KOREA WATER RESOURCES CORPORATION AND SUBSIDIARIES

CONSOLIDATED FINANCIAL STATEMENTS AS OF AND FOR THE YEAR ENDED DECEMBER 31, 2015

ATTACHMENT: INDEPENDENT AUDITOR'S REPORT

KOREA WATER RESOURCES CORPORATION

Contents

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INDEPENDENT AUDITORS' REPORT

English Translation of Independent Auditors' Report Originally Issued in Korean on February 26, 2016.

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

Report on the Consolidated Financial Statements
We have audited the accompanying consolidated financial statements of Korea Water Resources Corporation and its subsidiaries (the "Group"), which comprise the consolidated statement of financial position as of December 31, 2015, and the consolidated statement of comprehensive income, consolidated statement of changes in shareholders' equity and consolidated statement of cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Consolidated Financial Statements
Management is responsible for the preparation and fair presentation of these consolidated 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 consolidated 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 consolidated financial statements based on our audit. 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 audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the consolidated 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 consolidated 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 consolidated 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 consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2015, and its financial performance and its cash flows for the year then ended in accordance with K-IFRS and the Korean Government-owned and Quasi-government Accounting Regulation and Standard.

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

1. Uncertainty in the Gyeong-in Canal Project

   As other matter that does not have any impact on our audit conclusion, the readers of the report need to pay attention to Note 45.

   As described in Note 45 to the consolidated financial statements, in accordance with the government's resolution at the National Policy Coordination Conference (December 11, 2008), the Group invested a sum of ₩16,633 hundred million (book value) as of December 31, 2015, in the Gyeong-in Canal Project, which is currently recognized as intangible assets.

   As of December 31, 2015, as a result of the resolution at the National Policy Coordination Conference (May 22, 2014), the Group 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. Since the negotiation (December 2015 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 consolidated financial statements, if there are no regulations other than Korean Government-owned and Quasi-government Accounting Regulations and Standards, accounting standards of the Group are adopted in accordance with Korean International Financial Reporting Standards.

Others

The consolidated statement of financial position as of December 31, 2014, and the related consolidated statements of comprehensive income, changes in shareholders' equity and cash flows were audited by other auditor (Samjong), whose report dated February 26, 2015, expressed an unqualified opinion on those statements.

Deloitte Anjin LLC

February 26, 2016

<u>Notice to Readers</u>

This report is effective as of February 26, 2016, 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 consolidated financial statements and may result in modifications to the auditors' report.

KOREA WATER RESOURCES CORPORATION AND SUBSIDIARIES (the "Group")

CONSOLIDATED FINANCIAL STATEMENTS
AS OF AND FOR THE YEAR ENDED
DECEMBER 31, 2015 AND 2014

The accompanying consolidated financial statements, including all footnote disclosures, were prepared by, and are the responsibility of, the Group.

Choi, Gye Woon
Chief Executive Officer
Korea Water Resources Corporation.

KOREA WATER RESOURCES CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF FINANCIAL POSITION
AS OF DECEMBER 31, 2015 AND 2014

	December 31, 2015	December 31, 2014
	(In thousands of Korean won)	
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents (Notes 6 and 7)	₩124,832,949	₩155,744,869
Short-term financial instruments (Notes 11 and 39)	116,518,944	223,667,473
Derivative assets (Notes 8 and 39)	-	7,554,072
Trade and other receivables, net (Notes 9, 39 and 42)	387,545,987	444,640,425
Inventories (Note 13)	5,249,956,625	4,735,814,421
Current tax assets (Note 36)	6,905	4,273,461
Other non-financial assets (Note 14)	127,334,765	57,758,340
Disposal groups classified as held for sale (Note 37)	343,894	2,010,403
TOTAL CURRENT ASSETS	6,006,540,069	5,631,463,464
NON-CURRENT ASSETS		
Non-current available-for-sale financial assets (Notes 10 and 39)	14,907,073	8,208,026
Long-term loans and receivables (Notes 12 and 39)	20,834,273	29,107,275
Non-current derivative assets (Notes 8 and 39)	48,041,116	8,300,981
Long-term trade and other receivables, net (Notes 9 and 39)	439,537,442	493,473,803
Property, plant and equipment (Notes 16 and 23)	1,410,200,243	1,392,683,083
Intangible assets other than goodwill (Notes 17, 23 and 24)	11,604,770,167	17,864,756,151
Investments in associates (Note 15)	-	8,485,260
Deferred tax assets (Note 36)	39,897	42,981
Other non-financial assets (Note 14)	5,768,627	2,578,200
TOTAL NON-CURRENT ASSETS	13,544,098,838	19,807,635,760
TOTAL ASSETS	₩19,550,638,907	₩25,439,099,224

(Continued)

KOREA WATER RESOURCES CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF FINANCIAL POSITION (CONTINUED)
AS OF DECEMBER 31, 2015 AND 2014

	December 31, 2015	December 31, 2014
	(In thousands of Korean won)	
LIABILITIES		
CURRENT LIABILITIES		
Trade and other payables (Notes 18, 39 and 42)	₩281,801,543	₩245,294,456
Current portion of long-term borrowings (Notes 19 and 39)	42,159,340	42,061,640
Current portion of debentures, net (Notes 19 and 39)	1,336,581,000	722,518,000
Derivative liabilities (Notes 8, 20 and 39)	-	18,190,265
Current tax liabilities	-	-
Provisions (Note 22)	73,538,432	73,711,313
Other non-financial liabilities (Note 25)	1,061,545,433	1,059,667,253
TOTAL CURRENT LIABILITIES	2,795,625,748	2,161,442,927
NON-CURRENT LIABILITIES		
Long-term trade and other payables (Note 18)	4,135	24,297
Long-term borrowings (Notes 19 and 39)	374,026,652	315,311,977
Debentures, net (Notes 19 and 39)	9,887,292,961	10,721,241,645
Derivative liabilities (Notes 8, 20 and 39)	34,204,315	42,360,334
Other non-financial liabilities (Notes 24 and 25)	41,025,575	34,878,911
Employee benefits (Note 21)	111,541,988	78,870,053
Deferred tax liabilities (Note 36)	63,011	80,422,923
Provisions (Notes 22 and 44)	29,386,006	26,882,063
TOTAL CURRENT LIABILITIES	10,477,544,643	11,299,992,203
TOTAL LIABILITIES	13,273,170,391	13,461,435,130
SHAREHOLDERS' EQUITY		
Issued capital (Notes 1 and 26)	7,193,548,343	7,016,379,895
Retained earnings (accumulated deficit) (Notes 27 and 28)	(2,374,278,653)	3,518,222,442
Other equity components (Note 29)	1,434,831,946	1,427,584,896
CONTROLLING INTERESTS	6,254,101,636	11,962,187,233
NON-CONTROLLING INTERESTS	23,366,880	15,476,861
TOTAL SHAREHOLDERS' EQUITY	6,277,468,516	11,977,664,094
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	₩19,550,638,907	₩25,439,099,224

(Concluded)

See accompanying notes to the consolidated financial statements.

KOREA WATER RESOURCES CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME
FOR THE YEAR ENDED DECEMBER 31, 2015 AND 2014

	2015	2014
	(In thousands of Korean won)	
REVENUE (Notes 5, 30, 41 and 42)	₩3,777,344,626	₩3,698,372,501
COST OF SALES (Notes 38 and 42)	(3,288,663,585)	(3,178,493,919)
GROSS PROFIT	488,681,041	519,878,582
Selling, general and administrative expenses (Note 31 and 38)	(139,063,886)	(129,419,460)
OPERATING PROFIT	349,617,155	390,459,122
Other incomes (Notes 9, 24 and 32)	349,076,499	323,280,438
Other expenses (Notes 9 and 32)	(7,436,765)	(6,826,499)
Other gains (losses), net (Notes 17 and 33)	(6,295,564,859)	(13,220,950)
Financial incomes (Notes 8, 34 and 39)	85,503,134	91,263,680
Financial costs (Notes 8, 35 and 39)	(370,962,329)	(400,656,297)
Share of profit of equity accounted investees, net (Note 15)	(8,057,809)	33,248,420
PROFIT (LOSS) BEFORE INCOME TAX	(5,897,824,974)	417,547,914
Income tax benefit (expense) (Note 36)	102,187,379	(118,222,005)
PROFIT (LOSS) FOR THE PERIOD	(5,795,637,595)	299,325,909
OTHER COMPREHENSIVE INCOME (LOSS)		
Items that will not be reclassified to profit or loss:		
Defined benefit plan actuarial profit (loss) (Note 27)	(14,155,183)	937,717
Total items that will not be reclassified to profit or loss	(14,155,183)	937,717
Items that are or may be reclassified subsequently to profit or loss:		
Effective portion of unrealized change in fair values of cash flow hedges	12,324,207	(2,630,864)
Unrealized net change in fair value of available-for-sale financial assets, net of income tax	(59,397)	(77,051)
Foreign currency translation differences for foreign operations (Note 29)	(6,132,449)	20,729,514
Unrealized gain (loss) on valuation of equity method investments	-	(85,407)
Total items that are or may be reclassified subsequently to profit or loss	6,132,361	17,936,192
OTHER COMPREHENSIVE INCOME (LOSS) FOR THE PERIOD, NET OF INCOME TAX	(8,022,822)	18,873,909
TOTAL COMPREHENSIVE INCOME (LOSS) FOR THE PERIOD	(₩5,803,660,417)	₩318,199,818

(Continued)

KOREA WATER RESOURCES CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME (CONTINUED)
FOR THE YEAR ENDED DECEMBER 31, 2015 AND 2014

	2015	2014
	(In thousands of Korean won)	
Profit (loss) attributable to:		
Controlling interests	(₩5,799,066,717)	₩298,553,780
Non-controlling interests	3,429,121	772,128
PROFIT (LOSS) FOR THE PERIOD	(5,795,637,596)	299,325,908
Total comprehensive income (loss) attributable to:		
Controlling interests	(5,805,974,427)	313,281,875
Non-controlling interests	2,314,010	4,917,943
TOTAL COMPREHENSIVE INCOME (LOSS) FOR THE PERIOD	(₩5,803,660,417)	₩318,199,818

(Concluded)

See accompanying notes to the consolidated financial statements.

KOREA WATER RESOURCES CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENT
OF CHANGES IN SHAREHOLDERS' EQUITY
FOR THE YEAR ENDED DECEMBER 30, 2015 AND 2014

	Equity attributable to owners of the Group				Non-controlling interests	Total equity
	Issued capital	Retained earnings	Other equity components	Subtotal		
	(In thousands of Korean won)					
Balance at January 1, 2014	₩6,898,169,015	₩3,283,943,671	₩1,413,794,585	₩11,595,907,271	₩9,547,747	₩11,605,455,018
Comprehensive income for the period						
Profit for the period	-	298,553,780	-	298,553,780	772,128	299,325,908
Other comprehensive income (loss)	-	937,717	13,790,378	14,728,095	4,145,813	18,873,908
Total comprehensive income for the period	-	299,491,497	13,790,378	313,281,875	4,917,941	318,199,816
Transactions with owners of the Group						
Increase in paid-in capital	117,942,808	-	-	117,942,808	-	117,942,808
Dividends to owners of the Group	-	(64,944,653)	-	(64,944,653)	-	(64,944,653)
Changes in ownership interests in subsidiaries	268,072	(268,072)	-	-	-	-
Others	-	-	(67)	(67)	1,011,173	1,011,106
Total transactions with owners of the Group	118,210,880	(65,212,725)	(67)	52,998,088	1,011,173	54,009,261
Balance at December 31, 2014	₩7,016,379,895	₩3,518,222,443	₩1,427,584,896	₩11,962,187,234	₩15,476,861	₩11,977,664,095
Balance at January 1, 2015	₩7,016,379,895	₩3,518,222,443	₩1,427,584,896	₩11,962,187,234	₩15,476,861	₩11,977,664,095
Comprehensive income (loss) for the period						
Loss for the period	-	(₩5,799,066,717)	-	(₩5,799,066,717)	₩3,429,121	(₩5,795,637,596)
Other comprehensive loss	-	(14,155,183)	7,247,473	(6,907,710)	(1,115,112)	(8,022,822)
Total comprehensive income (loss) for the period	-	(5,813,221,900)	7,247,473	(5,805,974,427)	2,314,009	(5,803,660,418)
Transactions with owners of the Group						
Increase in paid-in capital	176,877,032	-	-	176,877,032	-	176,877,032
Dividends to owners of the Group	-	(78,987,779)	-	(78,987,779)	-	(78,987,779)
Changes in ownership interests in subsidiaries	291,416	(291,416)	-	-	-	-
Others	-	-	(423)	(423)	5,576,011	5,575,588
Total transactions with owners of the Group	177,168,448	(79,279,195)	(423)	97,888,830	5,576,011	103,464,841
Balance at December 31, 2015	₩7,193,548,343	(₩2,374,278,652)	₩1,434,831,946	₩6,254,101,637	₩23,366,881	₩6,277,468,518

See accompanying notes to the consolidated financial statements

KOREA WATER RESOURCES CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF CASH FLOWS
FOR THE YEAR ENDED DECEMBER 31, 2015 AND 2014

	2015	2014
	(In thousands of Korean won)	
Cash flows from operating activities		
Profit (loss) for the period	(₩5,795,637,596)	₩299,325,908
Adjustments for:		
Expenses for employee benefits	18,492,764	15,853,629
Depreciation	84,428,832	84,430,763
Amortization	599,675,379	600,074,551
Allowance for bad and doubtful debts	(1,143,851)	4,196,220
Reversal of provision	-	(127,427)
Provisions recognized	83,670,581	76,262,401
Gain on disposal of property, plant and equipment, net	(2,159,919)	(1,397,434)
Impairment loss of property, plant and equipment	-	42,240
Impairment loss of intangible assets	6,297,720,498	11,432,790
Interest income	(35,814,035)	(20,024,621)
Dividend income	(141,101)	(1,259,169)
Loss on valuation of derivatives, net	(34,905,500)	2,764,999
Loss on derivative transactions, net	(1,183,000)	7,332,120
Gain (loss) on foreign currency translation, net	34,530,498	(3,467,636)
Gain (loss) on foreign currency transactions, net	1,183,000	(7,332,120)
Gain (loss) on valuation of investments in associates, subsidiaries, net	8,485,260	(51,334)
Interest expense	308,915,126	329,534,236
Loss on redemption of debenture	13,326,816	2,529,342
Gain on disposal of investments in associates, subsidiaries	(427,451)	(33,197,086)
Income (benefit) tax expense	(102,187,379)	118,222,005
Others, net	(274,735)	(264,303)
Changes in:		
Trade accounts receivables	167,101,930	131,191,541
Inventories	(375,668,417)	(50,559,771)
Other operating assets	50,230,186	(163,390,962)
Long-term trade accounts receivables	(129,886,901)	(24,780,522)
Trade accounts payables	(5,713,821)	5,922,336
Other operating liabilities	(30,126,688)	(495,251,886)
Payment of employee benefits	(4,495,214)	(209,514,817)
Cash generated from operating activities	1,147,995,262	678,495,993
Dividends received	141,101	1,259,169
Interest received	9,076,431	12,880,911
Interest paid	(474,019,537)	(487,191,914)
Income taxes paid	(6,983,816)	(159,590,288)
Net cash provided by operating activities	₩676,209,441	₩45,853,871

(Continued)

KOREA WATER RESOURCES CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF CASH FLOWS (CONTINUED)
FOR THE YEAR ENDED DECEMBER 31, 2015 AND 2014

	2015	2014
	(In thousands of Korean won)	
Cash flows from investing activities		
Acquisition of short-term financial instruments	₩-	(₩223,667,473)
Proceeds from sale of short-term financial instruments	107,148,529	-
Acquisition of available-for-sale financial assets	(7,063,561)	-
Proceeds from sale of available-for-sale financial assets	286,154	108,385
Increase in long-term loans	(655,525)	(1,642,207)
Collection of long-term loans	8,928,527	5,584,573
Increase in deposit	(45,634,385)	(48,335,607)
Decrease in deposit	43,181,684	45,997,270
Acquisition of property, plant and equipment	(104,089,220)	(81,707,092)
Proceeds from sale of property, plant and equipment	3,640,288	18,287,423
Acquisition of intangible assets	(608,096,238)	(1,080,537,938)
Proceeds from sale of intangible assets	-	1
Government grant received	-	12,460,220
Government grant returned	(51,977)	-
Contributions for construction received	6,413,000	7,342,446
Acquisition of investments in associates	-	(268)
Proceeds from sale of investments in associates	2,093,960	39,157,803
Net cash used in investing activities	(593,898,764)	(1,306,952,464)
Cash flows from financing activities		
Repayment of current portion of long-term borrowings	(42,061,640)	(1,376,878,410)
Settlement of derivatives	(6,185,000)	(75,198,970)
Repayment of debentures	(856,652,814)	(50,000,000)
Proceeds from debentures	587,338,000	1,633,105,778
Increase in short-term borrowings	-	482,502,670
Increase in long-term borrowings	100,874,015	-
Equity investments from government	176,877,032	117,942,808
Dividends paid	(78,987,779)	(64,944,653)
Increase in investment in subsidiaries	5,575,590	1,011,435
Decrease in investment in subsidiaries	-	(95)
Net cash (used in) provided by financing activities	(113,222,596)	667,540,563
Net decrease in cash and cash equivalents	(30,911,920)	(593,558,030)
Cash and cash equivalents at January 1	155,744,869	749,302,899
Cash and cash equivalents at December 31	₩124,832,949	₩155,744,869

(Concluded)

See accompanying notes to the consolidated financial statements.

KOREA WATER RESOURCES CORPORATION AND SUBSIDIARIES
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENT
AS OF AND FOR THE YEAR ENDED DECEMBER 31, 2015 AND 2014

1. REPORTING ENTITY:

(1) The Parent company

Korea Water Resources Development Corporation (the "Parent") was incorporated in 1967 in accordance with the Korea Water Resources Development Corporation Act of the Republic of Korea.

The Parent was reorganized as Industrial Sites and 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 Parent 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 Parent is involved in development projects for industrial complexes and special-purpose areas in accordance with the K-water Act.

As of December 31, 2015, issued capital of the Parent amounts to ₩7,196 billion, and the present ownership of the Parent is as follows:

(Unit: In thousands of Korean won)

	Share capital	Percentage of ownership
Government of the Republic of Korea	₩6,587,728,578	91.5%
Korea Finance Corporation	601,390,088	8.4%
Local government	7,026,278	0.1%
	₩7,196,144,944	100.0%

(2) Consolidated subsidiaries

1) The details of consolidated subsidiaries as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

Consolidated subsidiary	Share capital	Ownership ratio of the Parent (%) 2015	Ownership ratio of the Parent (%) 2014	Location
KDS Hydro Pte. Ltd.	₩116,842,859	80.0%	80.0%	Singapore
Waterway Plus Co., Ltd.	5,466,924	100.0%	100.0%	Korea
K-Water Thailand Co., Ltd.	14,231	99.9%	99.9%	Thailand
JSC Nenskra Hydro	34,178,397	100.0%	100.0%	Georgia

2) Details of the consolidated subsidiaries as of and for the year ended December 31, 2015 and 2014, are as follows:

(i) December 31, 2015

(Unit: In thousands of won)

Consolidated subsidiary	Assets	Liabilities	Revenue	Net profit (loss)
KDS Hydro Pte. Ltd.	₩341,783,829	₩224,940,971	₩126,463,428	₩17,146,889
Waterway Plus Co., Ltd.	7,629,143	2,162,219	9,351,164	30,133
K-Water Thailand Co., Ltd.	14,231	4,778	-	(4,694)
JSC Nenskra Hydro	37,708,234	3,529,837	-	70,626

(ii) December 31, 2014

(Unit: In thousands of won)

Consolidated subsidiary	Assets	Liabilities	Revenue	Net profit (loss)
KDS Hydro Pte. Ltd.	₩223,545,639	₩146,153,663	₩36,941,696	₩3,861,164
Waterway Plus Co., Ltd.	3,674,810	938,018	9,059,220	148,320
K-Water Thailand Co., Ltd.	19,769	5,287	-	(7,573)

3) Change in the scope of consolidation for the year ended December 31, 2015, is as follows:

Subsidiary	Chance	Description
JSC Nenskra Hydro	Newly included	Newly established

2. BASIS OF PREPARATION:

(1) Statement of compliance

The Parent and subsidiaries (the "Group") prepared consolidated 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 Group are adopted in accordance with Korean International Financial Reporting Standards.

Accounting standards that the Group adopted in accordance with Korean Government-owned and Quasi-government Accounting Regulation 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 Group are recognized as other income.

(ii) Contribution to the Employee Welfare Fund (Article 49)
The Group contributes to the employee welfare fund and contributions are recognized as operating expenses in accordance with Employee Welfare Fund Act.

(2) In the current year, the Group 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, 2015.

(i) Amendments to K-IFRS 1019 – Employee Benefits
The amendments permits the Group to recognize amount of contributions as a reduction in the service cost in which the related service is rendered if the amount of the contributions are independent of the number of years of service. The application of these amendments has no significant impact on the disclosure in the consolidated financial statements.

(ii) Annual Improvements to K-IFRS 2010-2012 Cycle
The amendments to K-IFRS 1002 (i) changes the definitions of 'vesting condition' and 'market condition' and (ii) add definitions for 'performance condition' and 'service condition' that were previously included within the definition of 'vesting condition'. The amendments to K-IFRS 1103, Business Combinations, clarify the classification and measurement of the contingent consideration in business combination. The amendments to K-IFRS 1108- Operating Segments clarify that a reconciliation of the total of the reportable segments' assets should only be provided if the segment assets are regularly provided to the chief operating decision maker. The application of these amendments has no significant impact on the disclosure in the consolidated financial statements.

(iii) Annual Improvements to K-IFRS 2011-2013 Cycle

The amendments to K-IFRS 1103 clarify that it excludes the accounting for the formation of a joint arrangement in the financial statements of the joint arrangement itself from the scope of K-IFRS 1103. The amendments to K-IFRS 1113, Fair Value Measurements, and K-IFRS 1040, Investment Properties, exist. The application of these amendments has no significant impact on the disclosure in the consolidated financial statements.

(3) The Group has not applied the following new and revised K-IFRSs that have been issued but are not yet effective.

(i) Amendments to K-IFRS 1001 – Presentation of Financial Statements

The amendments to K-IFRS 1001 clarify the concept of applying materiality in practice and restrict an entity reducing the understandability of its financial statements by obscuring material information with immaterial information or by aggregating material items that have different natures or functions. The amendments to K-IFRS 1001 are effective for annual periods beginning on or after January 1, 2016.

(ii) Amendments to K-IFRS 1016 – Property, Plant and Equipment

The amendments to K-IFRS 1016 prohibit the Group from using a revenue-based depreciation method for items of property, plant and equipment. The amendments are effective for the annual periods beginning on or after January 1, 2016.

(iii) Amendments to K-IFRS 1038 – Intangible Assets

The amendments to K-IFRS 1038 do not allow presumption that revenue is an appropriate basis for the amortization of intangible assets, which the presumption can only be limited when the intangible asset expressed as a measure of revenue or when it can be demonstrated that revenue and consumption of the economic benefits of the intangible asset are highly correlated. The amendments apply prospectively for annual periods beginning on or after January 1, 2016.

(iv) Amendments to K-IFRS 1016 and K-IFRS 1041, Agriculture: Bearer Plants

The amendments to K-IFRS 1016 and K-IFRS 1041 define a bearer plant and require biological assets that meet the definition of a bearer plant to be accounted for as property, plant and equipment in accordance with K-IFRS 1016, instead of K-IFRS 1041. The amendments to K-IFRS 1016 and K-IFRS 1041 are effective for annual periods beginning on or after January 1, 2016.

(v) Amendments to K-IFRS 1110 – Consolidated Financial Statements, K-IFRS 1112 – Disclosure of Interests in Other Entities and K-IFRS 1028 – Investment in Associates and Joint Venture

The amendments clarify that in applying the equity method of accounting to an associate or a joint venture that is an investment entity, an investor may retain the fair value measurements that the associate or joint venture used for its subsidiaries. The amendments are effective for annual periods beginning on or after 1 January 2016

(vi) Amendments to K-IFRS 1111 – Accounting for Acquisitions of Interests in Joint Operations

The amendments to K-IFRS 1111 provide guidance on how to account for the acquisition of a joint operation that constitutes a business as defined in K-IFRS 1103. A joint operator is also required to disclose the relevant information required by K-IFRS 1103 and other standards for business combinations. The amendments to K-IFRS 1111 are effective for the annual periods beginning on or after January 1, 2016.

(vii) 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, and broadened types of instruments that qualify as hedging instruments and the types of risk components of non-financial items that are eligible for hedge accounting and the change of the hedge effectiveness test. The amendments are effective for annual periods beginning on or after 1 January 2018.

(viii) 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 introduces 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 Programs; 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 1 January 2018.

(ix) Annual Improvements to K-IFRS 2012-2014 cycle

The Annual Improvements include amendments to a number of K-IFRSs. The amendments introduce specific guidance in K-IFRS 1105, Non-current Assets Held for Sale and Discontinued Operations, for when an entity reclassifies an asset (or disposal group) from held for sale to held for distribution to owners (or vice versa), such a change is considered as a continuation of the original plan of disposal not as a change to a plan of sale. Other amendments in the Annual Improvements include K-IFRS 1107, Financial Instruments: Disclosures; K-IFRS 1019 and K-IFRS 1034, Interim Financial Reporting.

(x) Amendments to K-IFRS 1027 – Separate Financial Statements

The following amendments discuss accounting for investment in subsidiaries, related parties and joint ventures at cost basis and allow the selection of the application of K-IFRS 1039, Financial Instruments: Recognition and Measurement, or the application of equity method accounting under K-IFRS 1028. The amendments are effective for the annual periods beginning on or after January 1, 2016.

The application of these amendments has no significant impact on the disclosure in the Group's consolidated 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 consolidated financial statements as of and for the year ended December 31, 2015, are consistent with the accounting policies used to prepare the consolidated financial statements as of and for the year ended December 31, 2014.

The consolidated 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) Basis of Consolidation

The consolidated financial statements incorporate the financial statements of the Company and entities (including structured entities) controlled by the Company (and its subsidiaries). Control is achieved where the Company 1) has the power over the investee; 2) is exposed, or has rights, to variable returns from its involvement with the investee and 3) has the ability to use its power to affect its returns. The Company reassesses whether or not it controls an investee if facts and circumstances indicate that there are changes to one or more of the three elements of control listed above.

When the Company has less than a majority of the voting rights of an investee, it has power over the investee when the voting rights are sufficient to give it the practical ability to direct the activities of the investee unilaterally. The Company considers all relevant facts and circumstances in assessing whether or not the Company's voting rights in an investee are sufficient to give it power, including:

- the size of the Company's holding of voting rights relative to the size and dispersion of holdings of the other vote holders;
- potential voting rights held by the Company, other vote holders or other parties;
- rights arising from other contractual arrangements and
- any additional facts and circumstances that indicate that the Company has, or does not have, the current ability to direct the relevant activities at the time that decisions need to be made, including voting patterns at previous shareholders' meetings.

Income and expenses of subsidiaries acquired or disposed of during the year are included in the consolidated statement of comprehensive income from the date the Company gains control until the date when the Company ceases to control the subsidiary. Profit or loss and each component of other comprehensive income are attributed to the owners of the Company and to the non-controlling interests. Total comprehensive income of subsidiaries is attributed to the owners of the Company and to the non-controlling interests even if this results in the non-controlling interests having a deficit balance.

When necessary, adjustments are made to the financial statements of subsidiaries to bring their accounting policies into line with the Group's accounting policies.

All intragroup transactions and related assets and liabilities, income and expenses are eliminated in full on consolidation.

Changes in the Group's ownership interests in subsidiaries that do not result in the Group losing control over the subsidiaries are accounted for as equity transactions. The carrying amounts of the Group's interests and the non-controlling interests are adjusted to reflect the changes in their relative interests in the subsidiaries. Any difference between the amount by which the non-controlling interests are adjusted and the fair value of the consideration paid or received is recognized directly in equity and attributed to owners of the Company.

When the Group loses control of a subsidiary, a gain or loss on disposal is calculated as the difference between (i) the aggregate of the fair value of the consideration received and the fair value of any retained interest and (ii) the previous carrying amount of the assets (including goodwill) and liabilities of the subsidiary and any non-controlling interests. When assets of the subsidiary are carried at revalued amounts or fair values and the related cumulative gain or loss has been recognized in other comprehensive income and accumulated in equity, the amounts previously recognized in other comprehensive income and accumulated in equity are accounted for as if the Company had directly disposed of the relevant assets (i.e., reclassified to profit or loss or transferred directly to retained earnings). The fair value of any investment retained in the former subsidiary at the date when control is lost is recognized as the fair value on initial recognition for subsequent accounting under K-IFRS 1039 or, when applicable, the cost on initial recognition of an investment in an associate or a joint venture.

(2) Investments in associates and joint ventures

An associate is an entity over which the Group has significant influence. Significant influence is the power to participate in the financial and operating policy decisions of the investee, but is not control or joint control over those policies.

A joint venture is a joint arrangement, whereby the parties that have joint control of the arrangement have rights to the net assets of the joint arrangement. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require unanimous consent of the parties sharing control.

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

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

Upon disposal of an associate or a joint venture that results in the Group losing significant influence over that associate or joint venture, any retained investment is measured at fair value at that date and the fair value is regarded as its fair value on initial recognition as a financial asset in accordance with K-IFRS 1039. The difference between the previous carrying amount of the associate or joint venture attributable to the retained interest and its fair value is included in the determination of the gain or loss on disposal of the associate or joint venture. In addition, the Group accounts for all amounts previously recognized in other comprehensive income in relation to that associate or joint venture on the same basis we would be required if that associate or joint venture had directly disposed of the related assets or liabilities. Therefore, if a gain or loss previously recognized in other comprehensive income by that associate or joint venture would be reclassified to profit or loss on the disposal of the related assets or liabilities, the Group reclassifies the gain or loss from equity to profit or loss (as reclassification adjustment) when it loses significant influence over that associate or joint venture.

When the Group reduces its ownership interest in an associate or a joint venture but the Group continues to use the equity method, the Group reclassifies to profit or loss the proportion of the gain or loss that had previously been recognized in other comprehensive income relating to that reduction in ownership interest if that gain or loss would be reclassified to profit or loss on the disposal of the related assets or liabilities. In addition, the Group applies K-IFRS 5, Non-current Assets Held for Sale and Discontinued Operations, to a portion of investment in an associate or a joint venture that meets the criteria to be classified as held for sale.

The requirements of K-IFRS 1039 are applied to determine whether it is necessary to recognize any impairment loss with respect to the Group's investment in an associate or a joint venture. When necessary, the entire carrying amount of the investment (including goodwill) is tested for impairment in accordance with K-IFRS 1036, Impairment of Assets, by comparing its recoverable amount (higher of value in use and fair value, less costs to sell) with its carrying amount, 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.

The Group continues to use the equity method when an investment in an associate becomes an investment in a joint venture or an investment in a joint venture becomes an investment in an associate. There is no remeasurement to fair value upon such changes in ownership interests.

When a group entity transacts with an associate or a joint venture of the Group, profits and losses resulting from the transactions with the associate or joint venture are recognized in the Group's consolidated financial statements only to the extent of interests in the associate or joint venture that are not related to the Group.

(3) 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.

(4) 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 Group 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 Group's activities, as described below:

1) Sale of goods
Revenue from the sale of goods is recognized when the Group 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 Group 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 shareholder's right to receive payment has been established (provided that it is probable that the economic benefits will flow to the Group 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 Group 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 Group's policy for recognition of revenue from operating leases is described in Note 2 (4).

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

(5) 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 Group as lessor

Amounts due from lessees under finance leases are recognized as receivables at the amount of the Group'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 Group'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) Group as lessee

Assets held under finance leases are initially recognized as assets of the Group 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 consolidated 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 Group's general policy on borrowing costs (see Note 2. (7)). 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.

(6) 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 consolidated 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 consolidated 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 2 (16) below 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.

(7) 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 such time as 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.

(8) 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 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 to the asset ceiling (if applicable) and the return on plan assets (excluding interest), is reflected immediately in the consolidated 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 Group 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 consolidated statements of financial position represents the actual deficit or surplus in the Group'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 and when the entity recognizes any related restructuring costs.

Discretionary contributions made by employees or third parties reduce service cost upon payment of these 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 services, 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 the 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-KFRS 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.

(9) 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 consolidated statements of profit or loss and comprehensive income because of items of income or expense that are taxable or deductible in other years and items that are never taxable or deductible. The Group'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 consolidated 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 that 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 that 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 Group 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 and deferred taxes 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.

(10) 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 Group and the cost of an asset can be measured reliably. Routine maintenance and repairs are expensed as incurred.

The Group 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 Group 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.

(11) 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, only if, the development project is designed to produce new or substantially improved products, and the Group can demonstrate the technical and economical 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 Group does not amortize club memberships, which are 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 water dam	50
Usage rights of water supply plant	20
Concession assets' usage rights	Concession period
Other intangible assets	5

(12) Impairment of tangible and intangible assets

At the end of each reporting period, the Group 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 Group 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.

(13) Inventories

Inventories are stated at the lower of cost or net realizable value. Cost of inventories, except for those in transit, is measured under 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 is 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.

(14) Provisions

Provisions are recognized when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that the Group 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 that period.

(15) 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 fair value through profit or loss ("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: '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 the financial asset is a 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 it in the near term;
- on initial recognition, it is part of a portfolio of identified financial instruments that the Group 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 Group'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 consolidated statements of comprehensive income.

3) Held-to-maturity investments

Non-derivative financial assets with fixed or determinable payments and fixed maturity dates that the Group 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 is 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 Group’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 that 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 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;
- it becoming probable that the borrower will enter bankruptcy or financial reorganization; or
- the disappearance of an active market for that financial asset because of financial difficulties.

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

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 Group retains an option to repurchase part of a transferred asset, or it 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 Group 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.

(16) Financial liabilities and equity instruments

1) Classification as debt or equity

Debt and equity instruments are classified as either financial liabilities or as equity in accordance with the substance of the contractual arrangement and the definitions of 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 Group are recognized at the proceeds received, net of direct issue costs.

Repurchase of the Group'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 Group's own equity instruments.

3) Compound instruments

The component parts of compound instruments (convertible bonds) issued by the Group 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 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 Group's own equity instruments is an equity instrument.

At the date of issue, the fair value of the 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 the 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 Group 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 the financial liability is contingent consideration that may be paid by an acquirer as part of a business combination to which K-IFRS 1103 applies, or held for trading, or it 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 it in the near term;
- on initial recognition, it is part of a portfolio of identified financial instruments that the Group 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 Group '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 consolidated statements of comprehensive income.

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) and 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*; and
- the amount initially recognized, less cumulative amortization recognized in accordance with K-IFRS 1018.

8) Derecognition of financial liabilities
The Group derecognizes financial liabilities when the Group’s obligations are discharged, canceled or they expire. The difference between the carrying amount of the financial liability derecognized and the consideration paid and payable is recognized in profit or loss.

(17) Derivative financial instruments

The Group 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 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; 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 twelve months and it is not expected to be realized or settled within twelve 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 Group 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 Group 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 consolidated statements of comprehensive income relating to the hedged item.

Hedge accounting is discontinued when the Group 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 consolidated statements of comprehensive income as the recognized hedged item. However, when the forecast transaction that is hedged results in the recognition of a non-financial asset or a non-financial liability, the gains and losses previously accumulated in equity are transferred from equity and included in the initial measurement of the cost of the non-financial asset or non-financial liability.

Hedge accounting is discontinued when the Group 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.

(18) 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 Group 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 consolidated 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 Levels 1, 2 or 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.

(19) Accounting treatment related to the Emission Rights Cap and Trade Scheme

The Group classifies the emission rights as intangible assets. Emission right allowances that the government allocated free of charge are not measured, and emission right allowances purchased are measured at cost that the Group paid to purchase. If emission rights that the government allocated free of charge are sufficient to settle the emission right allowances allotted for vintage year, the emission liabilities are not measured. However, for the emission liabilities that exceed the allowances allocated free of charge, the shortfall is measured at the best estimate at the end of the reporting period.

(20) The approval date for issue of consolidated financial statements

The Group's consolidated financial statements for submission to Ministry of Strategy and Finance are approved by the board of directors on February 23, 2016.

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

In the application of the Group'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 those 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) Revenue recognition

Revenue from a contract to provide services is recognized by reference to the stage of completion of the contract. The stage of completion of the contract is determined as reasonable estimation and is subject to change as related factors change.

(2) Defined benefit obligation

The Group'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 Group's best estimates of the variables, such as discount rates, rates of expected future salary increases and mortality rates.

(3) Warranty provision

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

(4) 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.

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

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

5. SEGMENT INFORMATION:

(1) The Group discloses operating segment

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

Business segment	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, 2015 and 2014:

(i) December 31, 2015

(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	₩1,005,726,287	₩417,686,647	₩997,314,005	₩804,545,039	₩170,183,639	₩390,681,738	₩3,786,137,355
Interbusiness unit revenue	-	-	-	-	-	8,792,729	8,792,729
External revenue	1,005,726,287	417,686,647	997,314,005	804,545,039	170,183,639	381,889,009	3,777,344,626
Operating profit	91,120,349	68,726,815	86,389,087	-	35,596,489	67,784,415	349,617,155
Depreciation and amortization	470,062,741	119,642,333	-	138,498	19,882,576	74,378,063	684,104,211

(ii) December 31, 2014

(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	₩968,606,460	₩511,693,755	₩763,387,472	₩692,518,250	₩153,573,389	₩617,100,554	₩3,706,879,880
Interbusiness unit revenue	-	-	-	-	-	8,507,379	8,507,379
External revenue	968,606,460	511,693,755	763,387,472	692,518,250	153,573,389	608,593,175	3,698,372,501
Operating profit	79,727,879	159,888,338	37,014,315	2,715,589	29,207,313	81,905,688	390,459,122
Depreciation and amortization	467,219,120	113,906,320	-	284,842	18,136,571	84,958,461	684,505,314

The Group does not provide information of asset and liability for each operating segment, and regional financial information on account of most of the sales is done at the domestic.

6. CASH AND CASH EQUIVALENTS:

Details of cash and cash equivalents as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Cash	₩7	₩2,060
Demand deposits	119,751,886	127,910,282
Cash equivalent classified as short-term investment assets	5,081,056	27,832,527
	₩124,832,949	₩155,744,869

7. RESTRICTED FINANCIAL INSTRUMENTS:

Details of cash and cash equivalents that are restricted in use as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	Description	December 31, 2015	December 31, 2014
Cash and cash equivalents	Restricted in use for designated purpose (*)	₩56,540,709	₩51,936,786

(*) Advances received for statutory business and government grants received for compensation of interest costs incurred in connection with construction of the "Four River Restoration Project."

8. DERIVATIVE INSTRUMENTS:

(1) Details of derivative instruments as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015		December 31, 2014	
	Current	Non-current	Current	Non-current
Financial derivative assets:				
Currency swap	₩-	₩32,561,913	₩7,554,072	₩4,218,614
Interest rate swap	-	15,479,203	-	4,082,367
	₩-	₩48,041,116	₩7,554,072	₩8,300,981
Financial derivative liabilities:				
Currency swap	₩-	₩17,860,194	₩18,190,265	₩26,321,984
Interest rate swap	-	16,344,121	-	16,038,350
	₩-	₩34,204,315	₩18,190,265	₩42,360,334

(2) Purpose

(i) Currency swap

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

(3) Detail of risks and the Group's strategy

Detail of risks: The Group 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 Group is exposed to cash flow risk associated with change in interest rate of Korean won-denominated debentures.

Strategy: The Group entered into cross-currency interest rate swap contracts to fix the principal and interest amount in Korean won and interest rate swap contracts to fix the interest rate of Korean won-denominated debentures.

(4) Detail of cross-currency swaps (cash flow hedge) as of December 31, 2015, is as follows:

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

		Notional amount		Interest rate		Contract
Counterparty	Contract period	Payment	Receipt	Payment (%)	Receipt (%)	Foreign exchange rate
Goldman Sachs	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
MIZUHO BANK	10/27/2015-10/27/2017	125,510,000	USD 110,000	1.51	LIBOR+0.50	1,141.00
DBS BANK	12/03/2015-12/03/2017	173,925,000	USD 150,000	1.65	LIBOR+0.40	1,159.50

(*) London InterBank Offered Rate ("LIBOR")

(5) Detail of interest rate swaps (cash flow hedge) as of December, 2015, is as follows:

(Unit: In thousands of Korean won)

			Interest rate	
Counterparty	Contract period	Notional amount	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
Goldman Sachs	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 Investment	08/20/2014–08/20/2029	50,000,000	3.11	4.07
Nomura Financial Investment	09/04/2014–09/04/2029	50,000,000	3.07	4.06
BNP-PARIBAS	09/15/2014–09/15/2029	100,000,000	3.10	4.06

(6) Valuation and transaction gain (loss) of derivative instruments for the year ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	Valuation gain (loss)				Transaction loss	
	Finance income (loss)		Other comprehensive income (*)		Finance loss	
	2015	2014	2015	2014	2015	2014
Cash flow hedge	₩34,905,500	(₩2,764,999)	₩1,183,000	(₩7,332,120)	₩12,324,207	(₩2,630,864)

(*) Net of tax effects

9. TRADE AND OTHER RECEIVABLES

(1) Details of trade account receivables as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015			December 31, 2014		
	Gross	Allowance for doubtful accounts	Book value	Gross	Allowance for doubtful accounts	Book value
Current:						
Trade receivables	₩324,895,649	(₩1,070,419)	₩323,825,230	₩288,552,965	(₩2,127,471)	₩286,425,494
Other receivables	70,412,898	(6,692,141)	63,720,757	165,087,087	(6,872,156)	158,214,931
Total	₩395,308,547	₩ (7,762,560)	₩387,545,987	₩453,640,052	₩ (8,999,627)	₩444,640,425

	Gross	Present value discount	Book value	Gross	Present value discount	Book value
Non-Current:						
Trade receivables	₩283,854,562	₩ (300,984)	₩283,553,578	₩357,360,759	₩ (18,987,755)	₩338,373,004
Other receivables	155,983,864	-	155,983,864	155,100,799	-	155,100,799
Total	₩439,838,426	(₩300,984)	₩439,537,442	₩512,461,558	(₩18,987,755)	₩493,473,803

(2) Other receivables as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015			December 31, 2014		
	Gross	Allowance for doubtful accounts	Book value	Gross	Allowance for doubtful accounts	Book value
Current:						
Accounts receivables	₩57,308,959	(₩6,692,141)	₩50,616,818	₩160,517,466	(₩6,872,156)	₩153,645,310
Accrued income	12,751,705	-	12,751,705	4,216,935	-	4,216,935
Deposit	352,234	-	352,234	352,686	-	352,686
Total	₩70,412,898	₩ (6,692,141)	₩63,720,757	₩165,087,087	₩ (6,872,156)	₩158,214,931

	Gross	Present value discount	Book value	Gross	Present value discount	Book value
Non-Current:						
Deposit	₩155,983,864	₩-	₩155,983,864	₩155,100,799	₩-	₩155,100,799
Total	₩155,983,864	₩-	₩155,983,864	₩155,100,799	₩-	₩155,100,799

(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 receivables as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Neither overdue nor impaired trade accounts receivables	₩580,278,939	₩612,668,120
Overdue but not impaired trade accounts receivables	25,166,974	27,345,340
- More than 24 months	9,544,869	5,476,122
- 12 months–24 months	14,093,694	16,914,602
- 6 months–12 months	541,369	2,554,175
- 3 months–6 months	969,570	1,643,651
- 1 month–3 months	17,472	756,790
Trade accounts receivables tested for impairment	3,304,298	5,900,264
- More than 24 months	700,501	541,255
- 12 months–24 months	5,762	1,801,937
- 6 months–12 months	309,849	2,205,035
- 3 months–6 months	1,215,123	13,146
- 1 month–3 months	1,073,063	1,338,891
	608,750,211	645,913,724
Less: allowance for doubtful accounts	(1,070,419)	(2,127,471)
	₩607,679,792	₩643,786,253

(ii) Details of the aging of other receivables as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Neither overdue nor impaired trade accounts receivables	₩218,961,712	₩312,192,685
Overdue but not impaired trade accounts receivables	82,560	113,304
- More than 24 months	24,460	37,712
- 12 months–24 months	-	-
- 6 months–12 months	-	70,000
- 3 months–6 months	58,100	1,861
- 1 month–3 months	-	3,731
Trade accounts receivables tested for impairment	7,352,490	7,881,897
- More than 24 months	6,405,912	6,429,092
- 12 months–24 months	366,435	605,548
- 6 months–12 months	215,156	370,410
- 3 months–6 months	254,470	56
- 1 month–3 months	110,517	476,791
	226,396,762	320,187,886
Less: allowance for doubtful accounts	(6,692,141)	(6,872,156)
	₩219,704,621	₩313,315,730

(4) Changes in allowance for trade and other receivables for the year ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015		December 31, 2014	
	Trade accounts receivables	Other receivables	Trade accounts receivables	Other receivables
Beginning balance	₩2,127,471	₩6,872,156	₩62,124	₩9,197,444
Impairment loss recognized	(1,042,615)	(101,236)	2,083,174	2,113,046
Write-off	(14,437)	(78,779)	(17,827)	(4,438,334)
Ending balance	₩1,070,419	₩6,692,141	₩2,127,471	₩6,872,156

10. AFS FINANCIAL ASSETS:

(1) Changes in AFS financial assets for the year ended December 31, 2015 and 2014, are as follows:

(i) December 31, 2015

(Unit: In thousands of Korean won)

	Beginning balance	Acquisitions	Disposals	Assessment	Ending balance
Non-market equity securities	₩8,208,026	₩7,063,561	(₩286,154)	(₩78,360)	₩14,907,073

(ii) December 31, 2014

(Unit: In thousands of Korean won)

	Beginning balance	Acquisitions	Disposals	Assessment	Ending balance
Non-market equity securities	₩8,418,107	₩-	(₩108,386)	(₩101,695)	₩8,208,026

(2) Details of AFS financial assets as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Non-current unlisted securities:		
Korea Construction Management Corporation (*)	₩4,000,000	₩4,000,000
Global Infra Fund	10,625,159	3,977,157
P-waters Corporation (*)	180,720	180,720
Korea Specialty Contractor Financial Cooperative (*)	101,194	50,149
	₩14,907,073	₩8,208,026

(*) 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.

11. SHORT-TERM FINANCIAL INSTRUMENTS:

Details of short-term financial instruments as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Money Market Trust	₩116,518,944	₩223,667,473

12. OTHER FINANCIAL ASSETS:

Details of other financial assets as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Loans to employees	₩12,325,244	₩13,240,739
Long-term loans	8,509,029	15,866,536
	₩20,834,273	₩29,107,275

13. INVENTORIES:

Details of inventories as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015		December 31, 2014	
	Acquisition cost	Book value	Acquisition cost	Book value
Raw material	₩3,047,432	₩3,047,432	₩2,957,041	₩2,957,041
Finished goods	5,238,330,930	5,238,330,930	4,725,177,644	4,725,177,644
Stored goods	8,577,423	8,577,423	7,679,736	7,679,736
Other inventories	840	840	-	-
Total	₩5,249,956,625	₩5,249,956,625	₩4,735,814,421	₩4,735,814,421

14. OTHER NON-FINANCIAL ASSETS:

Details of other non-financial assets as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015		December 31, 2014	
	Current	Non-current	Current	Non-current
Advance payments	₩109,437,873	₩-	₩50,788,033	₩-
Prepaid expenses	17,896,892	-	6,970,307	-
Others	-	5,768,627	-	2,578,200
Total	₩127,334,765	₩5,768,627	₩57,758,340	₩2,578,200

15. INVESTMENT IN ASSOCIATES:

(1) Details of subsidiaries and associates as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

Companies	Principal activity	Country of incorporation	Ownership (%)	Acquisition cost	Book value December 31, 2015	Book value December 31, 2014
Associates:						
KWPP Holdings Co.	Angat dam hydropower project in Philippines	Philippines	37.50%	₩268	₩-	₩-
Angat Hydropower Co.	Angat dam hydropower project in Philippines	Philippines	40.00%	8,921,106	-	8,485,260
				₩8,921,374	₩-	₩8,485,260

(2) Changes in investment in associates for the years ended December 31, 2015 and 2014, are as follows:

(i) December 31, 2015

(Unit: In thousands of Korean won)

	Net book value at January 1, 2015	Acquisitions	Equity gain (loss) in associates, net	Unrealized gain (loss) on valuation of equity method investments	Net book value at December 31, 2015
Angat Hydropower Co.(*)	₩8,485,260	₩-	(₩8,485,260)	₩-	₩-

(*) The investment in associates discontinues to use equity method due to investee's cumulative loss. The unrecognized loss is ₩196,262 thousand for the year ended December 31, 2015.

(ii) December 31, 2014

(Unit: In thousands of Korean won)

	Net book value at January 1, 2014	Acquisitions	Equity gain (loss) in associates, net	Unrealized gain (loss) on valuation of equity method investments	Others(*)	Net book value at December 31, 2014
Prunjangryang Co.	₩322,618	₩-	₩24,602	₩-	(₩347,220)	₩-
Jiangsu Shenshui Water Co.	1,747,334	-	27,000	(111,151)	(1,663,183)	-
KWPP Holdings Co.	-	268	(268)	-	-	-
Angat Hydropower Co.	-	-	-	-	8,485,260	8,485,260
	₩2,069,952	₩268	₩51,334	(₩111,151)	₩6,474,857	₩8,485,260

(3) Details of investment in associates for the year ended December 31, 2015 and 2014, are as follows:

(i) December 31, 2015

(Unit: In thousands of Korean won)

	Assets	Liabilities	Revenue	Net loss
KWPP Holdings Co.	₩542,060	₩563,043	₩-	(₩490)
Angat Hydropower Co.	521,087,934	521,558,447	31,032,687	(21,940,438)

(ii) December 31, 2014

(Unit: In thousands of Korean won)

	Assets	Liabilities	Revenue	Net loss
KWPP Holdings Co.	₩510,276	₩519,027	₩2	(₩8,894)
Angat Hydropower Co.	505,587,591	484,374,440	3,644,406	(1,777,750)

16. PROPERTY, PLANT AND EQUIPMENT:

(1) Details of property, plant and equipment as of December 31, 2015 and 2014, are as follows:

(i) December 31, 2015

(Unit: In thousands of Korean won)

	Acquisition cost	Government grant	Accumulated depreciation and impairment	Net book value
Land	₩182,368,264	₩-	₩-	₩182,368,264
Buildings	442,296,840	(868,121)	(162,332,159)	279,096,560
Structures	382,117,118	-	(99,243,111)	282,874,007
Machinery and equipment	956,460,879	-	(457,615,451)	498,845,428
Ships	12,987,140	-	(9,077,070)	3,910,070
Vehicles	12,686,190	-	(9,220,801)	3,465,389
Furniture and fixtures	58,131,611	-	(42,142,420)	15,989,191
Tools	72,422,457	-	(60,652,851)	11,769,606
Construction in progress	131,881,728	-	-	131,881,728
	₩2,251,352,227	(₩868,121)	(₩840,283,863)	₩1,410,200,243

(ii) December 31, 2014

(Unit: In thousands of Korean won)

	Acquisition cost	Government grant	Accumulated depreciation and impairment	Net book value
Land	₩182,778,248	₩-	₩-	₩182,778,248
Buildings	436,872,581	(908,957)	(149,264,886)	286,698,738
Structures	378,527,948	-	(86,315,400)	292,212,548
Machinery and equipment	917,096,255	-	(414,099,481)	502,996,774
Ships	12,326,955	-	(8,412,214)	3,914,741
Vehicles	11,780,448	-	(9,508,622)	2,271,826
Furniture and fixtures	54,339,467	-	(37,517,657)	16,821,810
Tools	69,326,957	-	(55,907,591)	13,419,366
Construction in progress	91,569,032	-	-	91,569,032
	₩2,154,617,891	(₩908,957)	(₩761,025,851)	₩1,392,683,083

(2) Changes in property, plant and equipment for the year ended December 31, 2015 and 2014, are as follows:

(i) December 31, 2015

(Unit: In thousands of Korean won)

	Net book value at January 1, 2015	Acquisitions	Disposals	Depreciation	Transfer	Others (*1)	Net book value at December 31, 2015
Land	₩182,778,248	₩5,547	(₩415,531)	₩-	₩-	₩-	₩182,368,264
Buildings	286,698,738	-	(2,750,969)	(15,022,080)	9,589,288	581,583	279,096,560
Structures	292,212,548	18,000	(44,140)	(12,951,941)	1,123,104	2,516,436	282,874,007
Machinery and equipment	502,996,774	-	(245,856)	(44,249,282)	26,998,614	13,345,178	498,845,428
Ships	3,914,741	197,178	(139)	(790,379)	546,564	42,105	3,910,070
Vehicles	2,271,826	2,135,494	(52)	(981,356)	-	39,477	3,465,389
Furniture and fixtures	16,821,810	4,421,841	(630)	(5,283,203)	-	29,373	15,989,191
Tools	13,419,366	-	(18)	(5,150,591)	3,491,417	9,432	11,769,606
Construction in progress	91,569,032	97,311,160	-	-	(41,748,987)	(15,249,477)	131,881,728
	₩1,392,683,083	₩104,089,220	(₩3,457,335)	(₩84,428,832)	₩-	₩1,314,107	₩1,410,200,243

(*1) Others included ₩765,449 thousand transferred from intangible.

(ii) December 31, 2014

(Unit: In thousands of Korean won)

	Net book value at January 1, 2014	Acquisitions	Disposals	Depreciation	Transfer	Others(*1)	Changes in consolidation scope	Net book value at December 31, 2014
Land	₩190,739,717	₩1,464	(₩7,962,975)	₩-	₩-	₩42	₩-	₩182,778,248
Buildings	275,231,716	-	(2,566,699)	(15,293,927)	29,555,053	(227,405)	-	286,698,738
Structures	295,371,667	10,752	(697,444)	(12,818,149)	10,247,807	97,915	-	292,212,548
Machinery and equipment	526,433,030	25,187,388	(2,814,804)	(43,832,593)	20,621,486	2,334,858	(24,932,591)	502,996,774
Ships	3,890,845	-	(3)	(878,861)	902,626	134	-	3,914,741
Vehicles	2,046,399	1,028,309	(25)	(828,966)	8,868	17,241	-	2,271,826
Furniture and fixtures	13,429,995	8,516,353	(350)	(5,098,039)	-	8,744	(34,893)	16,821,810
Tools	14,859,599	-	(124)	(5,680,228)	4,243,122	(3,003)	-	13,419,366
Construction in progress	105,676,166	52,049,849	-	-	(65,578,962)	(442,071)	(135,950)	91,569,032
	₩1,427,679,134	₩86,794,115	(₩14,042,424)	(₩84,430,763)	₩-	₩1,786,455	(₩25,103,434)	₩1,392,683,083

(*1) Others included ₩2,322,075 thousand transferred from intangible and ₩42,240 thousand impairment loss.

17. INTANGIBLE ASSETS:

(1) Details of intangible assets as of December 31, 2015 and 2014, are as follows:

(i) December 31, 2015

(Unit: In thousands of Korean won)

	Acquisition cost	Contributions toward construction	Government grant	Accumulated amortization and impairment	Net book value
Software	₩102,875,565	₩-	₩-	(₩85,239,300)	₩17,636,265
Industrial proprietary rights	447,395	-	-	(300,573)	146,822
Intangible assets under development	2,706,734,368	-	(6,334,196)	(1,023,298,964)	1,677,101,208
Concession assets usage rights	15,836,148,654	(5,861,313)	(48,145,421)	(6,879,745,220)	8,902,396,700
Other intangible assets	6,277,320,593	-	-	(5,269,831,421)	1,007,489,172
	₩24,923,526,575	(₩5,861,313)	(₩54,479,617)	(₩13,258,415,478)	₩11,604,770,167

(ii) December 31, 2014

(Unit: In thousands of Korean won)

	Acquisition cost	Contributions toward construction	Government grant	Accumulated amortization and impairment	Net book value
Software	₩96,674,082	₩-	₩-	(₩80,362,761)	₩16,311,321
Industrial proprietary rights	434,197	-	-	(266,359)	167,838
Intangible assets under development	2,540,379,049	-	(6,334,196)	(11,432,790)	2,522,612,063
Concession assets usage rights	15,400,608,805	(6,347,156)	(51,733,970)	(6,265,017,663)	9,077,510,016
Other intangible assets	6,248,154,913	-	-	-	6,248,154,913
	₩24,286,251,046	(₩6,347,156)	(₩58,068,166)	(₩6,357,079,573)	₩17,864,756,151

(2) Changes in intangible assets for the years ended December 31, 2015 and 2014, are as follows:

(i) December 31, 2015

(Unit: In thousands of Korean won)

	Net book value at January 1, 2015	Additions (*1)	Amortizations	Impairment loss(*2)	Transfer	Others(*3)	Net book value at December 31, 2015
Software	₩16,311,321	₩6,283,870	(₩4,958,925)	₩-	₩-	₩-	₩17,636,266
Industrial proprietary rights	167,838	13,198	(34,214)	-	-	-	146,822
Intangible assets under development	2,522,612,063	630,197,523	-	(1,011,866,174)	(462,774,331)	(1,067,873)	1,677,101,208
Concession assets usage rights	9,077,510,016	787,100	(594,682,240)	(16,022,902)	434,588,448	216,278	8,902,396,700
Other intangible assets	6,248,154,913	979,797	-	(5,269,831,422)	28,185,883	-	1,007,489,171
	₩17,864,756,151	₩638,261,488	(₩599,675,379)	(₩6,297,720,498)	₩-	(₩851,595)	₩11,604,770,167

(*1) Acquisitions of intangible assets under development included capitalized borrowing costs for ₩30,113,274 thousand and government grants refund for ₩51,976 thousand.

(*2) An impairment loss of ₩6,281,274,459 thousand was recognized, as recovered amount was decided, which are investment costs in respect to Four River Restoration Project. An impairment loss of ₩16,022,902 thousand related to concession assets usage rights was recognized.

(*3) Others included ₩765,449 thousand transferred to fixed assets and ₩306,326 thousand transferred to inventory assets.

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(ii) December 31, 2014

(Unit: In thousands of Korean won)

	Net book value at January 1, 2014	Additions (*1)	Amortizations	Impairment loss(*2)	Transfer	Others(*3)	Changes in consolidation scope (*4)	Net book value at December 31, 2014
Software	₩16,405,251	₩5,236,518	(₩5,313,583)	₩-	₩-	₩310	(₩17,175)	₩16,311,321
Industrial proprietary rights	185,834	16,749	(34,745)	-	-	-	-	167,838
Intangible assets under development	2,232,052,663	611,253,181	-	(11,432,790)	(308,167,704)	(1,093,287)	-	2,522,612,063
Concession assets usage rights	9,386,042,588	468,353,566	(594,726,223)	-	282,781,334	290,831	(465,232,080)	9,077,510,016
Other intangible assets	6,222,731,430	37,113	-	-	25,386,370	-	-	6,248,154,913
	₩17,857,417,766	₩1,084,897,127	(₩600,074,551)	(₩11,432,790)	₩-	(₩802,146)	(₩465,249,255)	₩17,864,756,151

(*1) Acquisitions of intangible assets under development included capitalized borrowing costs for ₩16,819,409 thousand and government grants received for ₩12,460,220 thousand.

(*2) An impairment loss of ₩11,432,790 thousand was recognized as the government changed river improvement project, in which operating rights were disallowed.

(*3) Others included ₩2,322,075 thousand transferred to fixed assets and ₩1,625,600 thousand transferred from advances.

(*4) The amount caused by the Group lost control of a subsidiary, Angat Hydropower Co.

(3) Significant individual intangible assets as of December 31, 2015 and 2014, are detailed as follows:

(i) December 31, 2015

(Unit: In thousands of Korean won)

	Description	Amount	Residual useful life(*)
Software	Development expense, other intangible assets and construction in progress for data processing	₩17,636,266	2.81
Industrial proprietary rights	Copyright, patents and industrial proprietary rights	146,822	5.73
Intangible assets under development	Construction in progress for "Four River Restoration Project" and marina business at Kyung-in canal	1,677,101,208	-
Concession assets usage rights	Management right of water facilities in capital area	7,918,109,682	22.27
	Usage rights of water dams, usage rights of hydrogen dams, concession asset usage rights and management right of aggregate complex	984,287,018	Concession period
Other intangible assets	Waterfront business front	1,000,000,000	Indefinite
	Membership	7,489,171	Concession period

(*) Weighted-average residual useful life

(ii) December 31, 2014

(Unit: In thousands of Korean won)

	Description	Amount	Residual useful life(*)
Software	Development expense, other intangible assets and construction in progress for data processing	₩16,311,321	3.14
Industrial proprietary rights	Copyright, patents and industrial proprietary rights	167,838	6.45
Intangible assets under development	Construction in progress for "Four River Restoration Project" and marina business at Kyung-in canal	2,522,612,063	-
Concession assets usage rights	Management right of water facilities in capital area	8,086,199,683	22.78
	Usage rights of water dams, usage rights of hydrogen dams, concession asset usage rights and management right of aggregate complex	991,310,333	Concession period
Other intangible assets	Other (Four River Restoration project)	6,509,374	Indefinite
	Membership	6,241,645,539	Concession period

(*) Weighted-average residual useful life

18. TRADE AND OTHER PAYABLES:

Details of trade and other payables as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015		December 31, 2014	
	Current	Non-current	Current	Non-current
Trade accounts payables	₩14,514,642	₩-	₩20,228,464	₩-
Non-trade payables	156,160,216	185	116,680,561	2,937
Accrued expenses	98,317,565	-	103,499,183	-
Dividends payables	312,406	-	249,256	-
Others	12,496,714	3,950	4,636,992	21,360
	₩281,801,543	₩4,135	₩245,294,456	₩24,297

19. BORROWINGS AND DEBENTURES:

(1) Details of borrowings and debentures as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Current:		
Current portion of long-term borrowings	₩42,159,340	₩42,061,640
Current portion of debentures	1,336,581,000	722,518,000
	1,378,740,340	764,579,640
Non-current:	-	
Long-term borrowings	376,797,708	318,695,511
Less: present value discount on long-term borrowings	(2,771,056)	(3,383,534)
Debentures	9,890,357,500	10,724,695,000
Less: present value of discount on debentures	(3,064,539)	(3,453,355)
	10,261,319,613	11,036,553,622
	₩11,640,059,953	₩11,801,133,262

(2) Details of redemption plan of borrowings and debentures as of December 31, 2015 and 2014, are as follows:

(i) December 31, 2015

(Unit: In thousands of Korean won)

	Borrowings	Debentures	Total
Within a year	₩42,159,340	₩1,336,581,000	₩1,378,740,340
One year–5 years	225,410,333	4,650,357,500	4,875,767,833
After 5 years	151,387,375	5,240,000,000	5,391,387,375
	₩418,957,048	₩11,226,938,500	₩11,645,895,548

(ii) December 31, 2014

(Unit: In thousands of Korean won)

	Borrowings	Debentures	Total
Within a year	₩42,061,640	₩722,518,000	₩764,579,640
One year–5 years	186,973,590	4,704,695,000	4,891,668,590
After 5 years	131,721,921	6,020,000,000	6,151,721,921
	₩360,757,151	₩11,447,213,000	₩11,807,970,151

(3) Details of long-term borrowings as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	Financial institutions	Interest rate	Maturity	December 31, 2015	December 31, 2014
Long-term borrowings denominated in Korean won	Korea Development Bank	Floating interest rate	2025	₩157,042,000	₩198,466,000
	Korea Energy Management Corporation	Floating interest rate	2019	1,773,440	2,361,480
	Citibank Korea Inc.	Floating interest rate	2019	7,300	21,900
	Korea Labor Welfare Corporation	2.00%	2020	665,000	700,000
	Global Infra Fund	Floating interest rate	2017	32,388,246	10,083,876
Long-term borrowings in foreign currency	Islamic Development Bank and others	Floating interest rate	2024	227,081,062	149,123,895
				418,957,048	360,757,151
Less: present value discount				(2,771,056)	(3,383,534)
Less: current portion				(42,159,340)	(42,061,640)
				₩374,026,652	₩315,311,977

(4) Details of debentures as of December 31, 2015 and 2014, are as follows:

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

			December 31, 2015		December 31, 2014	
Series	Interest rate	Maturity	Foreign currency	Korean won	Foreign currency	Korean won
100th–208th	5.49%, etc.	02/09/2015 –05/22/2030	-	₩10,350,000,000	USD 230,000	₩10,762,816,000
Land compensation (12-01–15-06)	3.50%, etc.	01/31/2015 –12/31/2018	-	74,817,000	-	82,964,000
Euro bonds	3.75%, etc.	10/20/2015 –10/01/2018	USD 560,000 JPY 15,000,000	802,121,500	USD 300,000 EUR 100,000 JPY 15,000,000	601,433,000
				11,226,938,500		11,447,213,000
Less: present value of discount				(3,064,539)		(3,453,355)
Less: current portion				(1,336,581,000)		(722,518,000)
				₩9,887,292,961		₩10,721,241,645

20. OTHER FINANCIAL LIABILITIES:

Details of other financial liabilities as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015		December 31, 2014	
	Current	Non-current	Current	Non-current
Derivative liabilities	₩-	₩34,204,315	₩18,190,265	₩42,360,334

21. EMPLOYEE BENEFITS:

(1) Defined contribution retirement benefit plan

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

(i) Recognized in the comprehensive income represents the amount of contribution for the year ended December 31 2015 and 2014, as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Cost of goods sold	₩12,344,624	₩8,918,585
Operating cost	1,674,898	1,101,976
Other	427,417	452,914
	₩14,446,939	₩10,473,475

(2) Defined retirement benefit plan

(i) Actuarial assumptions as of December 31, 2015 and 2014, are as follows:

	December 31, 2015	December 31, 2014
Discount rate/expected rate on plan assets	2.16%	2.77%
Future salary increase rate	4.97%	4.97%

(ii) Details of expenses recognized in profit or loss for the years ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Current service costs	₩15,853,629	₩28,970,330
Interest on obligation	2,926,050	10,187,684
Interest on plan assets	(286,915)	(664,167)
Gain on settlement of retirement plan	-	(22,640,219)
	₩18,492,764	₩15,853,628

The amount recognized in employee expenses in the accompanying consolidated statements of comprehensive income are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Cost of sales	₩14,855,058	₩10,688,244
Selling, general and administrative expenses	1,643,082	3,087,376
Others	1,994,624	2,078,009
	₩18,492,764	₩15,853,629

(iii) Present value of defined benefit obligations and fair value of plan assets as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Present value of defined benefit obligations	₩123,310,395	₩90,401,571
Fair value of plan assets	(11,768,407)	(11,531,518)
Recognized as defined benefit liabilities in the consolidated statements of financial position	₩111,541,988	₩78,870,053

(iv) Movements in present value of defined benefit obligations for the year ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Beginning balance	₩90,401,571	₩301,963,935
Transfer to the defined contribution plan	-	(219,399,873)
Gain on settlement of retirement plan	-	(22,640,219)
Current service costs	15,853,629	28,970,330
Interest on obligation	2,926,050	10,187,684
Actuarial loss (gain)	18,685,890	(1,331,056)
Benefits paid	(4,556,745)	(7,349,230)
Ending balance	₩123,310,395	₩90,401,571

(v) Movements in plan assets for the year ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Beginning balance	₩11,531,518	₩28,195,600
Transfer to the defined contribution plan	-	(17,014,521)
Operating commissions	(59,645)	(89,185)
Interest on plan assets	286,915	664,167
Actuarial loss	11,506	(93,962)
Benefit paid by the plan	(1,887)	(130,581)
Ending balance	₩11,768,407	₩11,531,518

(vi) Accumulated actuarial loss recorded in other comprehensive income as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Accumulated actuarial loss	₩42,308,210	₩28,153,027

(vii) Main categories of the plan assets and the expected return on plan assets by categories as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	Expected return on plan assets		Fair value of plan assets	
F o r	December 31, 2015	December 31, 2014	December 31, 2015	December 31, 2014
Derivative liabilities	2.16%	2.77%	₩11,768,407	₩11,531,518

For the year ended December 31, 2015, the actual return on plan asset is ₩298,421 thousand.

22. PROVISIONS:

(1) Details of provisions as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015		December 31, 2014	
	Current	Non-current	Current	Non-current
Provision for benefits	₩73,247,027	₩-	₩73,711,313	₩-
Provision for Greenhouse gases exhaustion	291,405	-	-	-
Provision for litigation	-	4,768,326	-	9,406,274
Provision for restoration	-	20,375,187	-	17,475,789
Provision for financial guarantee	-	4,242,493	-	-
	₩73,538,432	₩29,386,006	₩73,711,313	₩26,882,063

(2) Changes in provisions for the year ended December 31, 2015 and 2014, are as follows:

(i) December 31, 2015

(Unit: In thousands of Korean won)

	Book value at Jan. 1, 2015	Increase	Utilization	Reversal	Book value at Dec. 31, 2015
Provision for benefits	₩73,711,313	₩73,782,224	(₩74,246,510)	₩-	₩73,247,027
Provision for Greenhouse gases exhaustion	-	291,405	-	-	291,405
Provision for litigation	9,406,274	477,996	(5,115,944)	-	4,768,326
Provision for restoration	17,475,789	4,876,463	(1,977,065)	-	20,375,187
Provision for financial guarantee	-	4,242,493	-	-	4,242,493
	₩100,593,376	₩83,670,581	(₩81,339,519)	₩-	₩102,924,438

(ii) December 31, 2014

(Unit: In thousands of Korean won)

	Book value at Jan. 1, 2014	Increase	Utilization	Reversal	Book value at Dec. 31, 2014
Provision for benefits	₩77,721,685	₩71,569,324	(₩75,579,696)	₩-	₩73,711,313
Provision for litigation	19,306,032	25,823	(9,798,154)	(127,427)	9,406,274
Provision for restoration	13,581,411	4,667,254	(772,876)	-	17,475,789
	₩110,609,128	₩76,262,401	(₩86,150,726)	(₩127,427)	₩100,593,376

23. GOVERNMENT GRANTS:

(1) Details of government grants as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Buildings	(₩868,121)	(₩908,957)
Intangible assets under development	(6,334,196)	(6,334,196)
Concession assets usage rights	(48,145,421)	(51,733,970)
	(₩55,347,738)	(₩58,977,123)

(2) Details of government grants related to assets for the year ended December 31, 2015 and 2014, are as follows:

(i) December 31, 2015

(Unit: In thousands of Korean won)

	Book value at January 1, 2015	Receive	Acquisitions	Offset the depreciation	Profit	Others	Book value at December 31, 2015
Cash	₩-	(₩304,606,245)	(₩51,977)	₩-	₩304,658,222	₩-	₩-
Buildings	(908,957)	-	-	40,836	-	-	(868,121)
Intangible assets under development	(6,334,196)	-	-	-	-	-	(6,334,196)
Concession assets usage rights	(51,733,970)	-	51,977	3,536,572	-	-	(48,145,421)
	(₩58,977,123)	(₩304,606,245)	₩-	₩3,577,408	₩304,658,222	₩-	(₩55,347,738)

(ii) December 31, 2014

(Unit: In thousands of Korean won)

	Book value at January 1, 2014	Receive	Acquisitions	Offset the depreciation	Profit	Others	Book value at December 31, 2014
Cash	₩-	(₩317,821,069)	₩12,460,220	₩-	₩305,360,849	₩-	₩-
Buildings	(846,737)	-	-	37,780	-	(100,000)	(908,957)
Intangible assets under development	(7,324,439)	-	(12,460,220)	-	-	13,450,463	(6,334,196)
Concession assets usage rights	(43,235,671)	-	-	3,326,564	-	(11,824,863)	(51,733,970)
	(₩51,406,847)	(₩317,821,069)	₩-	₩3,364,344	₩305,360,849	₩1,525,600	(₩58,977,123)

(3) Government grants recognized in profit or loss for the years ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Recognized profit	₩304,658,222	₩305,360,849

The government is fully supporting the financial costs incurred in the borrowings regarding the Four River Restoration Project.

24. CUSTOMERS' CONTRIBUTION TO CONSTRUCTION COSTS:

(1) Details of revenue generated from customers' contribution to construction costs recognized as profit or loss for the years ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Offset against the deferred construction income	₩266,336	₩264,369
Offset against the depreciation	485,843	485,843
	₩752,179	₩750,212

(2) Changes in deferred income related to customers' contribution to construction costs for the years ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Beginning balance	₩34,878,911	₩27,800,834
Increase	6,413,000	7,342,446
Decrease	(266,336)	(264,369)
Ending balance	₩41,025,575	₩34,878,911

(3) Changes in construction costs for the year ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Beginning balance	₩6,347,156	₩6,832,998
Increase	-	-
Decrease	(485,843)	(485,843)
Ending balance	₩5,861,313	₩6,347,155

25. NON-FINANCIAL LIABILITIES:

(1) Details of other non-financial liabilities as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015		December 31, 2014	
	Current	Non-current	Current	Non-current
Advance received	₩1,024,752,179	₩-	₩1,022,112,582	₩-
Prepaid income	207,978	-	85,573	-
Withholdings	24,982,928	-	33,755,296	-
Deferred income	-	41,025,575	-	34,878,911
Others	11,602,348	-	3,713,802	-
	₩1,061,545,433	₩41,025,575	₩1,059,667,253	₩34,878,911

26. ISSUED CAPITAL:

(1) Details of issued capital as of December 31, 2015 and 2014, are as follows:

(i) December 31, 2015

(Unit: In thousands of Korean won)

	Government	Others	Total
Share capital	₩6,587,728,578	₩608,416,366	₩7,196,144,944

(ii) December 31, 2014

(Unit: In thousands of Korean won)

	Government	Others	Total
Share capital	₩6,408,548,578	₩608,416,366	₩7,016,964,944

(2) Details of discount on shares issued as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Discount on shares issued	₩2,596,601	₩585,049

27. RETAINED EARNINGS:

(1) Details of retained earnings as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Legal reserve (*1)	₩924,212,522	₩865,067,798
Other legal reserves (*2)	2,500,492,233	2,343,192,532
Unappropriated retained earnings	(5,798,983,408)	309,962,112
	(₩2,374,278,653)	₩3,518,222,442

(*1) 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) 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 reserve for business expansion, until the reserve equals share capital. The reserve for business expansion 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) Details of other legal reserves as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Reserve for business expansion	₩2,500,492,233	₩2,343,192,532

(3) Changes in retained earnings for the year ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Beginning balance	₩3,518,222,442	₩3,283,943,671
Profit (loss) of controlling interest	(5,799,066,717)	298,553,779
Dividends	(78,987,779)	(64,944,653)
Actuarial gain (loss)	(14,155,183)	937,717
Others	(291,416)	(268,072)
Ending balance	(₩2,374,278,653)	₩3,518,222,442

(4) Dividend paid for the years ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015		December 31, 2014	
	Investment	Dividend	Investment	Dividend
Investment	₩7,196,144,944	₩78,987,779	₩7,016,964,944	₩64,944,653

(5) Changes in actuarial loss for the year ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Beginning balance	(₩28,153,027)	(₩29,090,744)
Changes for the year	(18,674,384)	1,237,093
Tax effect	4,519,201	(299,376)
Ending balance	(₩42,308,210)	(₩28,153,027)

28. STATEMENT OF DISPOSITION OF DEFICIT:

Statement of appropriation of retained earnings for the year ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
I. Unappropriated retained earnings (accumulated deficit)	(₩5,809,552,086)	₩304,718,535
Balance at beginning of year	8,994,916	8,057,199
Profit (loss) for the year	(5,804,391,819)	295,723,619
Actuarial gain (loss)	(14,155,183)	937,717
II. Transfer from voluntary reserves		
Reserve for social overhead capital investments	-	-
III. Total (I + II)	(5,809,552,086)	304,718,535
IV. Disposal of deficit (appropriation of retained earnings)	4,876,083,920	(295,723,619)
Legal reserve	924,212,522	(59,144,723)
Business expansion reserve	2,500,492,233	(157,299,700)
Revaluation reserve	1,449,018,997	-
Other capital surplus	2,360,168	-
Dividends	-	(78,987,780)
Amortization of discount on stocks issued	-	(291,416)
V. Unappropriated retained earnings (accumulated deficit) to be carried over to subsequent year	(₩933,468,166)	₩8,994,916

29. OTHER COMPONENTS OF EQUITY:

(1) Details of other components of equity as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Other capital surplus	₩731,748	₩732,171
Accumulated o ther c omprehensive loss	(14,918,800)	(22,166,273)
Other capital	1,449,018,998	1,449,018,998
	₩1,434,831,946	₩1,427,584,896

(2) Changes i n o ther cap ital s urplus f or t he y ear en ded December 31, 2015 a nd 2 014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Beginning balance	₩732,171	₩732,238
Changes	(423)	(68)
Ending balance	₩731,748	₩732,170

(3) Changes in accumulated other comprehensive loss for the year ended December 31, 2015 and 2014, are as follows:

(i) December 31, 2015

(Unit: In thousands of Korean won)

	Gain (loss) on valuation of derivatives	Gain (loss) on valuation of AFS financial assets	Unrealized gain (loss) on valuation of equity method	Gain (loss) on foreign operations translation	Total
Beginning balance	(₩17,524,616)	(₩709)	(₩69,850)	(₩4,571,098)	(₩22,166,273)
Changes	16,258,848	(78,360)	-	(5,017,337)	11,163,151
Tax effect	(3,934,641)	18,963	-	-	(3,915,678)
Ending balance	(₩5,200,409)	(₩60,106)	(₩69,850)	(₩9,588,435)	(₩14,918,800)

(ii) December 31, 2014

(Unit: In thousands of Korean won)

	Gain (loss) on valuation of derivatives	Gain (loss) on valuation of AFS financial assets	Unrealized gain (loss) on valuation of equity method	Gain (loss) on foreign operations translation	Total
Beginning balance	(₩14,893,752)	₩76,343	₩15,557	(₩21,154,799)	(₩35,956,651)
Changes	(3,470,797)	(101,695)	(111,151)	16,583,701	12,900,058
Tax effect	839,933	24,644	25,743	-	890,320
Ending balance	(₩17,524,616)	(₩708)	(₩69,851)	(₩4,571,098)	(₩22,166,273)

(4) Changes in other capital for the year ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Beginning balance	₩1,449,018,998	₩1,449,018,998
Changes	-	-
Ending balance	₩1,449,018,998	₩1,449,018,998

30. REVENUE:

Details of revenue from continuous operation of the Group for the year ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Revenue from selling product:		
Land held for sale revenue	₩997,314,005	₩763,387,472
Water supply business revenue	1,005,726,287	968,606,460
Multiple-purpose dams business revenue	530,724,465	660,210,498
Ara waterway operation business revenue	122,948,325	324,293,282
	2,656,713,082	2,716,497,712
Revenue from providing service:		
Local waterworks business revenue	148,967,097	134,676,077
Sewage treatment business revenue	21,216,541	18,897,312
Four river management business revenue	24,702,728	22,834,499
	194,886,366	176,407,888
Revenue from construction contract:		
Water resource revenue	262,898,230	250,632,925
Sewage construction revenue	325,699	8,813,558
Private investment construction revenue (waterworks)	215,581,288	118,961,561
Private investment construction revenue (multiple-purpose dams)	142,945,933	64,904,030
Private investment construction revenue (local)	56,094,356	58,290,361
Private investment construction revenue (Four River Restoration Project)	112,453,811	182,845,799
Private investment construction revenue (Kyung-in Canal Project)	14,245,721	8,070,015
	804,545,038	692,518,249
Other revenue:		
Foreign business revenue	5,482,704	10,741,332
Aggregate business revenue	22,290,670	19,489,491
Incidental business revenue	93,426,766	82,717,829
	121,200,140	112,948,652
	₩3,777,344,626	₩3,698,372,501

31. SELLING, GENERAL AND ADMINISTRATIVE EXPENSE:

Details of selling, general and administrative expenses for the year ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Wages and salaries	₩37,704,507	₩32,523,525
Contribution to the Employee Welfare Fund	11,780,000	9,000,000
Expenses for employee benefits	3,317,979	4,189,352
Other employee benefits	9,436,794	7,946,355
Insurance	1,072,393	1,612,472
Depreciation	4,108,273	4,350,673
Amortization	864,076	927,903
Bad debts expense (reversal)	(1,042,615)	2,083,174
Commissions	7,195,217	6,698,446
Advertisements	9,800,758	9,480,281
Training	5,744,087	4,408,273
Vehicle maintenance	502,820	625,624
Printing	539,337	511,706
Entertainments	100,176	112,911
Rent	1,317,446	1,288,275
Communications	2,295,607	2,233,682
Taxes and dues	1,623,266	3,048,456
Supplies	800,945	506,570
Utilities	1,429,102	1,386,743
Repair	8,519,992	8,356,198
Development	25,154,278	21,660,093
Travel	2,051,099	1,770,520
Clothing	354,560	151,064
Research and analysis	83,011	92,405
Sales promotion	775,659	999,926
Sales commissions	1,812,170	1,894,242
Others	1,722,949	1,560,591
	₩139,063,886	₩129,419,460

32. OTHER INCOMES AND OTHER EXPENSES:

(1) Details of other incomes for the year ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Government grant income	₩304,658,222	₩305,360,849
Reversal of provision	101,236	-
Customers' contribution to construction	266,336	264,369
Rent income	2,056,131	1,746,918
Others	41,994,574	15,908,302
	₩349,076,499	₩323,280,438

(2) Other expenses for the year ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Provision for litigation	₩-	₩22,123
Other bad debts expenses	-	2,113,046
Donations	4,220,133	1,212,196
Expenses for cancellation of the contract	2,547,581	3,479,134
Others	669,051	-
	₩7,436,765	₩6,826,499

33. OTHER GAINS AND LOSSES:

Details of other gains and losses for the year ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Gain on disposal of property, plant and equipment	₩2,379,003	₩6,990,586
Loss on disposal of property, plant and equipment	(219,084)	(5,593,152)
Impairment loss on property, plant and equipment	-	(42,240)
Impairment loss on intangible assets(*1)	(6,297,720,498)	(11,432,790)
Others, net	(4,280)	(3,143,354)
	(₩6,295,564,859)	(₩13,220,950)

(*1) As recovered amount was decided, which is investment cost in respect to Four River Restoration Project, an impairment loss of ₩6,281,274,459 thousand was recognized.

34. FINANCE INCOMES:

(1) Details of finance incomes for the year ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	2015	2014
Interest income	₩35,814,035	₩20,024,621
Dividends	141,101	1,259,169
Gain on valuation of derivative instruments	34,905,500	21,887,000
Gain on settlement of derivative instruments	7,488,000	6,470,000
Gain on foreign currency translation	849,498	27,127,153
Gain on foreign currency transactions	6,305,000	14,495,737
	₩85,503,134	₩91,263,680

(2) Details of interest income for the year ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	2015	2014
Cash and cash equivalents	₩9,586,242	₩7,130,065
Trade and other receivables	26,227,793	12,894,556
	₩35,814,035	₩20,024,621

35. FINANCE COSTS:

(1) Details of finance costs for the year ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	2015	2014
Interest expenses	₩308,915,126	₩329,534,236
Loss on valuation of derivative instruments	-	24,651,999
Loss on settlement of derivative instruments	6,305,000	13,802,120
Loss on redemption of debenture	13,326,816	2,529,342
Loss on foreign currency translation	34,927,387	23,659,517
Loss on foreign currency transactions	7,488,000	6,479,083
	₩370,962,329	₩400,656,297

(2) Details of interest expenses for the year ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	2015	2014
Trade and other payables	₩43,533	₩1,074,000
Long-term borrowings	3,998,820	9,610,123
Debentures	453,120,969	461,932,384
Derivative liabilities	20,032,539	25,717,000
	477,195,861	498,333,507
Less: capitalized borrowing costs	(168,280,735)	(168,799,271)
	₩308,915,126	₩329,534,236

Weighted-average interest rate used to capitalize the borrowing costs for the year ended December 31, 2015, is 4.11% (4.33% for 2014).

36. INCOME TAX EXPENSE:

(1) The components of income tax expense (benefit) for the year ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	2015	2014
Current tax expense	₩5,315	₩43,070,103
Adjustment for prior years	(22,439,389)	18,375,814
Income taxes directly charged to equity	603,523	591,443
Origination and reversal of temporary differences	(80,356,828)	56,184,645
Total income tax expense (benefit)	(₩102,187,379)	₩118,222,005

(2) Reconciliation of effective tax rate:

(Unit: In thousands of Korean won)

	2015	2014
Profit (loss) before income tax expense	(₩5,897,824,975)	₩417,547,913
Tax rate	24.2%	24.2%
Income tax using the Group's statutory tax rate	(1,427,273,644)	101,046,595
Adjustments:		
Effect of graduated tax rates	(462,000)	(462,000)
Current adjustments for prior periods	(22,439,389)	14,680,545
Effect of tax investigation	33,748,305	-
Non-taxable income	(4,548,911)	(773,631)
Non-deductible expenses	1,825,119	3,730,496
Temporary difference not recognized as deferred income tax(*1)	1,316,963,141	-
Income tax expense (benefit)	(₩102,187,379)	₩118,222,005
Average effective tax rate	(*1)	28.31%

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

(3) Details of income tax expenses recognized as other comprehensive income (loss) for the year ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	2015	2014
Gain (loss) on valuation of derivative instruments	(₩3,934,641)	₩839,933
Net change in fair value of AFS financial assets	18,963	24,644
Defined benefit plan actuarial gain (loss)	4,519,201	(299,377)
Others	-	26,243
	₩603,523	₩591,443

(4) Deferred tax assets (liabilities) recognized in consolidated financial statements as of December 31, 2015 and 2014, are detailed as follows:

(i) December 31, 2015

(Unit: In thousands of Korean won)

	Beginning balance	Profit or loss	Other comprehensive income (loss)	Ending balance
Depreciation	₩3,769,984	₩2,235,449	₩-	₩6,005,433
Government grant	14,272,464	(878,311)	-	13,394,153
Contribution toward construction	1,536,012	(117,574)	-	1,418,438
Deferred revenue contribution toward construction	9,572,537	1,259,062	-	10,831,599
Defined benefit liabilities	14,135,887	4,281,144	4,519,201	22,936,232
Plan assets	(2,790,627)	(57,328)	-	(2,847,955)
AFS financial assets	271	-	18,963	19,234
Investment securities	58,149	-	-	58,149
Accrued of administrative expenses	4,229,141	701,654	-	4,930,795
Interest income	3,281,378	(3,281,378)	-	-
Allowance for doubtful accounts in excess of limit	511,369	274,451	-	785,820
Depreciation by exemption law	(4,820,721)	1,219,215	-	(3,601,506)
Assets under construction	(102,399)	102,399	-	-
Interest capitalized on inventory during construction period	(108,385,125)	(13,128,902)	-	(121,514,027)
Tax on excessive appreciation of land value (inventories)	(1,564,391)	(706,789)	-	(2,271,180)
Accrued income	(96,911)	31,055	-	(65,856)
Tax and dues (land excessive profit tax)	(3,601)	-	-	(3,601)
Reserve for temporary depreciation	(15,388,724)	(854,704)	-	(16,243,428)
Dividends payables (Bosung gun)	(5,430)	-	-	(5,430)
Acquisition tax (land)	(37,450)	-	-	(37,450)
Provision for litigation	2,276,318	(1,122,384)	-	1,153,934
Payment guarantee for foreign related party	12,654	164,590	-	177,244
Miscellaneous losses (present value discount of Hantan river dam)	4,156,859	(4,156,859)	-	-
Debentures	(2,573,912)	(2,782,903)	-	(5,356,815)
Provision for Greenhouse gases exhaustion	-	70,520	-	70,520
Other	(2,405,472)	3,933,352	(3,934,641)	(2,406,761)
Adjustments of consolidation	-	1,409,537,245	-	1,409,537,245
Deficit carried forward	(18,201)	(6,558)	-	(24,759)
Total	(80,379,941)	1,396,716,446	603,523	1,316,940,028
Except for reorganization of deferred tax assets (liabilities)	-	(1,316,963,142)	-	(1,316,963,142)
Ending balance	(₩80,379,941)	₩79,753,304	₩603,523	(₩23,114)

(ii) December 31, 2014

(Unit: In thousands of Korean won)

	Beginning balance	Profit or loss	Other comprehensive income (loss)	Ending balance
Depreciation	₩3,053,796	₩716,188	₩-	₩3,769,984
Government grant	12,440,457	1,832,007	-	14,272,464
Contribution toward construction	1,653,585	(117,573)	-	1,536,012
Other non-financial liabilities	6,727,802	2,844,735	-	9,572,537
Defined benefit liabilities	62,062,926	(47,627,662)	(299,377)	14,135,887
Plan assets	(6,823,335)	4,032,708	-	(2,790,627)
AFS financial assets	(24,373)	-	24,644	271
Investment securities	58,149	-	-	58,149
Accrued of administrative expenses	3,286,702	942,439	-	4,229,141
Interest income	3,139,556	141,822	-	3,281,378
Allowance for doubtful accounts in excess of limit	630,140	(118,771)	-	511,369
Depreciation by exemption law	(4,146,982)	(673,739)	-	(4,820,721)
Assets under construction (Hantan river dam)	(102,399)	-	-	(102,399)
Interest capitalized on inventory during construction period	(96,414,410)	(11,970,715)	-	(108,385,125)
Tax on excessive appreciation of land value (inventories)	(961,939)	(602,452)	-	(1,564,391)
Accrued income	(84,189)	(12,722)	-	(96,911)
Tax and dues (excessive land profit tax)	(3,601)	-	-	(3,601)
Reserve for temporary depreciation	(14,122,049)	(1,266,675)	-	(15,388,724)
Dividends payables (Bosung gun)	(5,430)	-	-	(5,430)
Acquisition tax (land)	(37,450)	-	-	(37,450)
Provision for litigation	4,641,222	(2,364,904)	-	2,276,318
Payment guarantee for foreign related party	8,483	4,171	-	12,654
Miscellaneous losses (present value discount of Hantan river dam)	5,301,707	(1,144,848)	-	4,156,859
Adjustment of K-IFRS conversion	(16,022,336)	1,437,660	-	(14,584,676)
Debentures	(18,328,560)	15,754,648	-	(2,573,912)
Loss on valuation of derivative financial instrument	29,867,302	(19,755,490)	839,933	10,951,745
Amortization of marine management right	-	1,225,815	-	1,225,815
Gain or loss on foreign operation translation	1,145	-	499	1,644
Adjustments of consolidation	8,784	(52,729)	25,743	(18,202)
	(₩24,195,297)	(₩56,776,087)	₩591,442	(₩80,379,942)

(5) Temporary differences, which are not recognized as deferred tax assets, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Tax deficit	₩1,316,963,142	₩-

(6) Deferred tax assets (liabilities) as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Deferred tax assets	₩39,897	₩42,981
Deferred tax liabilities	(63,011)	(80,422,923)
	₩(23,114)	(₩80,379,942)

37. DISPOSAL GROUPS CLASSIFIED AS HELD FOR SALE:

Disposal groups classified as held for sale as of December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Investment in associate held for sale:		
Gangsosimsusumu	₩-	₩1,666,509
Prunjangryang Co., Ltd.	343,894	343,894
	₩343,894	₩2,010,403

38. NATURE OF EXPENSES:

Details of nature of expenses for the year ended December 31, 2015 and 2014, are as follows:

(i) December 31, 2015

(Unit: In thousands of Korean won)

	Changes in inventories	Selling, general and administrative expenses	Cost of sales	Total
Changes in inventories:				
- Raw material	(₩90,391)	₩-	₩-	(₩90,391)
- Product	(513,153,286)	-	-	(513,153,286)
- Raw material used	-	-	2,458,274,119	2,458,274,119
Wages and salaries	-	37,704,507	318,101,215	355,805,722
Expenses for employee benefits	-	3,317,979	27,294,192	30,612,171
Other employee benefits	-	9,436,794	37,766,960	47,203,754
Insurance	-	1,072,393	1,258,124	2,330,517
Depreciation	-	4,108,273	80,320,559	84,428,832
Amortization	-	864,076	598,811,304	599,675,380
Bad debts expense (refund)	-	(1,042,615)	-	(1,042,615)
Commissions	-	7,195,217	37,642,272	44,837,489
Advertisements	-	9,800,758	895,647	10,696,405
Training	-	5,744,087	1,225,816	6,969,903
Vehicle maintenance	-	502,820	2,977,587	3,480,407
Printing	-	539,337	742,858	1,282,195
Entertainments	-	100,176	52,647	152,823
Rent	-	1,317,446	3,011,967	4,329,413
Communications	-	2,295,607	5,796,631	8,092,238
Tax and dues	-	1,623,266	86,858,626	88,481,892
Supplies	-	800,945	1,862,377	2,663,322
Utilities	-	1,429,102	3,296,937	4,726,039
Repair	-	8,519,992	97,553,817	106,073,809
Development	-	25,154,278	8,686,136	33,840,414
Travel	-	2,051,099	16,608,351	18,659,450
Clothing	-	354,560	15,070	369,630
Research and analysis	-	83,011	2,940,660	3,023,671
Sales promotion	-	775,659	-	775,659
Sales commissions	-	1,812,170	-	1,812,170
Others	-	13,502,951	9,913,388	23,416,339
	(₩513,243,677)	₩139,063,888	₩3,801,907,260	₩3,427,727,471

(ii) December 31, 2014

(Unit: In thousands of Korean won)

	Beginning balance	Profit or loss	Other comprehensive income	Ending balance
Changes in inventories:				
- Raw material	₩296,041	₩-	₩-	₩296,041
- Product	(179,687,889)	-	-	(179,687,889)
- Raw material used	-	-	2,052,367,489	2,052,367,489
Wages and salaries	-	32,523,525	290,642,912	323,166,437
Employee benefits	-	4,189,352	19,607,041	23,796,393
Other employee benefits	-	7,946,355	39,629,382	47,575,737
Insurance	-	1,612,472	1,200,077	2,812,549
Depreciation	-	4,350,673	80,080,090	84,430,763
Amortization	-	927,903	599,146,648	600,074,551
Bad debts expense	-	2,083,174	-	2,083,174
Commissions	-	6,698,446	34,971,353	41,669,799
Advertisements	-	9,480,281	2,015,603	11,495,884
Training	-	4,408,273	1,127,291	5,535,564
Vehicle maintenance	-	625,624	3,551,122	4,176,746
Printing	-	511,706	665,054	1,176,760
Entertainments	-	112,911	56,974	169,885
Rent	-	1,288,275	2,863,262	4,151,537
Communications	-	2,233,682	5,764,924	7,998,606
Tax and dues	-	3,048,456	83,619,847	86,668,303
Supplies	-	506,570	1,887,231	2,393,801
Utilities	-	1,386,743	3,059,547	4,446,290
Repair	-	8,356,198	105,324,289	113,680,487
Development	-	21,660,093	8,168,870	29,828,963
Travel	-	1,770,520	15,270,688	17,041,208
Clothing	-	151,064	6,878	157,942
Research and analysis	-	92,405	4,681,128	4,773,533
Sales promotion	-	999,926	-	999,926
Sales commissions	-	1,894,242	-	1,894,242
Others	-	10,560,591	2,178,067	12,738,658
	(₩179,391,848)	₩129,419,460	₩3,357,885,767	₩3,307,913,379

39. CATEGORIES OF FINANCIAL INSTRUMENTS:

(1) Financial assets and liabilities by categories as of December 31, 2015 and 2014, are detailed as follows:

(i) December 31, 2015

(Unit: In thousands of Korean won)

Current financial assets	Financial assets at FVTPL	Loans and receivables	Total
Short-term financial assets	₩116,518,944	₩-	₩116,518,944
Trade and other receivables	-	387,545,987	387,545,987
Total	₩116,518,944	₩387,545,987	₩504,064,931

(Unit: In thousands of Korean won)

Non-current financial assets	Loans and receivables	AFS financial assets	Derivative hedging instrument designated	Total
Derivative instrument assets	₩-	₩-	₩48,041,116	₩48,041,116
AFS assets	-	14,907,073	-	14,907,073
Loans and receivables	20,834,273	-	-	20,834,273
Subtotal	20,834,273	14,907,073	48,041,116	83,782,462
Trade and other receivables	439,537,442	-	-	439,537,442
Total	₩460,371,715	₩14,907,073	₩48,041,116	₩523,319,904

(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	₩42,159,340	₩-	₩42,159,340
Current portion of debentures	1,336,581,000	-	1,336,581,000
Subtotal	1,378,740,340	-	1,378,740,340
Trade and other payables	281,489,137	-	281,489,137
Total	₩1,660,229,477	₩-	₩1,660,229,477

(Unit: In thousands of Korean won)

Non-current financial liabilities	Financial liabilities measured at amortized cost	Derivative hedging instrument designated	Total
Long-term borrowings	₩374,026,652	₩-	₩374,026,652
Debentures	9,887,292,961	-	9,887,292,961
Derivative instrument liabilities	-	34,204,315	34,204,315
Subtotal	10,261,319,613	34,204,315	10,295,523,928
Trade and other payables	4,135		4,135
Total	₩10,261,323,748	₩34,204,315	₩10,295,528,063

(ii) December 31, 2014

(Unit: In thousands of Korean won)

Current financial assets	Financial assets at FVTPL	Loans and receivables	Derivative hedging instrument designated	Total
Short-term financial assets	₩223,667,473	₩-	₩-	₩223,667,473
Derivative instrument assets	-	-	7,554,072	7,554,072
Trade and other receivables	-	444,640,425	-	444,640,425
Total	₩223,667,473	₩444,640,425	₩7,554,072	₩675,861,970

(Unit: In thousands of Korean won)

Non-current financial assets	Loans and receivables	AFS financial assets	Derivative hedging instrument designated	Total
Derivative instrument assets	₩-	₩-	₩8,300,981	₩8,300,981
AFS assets	-	8,208,026	-	8,208,026
Loans and receivables	29,107,275	-	-	29,107,275
Subtotal	29,107,275	8,208,026	8,300,981	45,616,282
Trade and other receivables	493,473,803	-	-	493,473,803
Total	₩522,581,078	₩8,208,026	₩8,300,981	₩539,090,085

(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	₩42,061,640	₩-	₩42,061,640
Current portion of debentures	722,518,000	-	722,518,000
Derivative instrument liabilities	-	18,190,265	18,190,265
Subtotal	764,579,640	18,190,265	782,769,905
Trade and other payables	245,045,200	-	245,045,200
Total	₩1,009,624,840	₩18,190,265	₩1,027,815,105

(Unit: In thousands of Korean won)

Non-current financial liabilities	Financial liabilities measured at amortized cost	Derivative hedging instrument designated	Total
Long-term borrowings	₩315,311,977	₩-	₩315,311,977
Debentures	10,721,241,645	-	10,721,241,645
Derivative instrument liabilities	-	42,360,334	42,360,334
Subtotal	11,036,553,622	42,360,334	11,078,913,956
Trade and other receivables	24,297	-	24,297
Total	₩11,036,577,919	₩42,360,334	₩11,078,938,253

(2) Details of finance income and costs by categories for the year ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Loans and receivables (including cash and cash equivalents):		
Interest income	₩35,814,035	₩20,024,621
Loss on foreign currency translation, net	-	(8,640)
AFS financial assets:	-	
Dividend income	141,101	1,259,169
Derivative hedging instrument designated:	-	
Gain (loss) on transaction of derivative instruments, net	1,183,000	(7,332,120)
Gain (loss) on valuation of derivative instruments, net	34,905,500	(2,764,999)
Financial liabilities measured at amortized cost:	-	
Interest expense	(308,915,126)	(329,534,236)
Loss on redemption of debenture	(13,326,816)	(2,529,342)
Gain (loss) on foreign currency transactions, net	(1,183,000)	8,025,293
Gain (loss) on foreign currency translation, net	(34,077,889)	3,467,637
	(₩285,459,195)	(₩309,392,617)

40. RISK MANAGEMENT:

(1) Capital risk management

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

As of December 31, 2015 and 2014, the Group defines net debt and equity as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Net debt:		
Debts (borrowings and debentures)	₩11,640,059,953	₩11,801,133,261
Less: cash and cash equivalents	(124,832,949)	(155,744,869)
	11,515,227,004	11,645,388,392
Equity	6,277,468,516	11,977,664,094
Total equity	₩17,792,695,520	₩23,623,052,486
Adjusted debt ratio	64.72%	49.30%

(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 risk management committee to develop the strategy for financial risk management and supervise financial risk management. The committee reviews the compliance of the risk management policy and procedure periodically and reports the result to the board of directors.

The Group's policies for financial risk management is prepared to recognize and analyze the Group's financial risk, establish the Group's risk threshold and control and manage the Group's financial risk to be not over the risk threshold. The Group's risk management systems and policies are reviewed periodically to reflect the market environments and Group's underlying operations. The Group makes employees to understand their own roles and responsibilities, and structure control environments by training employees, 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 Group 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, 2015	December 31, 2014
Cash and cash equivalents	₩14,907,073	₩8,208,026
Short-term financial assets	848,218,686	986,209,258
Loans and receivables	124,832,941	155,742,809
AFS financial assets	116,518,944	223,667,473
Derivative assets used for hedging	48,041,116	15,855,052
Financial guarantee contracts (*)	517,356,520	485,251,720
	₩1,669,875,280	₩1,874,934,338

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

(iii) Liquidity risk management

(a) December 31, 2015

The following are the contractual maturities of financial liabilities as of December 31, 2015, 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	₩281,493,272	₩281,493,272	₩281,489,137	₩-
Debentures	11,223,873,961	13,554,492,685	694,248,118	1,074,331,118
Borrowings	416,185,992	427,409,553	23,239,826	23,232,526
Derivative financial liabilities used for hedging	34,204,315	34,204,315	-	-
	₩11,955,757,540	₩14,297,599,825	₩998,977,081	₩1,097,563,644

(Unit: In thousands of Korean won)

	One year–two years	Two–five years	More than five years
Trade and other payables	₩4,135	₩-	₩-
Debentures	1,839,923,157	3,980,164,625	5,965,825,667
Borrowings	77,595,963	72,015,423	231,325,815
Derivative financial liabilities used for hedging	-	34,204,315	-
	₩1,917,523,255	₩4,086,384,363	₩6,197,151,482

(b) December 31, 2014

The following are the contractual maturities of financial liabilities as of December 31, 2014, including estimated interest payments and excluding the impact of netting agreements:

(Unit: In thousands of Korean won)

	Carrying amount	Contractual cash flows	Six months or less	Six–twelve months
Trade and other payables	₩245,069,497	₩245,069,497	₩245,045,200	₩-
Debentures	11,443,759,645	14,132,006,775	541,974,923	645,406,922
Borrowings	357,373,617	379,775,701	24,731,848	24,731,848
Derivative liabilities used for hedging	60,550,599	60,550,599	7,990,410	10,199,854
	₩12,106,753,358	₩14,817,402,572	₩819,742,381	₩680,338,624

(Unit: In thousands of Korean won)

	One year–two years	Two–five years	More than five years
Trade and other payables	₩24,297	₩-	₩-
Debentures	1,730,092,983	4,231,306,556	6,983,225,391
Borrowings	47,915,366	115,511,053	166,885,586
Derivative liabilities used for hedging	-	26,321,984	16,038,351
	₩1,778,032,646	₩4,373,139,593	₩7,166,149,328

(iv) Currency risk

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

(Unit: In thousands of Korean won)

	December 31, 2015			December 31, 2014		
	USD	JPY	EUR	USD	JPY	EUR
Loan	₩227,081,062	₩-	₩-	₩149,123,896	₩-	₩-
Debentures	656,320,000	145,801,500	-	582,576,000	138,021,000	133,652,000

As of December 31, 2015, the Group entered into currency swap contracts to hedge foreign currency risk, and the currency swap was designated as a hedging instrument for a 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 Group entered into currency and interest swap contracts to hedge interest rate risk of a considerable portion of borrowings with floating rates. The Group measures its interest rate risk based on 100 basis points ("bp"), which reflects the management's assessment of reasonable level of interest rate risk.

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

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Debentures	₩474,720,000	₩422,816,000
Borrowings	343,712,961	360,057,152
	₩818,432,961	₩782,873,152

(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 2014.

(Unit: In thousands of Korean won)

	December 31, 2015		December 31, 2014	
	100 bp increase	100 bp decrease	100 bp increase	100 bp decrease
Equity and profit (loss)	(₩8,184,330)	₩8,184,330	(₩7,828,732)	₩7,828,732

(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 consolidated statements of financial position, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015		December 31, 2014	
	Carrying amount	Fair value	Carrying amount	Fair value
Assets carried at fair value:				
Short-term financial assets	₩116,518,944	₩116,518,944	₩223,667,473	₩223,667,473
AFS financial assets	10,625,159	10,625,159	3,977,157	3,977,157
Derivative instrument assets	48,041,116	48,041,116	15,855,052	15,855,052
	175,185,219	175,185,219	243,499,682	243,499,682
Assets carried at amortized cost:				
Loans and receivables	847,917,701	847,917,701	967,221,503	967,221,503
Cash and cash equivalents	124,832,949	124,832,949	155,744,869	155,744,869
	972,750,650	972,750,650	1,122,966,372	1,122,966,372
Liabilities carried at fair value:				
Derivative instrument liabilities	34,204,315	34,204,315	60,550,599	60,550,599
Liabilities carried at amortized cost:				
Debentures	11,223,873,961	11,223,873,961	11,443,759,645	11,443,759,645
Borrowings	416,185,992	416,185,992	357,373,617	357,373,617
Trade and other payables	281,493,272	281,493,272	245,069,497	245,069,497
	₩11,921,553,225	₩11,921,553,225	₩12,046,202,759	₩12,046,202,759

(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, 2015:

(Unit: In thousands of Korean won)

	Level 1	Level 2	Level 3	Total
Short-term financial assets	₩116,518,944	₩-	₩-	₩116,518,944
Derivative financial assets	-	48,041,116	-	48,041,116
AFS financial assets	-	-	10,625,159	10,625,159
Derivative financial liabilities	-	34,204,315	-	34,204,315

41. SERVICE CONCESSION ARRANGEMENTS:

If the Group installs or replaces a public facility, the facility is transferred to the government without any consideration in accordance with K-water Act Article 32. The Group might collect a fee for services or goods to be supplied by the facility, in accordance with the K-water Act Article 9 Paragraph 1 No. 6.

Under K-IFRS, the business related to “Multiregional water facility construction in progress,” “Multipurpose dams construction in progress,” “Local waterworks construction in progress” and “Four River Restoration Project construction in progress” of the Group falls under the ‘Service Concession Arrangement.’ Therefore, sales and cost of sales are recognized using the percentage-of-completion method. The Group recognized revenue to the extent that related costs of sales are highly probable of being recoverable.

42. TRANSACTIONS AND BALANCES WITH RELATED COMPANIES:

(1) Details of related parties as of December 31, 2015, are as follows:

Control relationship	Related party
Associates	KWPP Holdings Co. and Angat Hydropower Co.
Associates - Held for sale	Prunjangryang Co., Ltd.

(2) Guarantees provided on behalf of related parties as of December 31, 2015, are as follows:

(Unit: In thousands of USD)

Related party	Description	Guaranteed amount	Collateral
Angat Hydropower Co.	Borrowings guarantee	441,000	Korea EXIM Bank, Standard Chartered Bank Korea Limited, Mizuho Bank, The Bank of Nova Scotia, ING Bank N.V., Korea Exchange Bank, Bank of the Philippine Islands, Australia, New Zealand Banking Group Limited and BDOUnibank

(3) Key management personnel compensation in total and for each of the following categories for the years ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Short-term employee benefits	₩1,156,066	₩822,097
Expenses for employee benefits	29,205	36,032
	₩1,185,271	₩858,129

(4) Assets pledged as collateral for related parties as of December, 2015, are as follows:

(Unit: In thousands of Korean won and USD)

Financial institutions	Related party	Collateral assets	Carrying amount
Woori Bank	Prunjangryang Co., Ltd.	Shares of Prunjangryang Co., Ltd.	₩323,800

43. NON-CASH INVESTING AND FINANCING ACTIVITIES:

Significant non-cash investing and financing activities for the year ended December 31, 2015 and 2014, are as follows:

(Unit: In thousands of Korean won)

	December 31, 2015	December 31, 2014
Reclassification of construction in progress to asset	₩41,748,988	₩65,578,962
Reclassification of intangible assets under development to asset	462,774,331	308,167,704
Transfer to current portion of long-term borrowing	42,159,340	42,061,640
Transfer to current portion of debentures	1,336,581,000	722,518,000

44. CONTINGENCIES:

(1) Collateralized note

As of December 31, 2015, a blank note issued by the Group has been pledged as collateral to Korea Energy Management Corporation for the Group's borrowings.

(2) Assets pledged as collateral for other parties

As of December 31, 2015, the Group has provided 36,144 shares of P-waters Corporation (book value: ₩180,720,000) as collaterals to NH Bank for the borrowings of P-waters Corporation.

(3) Litigations

The Group is a plaintiff and defendant in 41 and 190 litigations, respectively.

Details of major pending litigations as a defendant as of December 31, 2015, are as follows:

(Unit: In thousands of Korean won)

Nature of litigation	Number of litigations	Amount of litigation	Note
Claims for construction costs	4	₩51,384,187	Demand for additional payment
Claims for interruption in water supply (Gumi)	5	3,591,600	Damage claims
Claims related to construction and management of dams	20	92,088,625	Damage claims and compensation for loss
Claims for Four River Restoration Project	29	71,665,103	Compensation for loss
Claims for sale of land	98	43,595,986	Damage claims and compensation for loss
Other claims	34	3,856,044	-
	190	₩266,181,545	

The amount of provision the Group recognized with respect to the lawsuits is ₩4,768,326 thousand.

(4) Major construction contracts

As of December 31, 2015, the Group has entered into various contracts totaling ₩4,173 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 Group as a beneficiary of performance guarantee insurance by Seoul Guarantee Insurance and Construction Guarantee and others amounting to 15% of total contract amount.

(5) Credit line agreements

The Group has entered into loan agreements with Hanabank Korea Inc. and six other Korean financial institutions. The available credit lines under these agreements amounted to ₩310,000 million as of December 31, 2015. The Group has not drawn any amount as of December 31, 2015.

(6) Guarantees received

Details of guarantees received from the third parties of the Group as of December 31, 2015, 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.

45. <u>INVESTMENT FOR KYUNG-IN CANAL PROJECT:</u>

In accordance with the government's resolution at the National Policy Coordination Conference (December 11, 2008), the Group invested a sum of ₩16,633 hundred million (book value) as of December 31, 2015, for the Gyeong-in Canal Project, which is currently recognized as intangible assets.

The Group invested in Kyung-in Canal Project in accordance with the resolution made at the National Policy Coordination Conference (December 11, 2008). As of December 31, 2015, the Group invested in the project for ₩16,633 hundred million (net book value) and the investment is recognized in intangible assets.

Meanwhile, as of December 31, 2015, the outcome of the negotiation with the Ministry of Maritime Affairs and Fisheries is yet to be determined, and significant uncertainty exists with respect to the recovery and the recovery scale of the investment cost regarding the major waterway in the Gyeong-in Canal Project.

Disclosure on Execution of External Audit

We attach required disclosure on the execution of external audit performed in accordance with ***Article 7-2 of the Act on External Audit of Stock Companies***.

1. Company and Reporting Period subject to External Audit

Company	Korea Water Resources Corporation			
Reporting Period	January 1, 2015	From	December 31, 2015	To

2. Number of Participants and Details on the Hours Executed in Audit

(Unit: Number of Participant, Hour Executed)

Participant(s) / Number and Hour(s)		Engagement Quality Reviewer(s) (Including QRM, etc.)	Audit Professional(s)			IT Specialist(s), Tax Specialist(s), Valuation Specialist(s)	Total
			Engagement Partner(s)	KICPA (Registered)	KICPA (Non-Registered)		
Number of Participant(s)		2	1	9	2	2	16
Hours Executed	Quarterly Review, Six-Month Review	2	20	441	40	-	503
	Audit	23	48	645	70	-	786
	Total	25	68	1,086	110	-	1,289

3. Key Disclosure on Execution of External Audit

Title	Detail								
Audit Planning Stage	Dates Performed			December 28, 2015		5	Days		
	Main Planning Work Performed			Identifying Significant Audit Risks and Audit Planning					
Fieldwork Performed	Dates Performed			Number of Participant(s)				Main Fieldwork Performed	
				On-Site		Off-Site			
	August 17, 2015	5	Days	4	Number of Participants	4	Number of Participants	Six-Month Review	
	December 28, 2015	5	Days	5	Number of Participants	2	Number of Participants	Interim audit and review of internal accounting control system	
	February 1, 2016	5	Days	5	Number of Participants	4	Number of Participants	Year-end audit	
Physical Counts - Financial Instruments (Observation)	Time (When Performed)	February 1, 2016			1	Day			
	Place (Where Performed)	The Company's headquarters							
	Financial Instruments subjected to Counts	Available-for-sale financial assets, Membership, Securities, etc.							
External Confirmation	Bank Confirmation	O	Accounts Receivable/Payable Confirmation		O	Legal Confirmation		O	
	Other Confirmation	-							
Communications with Those Charged with Governance	Number of Communications	2	Times Performed						
	Time (When Performed)	December 31, 2015, and February 23, 2016							