩23,029,647	₩28,672,132	₩236,259,369

(Unit: In thousands of Korean won)

	Financial liabilities measured at amortized cost	Derivative hedging instrument designated	Total
Current financial liabilities			
Current portion of long-term borrowings	₩64,402,646	₩-	₩64,402,646
Current portion of debentures	1,341,689,500	-	1,341,689,500
Current portion of derivative instrument liabilities		20,161,613	20,161,613
Subtotal	1,406,092,146	20,161,613	1,426,253,759
Trade and other payables	322,844,650	-	322,844,650
Total	₩1,728,936,796	₩20,161,613	₩1,749,098,409

(Unit: In thousands of Korean won)			
Non-current financial liabilities	Financial liabilities measured at amortized cost	Derivative hedging instrument designated	Total
Long-term borrowings	₩42,179,600	₩-	₩42,179,600
Debentures	9,932,699,270	-	9,932,699,270
Derivative instrument liabilities	-	35,837,761	35,837,761
Total	₩9,974,878,870	₩35,837,762	₩10,010,716,631

(ii) December 31, 2016

(Unit: In thousands of Korean won)				
Current financial assets	Financial assets at FVTPL	Loans and receivables	Derivative hedging instrument designated	Total
Cash and cash equivalents	₩-	₩81,919,921	₩-	₩81,919,921
Short-term financial assets	79,605,251	-	-	79,605,251
Trade and other receivables	-	290,915,237	-	290,915,237
Derivative instrument assets	-	-	13,940,759	13,940,759
Total	₩79,605,251	₩372,835,158	₩13,940,759	₩466,381,168

(Unit: In thousands of Korean won)				
Non-current financial assets	Loans and receivables	AFS financial assets	Derivative hedging instrument designated	Total
AFS assets	₩-	₩16,938,771	₩-	₩16,938,771
Loans and receivables	19,436,514	-	-	19,436,514
Derivative instrument assets	-	-	62,389,624	62,389,624
Subtotal	19,436,514	16,938,771	62,389,624	98,764,909
Trade and other receivables	168,139,293	-	-	168,139,293
Total	₩187,575,807	₩16,938,771	₩62,389,624	₩266,904,202

(Unit: In thousands of Korean won)			
Current financial liabilities	Financial liabilities measured at amortized cost	Derivative hedging instrument designated	Total
Current portion of long-term borrowings	₩73,952,246	₩-	₩73,952,246
Current portion of debentures	1,494,543,000	-	1,494,543,000
Subtotal	1,568,495,246	-	1,568,495,246
Trade and other payables	322,494,806	-	322,494,806
Total	₩1,890,990,052	₩-	₩1,890,990,052

(Unit: In thousands of Korean won)			
Non-current financial liabilities	Financial liabilities measured at amortized cost	Derivative hedging instrument designated	Total
Long-term borrowings	₩74,579,000	₩-	₩74,579,000
Debentures	9,799,643,323	-	9,799,643,323
Derivative instrument liabilities	-	26,977,212	26,977,212
Total	₩9,874,222,323	₩26,977,212	₩9,901,199,535

- (2) Finance income and costs by categories for the years ended December 31, 2017 and 2016, are as follows:

(Unit: In thousands of Korean won)		
	2017	2016
Loans and receivables (including cash and cash equivalents):		
Interest income	₩12,195,190	₩8,774,307
AFS financial assets:		
Dividend income	742,237	501,273
Derivative hedging instrument designated:		
Gain (loss) on transaction, net	(27,332,000)	-
Gain (loss) on valuation, net	(84,655,000)	33,760,000
Financial liabilities measured at amortized cost:		
Interest expense	(262,545,872)	(294,422,542)
Loss on redemption of debenture	(3,778,767)	-
Gain (loss) on foreign currency transactions, net	23,486,825	(312,500)
Gain (loss) on foreign currency translation, net	83,522,242	(33,801,991)
	₩(258,365,145)	₩(285,501,453)



### 39. **RISK MANAGEMENT:**

#### (1) Capital risk management

The fundamental goal of capital management is to maintain the Company's going-concern ability and to maximize shareholders' value by means of minimizing capital finance cost. The Company's management reviews the Company's capital structure periodically and maintains optimal capital structure by borrowings, capital increase and so forth.

As of December 31, 2017 and 2016, the Company's net debt and equity are as follows:

	(Unit: In thousands of Korean won)	
	December 31, 2017	December 31, 2016
Net debt:		
Debts (borrowings and debentures)	₩11,380,971,016	₩11,442,717,569
Less: Cash and cash equivalents	(118,656,945)	(81,919,921)
	11,262,314,071	11,360,797,648
Equity	7,199,894,752	6,603,332,118
Total equity	₩18,462,208,823	₩17,964,129,766
Adjusted debt ratio	61.00%	63.24%

#### (2) Financial risk management

##### (i) Goal of financial risk management

The board of directors is responsible for preparing overall systems for financial risk management and supervising financial risk management. The board of directors established a risk management committee to develop the strategy for financial risk management and supervise financial risk management. The risk management committee reviews the compliance of the risk management policy and procedure periodically and reports the results to the board of directors.

The Company's policies for financial risk management is prepared to recognize and analyze the Company's financial risk, establish the Company's risk threshold and control and manage the Company's financial risk to be not more than the risk threshold. The Company's risk management systems and policies are reviewed periodically to reflect the market environments and Company's underlying operations. The Company makes employees to understand their own roles and responsibilities and structure control environments by training employees on financial risk management standards and procedures.

(ii) Credit risk management

(a) Exposure to credit risk

The carrying amount of financial assets represents the maximum credit exposure. The Company limits its exposure to credit risk by depositing cash and cash equivalents in financial institutions that have a high credit rate. The maximum exposure to credit risk at the reporting date is as follows:

	(Unit: In thousands of Korean won)	
	December 31, 2017	December 31, 2016
Cash equivalents	₩118,656,945	₩81,919,921
Short-term financial assets	23,897,420	79,605,251
Loans and receivables	502,847,457	478,623,750
AFS financial assets	23,029,647	16,938,771
Derivative assets used for hedging	30,852,491	76,330,383
Financial guarantee contracts (*)	125,289,805	117,808,630
	<u>₩824,573,765</u>	<u>₩851,226,706</u>

(\*) The above amounts are maximum amounts that the Company should pay in case the principal debtors make a claim.

(iii) Liquidity risk management

(a) December 31, 2017

The following are the contractual maturities of financial liabilities as of December 31, 2017, including estimated interest payments and excluding the impact of netting agreements:

(Unit: In thousands of Korean won)				
	Carrying amount	Contractual cash flows	6 months or less	6–12 months
Trade and other payables	₩322,844,650	₩322,844,650	₩322,844,650	₩-
Debentures	11,274,388,770	13,537,636,151	1,099,465,795	611,693,295
Borrowings	106,582,246	109,857,575	16,941,075	49,329,321
Derivative financial liabilities used for hedging	55,999,374	55,999,374	-	20,161,613
	<u>₩11,759,815,040</u>	<u>₩14,026,337,750</u>	<u>₩1,439,251,520</u>	<u>₩681,184,229</u>

(Unit: In thousands of Korean won)			
	1 year–2 years	2–5 years	More than 5 years
Trade and other payables	₩-	₩-	₩-
Debentures	1,489,833,849	4,281,069,167	6,055,574,045
Borrowings	23,147,961	16,766,926	3,672,291
Derivative financial liabilities used for hedging	-	27,992,873	7,844,888
	<u>₩1,512,981,810</u>	<u>₩4,325,828,966</u>	<u>₩6,067,091,224</u>

(b) December 31, 2016

The following are the contractual maturities of financial liabilities as of December 31, 2016, including estimated interest payments and excluding the impact of netting agreements:

(Unit: In thousands of Korean won)				
	Carrying amount	Contractual cash flows	6 months or less	6–12 months
Trade and other payables	₩322,494,806	₩322,494,806	₩322,494,806	₩-
Debentures	11,294,186,323	13,601,877,385	1,332,142,593	541,151,593
Borrowings	148,531,246	155,412,642	22,300,190	54,688,436
Derivative financial liabilities used for hedging	26,977,212	26,977,212	-	-
	<u>₩11,792,189,587</u>	<u>₩14,106,762,045</u>	<u>₩1,676,937,589</u>	<u>₩595,840,029</u>

(Unit: In thousands of Korean won)			
	1 year-2 years	2-5 years	More than 5 years
Trade and other payables	₩-	₩-	₩-
Debentures	1,733,372,986	4,248,279,337	5,746,930,876
Borrowings	34,045,414	39,036,047	5,342,555
Derivative financial liabilities used for hedging	9,346,847	12,348,753	5,281,612
	<u>₩1,776,765,247</u>	<u>₩4,299,664,137</u>	<u>₩5,757,555,043</u>

(iv) Currency risk

The Company's exposure to foreign currency risk, based on notional amounts, is as follows:

(Unit: In thousands of Korean won)						
December 31, 2017			December 31, 2016			
USD	JPY	EUR	USD	JPY	EUR	
Debentures	₩803,550,000	₩142,366,500	-	₩797,610,000	₩155,521,500	-

As of December 31, 2017, the Company entered into currency swap contracts to hedge foreign currency risk, and the currency swap was designated as a hedging instrument for hedge of a foreign currency risk related to liabilities denominated in foreign currencies.

Currency swap was designed to offset fluctuation of foreign currency-denominated liabilities; therefore, assuming all other variables are consistent, there might be no effect on income before taxes resulting from fluctuation in foreign exchange rate.

(v) Interest rate risk

Borrowings with floating rates were exposed to interest rate risk. The Company entered into currency and interest swap contracts to hedge interest rate risk of a considerable portion of borrowings with floating rates. The Company measures its interest rate risk based on 100 basis points ("bp"), which reflect the management's assessment of reasonable level of interest rate risk.

- (a) At the reporting date, the interest rate profile of the Company's interest-bearing financial liabilities is as follows:

	(Unit: In thousands of Korean won)	
	December 31, 2017	December 31, 2016
Debentures	₩277,140,000	₩484,210,000
Borrowings	106,582,246	148,006,246
	₩383,722,246	₩632,216,246

- (b) Cash flow sensitivity analysis for variable-rate instruments

A change of 100 bp in interest rates at the reporting date would have increased (decreased) equity and profit or loss by the amounts shown below. This analysis assumes that all other variables, in particular foreign currency rates, remain constant. The analysis is performed on the same basis for 2016.

	(Unit: In thousands of Korean won)			
	December 31, 2017		December 31, 2016	
	100 bp increase	100 bp decrease	100 bp increase	100 bp decrease
Equity and profit (loss)	₩(3,837,222)	₩3,837,222	₩(6,322,162)	₩6,322,162

### (3) Fair values

- (i) Fair values versus carrying amounts

The fair values of financial assets and liabilities, together with the carrying amounts shown in the condensed separate interim statements of financial position, are as follows:

	(Unit: In thousands of Korean won)			
	December 31, 2017		December 31, 2016	
	Carrying amount	Fair value	Carrying amount	Fair value
Assets carried at fair value:				
Short-term financial assets	₩23,897,420	₩23,897,420	₩79,605,251	₩79,605,251
AFS financial assets	23,029,647	23,029,647	12,758,051	12,758,051
Derivative instrument assets	30,852,491	30,852,491	76,330,384	76,330,384
	₩77,779,558	₩77,779,558	₩168,693,686	₩168,693,686
Assets carried at amortized cost:				
Loans and receivables	₩502,813,726	₩502,813,726	₩478,491,043	₩478,491,043
Cash and cash equivalents	118,656,945	118,656,945	81,919,922	81,919,922
	₩621,470,671	₩621,470,671	₩560,410,965	₩560,410,965
Liabilities carried at fair value:				
Derivative instrument liabilities	₩55,999,375	₩55,999,375	₩26,977,212	₩26,977,212
Liabilities carried at amortized cost:				
Debentures	₩11,274,388,770	₩11,274,388,770	₩11,294,186,323	₩11,294,186,323
Borrowings	106,582,246	106,582,246	148,531,246	148,531,246
Trade and other payables	322,844,650	322,844,650	322,494,806	322,494,806
	₩11,703,815,666	₩11,703,815,666	₩11,765,212,375	₩11,765,212,375

(ii) Fair value hierarchy

The different levels have been defined as follows:

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

The table below analyzes financial instruments carried at fair value, by valuation method, as of December 31, 2017.

	(Unit: In thousands of Korean won)			
	Level 1	Level 2	Level 3	Total
Short-term financial assets	₩23,897,420	₩-	₩-	₩23,897,420
Derivative financial assets	-	30,852,491	-	30,852,491
AFS financial assets	-	-	17,380,105	17,380,105
Derivative financial liabilities		55,999,375	-	55,999,375

**40. SERVICE CONCESSION ARRANGEMENTS:**

If the Company constructs or replaces a public facility, such facility is transferred to the national or local government, with no consideration received in return in accordance with Article 32 of the K-water Act. Under Article 9, Paragraph 1, No. 6, the Company may impose fees for goods sold or services provided by such facility.

Under K-IFRS, the businesses related to “Multiregional water facility construction in progress,” “Multipurpose dams construction in progress” and “Local waterworks construction in progress” of the Company fall under the ‘service concession arrangement.’ Therefore, sales and cost of sales are recognized using the percentage-of-completion method. The Company recognizes revenue to the extent that related costs of sales will result in revenue.

#### 41. TRANSACTIONS AND BALANCES WITH RELATED COMPANIES:

(1) Details of related parties as of December 31, 2017, are as follows:

Control relationship	Related party
Ultimate parent company	Korean government
Subsidiaries	KDS Hydro Pte. Ltd., Waterway Plus Co., Ltd., Star Hydro Power Ltd., K-Water Thailand Co., Ltd. and JSC Nenskra Hydro
Associates	KWPP Holdings Co. and Angat Hydropower Co.

(2) Significant transactions that occurred in the normal course of business with related companies for the years ended December 31, 2017 and 2016, are summarized as follows:

		(Unit: In thousands of Korean won)	
Name	Transactions	2017	2016
Star Hydro Power Ltd.	Revenue and others	₩1,560,239	₩984,205
Waterway Plus Co., Ltd.	Purchases and others	8,383,269	8,581,917

(3) Receivables and payables with related parties as of December 31, 2017 and 2016, are as follows:

Name	Receivables		Payables	
	December 31, 2017	December 31, 2016	December 31, 2017	December 31, 2016
Star Hydro Power Ltd.	₩-	₩-	₩-	₩-
Waterway Plus Co., Ltd.	-	-	-	-
	₩-	₩-	₩-	₩-

An allowance for impairment is not recognized against the receivables from related parties as of December 31, 2017 and 2016.

(4) Guarantees provided on behalf of related parties as of December 31, 2017, are as follows:

(Unit: In thousands of USD)

Related party	Description	Guaranteed amount	Collateral
Star Hydro Power Ltd.	Borrowings guarantee	USD 20,000	Korea EXIM Bank, Asian Development Bank, International Finance Corporation and Islamic Development Bank

Key management personnel compensation in total and for each of the following categories for the years ended December 31, 2017 and 2016, is as follows:

(Unit: In thousands of Korean won)

	December 31, 2017	December 31, 2016
Short-term employee benefits	₩1,000,944	₩1,108,848
Expenses for employee benefits	9,945	34,271
	<u>₩1,010,889</u>	<u>₩1,143,119</u>

(5) Assets pledged as collateral for related parties as of December 31, 2017, are as follows:

(Unit: In thousands of Korean won and USD, PHP)

Financial institutions	Related party	Collateral assets	Carrying amount(*1)	Borrowings
BPI, KEB Hana Bank, Maybank, UCPB, PBB, Shinhan Bank, BOC, etc.	Angat Hydropower Co.	20,360,980 shares in Angat Hydropower Co (*2)	₩100,845,106	PHP 9,909,311
The Export-Import Bank of Korea, Asian Development Bank, International Finance Corporation and Islamic Development Bank	Star Hydro Power Pte. Ltd.	91,014,979 shares in KDS Hydro Pte. Ltd.	₩103,921,368	USD 290,872

(\*1) The carrying amount is equal to the acquisition cost.

(\*2) The issuance of Angat Hydropower Co. shares is underway and thus 18,482,800 shares issued in 2016 have been excluded from the number of shares collateralized.

(6) The Korean government issued stock for cash amounting to ₩416,426,000 thousand.



#### 42. NON-CASH INVESTING AND FINANCING ACTIVITIES:

Significant non-cash investing and financing activities for the years ended December 31, 2017 and 2016, are as follows:

	(Unit: In thousands of Korean won)	
	December 31, 2017	December 31, 2016
Reclassification of construction in progress to assets	₩50,406,994	₩30,521,890
Reclassification of intangible assets under development to assets	344,147,366	566,322,045
Transfer to current portion of long-term borrowings	64,402,646	73,952,246
Transfer to current portion of debentures	1,341,689,500	1,494,543,000

#### 43. CONTINGENCIES:

##### (1) Assets pledged as collateral for other parties

As of December 31, 2017, the Company has provided 36,144 shares of P-waters Corporation (book value: ₩180,720 thousand) as collateral to NH Bank for the borrowings of P-waters Corporation.

##### (2) Litigations

The Company is a plaintiff and defendant in 53 and 160 litigations, respectively.

Details of major pending litigations as a defendant as of December 31, 2017, are as follows:

(Unit: In thousands of Korean won)			
Nature of litigation	Number of litigations	Amount of litigation	Note
Claims for construction costs	8	₩52,197,128	Demand for additional payment
Claims for interruption in water supply (Gumi)	4	3,520,050	Damage claims
Claims related to construction and management of dams	18	110,556,986	Damage claims and compensation for loss
Claims for Four River Restoration Project	14	74,993,569	Compensation for loss
Claims for sale of land	86	49,402,120	Damage claims and compensation for loss
Other claims	30	8,303,811	-
	160	₩298,973,664	

The amount of provision the Company recognized with respect to the lawsuits is ₩37,641,847 thousand.

(3) Major construction contracts

As of December 31, 2017, the Company has entered into various contracts, totaling ₩4,835 billion, for the development of new cities and industrial complex sites and construction of water facilities, dams and others. In connection with these contracts, contractors have designated the Company as a beneficiary of performance guarantee insurance by Seoul Guarantee Insurance and Construction Guarantee and others, amounting to 15% of total contract amount.

(4) Credit line agreements

The Company has entered into loan agreements with Hanabank Korea Inc. and five other Korean financial institutions. The available credit lines under these agreements amounted to ₩290,000 million as of December 31, 2017. The Company has not drawn any amount as of December 31, 2017.

(5) Guarantees received

Details of guarantees received from third parties of the Company as of December 31, 2017, are as follows:

(Unit: In thousands of USD)

Guarantees from	Guarantee amount	Description
The Export-Import Bank of Korea	USD 24,800	Equity injection guarantee for Star Hydro Power. Ltd.

**44. INVESTMENT FOR KYUNG-IN CANAL PROJECT:**

As the Company was appointed to carry out the Gyeong-in Canal Project by the government at the National Policy Coordination Conference on December 11, 2008, the Company has invested and recognized a sum of ₩15,043 hundred million (book value) as intangible assets as of December 31, 2017.

Upon resolution made at the National Policy Coordination Conference on May 22, 2014, the Company is currently negotiating with the government on changes in business plans and procedures for the processing of property rights under the Port Act with regard to investments made in navigation channels, which were made toward facilities functioning as ports.

Meanwhile, depending on the outcome of the negotiation with the government, uncertainties exist as to the recoverability of investments, such as changes in business plans and possibility of exclusion from property rights. The impact these uncertainties will have on the separate financial statements cannot be estimated as of December 31, 2017.

## Internal Accounting Control System (“IACS”) Review Report

English Translation of a Report Originally Issued in Korean on February 27, 2018

### To the Representative Director of Korea Water Resources Corporation:

We have reviewed the accompanying Report on the Management’s Assessment of IACS (the “Management’s Report”) of Korea Water Resources Corporation (the “Company”) as of December 31, 2017. The Management’s Report and the design and operation of IACS are the responsibility of the Company’s management. Our responsibility is to review the Management’s Report and issue a review report based on our procedures. The Company’s management stated in the accompanying Management’s Report that “based on the assessment of the IACS as of December 31, 2017, the Company’s IACS has been appropriately designed and is operating effectively as of December 31, 2017, in all material respects, in accordance with the IACS Framework established by the Korea Listed Companies Association.”

We conducted our review in accordance with the IACS Review Standards established by the Korean Institute of Certified Public Accountants. Those standards require that we plan and perform a review, objective of which is to obtain a lower level of assurance than an audit of the Management’s Report, in all material respects. A review includes obtaining an understanding of a company’s IACS and making inquiries regarding the Management’s Report, and, when deemed necessary, performing a limited inspection of underlying documents and other limited procedures. The Company’s design and operation of IACS and the Management’s Report on the assessment of IACS were performed in accordance with Chapter 5 (application for a small- and medium-sized listed corporation and a large-sized non-listed company) of the IACS Framework, which allows the Company to less strictly comply with the IACS Framework than a large-sized listed corporation as the Company is not a large-sized corporation listed in the Korean stock market. Therefore, we have performed the review in accordance with the Chapter 14 (special application for a small- and medium-sized corporation) of the IACS Review Standards established by the Korean Institute of Certified Public Accountants.

The Company’s IACS represents internal accounting policies and a system to manage and operate such policies to provide reasonable assurance regarding the reliability of separate financial statements prepared, in accordance with Korean International Financial Reporting Standards, for the purpose of preparing and disclosing reliable accounting information. Because of its inherent limitations, IACS may not prevent or detect a material misstatement of the separate financial statements. Also, projections of any evaluation of effectiveness of IACS to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Based on our review, nothing has come to our attention that causes us to believe that the Management's Report referred to above is not fairly stated, in all material respects, in accordance with the IACS Framework.

Our review is based on the Company's IACS as of December 31, 2017, and we did not review its IACS subsequent to December 31, 2017. This report has been prepared pursuant to the Acts on External Audit for Stock Companies in the Republic of Korea and may not be appropriate for other purposes or for other users.

A handwritten signature in black ink that reads "Deloitte Anjin Ue". The signature is written in a cursive, flowing style.

February 27, 2018



Korea Water Resources Corporation

200beon-gil, Sintanjin-ro, Daedeok-gu, Daejeon  
Accounting & Finance Dept.  
Tel : +82-42-629-2703 Fax : +82-42-629-2749

## **Report on the operations of the Internal control over financial reporting**

The Board of Directors and internal auditor (Audit Committee) of  
Korea Water Resources Corporation

I, as the internal control over financial reporting officer ("ICFR Officer") of Korea Water Resources Corporation ("the Company"), assessed the status of the design and operations of the Company's internal control over financial reporting ("ICFR") for the year ended December 31, 2017.

The Company's management including the ICFR Officer is responsible for the design and operations of its ICFR. I, as the ICFR Officer, assessed whether the ICFR has been effectively designed and has operated to prevent and detect any error or fraud which may cause any misstatement of the financial statements, for the purpose of establishing the reliability of financial reporting and the preparation of financial statements for external financial reporting purposes. I, as the ICFR Officer, applied the Company's own ICFR standards in which ICFR standards were applied correspondingly for the assessment of design and operations of the ICFR considering the nature of affairs of the Company.

Based on the assessment of the operations of the ICFR, material weaknesses have not been found in the Company's ICFR as of December 31, 2017, in all material respects, in accordance with the Company's own ICFR standards.

January, 2018

Bong Jae Kim

Internal Control over Financial Reporting Officer