

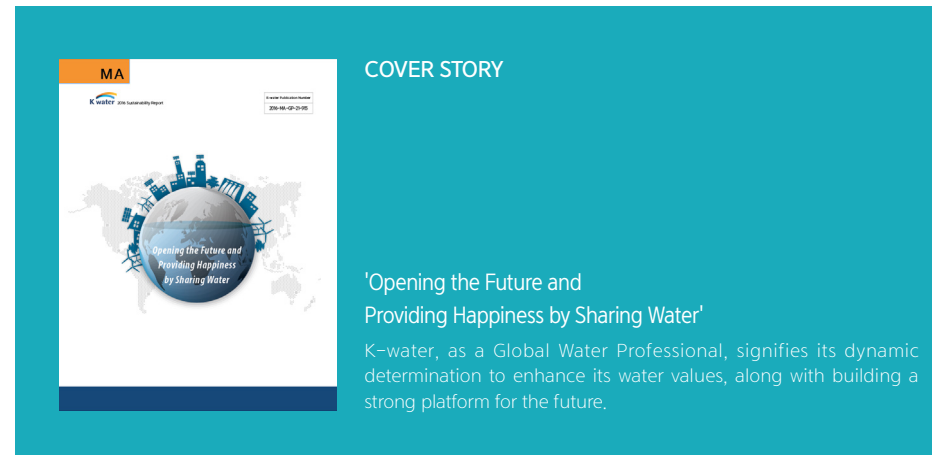


Global Hub of Water Management  
that Makes the World Go Round with Water



*Opening the Future and  
Providing Happiness  
by Sharing Water*

# About This Report



## Purpose of Publication

K-water has published its sustainability report annually since 2005. This report, the 2016 K-water Sustainability report, is the 12th publication and aims to provide our stakeholders with information on sustainability management which is focused on our mission, "Opening the Future and Providing Happiness by Sharing Water" and business performances. Furthermore, this sustainability report highlights our endeavors to develop into a global top integrated water enterprise. Of note, the 2016 report contains "our five promises" to the people as a public enterprise.

## Reporting Standard

This report has been drafted in line with the GRI (Global Reporting Initiative) G4 Sustainability Reporting Guidelines (Core option) and ISO 26000. This report features key issues derived from materiality tests and DMA (Disclosure on Management Approach) on key issues.

## Reporting Period and Boundaries

This report provides a general overview of the sustainability activities of the Head Office (3 divisions, 2 business divisions and 29 departments) and field offices (3 regional head offices, 2 institutes and 74 offices) from January 2015 to November 2016. Business performances of 13 overseas projects in 11 countries as of November 2016 were included as they are managed on a project by project basis. It does not cover subsidiaries and affiliates. For partnering companies in our corporate supply chain, their performances were partially included in relation with educational services or subsidies for mutual growth over the corporate supply chain. Financial performances have been filed based on consolidated data (K-IFRS) since 2011.

## Report Assurance

Data and statements featured in this report were verified by Korea Productivity Center based on G4 Guidelines (Core option).

## Amendments

There were not any significant changes such as corporate structure and ownership during the reporting period when compared to the previous year. However, some figures were amended to reflect changes in calculation and application standards. K-water publicizes its sustainability management and annual report through the disclosure of management on its website. The sustainability report is issued both in Korean and English. It can be downloaded in PDF format via our website. For more information, please contact the following.

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# Contents

## Approach to Sustainability

About This Report	
CEO's Message	2
Membership Activities & Awards	4
K-water Sustainability Highlights 2015	5
Sustainable Development Goals (SDGs) for K-water's GWP	6
Water Cycle	7
Water Value	8
Water Platform	9

## K-water, Global Hub of Water Management

Corporate Overview	12
Vision & Strategy	14
Governance & Responsible Management	16
K-water's Communication with Stakeholders	19
Interviews with Stakeholders	21
Analysis of Future Social Trends (Megatrends)	22
Result of Communication with Stakeholders	23
Core Values of K-water's Sustainable Management	24

## K-water's Five Pledges for Sustainable Management

### Pledge 1: "Intelligent Water Management and Satisfied Customers"

Supplying Healthy Tap Water	29
Producing High Quality Tap Water	30
ICT-Based Smart Water City	31
Coping with Climate Change and Prolonged Drought	32
Environmental Management for Healthy National Territory	35
Protecting People from Water Disasters	39

### Pledge 2: "New Water Values for All"

K-water's Respect of the Natural Order	45
Securing Future Water Management Competitiveness	48
Achieve Happiness through Water Competitiveness	50
Creation of a Eco-Friendly Waterfront Complex Cities	51

### Pledge 3: "Leading Global Water Management Company"

Smart Water Management, a Scientific Solution to Address Global Water Problems	53
Leadership and Capability Development to Solve Global Water Issues	54
Expansion of Advancement into the Global Water Market and Bolstering its Global Capabilities	55
Diversification of Investments and Operations	56
Building Global Networks via Sophisticated Business Management	57

### Pledge 4: "Global Sharing of Water-related Welfare"

Water Love Sharing Corps	59
Water for a Happier World, K-water's Water-related Welfare Projects	60
Key Results of K-water's Social Contributions in 2015	63

### Pledge 5: "Enterprise for and of Public Users"

The Autonomous, Positive, and Dynamic Corporate Culture of K-water	65
K-water's Declaration of Human Rights Management	67
Ethical Management	68
Talent-Based Management	72
Shared Growth	74
Risk Management	78

## Appendix

Sustainability Highlights	84
Third Party Assurance	96
GRI G4 INDEX/ISO 26000	99
Code of Ethics, Green Management Policy, Customer Charter Statement, and Innovation Vision Statement	102
UN Global Compact's 10 Principles Support	104
Questionnaire to Collect Readers' Opinions	105



# CEO's Message

Approach to Sustainability  
 K-water, Global Hub of Water Management  
 K-water's Five Pledges for Sustainable Management  
 Appendix

CEO's Message  
 Membership Activities & Awards  
 K-water Sustainability Highlights 2015  
 Sustainable Development Goals (SDGs) for K-water's GWP  
 Water Cycle  
 Water Value  
 Water Platform

New Value System to Usher in the Next 50 Years



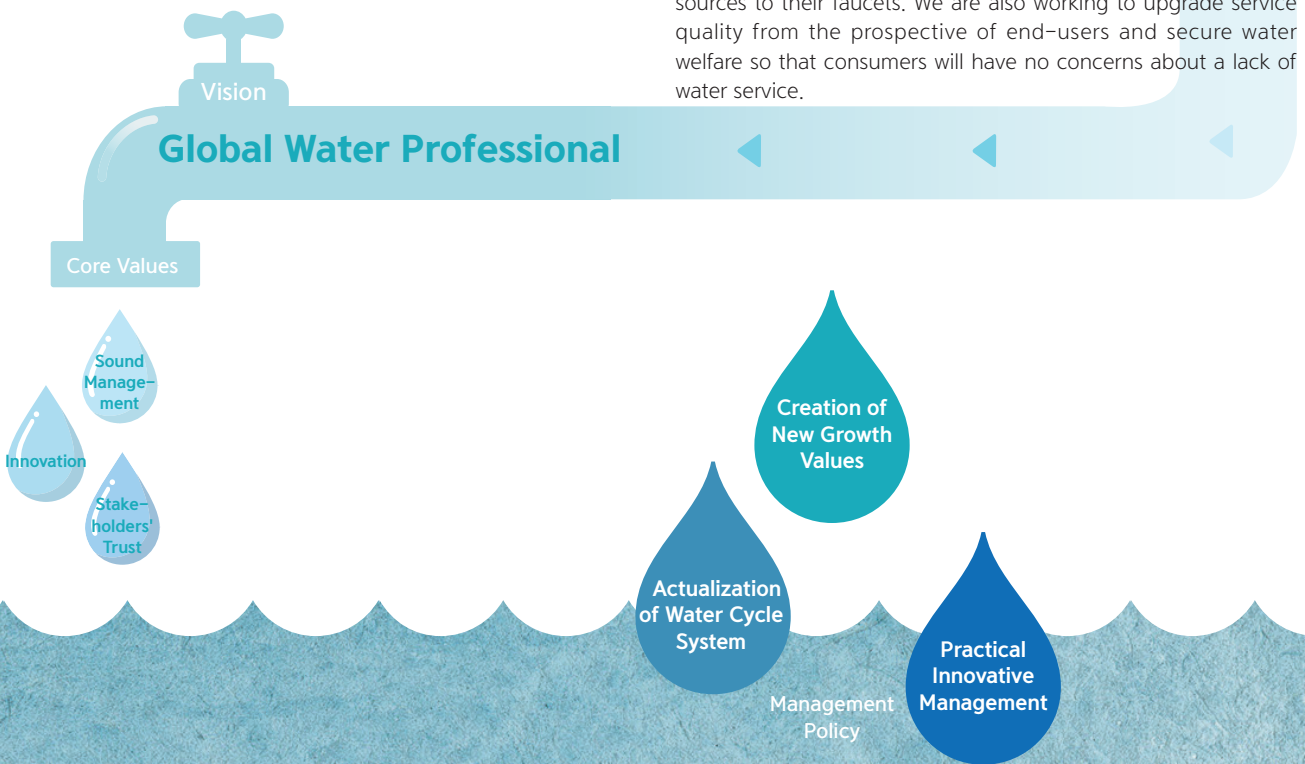
I would like to express my deepest gratitude for your support in K-water, and I am pleased to introduce to you about K-water's 12th Sustainability Report.

K-water, as Korea's premier state-invested water service enterprise, has endeavored to realize its mission of supplying safe water for the nation and securing water welfare for the past half century. Of note, impacted by the worsening climate change and regional water problems, the global water management environment is deteriorating. We have formulated a new mission, together with a vision and strategy, to address the current problems and secure sustainable growth for the future. K-water's management and staff are committing all available resources to fulfilling its corporate vision and strategy. Moreover, we are working to be Korea's Global Water Professional by taking advantage of its ongoing structural innovations and sound management.

The 12th Sustainability Report of K-water provides details of its recent endeavors and performance outcomes related to its "Five Pledges for Sustainable Management" on important management issues which our customers are interested in.

### Pledge 1: "Intelligent Water Management and Satisfied Customers"

Based on a comprehensive water management system that takes into account the characteristics of major waterways, like the Han River and Nakdong River, K-water seeks to maintain integrated water management for the entire water cycle from water sources to sewage disposal. K-water has implemented the Smart Water Management Initiative (SWMI), which utilizes the latest information and communication technology (ICT), to ensure that users never have to worry about water safety, from the water sources to their faucets. We are also working to upgrade service quality from the prospective of end-users and secure water welfare so that consumers will have no concerns about a lack of water service.



### Pledge 2: "New Water Values for All"

K-water strives to create new value for the public through the creation of eco-friendly waterfront spaces and full utilization of water resources in order to expand the development of clean energy (new & renewable sources). We are working to create new water values to serve the interests of future generations.

### Pledge 3: "Leading Global Water Management Company"

K-water is pushing ahead with overseas water projects by taking advantage of its valuable experiences and expertise related to the entire water cycle, from water sources to tap water and sewage disposal. Moreover, K-water seeks to boost its leadership in regards to resolving water problems based on in-depth exchanges with global water specialists.

### Pledge 4: "Global Sharing of Water-related Welfare"

K-water carries out differentiated CSR (corporate social responsibility) activities in line with its distinctive interests and corporate capabilities. For example, "Watering Your Dream" is a mentoring program for the children of disadvantaged families, while "Water Full of Happiness" provides maintenance work for water facilities located in low-income neighborhoods, along with installing tap-water facilities in foreign countries where lack of water is a problem. We conduct social contribution programs that address the specific needs of local communities and households, through the active volunteer works of the management and staff.

### Pledge 5: "Enterprise for and of Public Users"

K-water is wholly committed to creating a workplace in which individuals and the company can grow together, under an autonomous, positive, and dynamic corporate culture. We practice proactive ethical management that reflects the needs of customers, respect for individual rights, and shared growth of the entire supply chain, including users, local communities, and small businesses.

Above all, we solicit the support and encouragement from all relevant parties for K-water's efforts to realize our vision, "Opening the Future and Providing Happiness by Sharing Water", based on our continuous innovation and spirit of challenge to overcome any adversities.

Sincerely yours,

Hak Su Lee  
 K-water CEO



Brand Slogan  
 The power to make the world go round Unlimited K-water



# Membership Activities & Awards

Approach to Sustainability  
 K-water, Global Hub of Water Management  
 K-water's Five Pledges for Sustainable Management  
 Appendix

CEO's Message  
 Membership Activities & Awards  
 K-water Sustainability Highlights 2015  
 Sustainable Development Goals (SDGs) for K-water's GWP  
 Water Circle  
 Water Value  
 Water Platform

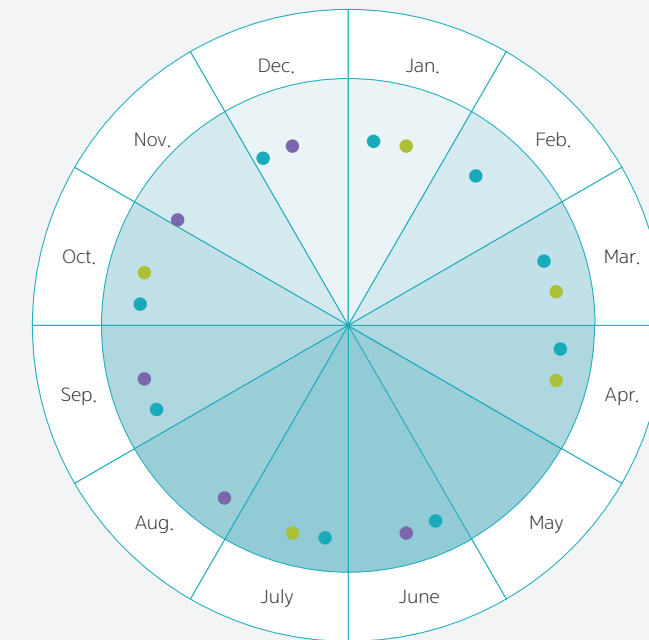
# K-water Sustainability Highlights 2015

## Membership Activities

1971	Association of Great Dams	2005	Korea Engineering & Consulting Association
1974	Korean Society of Civil Engineers	2006	Ethical Management Forum, River Association, Korea Society for Environmental Analysis
1976	Korea Electric Association, International Contractors Association of Korea	2007	Korea Society of Environmental Restoration Technology, American Water Works Association, International Water Association, UN Global Compact
1993	Korea Water Resources Association	2008	Korean Society of Environmental Engineers, Membrane Society of Korea, Korean Society of Environment and Ecology
1995	Environmental Impact Assessment Association	2010	Korean National Committee on Irrigation and Drainage, Korean Society for Fluid Machinery
1996	Korean Association of Academic Societies, Korean Institute of Landscape Architecture	2011	Society of Air-conditioning Refrigerating Engineers of Korea
1997	Korea Electric Engineers Association	2012	Korea Environmental Policy and Administration Society
1999	Korea Disaster Prevention Association	2013	Architectural Institute of Korea
2001	Korea New & Renewable Energy Association	2014	Korea Society of Mechanical Engineers, Korea Society of Climate Change Research, Korea Photovoltaic Industry Association, Korea Society of Quality Management, International Hydropower Association
2002	Korea Water and Wastewater Works Association	2015	Korean Society of Ecology and Infrastructure, Korea Society of Hazard Mitigation
2003	Korean Society on Water Environment		

## Awards

Apr. 2008	Korea Management Innovation 'Grand Prize' (Awarded by Ministry of Knowledge Economy and Maeil Business Newspaper)
Oct. 2008	Korea Social Contribution 'Grand Award' (Korea Journalist Forum), Sustainable Management 'Award of Highest Excellence' (Ministry of Knowledge Economy and Korea Chamber of Commerce and Industry) Korea Eco-Friendly Company 'Grand Award' (Ministry of Environment), Asian Most Admired Knowledge Enterprise (UK Teleos)
Jan. 2009	Continuity & Creation Management Award in Environmental Management (Korean Ministry of Knowledge Economy and UN Global Compact)
Oct. 2009	Low Carbon Green Growth Commendation (Green Growth Association and Korean Ministry of Environment), New Regeneration Energy Awards 'Prime Minister Commendation' (Ministry of Knowledge Economy), Asian Most Admired Knowledge Enterprise (UK Teleos)
Dec. 2010	National Green Technology 'Grand Award' (Korean Ministry of Knowledge Economy and Korean Ministry of Education)
June 2011	Korea Green Management Award (Ministry of Knowledge Economy and Korean Ministry of Environment), Eco-Star Eco-technology Award (Korean Ministry of Environment)
Jan. 2012	The first public company to be awarded the 'Smart Work Superior Institute Award' (Korean Ministry of Public Administration and Security)
Feb. 2012	The Most Admired Company In Korea (KMAC)
June 2012	Environmental Impact Management 'Grand Prize' (Korean Ministry of Environment), Global Social Contribution Institute of Excellence Commendation (Ministry of Health and Welfare), Selected as an excellent company with an outstanding performance in 'Labor and Management Relations' (Korean Ministry of Employment and Labor)
July 2012	Korea Digital Innovation Award 'Public Sector Grand Prize' (Ministry of Knowledge Economy)
Sep. 2012	Excellent enterprise with an outstanding performance in purchasing goods from SMEs (Small and Medium Business Administration of Korea)
Oct. 2012	Family-Friendly Enterprise (Korean Ministry of Gender Equality and Family), Top 100 Enterprise selected as 'Great Workplace' (GWP Korea), Asian Most Admired Knowledge Enterprise (UK Teleos)
Nov. 2012	Sustainability Grand Award, Innovation Management Award (Ministry of Knowledge Economy)
Dec. 2012	State-owned Company Award 'Grand Prize' (Sisa Journal)
July 2013	Korean Digital Green Management Award (Ministry of Science, ICT and Future Planning)
Oct. 2013	Korea Green Architecture Competition 'Award of Excellence' (Presidential Commissions on Architecture Policy), 'Commendation for Service' in Renewable Energy Supply Obligation System (Korean Ministry of Trade, Industry and Energy)
Nov. 2013	The Natural Environment Grand Award (Korean Ministry of Environment), Asian Most Admired Knowledge Enterprise (UK Teleos)
Dec. 2013	Global Most Admired Knowledge Enterprise (UK Teleos)
Feb. 2014	The Most Admired Company in Korea (KMAC)
June 2014	Gained the top prize in water business assessment (Ministry of Environment)
Aug. 2014	Korean Digital Award (Ministry of Science, ICT and Future Planning), Achieved Carbon Trust Standard (UK Carbon Trust)
Sep. 2014	IWA Project Innovation Award (IWA)
Oct. 2014	Asian Most Admired Knowledge Enterprise (UK Teleos)
Nov. 2014	GWP Grand Prize (GWP Korea), Korea Quality Management Enterprise Presidential Citation (Ministry of Trade, Industry & Energy), Outstanding Agency in Anti-Disaster Drilling Assessment (National Emergency Management Agency), Advanced Public Enterprise in Shared Growth Prime Minister Award (Ministry of Public Administration and Security)
Dec. 2014	Korea Social Outreach Award (Environment & Society of Sustainability Service), Korea Volunteer Work Grand Prize (Ministry of Public Administration and Security), Global Most Admired Knowledge Enterprise (UK Teleos)
June 2015	National Sustainability Management Award (Ministry of Health and Welfare)
Nov. 2015	The Most Admired Company in Korea (Ministry of Trade, Industry & Energy)
Dec. 2015	Gender Equality and Family Minister Award for after-school programs, Educational Donation Grand Prize for Public Enterprise (Ministry of Education) Asian Most Admired Knowledge Enterprise (UK Teleos)



	● Economic Performance	● Environmental Performance	● Social Performance
Jan.	Global/Asian MAKE (Most Admired Knowledge Enterprises) Winner (UK Teleos)	K-water CEO conferred Environmental Management CEO Award (Korea Environmental Management Society)	
Feb.	MOU signed on technical exchanges involving water management with China's Ministry of Water Resources MOU concluded with Russia's Ministry of Development of Far East on technical cooperation on water management		
Mar.	MOU concluded with Korea Rural Community Corp. on water management cooperation	Selected as entity to implement ecosystem conservation fund return projects for three consecutive years (Ministry of Environment)	
Apr.	MOU signed with Peru on integrated water resources management of Peru's Rio Rimac River	A final report on 7th World Water Forum and WGG (Water and Green Growth) issued	
June	MOU signed with Vietnam on public-private partnership for municipal sewage treatment MOU signed with Philippine San Miguel Corp. for investment cooperation on Hwaseong international theme park project		Awarded National Sustainability Management Award for Implementation of Corporate Social Responsibility (Ministry of Health and Welfare)
July	Attained the status of excellence in 2014 performance assessment of public institutions	MOUs concluded on development and supply expansion of new and renewable energy with Korea Institute of Energy Research and Korea Energy Economics Institute	
Aug.			MOU concluded on strengthening bilateral cooperation on water treatment for successful implementation of the Saemangeum Project
Sep.	MOU signed with Sejong Metropolitan Autonomous City on water resources management		CSR Award conferred for support of Korean firms based in the Philippines (Korean Embassy in Manila, Philippines) K-water CEO conferred KAPS Award (Korea Association for Policy Studies)
Oct.	A ground-breaking ceremony held for Georgia Nenskra water resources development project	Completed construction of Seongdeok Multipurpose Dam which was previously an agricultural reservoir	
Nov.			Conferred the "Most Admired Enterprise" Award (Ministry of Trade, Industry and Energy) Gender Equality and Family Minister Award for after-school program
Dec.	Conferred Asia's best knowledge enterprise award, "Asian MAKE," for eight consecutive years (UK Teleos)		Educational Donation Grand Prize for Public Enterprise (Ministry of Education) MOU concluded with Jeju Metropolitan Autonomous City for mutual growth on water resources development

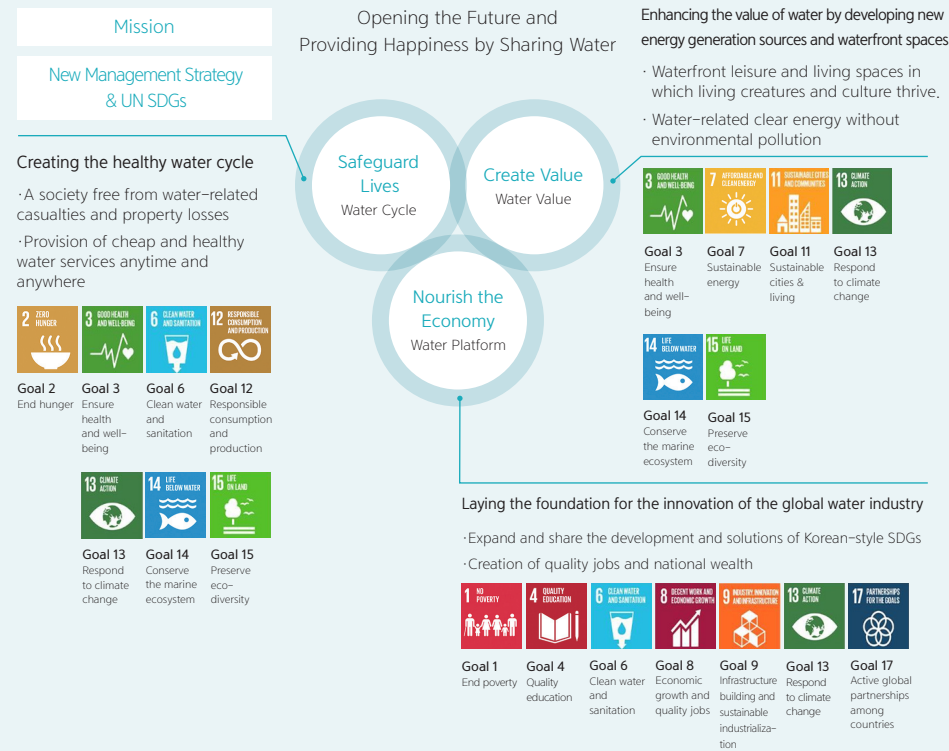


# Sustainable Development Goals (SDGs) for K-water's GWP

\* K-water's GWP, which stands for "Global Water Professional, Great Work Place," signifies K-water's development goal of becoming a people-oriented enterprise.

Since its foundation, K-water has developed into an integrated water service enterprise over a period of 50 years and has played a leading role in national development. K-water, in observance of its 50th anniversary in 2017, presents its vision for the next 100 years. In addition, we laid out a strategy to sincerely implement nationwide the UN SDGs (United Nations Sustainable Development Goals).

Of the 17 UN SDGs (United Nations Sustainable Development Goals), 11 goals involve water resources management services. As such, water resources management is emerging as a key issue in the required preparation for the future. K-water will analyze future social trends (megatrends) and requests of stakeholders. We redefined our value system, which will take K-water in a new direction as it approaches its 50th anniversary, and prepares the next 50 years, along our management strategy. We will sincerely implement the United Nations (UN) SDGs, while spreading our expertise globally on various fields, including integrated water resources management, water energy development and creation of waterfront spaces. Moreover, we will seek to globalize water-related values, and promote and share them for future generations. Our ultimate goal is to become a global water professional, and a global hub of water management.



6

# Water Cycle

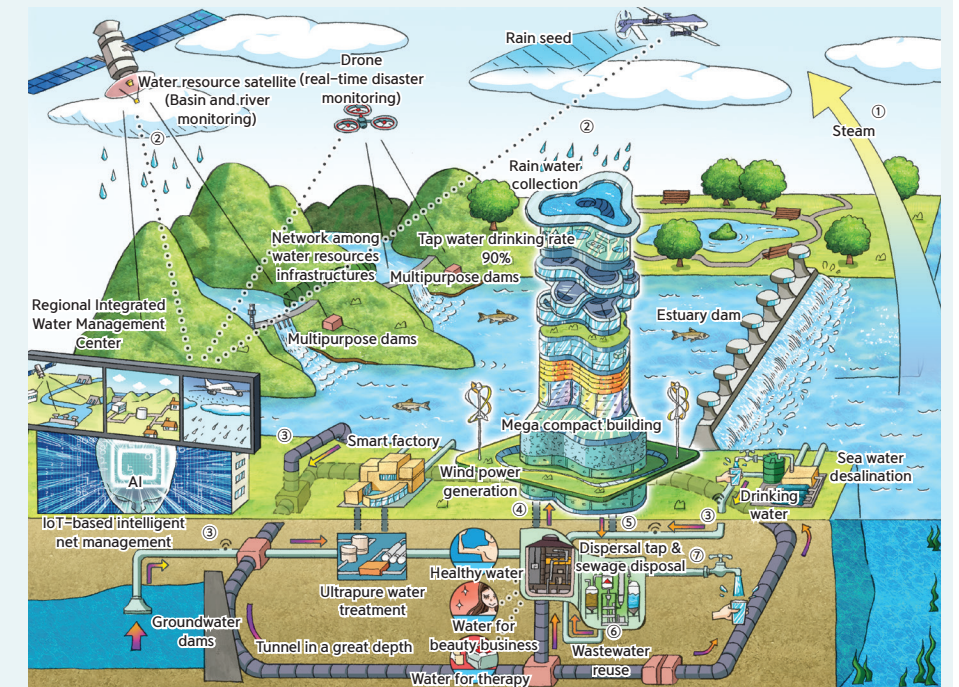
Developing an optimal water cycle system that benefits the whole world (Securing Integrated Water Management and Supplying Healthy Water)

The environment for water supply and water management is changing fundamentally primarily due to abnormal weather conditions such as torrential rains and droughts. We will work to establish a sustainable water cycle system what integrates the management of water volume and quality in order to forecast future weather conditions and prevent damages from disasters like floods and droughts.



The nation's annual rainfall, which averages 1,227 mm, is 1.6 times higher than the global average (807mm). But due to Korea's high population density, rainfall per person (2,629m<sup>3</sup>) stands at only 17% of the global average (16,427m<sup>3</sup>). Management of water resources is especially critical in Korea because rainfall levels vary by season and region, and surface water quickly runs off due to its fast-flowing rivers and waterways. In light of these challenges, K-water practices integrated water management and accumulates the most advanced information and knowledge that highlight the fact that basin-based conditions are changing due to the impact of climate change.

K-water will move ahead with integrated water services that highlight the water cycle, while moving beyond its existing services in which factors such as the management of water supply and water quality were unduly divided. K-water will promote the entire process of water cycle from water sources to faucets and from sewage disposal to water sources. We will operate real-time integrated facilities with ICT (Information and Communication Technologies) aligned with water management, in light of rivers and basin-based characteristics. Going further, we will push ahead with sustainable water services that call for integrated management of water quantity and ecosystem with active participation of various stakeholders. Of note, K-water will seek to actualize water welfare for everyone through effective water services that minimize the use of national territory, energy and resources in response to climate change. No one will remain cut off from our water services. Our ultimate goal is to develop a new paradigm for sustainable growth through expansion of high-tech water industries including seawater desalination, industrial water and dispersal sewage disposal.



\* Water Cycle: The entire hydrologic cycle in which water vapor from the land and seas enters the atmosphere and later returns to the earth's surface, infiltrating the ground and eventually flowing into streams and rivers.  
(1)Water vapor (2)River water (3)Water sources diversification (river water, groundwater, seawater desalination)  
(4)Purified water supply (5)Sewage disposal (6)Recycled water supply (7)Release of water

Future Changes	Targets	Goals		
		2016	2045	2067
Increasing Vulnerability due to Severe Droughts (Water demand slumps/stay flat)	Secure the safe supply of water resources (utilize diverse water resources)	Population prone to droughts: 12% River 89% Others 11%	Population prone to droughts : 1% River 70% Rainwater & recycled water 16% Sea & groundwater 14%	Population prone to droughts : 0% River 60% Rainwater & recycled water 24% Sea & groundwater 16%
		Upgrade technology levels for forecasting floods & droughts (Use of drones and satellites)	Strengthen the platform for forecasts, including technology development	Forecast accuracy: 95%
Increase in Floods Risk (Growing importance of flood control)	Minimize flood victims & property damage	7,691(2014)	12,300	zero
		Victims		
		Property damage		
Technological Advancement (Industry 4.0)	Fusion of operating management with high tech (IoT, drones, satellites)	KRW 147.5 billion(2014)	KRW 236 billion	zero
		Tap water drinking rate		
Increasing Complexity of Operation/Management	Secure optimum quality of river water	5%	80%	90%
		Water leakage rate in large cities & local areas*		
Deterioration of River Quality of Waters	Secure optimum quality of river water	11% (700 million ton)	4%	zero
		Number of Medium Influence Areas achieving Good Water Grade (II)** or higher		

\* Leakage rate: Rate of tap water leaked from tap water distributed by pipelines  
\*\* Good Water Grade (II): This refers to the second grade of water quality, defined in the Basic Environmental Policy Law. This water has plenty of oxygen, while almost devoid of pollutants. It can be utilized by domestic water after conventional water purification (no need of advanced water purification)

7

## What are the UN SDGs (United Nations Sustainability Development Goals)?

On September 25, 2015, which marked the 15th anniversary of the Millenium Development Goals (MDGs) adopted by 189 countries, UN Secretary General Ki Moon Ban and 193 country leaders agreed on the SDGs (Sustainability Development Goals), which are the joint global development goals for the next 15 years after the MDGs.

- Goal 1 End poverty in all its forms everywhere
- Goal 2 End hunger, achieve food security and improved nutrition, and promote sustainable agriculture
- Goal 3 Ensure healthy lives and promote wellbeing for all at all ages
- Goal 4 Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- Goal 5 Achieve gender equality and empower all women and girls
- Goal 6 Ensure availability and sustainable management of water and sanitation for all
- Goal 7 Ensure access to affordable, reliable, sustainable and modern energy for all
- Goal 8 Promote sustained, inclusive and sustainable economic growth, full and productive employment, and decent work for all
- Goal 9 Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation
- Goal 10 Reduce inequality within and among countries
- Goal 11 Make cities and human settlements inclusive, safe, resilient and sustainable
- Goal 12 Ensure sustainable consumption and production patterns
- Goal 13 Take urgent action to combat climate change and its impacts
- Goal 14 Conserve and sustainably use the oceans, seas and marine resources for sustainable development
- Goal 15 Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation, and halt biodiversity loss
- Goal 16 Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
- Goal 17 Strengthen the means of implementation and revitalise the global partnership for sustainable development





# Water Value

Creating new value through the creative use of water  
(Develop creative waterfront spaces and secure global capability of water related power generation (alternative energy sources))

Adversely impacted by global warming, the availability of waterfront space is rising, while global demands for clean energy are also going up. K-water endeavors to recreate waterfront spaces as new living spaces for residential, waterfront and cultural activities, K-water is also actively involved in the development of clean energy including floating photovoltaic power, water-thermal power and tidal energy. K-water is contributing to society by adding value based on its creative use of water.

**Goal 3** GOOD HEALTH AND WELL-BEING  
Ensure health and well-being

**Goal 7** AFFORDABLE AND CLEAN ENERGY  
Sustainable energy

**Goal 11** SUSTAINABLE CITIES AND COMMUNITIES  
Sustainable cities & living

**Goal 13** CLIMATE ACTION  
Respond to climate change

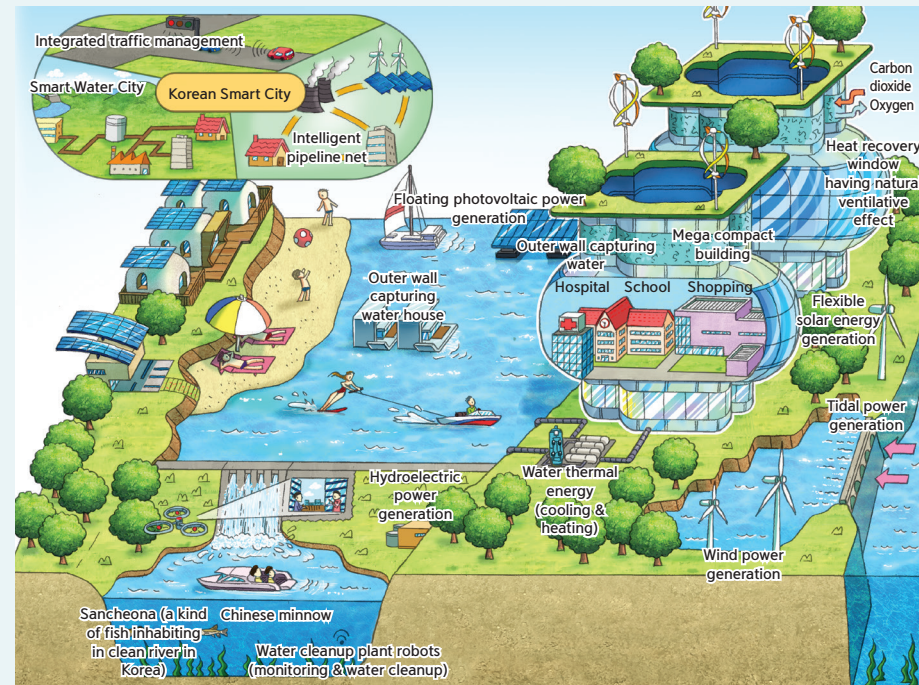
**Goal 14** LIFE BELOW WATER  
Conserve the marine ecosystem

**Goal 15** LIFE ON LAND  
Preserve eco-diversity

In 2050, the average temperatures of the earth are forecast to rise by 3.2% because of climate change, while sweltering heat and tropical nights will likely increase 3-fold and 6-fold, respectively. As a consequence, demands for living and activities in waterfront spaces are all but certain to rise.

K-water intends to employ its distinctive water-related technology to the development of waterfront spaces near dams, rivers, lakes and seas across the nation. By doing so, K-water will help to create eco-friendly waterfront cities in which water, nature and culture are fused together, and build space in which humans blend well with nature. While providing safe water, K-water is striving to build safe cities to flexibly respond to floods and droughts. Moreover, K-water remains committed to creating eco-friendly cities in which nature and humans live in harmony with each other and building beautiful and unique water cities that utilize waterfront assets, along with securing tourism-leisure multipurpose cities in waterfront spaces. K-water is seeking to improve the living standards of people by providing waterfront recreation and living quarter spaces.

K-water also endeavors to develop various types of new and renewable energy like hydraulic power, solar power, wind power and tidal power and water-thermal power in response to the government policy that seeks to reduce greenhouse gases emission and develop remove (more) new and renewable energy. As the Paris Climate Change Agreement dealing with the mitigation of greenhouse gases emission was signed, the Korean government adopted the policy to expand energy business as a core task. K-water is leading the greenhouse gases emission mitigation effort, along with development of new clean energy businesses. K-water is emerging as an enterprise that plays a leading role in the creation of clean energy based on its professional water management capabilities.



\* Heat recovery window having natural ventilative effect: Fresh air is circulated within buildings without opening windows, so as to minimize energy losses  
\* Flexible solar photovoltaic power generation: Power generating device with solar thermal collector that can be folded or opened up

Future Changes	Targets	Goals		
		2016	2045	2067
Demand for Waterfront Development Rises	Cultivate waterfront-oriented lives	Waterfront space		
		89,100,000 m <sup>2</sup>	151,800,000m <sup>2</sup>	198,000,000m <sup>2</sup>
Increase Leisure Time	Develop spaces for leisure and culture	Number of waterfront space visitors		
		4.2 million	9.9 million	19 million
River Water Quality Deterioration	Recovery of river ecosystem	Biological indicator species		
		Catfish, Carp, etc. (bad)	Chinese Minnows, Sweetfish, etc. (good)	Sancheona, etc. (very good)
		Dispersal sewage disposal rate		
Expansion of New & Renewable Energy	100% use of available water related energy sources	Water-thermal power development		
		4,000RT	393,000RT	Maintenance
		Floating photovoltaic power development		
		5MW	Maintaining	Maintaining

\* RT (Refrigerating Ton): Signifies the cooling & heating volume using water thermal energy

# Water Platform

Providing water services to ensure water security and prosperity for the earth  
(Advance into Overseas Markets, Realize Korean Peninsula Integrated Water Resources Management)

While global population and water demand are rising rapidly, the total amount of global water resources remain virtually unchanged. As a result, the importance of technology for effective water usage and infrastructure is increasing day by day. K-water provides total water solutions on the entire global water cycle, based on its water-related expertise reliability and global network which have been built over the past half century.

**Goal 1** NO POVERTY  
End poverty

**Goal 4** QUALITY EDUCATION  
Quality education

**Goal 6** CLEAN WATER AND SANITATION  
Clean water and sanitation

**Goal 8** DECENT WORK AND ECONOMIC GROWTH  
Economic growth and quality jobs

**Goal 9** INDUSTRY, INNOVATION AND INFRASTRUCTURE  
Infrastructure building and sustainable industrialization

**Goal 13** CLIMATE ACTION  
Respond to climate change

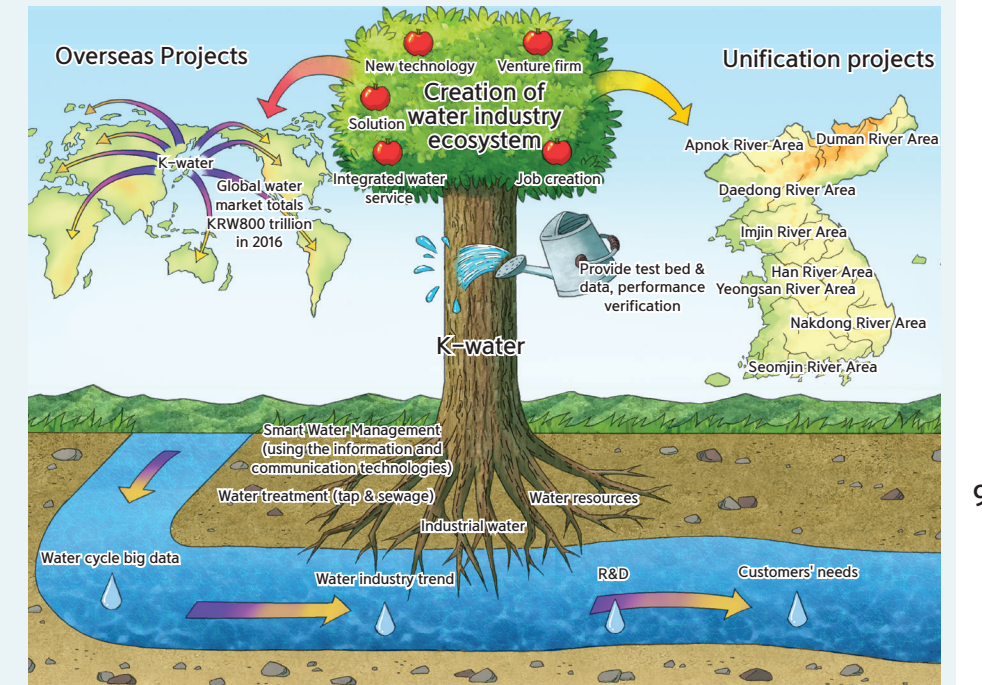
**Goal 17** PARTNERSHIPS FOR THE GOALS  
Active global partnerships among countries

With water stability becoming a global concern, countries across the globe are seeking to expand investments in projects to improve the efficiencies of water-related infrastructure. K-water is ready to play a leading role in the future water oriented businesses with focus placed on an innovation platform, a cooperative platform and a unification platform.

First, we will seek to be a leader in technology innovation in the global water industry by establishing an open innovation-based water industry platform. We will endeavor to expand and standardize joint R&D which is focused on technology fusion and applications in partnerships with Korean and foreign businesses and academia. Moreover, we will put a technology knowledge system in place and enhance value added, while establishing cooperative ties with global water business organizations.

By taking advantage of Korea's experience in water management, K-water will play a role in resolving global water problems. Toward this end, Korea will take the initiative to develop a platform that cooperatively addresses global water problems. We intend to establish our own total solution for integrated water resources management, desalination of sea waters and floating photovoltaic power generation. This will enable K-water to expand into the global water market.

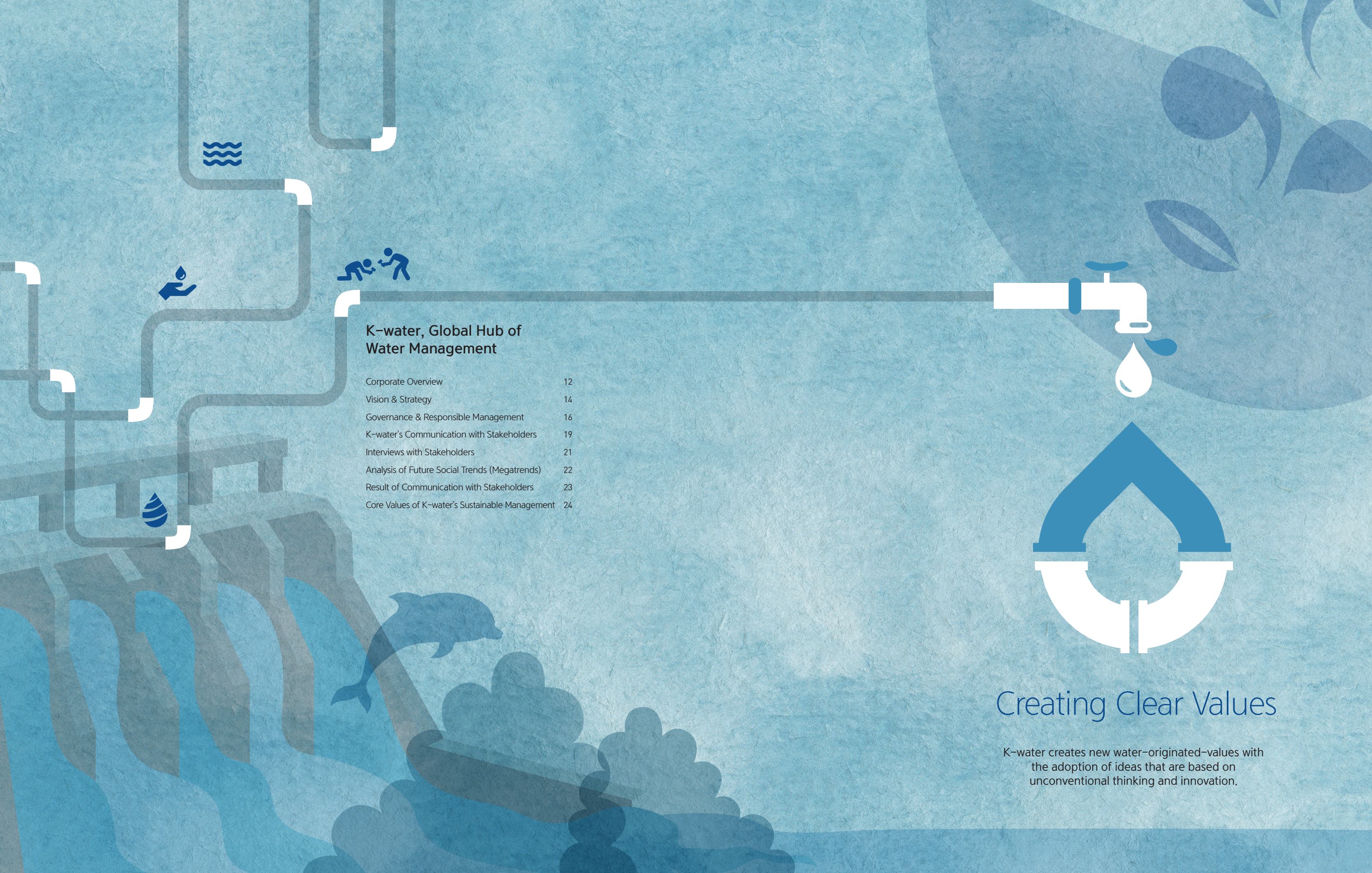
Finally, we will work to build a platform that will contribute to promoting national unification by water, expand inter-Korean cooperation and establish a pan-Korean water management system after unification. We will construct a database for water resources in North Korea, establish a long-term strategic plan for water resources management of North Korea, and compose a plan for mitigation of floods and droughts in North Korea by connecting the waterways of the South and the North. We thereby will be well prepared for national unification, while speeding up efforts to expand the cooperative platform for resolving water issues in the Northeast Asia.



\* Test bed: K-water opens up and provides its facilities for testing of new technologies developed by SMEs (Small or Medium size Enterprises).

Future Changes	Targets	Goals		
		2016	2045	2067
New Technology Market Formation	Promotion of high-tech-based water industry	Number of global ventures promoted		
		0	120	220
		Creation of high-tech jobs		
		736	20,000	50,000
Global Infrastructure Market Expansion	Global market expansion	Number of countries that K-water advances to		
		26	110	193
			-UN member countries	
Inter-Korea Exchange Expansion	Establish Korean peninsula integrated water management	Building of Infrastructure		
		<Reconciliation stage>		<Comprehensive development>
		Set up DB Strengthen business base Reinforce network	Establish long-term plans for development of N. Korean water resources	Maintaining





## K-water, Global Hub of Water Management

Corporate Overview	12
Vision & Strategy	14
Governance & Responsible Management	16
K-water's Communication with Stakeholders	19
Interviews with Stakeholders	21
Analysis of Future Social Trends (Megatrends)	22
Result of Communication with Stakeholders	23
Core Values of K-water's Sustainable Management	24

## Creating Clear Values

K-water creates new water-originated-values with the adoption of ideas that are based on unconventional thinking and innovation.



# Corporate Overview

Approach to Sustainability  
 K-water, Global Hub of Water Management  
 K-water's Five Pledges for Sustainable Management  
 Appendix

Corporate Overview  
 Vision & Strategy  
 Governance & Responsible Management  
 K-water's Communication with Stakeholders  
 Interviews with Stakeholders  
 Analysis of Future Social Trends (Megatrends)  
 Result of Communication with Stakeholders  
 K-water's Core Sustainability Index

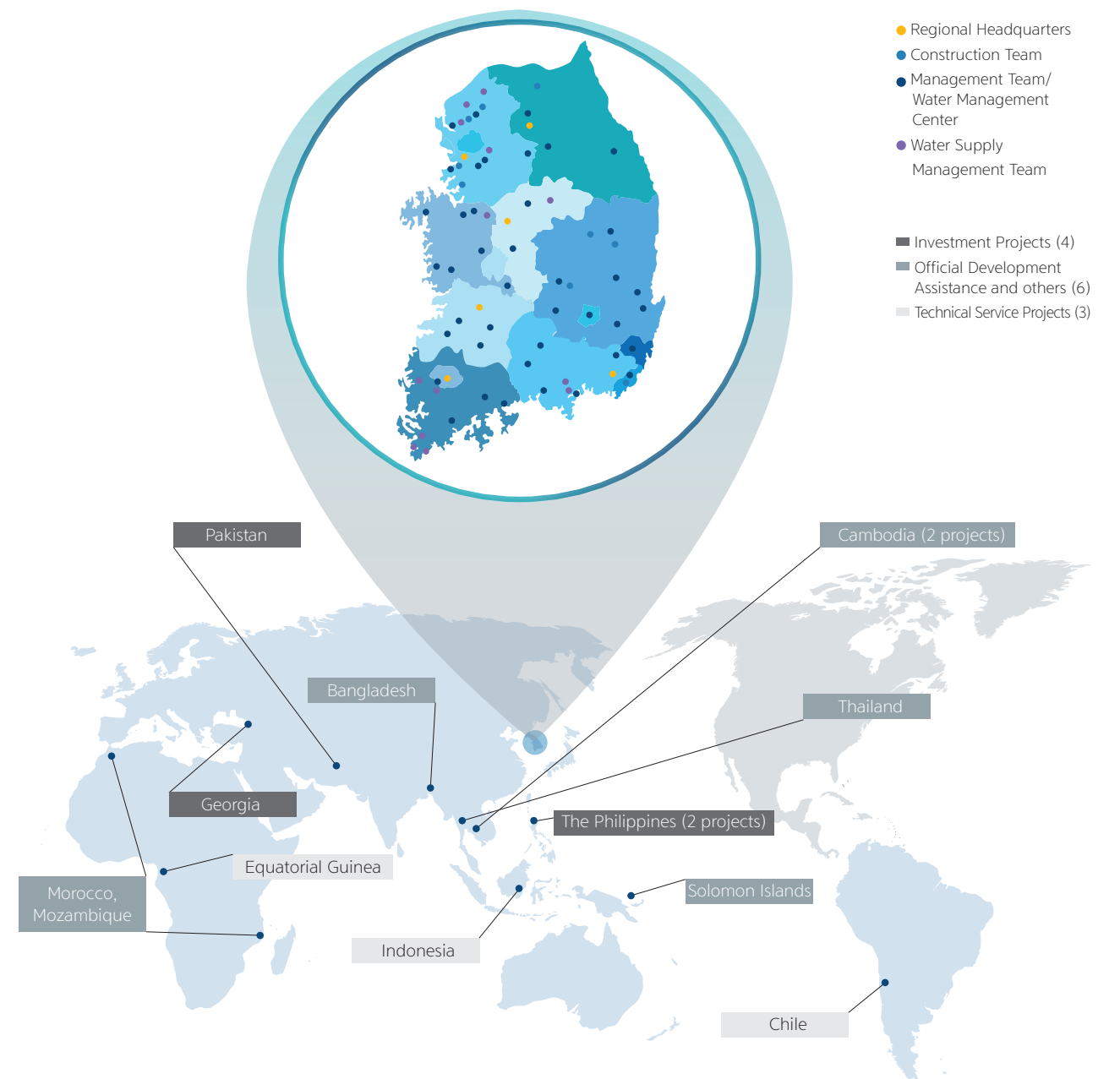
K-water, Korea's only public water service agency, seeks to ensure efficient management of water resources, thereby protecting Koreans from disasters like floods and supplying clean water for all. K-water will endeavor to enable all areas of the country to access the benefits of water under the mission of "Opening the Future and Providing Happiness by Sharing Water".

In 1994, K-water entered into the overseas market with a survey project on the Fenhe River in China's Shanxi Province. Since then, K-water has performed a total of 67 projects in 24 countries as of November, 2016, by taking advantage of its bolstered business competencies and diversification efforts. Presently, K-water is performing or developing 13 projects in 11 countries, including investment projects such as Pakistan's Patrind hydraulic power plant.

## General Status (As of March 31, 2016)

Korea Water Resources Corporation, K-water	Corporate Name
November 16, 1967	Establishment Date
K-water seeks to ensure stable supply of water for living through integrated development and management of water resources. We are committed to improving the living standards of people and public welfare.	Purpose of Establishment
Semi-market type state-owned enterprise	Institution Type
Sintanjung-Ro 200, Daedeok-Gu, Daejeon 34350, Republic of Korea	Head office
4,380	Total Number of Employees
[Head Office] 4 divisions, 26 Business departments, [Onsite] 9 divisions, 60 regional offices	Organization
KRW 3.78 trillion	Sales
KRW 13.27 trillion	Total Liabilities
Domestic: AAA Overseas: Moody's Aa3(stable), Fitch AA-(stable)	Credit Rating
Korean Government 91.5%, KDB Bank 8.4%, local governments 0.1%	Composition of Shareholders

## Regional Offices and Overseas Projects (As of Oct. 31, 2016)



## Subsidiaries & Affiliates (As of November 30, 2016)



- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Waterway Plus Co., Ltd. (Ownership 100%)</li> <li>P-Waters Co., Ltd. (Ownership 2.0%)</li> <li>Korea Construction Management Co., Ltd. (Ownership 18.9%)</li> </ul> | <ul style="list-style-type: none"> <li>Angat Hydropower Co. (Ownership 40.0%)</li> <li>JSC Nenskra Hydro Co. (Ownership 100%)</li> <li>KDS Hydro PTE, Ltd. (Ownership 80.0%)</li> <li>STAR HYDRO POWER LIMITED (Ownership 80.0%)</li> <li>K-water Thailand Co. Ltd. (Ownership 99.9%)</li> <li>KWPP Holdings Co. (Ownership 37.5%)</li> </ul> |
|--|---|



# Vision & Strategy

Approach to Sustainability  
 K-water, Global Hub of Water Management  
 K-water's Five Pledges for Sustainable Management  
 Appendix

Corporate Overview  
 Vision & Strategy  
 Governance & Responsible Management  
 K-water's Communication with Stakeholders  
 Interviews with Stakeholders  
 Analysis of Future Social Trends (Megatrends)  
 Result of Communication with Stakeholders  
 K-water's Core Sustainability Index

K-water has redefined its value system and management strategy to prepare for the next 50 years and its 100th anniversary. Furthermore, K-water has striven to bolster its integrated water management competencies by ramping up its water security and water cycle mechanisms in response to challenges of climate change. In this way, K-water is preparing to emerge as a global water professional. We will endeavor to transform management challenges into growth opportunities and achieve sustainable growth through innovative management.

## New Value System to Usher in the Next 50 Years

K-water has reestablished its value system and strategy in response to changes of the future (mega trends) and requests of stakeholders. Based on this new system, K-water's management and staff will move forward to effectively fulfill its mission for the next 50 years.

### New Value System and Strategic Direction

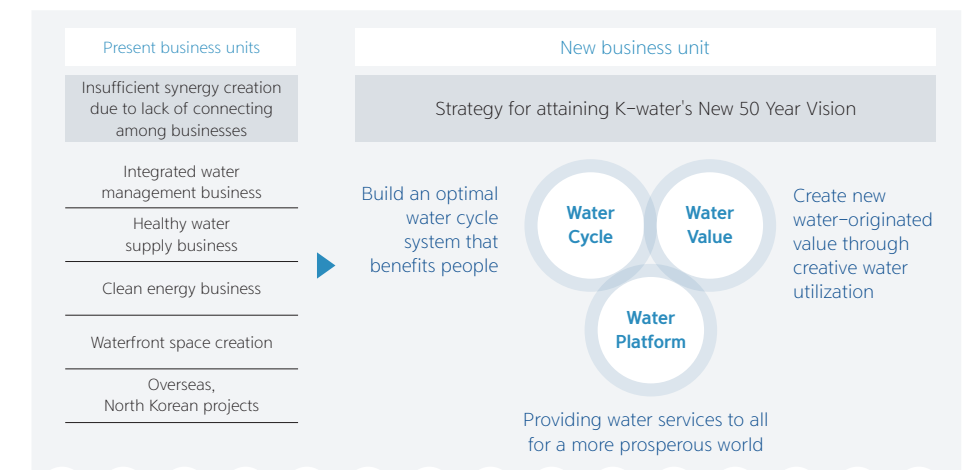
Purpose of Establishment	Development of water resources	Supply of industrial water	Improvement of water quality	Improve public welfare	
Mission	Opening the Future and Providing Happiness by Sharing Water				
Vision	Global Water Professional				
Shared Values	Core Values			New Value System to Usher in the Next 50 Years	
	Sound management	Innovation	Stakeholders' Trust	Actualization of water cycle system	Creation of new growth value
Strategic Direction	Strategic Objectives		2017	2026	
	Developing an Optimal Water Cycle System (Water Cycle)	Secure water resources (reservoir capacity)	15.83 billion ton	18.66 billion ton	
Tap water drinking rate		5%	30%		
Creating a New Water-originated Value (Water Value)	Waterfront space	89,100,000 m <sup>2</sup>	99,000,000m <sup>2</sup>		
	Water-related energy sources development	Floating photovoltaic power 5MW Water thermal energy 4,000RT*	Floating photovoltaic power 2,758MW, Water thermal energy 196,000RT*		
Leading Global Water Industry (Water Platform)	Water thermal energy	KRW 205.7billion	KRW 302.8 billion		
	Support to SMEs** advancing into overseas market	13 (accumulative)	61 (accumulative)		
Public Enterprise of Trust (Customer services, self-regulation, performance)	Total Sales	KRW 3.7 trillion	KRW 7.1 trillion		
	Debt Ratio	204.3%	98.6%		

\*RT (Refrigerating Ton) signifies the cooling & heating volume using water thermal energy  
 \*\*SMEs: Small and Medium size Enterprises

## Innovation Direction & Goals for Achieving K-water's New Vision

New Direction		Goals
Together	<b>Healthy cooperative culture with customers to increase happiness(satisfaction)</b> 1. Customers' participation in management 2. Creation of jobs 3. Fulfill social responsibility	<b>Increase in customer satisfaction</b>
Autonomous	<b>Becoming a water industry leader through proactive changes</b> 4. Practice global-level transparency/ethic management 5. Secure an autonomous & dynamic organization 6. Proactive risk management	<b>Induce change</b>
Performance	<b>Upgrading productivity &amp; trust in management</b> 7. Foster talent who will lead the future 8. Secure self-reliant financial structure 9. Innovate business processes	<b>Create value</b>

## Establishing New Business Units for Achieving K-water's New 50 Year Vision



## Strategy for Enhancing the Business Units

	Water Cycle	Water Value	Water Platform
Service Innovation	Establish a platform for integrated water management Secure reliability of water quality & Safe supply	Develop world-class waterfront space Secure technological competencies for water-using energy	Upgrade risk management capabilities for overseas projects
	Level up response capacity to climate change Expand consignment & consignment contracts of regional tap water projects	Lay the foundation for continuing waterfront space creation	Lay the basis for pioneering into North Korea Create a roadmap for future growth of overseas businesses
	Playing a pivotal role in smart water information management Explore high-tech market of water industry	Create new waterfront spaces Develop water-related energy sources	Develop core technology for water management Develop a water platform water platform

Future Growth

# Governance & Responsible Management

K-water's Board of Directors (BOD), its highest decision-making body, deliberates and passes resolutions on K-water's major issues for achieving its management goals by taking into account economic, social, and environmental issues. The BOD also checks and supports the executives concurrently. K-water has developed and manages 22 key sustainability management performance indicators. As a result, K-water has ranked at the top of KOBEX SM, Korea Business Index-Sustainability Management for four consecutive years.

## Corporate Governance

The Korea Water Resources Corporation Act limits the corporation's investors to the national government, local governments, and the Korea Development Bank (KDB). The law also stipulates that the national government must invest more than 50% of the total capital. As of March 31, 2016, K-water's shareholders are comprised of the national government (91.5%), KDB (8.4%), and local governments (0.1%).

## Composition and Role of the Board of Directors

K-water's Board of Directors is comprised of 15 directors: 7 executive directors and 8 non-executive directors. Various specialists are appointed as non-executive directors to improve the governance structure of K-water and check management. They also work for the improvement of the corporation's financial soundness and waterfront business. More than half the members of the Board, Executive Recommendation Committee, and the Audit Committee are outside directors to ensure independence and the role of checks and balances. In 2015, the Board of Directors convened for/on 19 sessions with a recorded attendance rate of 93%. The Board deliberated 48 items and presented 65 management proposals. The management proposals were reflected into K-water's management innovations.

## Board of Directors' Remuneration Policy

The executive directors receive performance-based payments according to the results of government evaluations, which consider quantified and non-quantified outcomes and implementation efforts. Based on this remuneration policy, K-water's CEO was paid about KRW 214 million in 2015. The auditor was paid KRW 166 million and the executive directors were paid an average of KRW 158 million each. K-water's employees were paid KRW 73 million on average, with new recruits receiving KRW 32 million. Non-executive directors were paid based on their attendance rates with payment ceilings of KRW 30 million each.

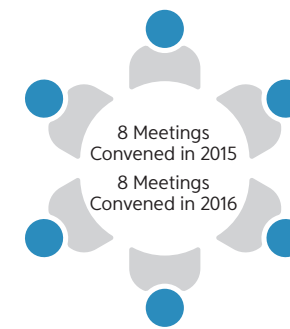
## Sustainable Management System

K-water is pushing ahead with sustainable management with active participation of its entire organization. The Management Services Department, under the Office of the Senior Executive Vice Presidents, and each regional office implement business activities with economic, social and environmental perspectives in an organic manner.

Approach to Sustainability  
K-water, Global Hub of Water Management  
K-water's Five Pledges for Sustainable Management  
Appendix

Corporate Overview  
Vision & Strategy  
Governance & Responsible Management  
K-water's Communication with Stakeholders  
Interviews with Stakeholders  
Analysis of Future Social Trends (Megatrends)  
Result of Communication with Stakeholders  
K-water's Core Sustainability Index

## Shared Growth and Cooperation Committee

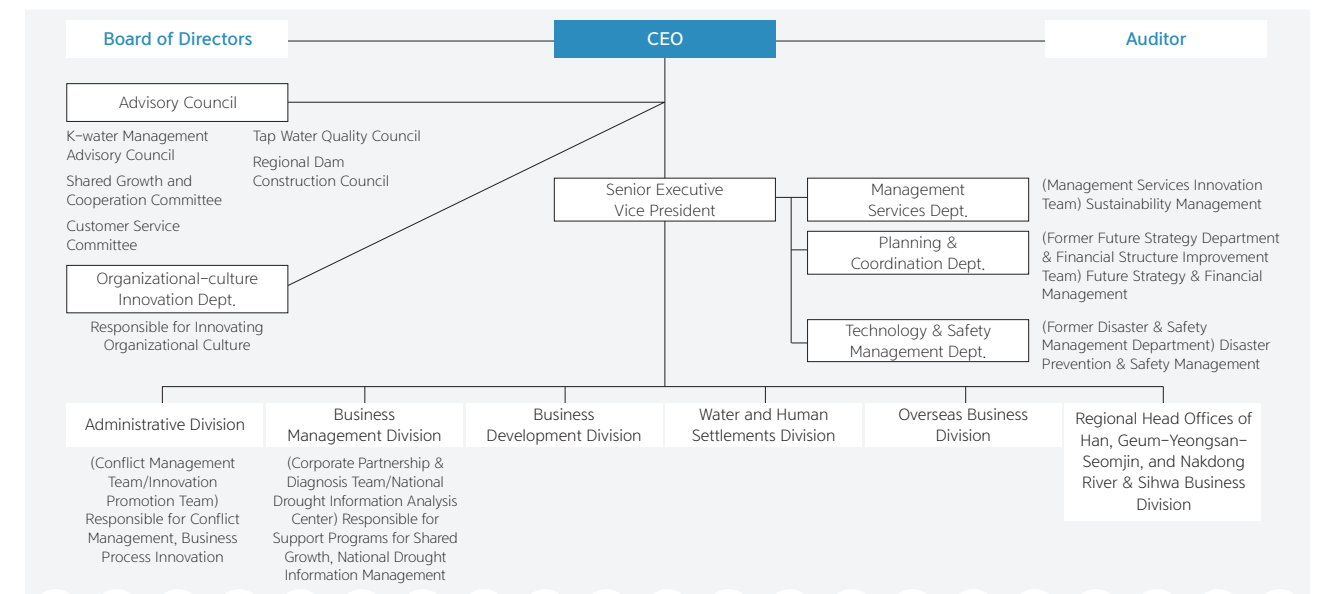


In 2015, K-water realigned its organization to place a greater focus on applying innovation to business processes and more scientific water management in response to the abnormal weather conditions. In 2016, we upgraded the Organizational Culture Innovation Department and placed it under the umbrella of the CEO in an effort to create a more autonomous, positive, and dynamic workplace. Moreover, K-water intends to revamp its business units, which are responsible for water resources and water supply, into integrated water management operational units, based on the entire water cycle in order to fulfill its corporate vision over the next 50 years.

K-water holds regular advisory council and committee meetings, which include the participation of NGO, academia, and government representatives, to gather feedback from various stakeholders, and communicate with them. Of note, the Shared Growth and Cooperation Committee, established in 2014, discusses management issues with civic environment organizations including Korea Federation of Environmental Movements, water experts and conflict management specialists. The committee has conducted 18 meetings, as of November 2016. The committee held 8 meetings each in 2015 and 2016. Opinions gathered in the committee meetings are reflected in management's decision-making process, along with the outcomes being reported to stakeholders at subsequent meetings.

## Sustainable Management Promotion Organization

(As of Dec. 1, 2016)

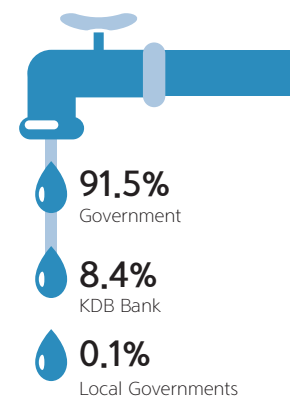


## Innovative Organizations for Sustainable Management

	2012	2013	2014	2015-6
<b>Needs</b>	<ul style="list-style-type: none"> <li>Advancement of Sustainable Management</li> <li>Strengthening of Pre-adjustment Conflict Capacity</li> </ul>	<ul style="list-style-type: none"> <li>Shared Growth with Partnering Companies</li> <li>Sustainable Growth through Financial Restructuring</li> </ul>	<ul style="list-style-type: none"> <li>Sustainable Growth with Smart Management</li> <li>Strengthen Disaster &amp; Safety Management</li> </ul>	<ul style="list-style-type: none"> <li>Create Autonomous, Positive &amp; Dynamic Organizational Culture</li> <li>Innovate Business Process Management for the Entire Water Cycle</li> <li>Lay the Basis for Scientific Water Management in Response to Abnormal Weather Conditions</li> <li>Establish Water Management Implementation Units Linking Businesses</li> </ul>
<b>Organizational Innovation</b>	<ul style="list-style-type: none"> <li>Management Services Innovation Team</li> <li>Conflict Management Team</li> </ul>	<ul style="list-style-type: none"> <li>Corporate Partnership &amp; Diagnosis Team</li> <li>Financial Structure Improvement Team</li> </ul>	<ul style="list-style-type: none"> <li>Future Strategy Department</li> <li>Disaster &amp; Safety Management Department</li> </ul>	<ul style="list-style-type: none"> <li>Organizational-culture Innovation Dept.</li> <li>Innovation Promotion Team</li> <li>National Drought Information Analysis Center</li> <li>Realign Business Units (Management, Business Management &amp; Development, etc.)</li> </ul>

## Composition of Investors

(As of March 31, 2016)



## Board of Directors Status

(As of Nov. 30, 2016)

Position	Name	Title
	Lee, Hak Su	President & CEO (Chief Executive Officer)
	Choi, Ho Sang	Auditor General
	Kim, Seon Yeong	Senior Executive Vice President
<b>Executive Directors</b>	Kwak, Soo Dong	Chief Administration Officer
	Kim, Bong Jae	Chief Business Management Officer
	Park, Byeong Don	Chief Business Development Officer
	Lim, Seong Ho	Chief Management Officer of Han River region
	Park, Seung Ki	Chairman / Senior Non-executive Director
	Kim, Won Tae	Non-executive Director
	Lee, Won Suk	Non-executive Director
<b>Non-executive Directors</b>	Kim, Keun Sik	Non-executive Director
	Choi, Yun Ho	Non-executive Director
	Cho, Young Jae	Non-executive Director
	Park, Woo Ho	Non-executive Director
	Cho, Won Sik	Non-executive Director



# Governance and Responsible Management

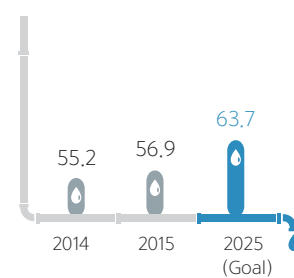
## Key Performance Indicators

Indicators	2014		2015	
	Performed	Goals	Performed	Achievement Rate
Dam Water Supply (100 million m <sup>3</sup> ) *Amount of only domestic and industrial water supply from K-water's operating dams	55.2	57.3	56.9	99.4%
Flood Control Capacity (100 million m <sup>3</sup> )	49.5	50.3	50.3	100.0%
Overseas Projects Implementation Rate*(%) [Value of Overseas Orders (USD 100 million)]	[10.1]	500	462	92.4%
Waterfront Plot Sales (KRW 100 million)	10,407	8,768	10,201	116.3%
Clean Energy Supply(GWh)	2,854	2,733	1,753	64.1%
Industrial Water Sales (KRW 100 million)	249	210	227	108.1%
Key Technology Project Completion (cases)	4	11	11	100%
Water Informatization Project**	-	40	40이상	100%
Water Supply(million m <sup>3</sup> ) *Amount of raw and treated water supplied by K-water	3,722	3,873	3,806	98.3%
Replacing of Aged Pipelines(km)	27.6	42	28.9	69%
Global Water Quality Standard Achievement Rate***(%)	99.61	99.67	99.73	100.1%
Flowrate in Pipelines of Local Waterworks(%)	82.1	80.8	82.7	102.4%
Direct Supply of Multi-regional Waterworks**(cases)	-	9	12	133.3%
Level of Risk Management(point)	95.2	95.2	95.3	100.1%
Rate of Accident Prevention Efforts(%)	0.69	0.375	0.356	105.3%
Social Contribution Activity Index(point)	92.2	92.5	92.7	100.3%
Environmental Performance Evaluation Index(point)	153	150	148	98.7%
Level of Corporate Integrity(grade)	Outstanding	Outstanding	Average	-
Trust Management Index(point)	56	72	68	94.4%
Level of Creativity and Innovation(%)	91.8	95.4	95.6	100.2%
Talent Fostering Rate(point)	41.3	41	42.5	103.7%
Profit Rate(%) *Excluding the profit of privately financed construction business	11.8	7.4	9.3	125.7%
Sales Increase Rate(%) *Excluding the profit of privately financed construction business	16.6	6.4	2.1	32.8%

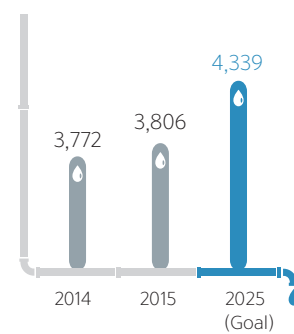
\* Performance results were based on Value of Overseas Orders (accumulated) Until 2014. Since 2015, the performance evaluation was changed to Overseas Projects Implementation Rate  
 \*\* (Water Informatization Project) Newly established Index in 2015  
 \*\*\* K-water applied more rigorous standards for the operation of its waterworks, compared to water quality standards of developed countries (Korea, WHO, the United standards Japan and Australia), which was named as "Global Water Quality Standard". In 2015, K-water enhanced its Global Water Quality Standard with the consideration of Israel's standard

Approach to Sustainability  
 K-water, Global Hub of Water Management  
 xK-water's Five Pledges for Sustainable Management  
 Appendix

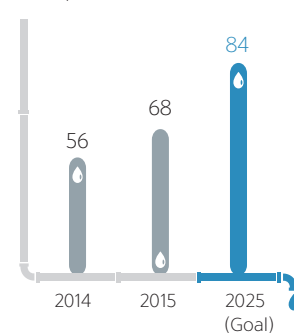
Dam Water Supply  
 [unit: 100 million m<sup>3</sup>]



Water Supply  
 [unit: million m<sup>3</sup>]



Trust Management Index  
 [unit: point]



Corporate Overview  
 Vision & Strategy  
 Governance & Responsible Management  
 K-water's Communication with Stakeholders  
 Interviews with Stakeholders  
 Analysis of Future Social Trends (Megatrends)  
 Result of Communication with Stakeholders  
 K-water's Core Sustainability Index

# K-water's Communication with Stakeholders

K-water operates communication channels and programs which aim to meet the special needs of stakeholders for effective open communication with its various stakeholders. K-water seeks to identify stakeholder groups which affect and are affected at each stage of its supply chain and to understand stakeholders' needs in the corporate supply chain context. With this, K-water significantly enhances the stakeholders' understanding of its corporate vision and management strategies.

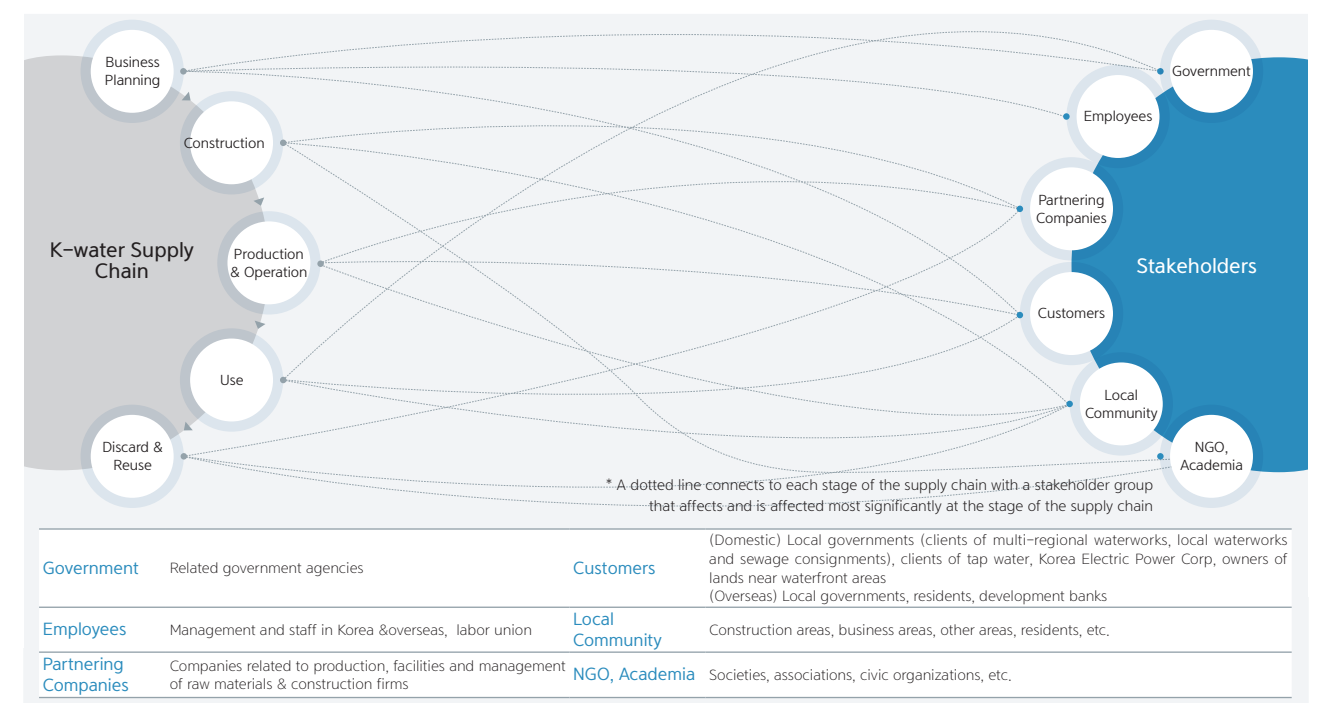
## K-water's Stakeholders

K-water's stakeholders include customers that directly receive services from K-water, the Korean government which is a major shareholder of K-water, local governments, local communities that undertake businesses, academia & NGOs which influence K-water's businesses, partnering companies involved in K-water's whole business process and its employees.

## K-water Major Stakeholders

Description	Stakeholders	Field of Interest	Communication Strategy
Internal	Supportive Type	Employees, Labor Union	Sustained company growth, Welfare working conditions
	Cooperative Type	Policy-making organs(government, National Assembly) Expert groups	Policy coherence Policy & technical validity
External	Relational Type	Customers (local governments, etc.), Local communities	Service quality, Regional benefits
	Persuasion Type	Media, General public	News value, Management transparency, Fairness

## Major Stakeholders in the Context of K-water's Supply Chain



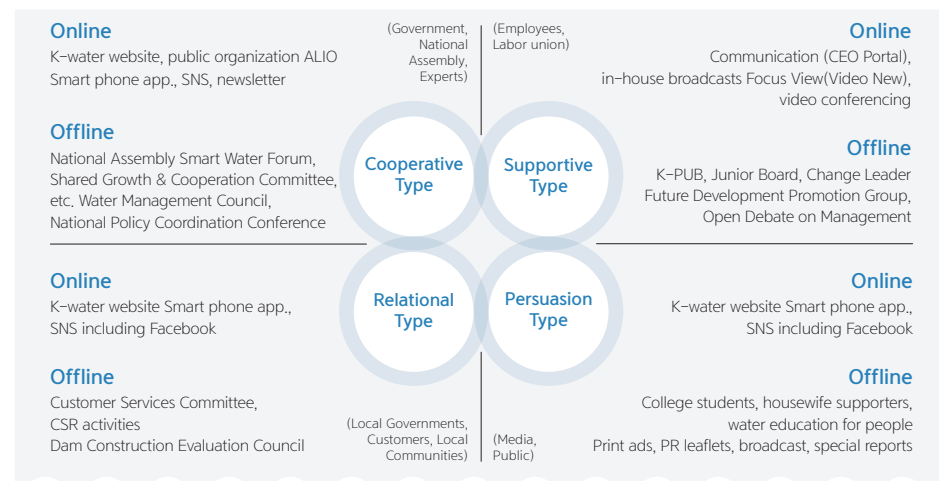
# K-water's Communication with Stakeholders

Approach to Sustainability  
 K-water, Global Hub of Water Management  
 K-water's Five Pledges for Sustainable Management  
 Appendix

Corporate Overview  
 Vision & Strategy  
 Governance & Responsible Management  
 K-water's Communication with Stakeholders  
 Interviews with Stakeholders  
 Analysis of Future Social Trends (Megatrends)  
 Result of Communication with Stakeholders  
 K-water's Core Sustainability Index

## Interviews with Stakeholders

### Open Channel & Programs Based on the Characteristics of Stakeholders



### Results of Open Communication with Stakeholders

	Measure-ment Index	2014	2015
Internal	Understanding of vision & strategy	95.5 point	97.1 point
	Trust-based management index	56 point	68 point
External	Extenal communication index	97.9 point	98.3 point
	Positive reports	3,039 case	3,994 case



K-water has conducted a series of interviews with various stakeholders, including government officials, customers, employees, partnering companies, local communities and academia, to share values with them and ensure sustainable growth. K-water will actively reflect their opinions into its future development strategy so as to lay the foundation for creating sustainable future values.

### Results of Communication Based on the Characteristics of Stakeholders

K-water strives to prevent conflicts that could happen during the business processes through effective communication that is focused on characteristics of stakeholders. By doing so, K-water works to minimize the inconveniences of people, enabling its stakeholders to get involved in the entire business management process directly and indirectly.

Mission Based on the Characteristics of Stakeholders	Communication Efforts	Results
Accelerating Participation of Customers & Local Communities	Launched campaigns to overcome droughts in the Chungcheongnam-do region, along with voluntary water saving efforts	Launched water-saving campaigns in communities and distributed water-saving devices for toilet stools (9,560). Offered money to encourage residents to take part in spontaneous water saving (KRW3.4 billion)
	Secured residents' understanding of new dam construction through the Dam Construction Evaluation Council	Local residents participated in decision-making through Dam Construction Evaluation Council(Wonju Dam). Respected requests of local communities through explanations and consultative meetings with local residents (Bonghwa Dam). Commenced with a feasibility study after eliminating conflicts on the size of dam (Daedeok Dam)
Government and Local Governments Cooperate with Related Agencies	Creation of "My Water," a water information portal for combing water information and customized services	Integrated water information through collaboration with the Ministry of Land, Infrastructure and Transport, Ministry of Environment, Korea Rural Community Corporation and Korea Meteorological Administration. Developed 163 customized contents based on surveys on the needs of water users * One-click service that provides various types of information such as water quality, water usage, supply process and charge
	Overcame severe droughts in Chungnam region through cooperation between agencies, without the suspension of industrial water supply	K-water made quick decisions on major policies including the construction of waterways through the National Policy Coordination Conference and Water Management Council. Implemented emergency projects to reduce tap water leaks in Chungcheongnam-do Province and five cities and counties. Initiated joint operations of multipurpose and power-generating dams in partnership with Korea Hydro & Nuclear Power
Communication Among Management, Labor Union and Employees	K-water played a leading role in normalizing the operations of public agencies through cooperative labor relations	K-water designed a salary peak system that exceeded the youth recruitment goal with active participation of management and unionists. Established the personnel management system for aged employees through efforts of a joint task force of labor and management (job competence improvement, personnel management and education). Expanded the application of the performance-based salary system through realignment of the overall salary system
	K-water upgraded business and organizational efficiencies through company-wide organizational culture improvements.	Established K-water's original "S Smart Model," a customized communication channel *Communication between Junior Board(deputy section chiefs), Change Leader (deputy department heads and heads of departments and K-PUB (communication between the CEO and employees)) Employees shared views on how to improve the work processes and other issues through the in-house communication system

#### Government/ Economy



Ministry of Land, Infrastructure & Transportation

Ahn, Jin Hae (Secretary Official)

Global warming continues to devastate the environment due to the worsening impact of climate change. Taking action in response to this phenomenon is an urgent issue that cannot be delayed. Appropriate measures also should be taken in accordance with the Climate Change Convention. As for K-water, which plays a central role in Korea's water management, it needs to bolster the competency of its water resources management through the development of environment-friendly technology, in step with the latest advancements in global water management. Furthermore, K-water needs to upgrade its management system so as to realize sustainable management, respond to the various needs of its stakeholders, including the central government, NGOs, and general public, and fulfill its role as a responsible public enterprise.

#### Customers/ Customer Satisfaction



Water Supply Office, Changwon City

Kwak, Gyeong Rok (Officer in Charge)

With the rapid spread of globalization, corporate business ethics warrant added attention. K-water, as the nation's only public agency that provides integrated water management services, needs to gain the public's full confidence through its ethical business practices and transparent management. K-water needs to step up efforts to preserve our environment and limited water resources, promote CSR activities to support people in need, and provide the highest levels of products and services so that the public can be assured of the supply of clean water, a fundamental need of all people. Above all, K-water needs to make strenuous efforts to improve the public's quality of life through the provision of exceptional water management services.

#### Management & Staff/ Value Creation



K-water Labor Union

Noh, Eun Shik (Senior Union Vice Chairman)

For any organization to become sustainable, much time and effort is required. This process must be based on clear directions and a sustainable-minded management. It will not be possible for an enterprise to implement sustainable values if it only addresses pending issues and pursues short gains in response to changes in the government's policy directions. For K-water as well, it cannot realize sustainable management if its long-term strategy is being adjusted frequently due to changes in top management and its business activities are unduly influenced by external factors. As such, it is necessary for K-water's management to establish sound corporate governance in order to withstand pressure from the central government and to maintain its pursuit of sustainable growth.

#### Partnering Company/ Shared Growth



Techwin Co., Ltd.

Kim, Jeong Shik (Senior Executive Managing Director)

K-water is a special-purpose organization that is dedicated to pursuing shared growth together with small and medium-size enterprises (SMEs), in accordance with its long-term master plan for shared and sustainable growth. Moreover, K-water seeks to develop the advanced technologies of its partner businesses. The first step toward shared growth is to broaden its understanding of the production sites and operations of the partner enterprises. Partner businesses need to make concerted efforts to accelerate the cooperative development of new technologies. Meanwhile, K-water should place an emphasis on win-win outcomes with its partner enterprises, rather than pursuing short-term gains. K-water's shared growth, which is designed to strengthen the technological competency of partner businesses, will be vital to overcome the challenges of fierce competition and serve as a foundation for the sustainable growth of all parties.

#### Academia/ Environmental Management



Kunkuk University

Kim, Jin Wook (Professor)

The global water market continues to expand as demand for water rises sharply worldwide as a result of emerging countries' economic development, global population growth, and accelerated urbanization. The importance of integrated water management is now being highlighted by the serious impact of global warming. K-water enjoys a comparative advantage in terms of its integrated water management experience and impressive performance in water management, construction, and production. K-water thus needs to map out long- and mid-term strategies for water management, promote SMEs with strong growth potential, and advance into overseas markets. K-water continuously needs to implement sustainable management through its partnership cooperation with SMEs.

#### Local Community/ Social Responsibility



Korea Climate & Environmental Network

Lee, Jung Su (General Executive Director)

K-water needs to nurture a flexible organizational culture in order to proactively respond to various water issues that emerge in Korea and across the world and to come up with workable alternatives. Climate change and global warming tend to regularly beget new issues that invariably pose a threat to water resources. In this regard, it is necessary to establish a citizens' alliance, along with conducting a publicity campaign. It is also important for stakeholders to streamline and effectively manage the procedures through which they can get involved and express their opinions. Of note, K-water will have to create a mechanism so that stakeholders can reflect their viewpoints in detail whenever K-water's public projects affect the interests of individuals and local stakeholders. It is hoped that K-water will develop into a sustainable and well-respected enterprise, as well as being a water management leader, by taking advantage of its notable record of maintaining close communications with its stakeholders.

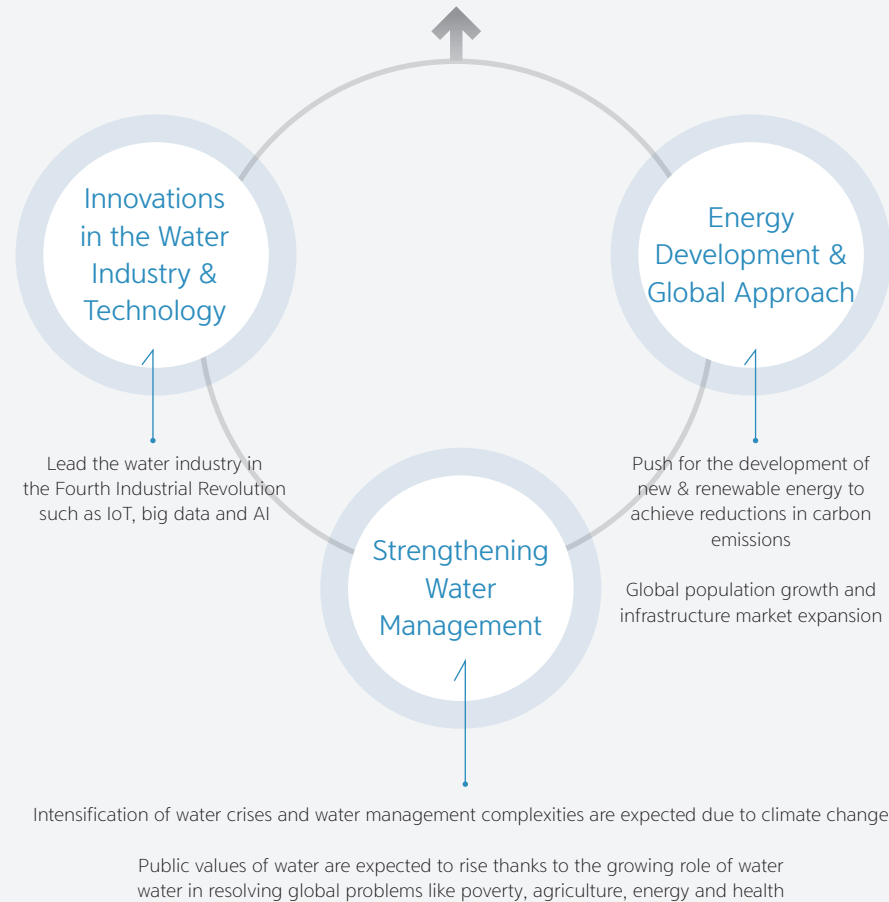


# Analysis of Future Social Trends (Megatrends)

Approach to Sustainability  
 K-water, Global Hub of Water Management  
 K-water's Five Pledges for Sustainable Management  
 Appendix

<b>Climate Change</b>	Current carbon dioxide emissions exceed the 2020 target by 14%
<b>Technology Innovation/ Fusion Trends</b>	Innovations and fusion, such as artificial intelligence, blockchain, virtual reality, robots and IoT
<b>Changing Population Structure &amp; Urban Concentration</b>	By 2050, people living in urban areas are projected to rise to 66% of the total global population
<b>Scarcity of Resources &amp; Energy Mix</b>	Global demands for resources like water and energy are expected to rise sharply, alongside price hikes, due to population growth
<b>Economic Globalization &amp; Multiple International Order</b>	Due to the integration of global economies as a result of growth of world trade and capital movement, world trade is projected to rise by 5% annually
<b>Transforming Government Activities</b>	Rising public debts will limit the execution of government policies
<b>Safety/Security</b>	The risk of terrorism will likely rise mainly due to multiple international orders, while dangers of disasters will increase as a result of climate change

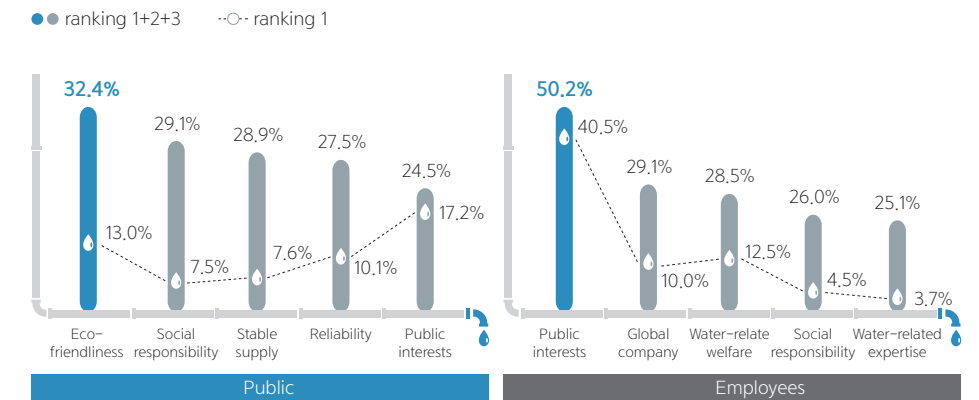
## Growing Importance of Fusing Water and IT



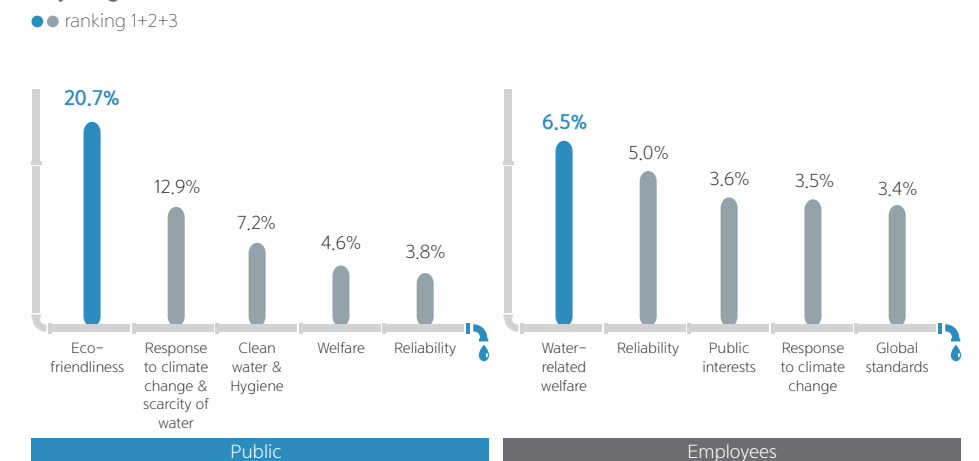
Corporate Overview  
 Vision & Strategy  
 Governance & Responsible Management  
 K-water's Communication with Stakeholders  
 Interviews with Stakeholders  
 Analysis of Future Social Trends (Megatrends)  
 Result of Communication with Stakeholders  
 K-water's Core Sustainability Index

# Result of Communication with Stakeholders

## Important Values over the Next 50 Years



## Key Targets for the Next 50 Years



## Requests by Experts & Other Stakeholders





# Core Values of K-water's Sustainable Management

K-water is pursuing sustainable growth by comprehensively applying economic, social and environmental issues. The company identified the core issues of sustainability management by selecting issues deemed more important to K-water and stakeholders in accordance with a sustainability assessment method recommended by the GRI G4 and ISO 26000.

## Materiality Assessment Process

### [Step 1] Identifying Sustainability Management Issues

#### Company Status Analysis

Mid & long-term management strategies, the status of major projects, sustainability management plans and achievements were analyzed and applied to draw up a list of key issues.

#### Media Analysis

We analyzed articles from January to December 2015 in order to grasp the external perception of major issues of sustainability management objectively and drew up a list of related issues.

#### Benchmarking Leading Companies

Based on sustainability reports of companies that carried out excellent and sustainable management among domestic and foreign companies, we analyzed sustainability management performances based on the GRI reporting principles. Through this, K-water identified additional issues that K-water should address.

#### Interviews with/of Experts

Interviews with/of experts were conducted with key stakeholder groups. Interviewees consisted of internal and external experts who represent their groups. The opinions and requests of stakeholders were closely monitored and applied to draw up a list of key issues.

### [Step 2] Prioritization

#### Stakeholder Survey

We conducted a survey of key stakeholder groups including employees, the government, customers (local governments and general customers), and partner companies, taking into consideration the responsibilities and impacts of K-water's management. Through this, K-water's sustainability management issues, which each stakeholder considers important, were identified and prioritized.

### [Step 3] Selecting Core Issues

#### Internal Stakeholder Review

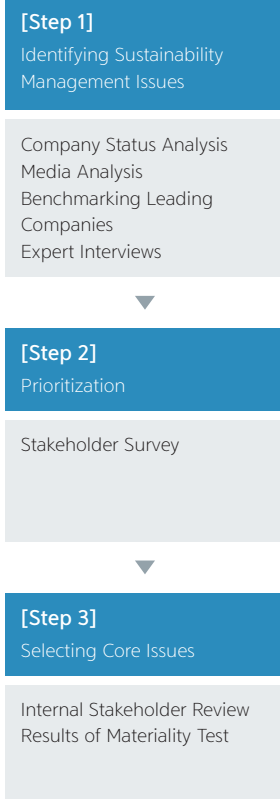
K-water released its analysis process and results to identify the key aspects of sustainability management and held a report session to discuss key sustainability management issues. We reviewed scopes, boundaries and period suitability by generalizing the results of not only an official reporting meeting but internal deliberation.

Approach to Sustainability  
K-water, Global Hub of Water Management  
K-water's Five Pledges for Sustainable Management  
Appendix

Corporate Overview  
Vision & Strategy  
Governance & Responsible Management  
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Analysis of Future Social Trends (Megatrends)  
Result of Communication with Stakeholders  
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#### Issue

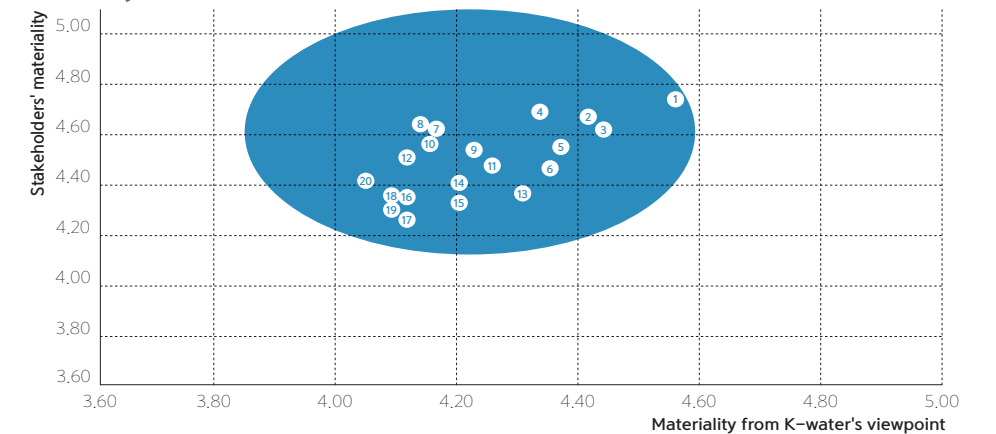
1	Increase in demand for more transparent and ethical management
2	Climate change
3	Increase in demand for safety of products and services (water quality)
4	Prevention of pollution (air, water and soil)
5	Reinforcement of importance of HR development
6	Use of water
7	Acceleration of technological development
8	Anti-corruption
9	Increase in demand for fair trading
10	Depletion of natural resources (water resources, mineral resources and fossil fuels)
11	Strengthened environmental laws and regulations
12	Intensified competition (technology development, patents, advancement into overseas markets, etc.)
13	Increase in the variability and strength of customer demands
14	Saving energy (new and renewable power generation including hydropower)
15	Increase in demand for customers valuing health, environment and society
16	Compliance with environmental laws and regulations
17	Increase in importance of shared growth with partners
18	Customer satisfaction about products and services
19	Use of water (Depletion of natural resources (water resources, mineral resources and fossil fuels), Prevention of pollution (air, water and soil))
20	Social contribution in local communities



## Results of Materiality Test

K-water drew up a list of top 20 sustainability management issues that all internal and external stakeholders considered important out of a total of 62 through company status analysis, media analysis, benchmarking of advanced companies and stakeholder participation.

### Materiality Test

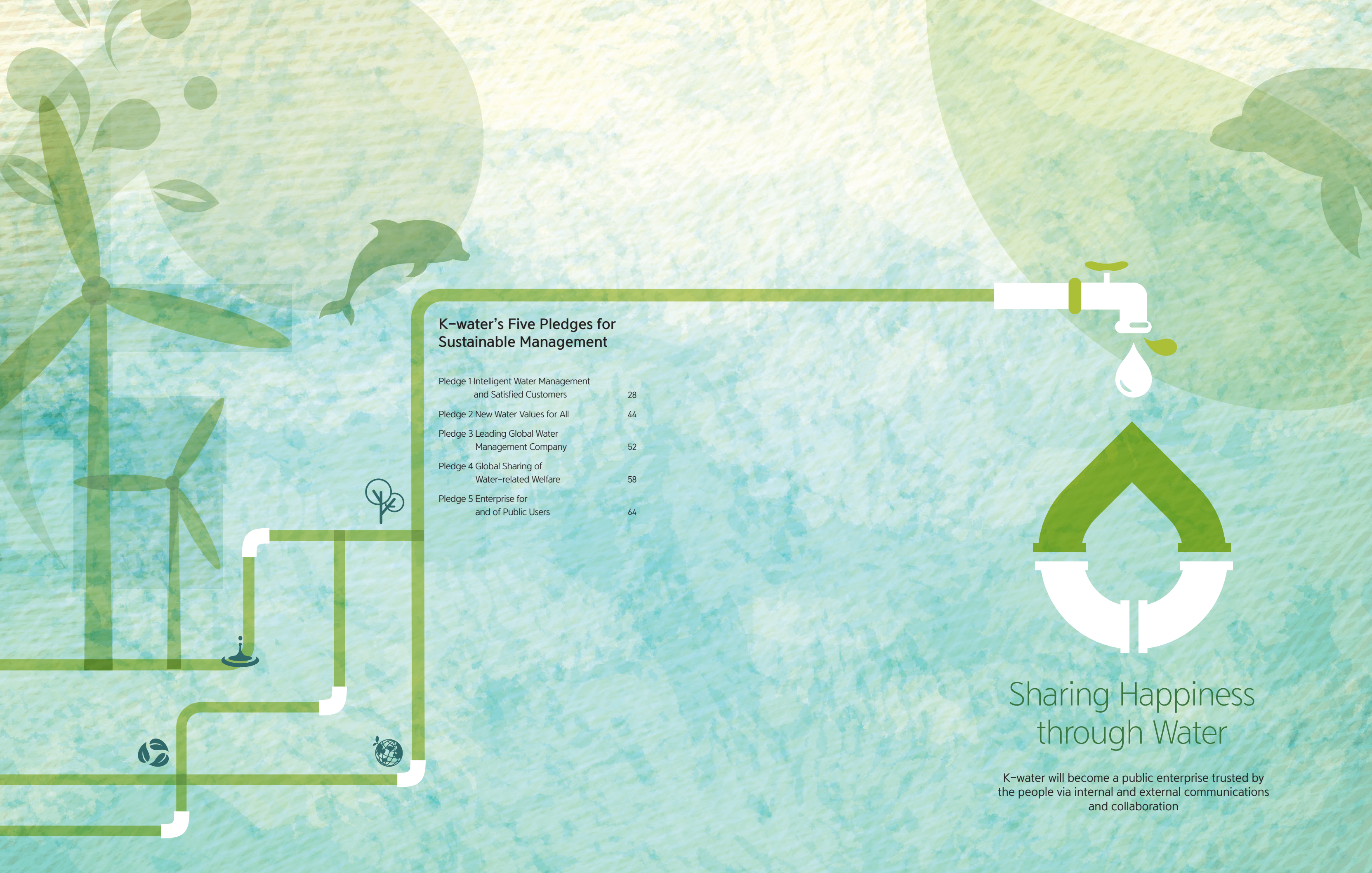


## K-water's Five Pledges for Sustainable Management

K-water selected "Five Pledges for Sustainable Management" based on 20 issues from a materiality test and reported related activities, achievements and future plans in detail.

K-water's Key Sustainability Management Issues	Report Contents	Global Sustainability Management Index (Global Reporting Initiative G4)			
		Classification	Aspect	Aspect Boundary	
				Internal	External
Increase in demand for safety of products and services (water quality)		Environment, Society	Biodiversity, Emissions, Wastewater and waste, Compliance with environmental regulations, Customer health and Safety	Domestic	Customers
Increase in demand for customers valuing health, environment and society		Society	Product and service labeling	Domestic	Customers
Customer satisfaction about products and services	Pledge 1: "Intelligent Water Management and Satisfied Customers"	Society	Product and service labeling	Domestic	Customers
Increase in the variability and strength of customer demands		Economy, Environment	Economic performance, Emissions	Domestic	Community, NGO, Academia
Climate change		Environment	Energy, Water, Emissions, Effluents and waste, Compliance with environmental regulations	Domestic	Community, NGO, Academia
Use of water (Depletion of natural resources (water resources, mineral resources and fossil fuels), Prevention of pollution (air, water and soil))		Environment	Energy, Water, Emissions, Effluents and waste, Compliance with environmental regulations	Domestic	Community, NGO, Academia
Strengthened environmental laws and regulations		Environment	Energy, Biodiversity	Domestic	Community, NGO, Academia
Compliance with environmental laws and regulations		Environment	Energy, Biodiversity	Domestic	Community, NGO, Academia
Saving energy (new and renewable power generation including hydropower)		Environment	Energy, Biodiversity	Domestic	Community, NGO, Academia
Increase in interest in corporate governance (responsible management)	Pledge 2: "New Water Values for All"	Economy	Indirect economic impacts	Domestic	Government, Partners, Customers
Acceleration of technological development (development of core technology for water management)		Society	Product and service labeling	Domestic	Government, Customers, Partners, Competitors
Intensified competition (technology development, patents, advancement into overseas markets, etc.)	Pledge 3: "Leading Global Water Management Company"	Economy	Economic performance	Domestic, Overseas	Competitors
Increase in interest in corporate governance (responsible management)		Economy	Indirect economic impacts	Domestic, Overseas	Government, Partners, Customers
Social contribution in local communities	Pledge 4: "Global Sharing of Water-related Welfare"	Society	Local Communities (social contribution)	Domestic	Community, NGO, Academia
Increase in demand for more transparent and ethical management		Society	Diversity and equal opportunity, Labor practices grievance mechanism, Non-discrimination, Anti-corruption, Customer Privacy	Domestic	Customers, Partners, Competitors
Anti-corruption	Pledge 5: "Enterprise for and of Public Users"	Society	Anti-corruption	Domestic	Customers, Partners
Reinforcement of importance of HR development		Society	Employment, Training and education	Domestic, Overseas	-
Increase in importance of shared growth with partners		Society	Anti-competitive behavior	Domestic	Partners
Increase in demand for fair trading		Economy	Procurement practices	Domestic	Partners, Competitors





## K-water's Five Pledges for Sustainable Management

Pledge 1 Intelligent Water Management and Satisfied Customers	28
Pledge 2 New Water Values for All	44
Pledge 3 Leading Global Water Management Company	52
Pledge 4 Global Sharing of Water-related Welfare	58
Pledge 5 Enterprise for and of Public Users	64

# Sharing Happiness through Water

K-water will become a public enterprise trusted by the people via internal and external communications and collaboration

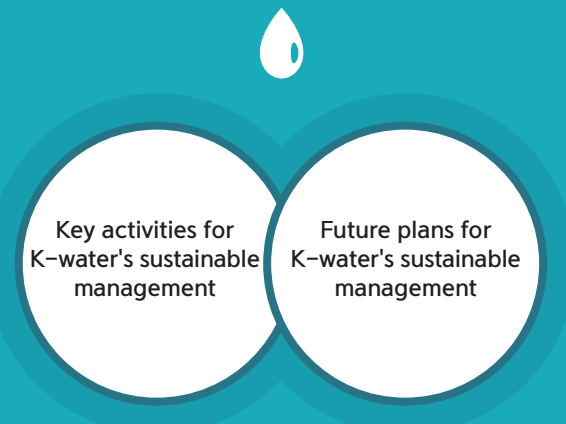


Pledge 1

# Intelligent Water Management and Satisfied Customers

K-water is concentrating on advancing a paradigm of tap water supply with healthy with balanced minerals and to ensure the safety and stability of the tap water supply system for customers. In addition, the company is carrying out various activities such as environmental management with the goal of protecting people from climate change and pollution such as localized torrential downpours, severe droughts, the occurrence of green algae and water quality-lowering accidents that threaten the safety of K-water's water services.

- Built a smart water management system that is enhancing consumer trust
- Published a report entitled "250 Water Quality Items of Healthy Tap Water"
- Laid the foundation for scientific water management to protect people from water-related disasters through various initiatives such as the establishment of National Drought Information Analysis Center
- Implemented environmental management such as saving resources and improving the environment over the whole business process



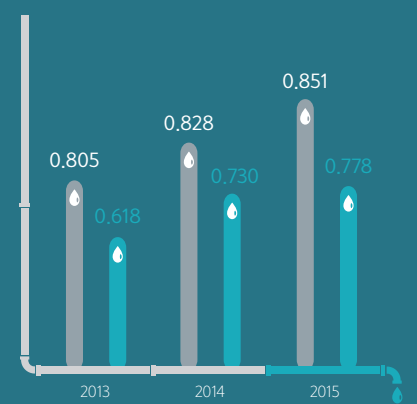
- Realize customer oriented smart water management
- Raise the direct drinking rate to 30%, the level of developed countries by 2024 by promoting healthy water supply
- Integration of water management for both quantity and quality in rivers and basins to cope with climate change
- Establish a flood and drought management system based on CPS\* in order to prepare for water disasters

\* CPS (Cyber Physical System): Real-time control of physical systems such as robots, software and surrounding environments in cyberspace

## Performance

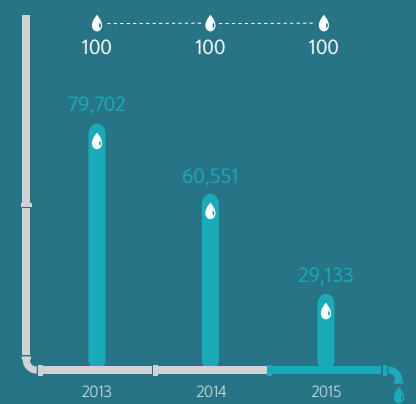
### [Water Safety Index (WSI)\*]

- Multi-regional waterworks
- Local waterworks



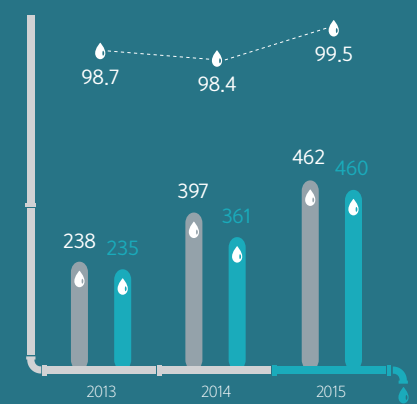
### [Reduction of CO<sub>2</sub> Emissions]

- Emission target achievement rate(%)
- Reduction(ton CO<sub>2</sub>-eq)



### [Rectifying Upstream Pollution Sources]

- Pollution sources
- Rectified pollution sources
- Rectification rate (%)



\* Water Safety Index (WSI) which measures the safety level of drinking water depending on the risk assessment. The closer to 1 the index is, the safer water is.

- Pledge 1, Intelligent Water Management and Satisfied Customer
- Pledge 2, New Water Values for All of Us
- Pledge 3, Leading Global Water Management Company
- Pledge 4, Global Sharing of Water Welfare
- Pledge 5, Enterprise for and of Public Users

## Supplying Healthy Tap Water

\*Healthy Tap Water: High quality tap water produced by K-water, including a proper balance of minerals while reducing chlorine smell.

Only 5% of people directly drink tap water in Korea. Korea's low direct drinking rate is blamed on distrust of water pipes and tanks and smell of disinfectants, causing high costs to society. But demand for tasty and healthy tap water has been on a steady rise. People are putting top priority on taste and the health benefits of water when choosing drinking water.

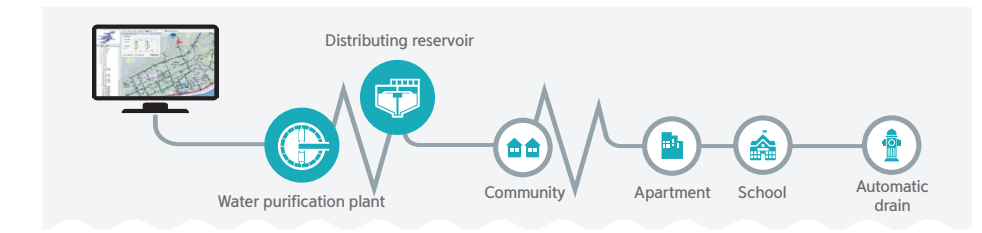
### Delivering Healthy Water from Water Sources to Faucets

K-water is putting in place a water management system which remotely supervises and controls water by collecting operation data of the entire process from water sources to faucets on the basis of ICT(Information and Communication Technologies). Moreover, by analyzing the collected data the company is stably supplying water via an intelligent pipe network operation system that can control water quantity and quality on real-time and optimize energy usage. Furthermore, we developed and introduced advanced diagnosis technology and methods that can detect the deterioration of and change and defects in pipe conduits with a view to building a stable tap water supply system. At the same time, we are exerting ourselves to earn more trust from people by providing healthy tap water which includes a proper balance of minerals while reducing chlorine smell. We will raise the direct water drinking rate to 30%, as high as the level of developed countries by 2024 by supplying healthy water.



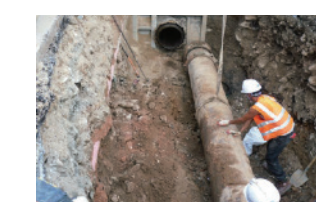
Water Management System

### Operation of the/an Intelligent Water Pipe Network System



### Improvement of 804kms of old water pipelines by 2030

26.5% of water pipes across the nation are superannuated water pipes 20 years or older. If neglected, they will deteriorate rapidly and result in water leakage and water quality problems. K-water is replacing or repairing them in an effort to improve customer confidence, reduce economic losses and ensure a stable water supply. According to the plan, we will improve 804kms of aging pipelines by 2030.



Retrofitting old water pipes

### Highly Advanced Water Purification that Filters Even Minute Pollutants

Most water purification plants are carrying out standard water purification. But in some places which are experiencing high levels of pollution, advanced water purification systems are being introduced. Once water is processed using a standard purification system, the advanced system uses ozonation for disinfection, and uses active carbon to absorb by-products. At the moment, K-water has introduced advanced treatment systems in Banwol, Goyang and Seongnam Water Purification Plants along the Han River, Goryeong and Bansong Water Purification Plants along the Nakdong River, Gongju Water Purification Plant near Daecheong Dam and Geumsan Mjuj Water Purification Plant close to Yongdam Dam. We will steadily introduce more of such systems to water purification facilities along the Han River and the Nakdong River.

# Producing High Quality Tap Water

## Water Quality Grading System Based on Global Standards

With an eye toward enhancing its water purification plant operation capabilities by completely meeting global water quality standards, K-water is implementing a water quality grading system which compares and evaluates 41 water-purification plants across the nation. The system aims at satisfying the most stringent global quality standards of WHO and OECD member countries ("Global Water Quality Standard"). Its water-purification plants including consigned ones secured a Global Water Quality Standard achievement rate of 99.73% in both metropolitan and provincial areas in 2015.

K-water will secure global-level water management capabilities based on decades of waterworks operation and construction know how and advanced ICT(Information and Communication Technologies) that integrates waterworks facilities across the nation.

### Stringent Tap Water Quality Standards through the Testing of 250 Items

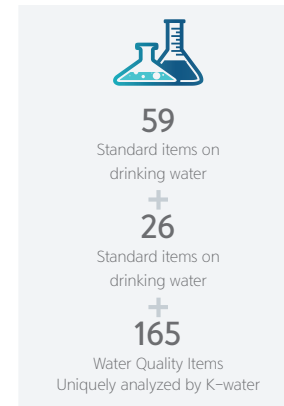
Description	K-water(2015)	Korea(2015)	Seoul(2015)	US(2015)	Japan(2015)
<b>Legal</b> Water quality standards	59	59	59	89	51
Monitoring and management	26	26	26	22	20
<b>Internal</b> Others	165	-	79	-	47
<b>Total</b>	250	85	164	111	118

## Publication of a booklet on the Water Quality Analysis Results of 250 Items tested by K-water

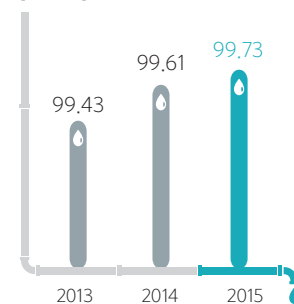
Since 2002, K-water has been conducting stringent tests of 250 water items which is more demanding than those of advanced countries such as the United States and Japan. The diversification of water-pollution sources and an increase in social interest in water quality has led the company to build a data base in an effort to help not only those working in the water industry but also ordinary people to better understand the contents of water quality test items such as material characteristics, emission sources, management status and health risks. At the same time, we have published a booklet entitled "250 Water Quality Items for Healthy Tap Water Selected by K-water." The booklet is also available our homepage (www.kwater.or.kr).

Approach to Sustainability  
K-water, Global Hub of Water Management  
K-water's Five Pledges for Sustainable Management  
Appendix

## K-water tests 250 Water Quality Items



## Achievement of Global Water Quality Standard [Unit: %]

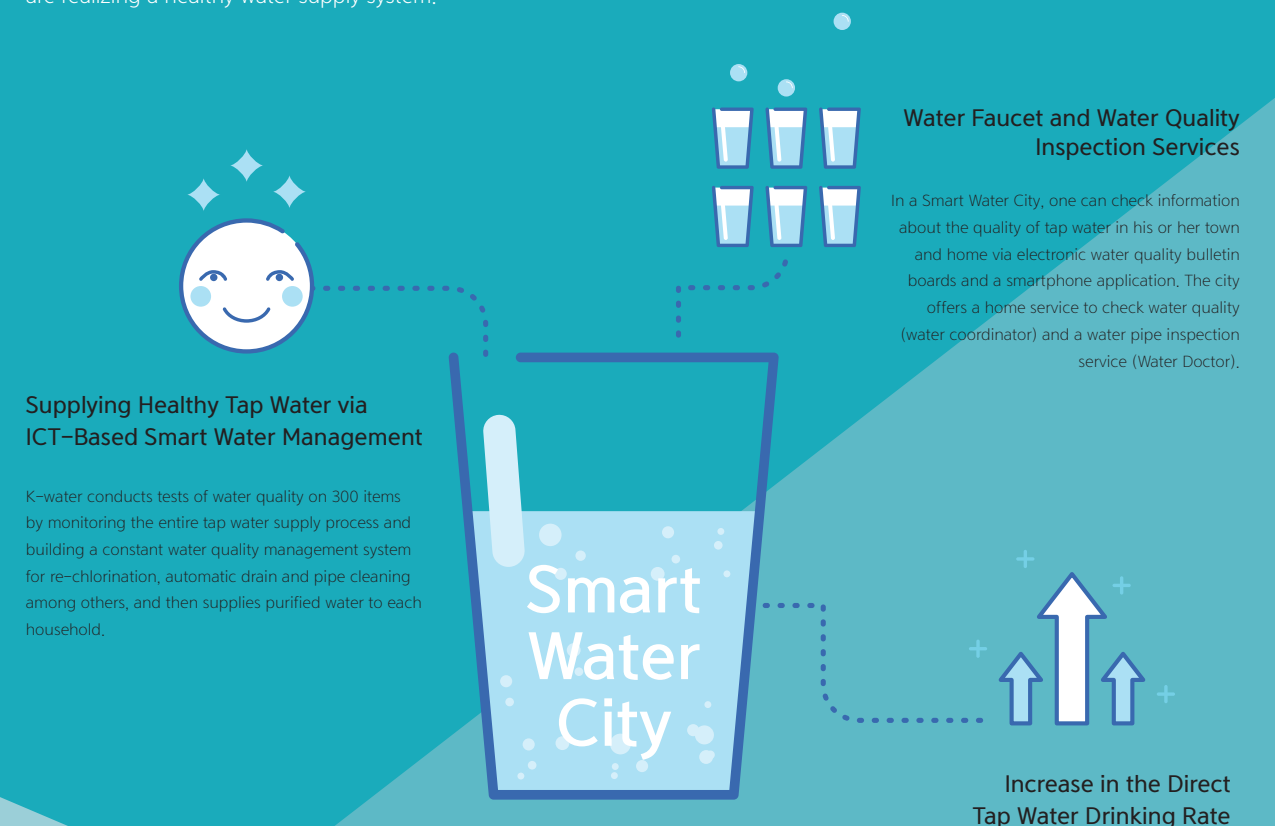


Cover of the Booklet on 250 items of water quality test

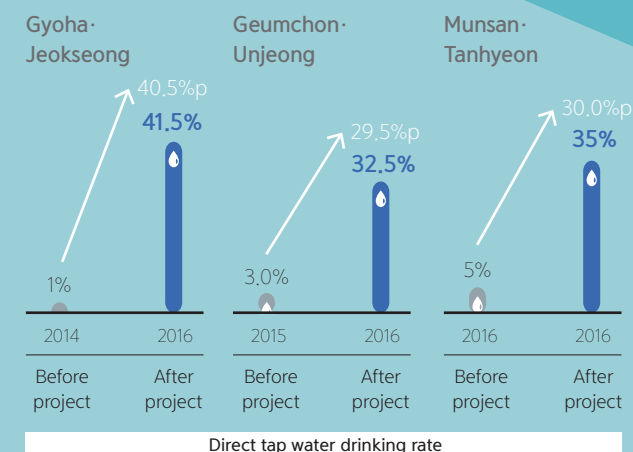
# ICT-Based Smart Water City

\*ICT: Information and Communication Technologies

With the goal of addressing public mistrust in tap water and realizing water welfare, K-water changed the tap water supply paradigm from "clean and safe water" to "healthy water" containing a proper balance of minerals, and is developing "Smart Water City" projects including an improved tap water supply system and individually customized services for customers. Smart Water Cities developed by K-water manage water quantity and quality by applying ICT to the entire water supply process from water sources to hydrants connected to homes and provides tap water information in real-time. By doing so, cities and K-water are realizing a healthy water supply system.



K-water has been implementing a pilot smart water city project with Paju since 2014. By improving the water supply process, water quality in the pilot project improved and the direct tap water drinking rate went from 1% up to 36.3%. In addition, thanks to an increase in people's responses to Smart Water City, the company is pushing forward to expand the project to cover the entire area of Paju. We are planning to expand Smart Water Cities across the nation in order to provide healthy tap water services to more people with the pilot project in Paju as a springboard.



## Expanding Smart Water Cities All over Country

K-water's Smart Water City Project aims to safely supply tap water to homes and enhance public trust on tap water and raise the direct drinking rate via a variety of customer-oriented services to improve water quality.

## No More Mistrust of Tap Water!

K-water is diversifying its efforts through a tap water drinking campaign, the expansion of the installation of tap water drinking fountains among others along with the Smart Water City Project and civic groups in order to improve the public's opinion of tap water.



# Coping with Climate Change and Prolonged Drought

Korea suffered from a severe drought in 2014 that last into 2015. As a result of the prolonged drought, K-water laid the foundation for overcoming the drought by organizing a companywide Drought Prevention Task-forces which prepared drought prevention and mitigation manuals. In preparation for abnormal climates in the future, we already have in place mid-to long-term plans to optimize the operation of weirs in Korea's four major rivers, expand the number of desalination plants and groundwater dams, and establish waterway connections between dams.

## National Center for Drought Information Analysis

K-water went ahead with the establishment of an organization specialized in the collection and analysis of drought information to prevent and tackle prolonged droughts. At a national policy coordination meeting held in September 2015, it was decided that the National Drought Information Analysis Center should be established at K-water as a way to give the government supports such as drought forecasts and warnings and to manage droughts. The center will provide decision makers with vital information through drought monitoring and analysis. At the same time, the center will suggest and develop efficient policies on water resource management based on the rich experience of its expert staff.



### Establishment of the National Drought Information Analysis Center for Integrated Management of Drought Information, Monitoring and Prediction of Droughts

#### Background

- Increase in the frequency and intensity of droughts called for measures to preemptively mitigate the effects of droughts rather than recovering damage from drought
- lacks constant drought monitoring and forecast systems, dissemination of information, and coordination amongst ministries in the nation

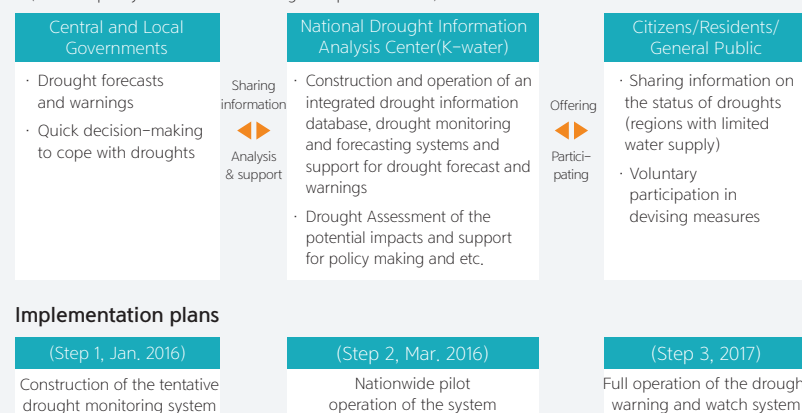
#### Implementation Efforts

- Carried forward with the establishment of a specialized organization responsible for the integration and analyze of drought information to preemptively respond to droughts.
- Formed common bond amongst relevant government agencies and suggested policy to establish the National Drought Information Analysis Center at K-water

\* Steadily deliberated with the Ministry of Public Safety and Security, the Ministry of Land, Infrastructure and Transport and the Meteorological Administration among others and held expert workshops

#### Implementation Results

- Establishment of the National Drought Information Analysis Center (national policy coordination meeting in September 2015)



Approach to Sustainability  
K-water, Global Hub of Water Management  
K-water's Five Pledges for Sustainable Management  
Appendix

Pledge 1, Intelligent Water Management and Satisfied Customer  
Pledge 2, New Water Values for All  
Pledge 3, Leading Global Water Management Company  
Pledge 4, Global Sharing of Water-related Welfare  
Pledge 5, Enterprise for and of Public Users



Opening ceremony for the National Drought Information Analysis Center



Main Screen of the Drought Information Analysis System



Supplying emergency water to drought-stricken areas



Raceway of Boryeong Dam

## K-water's Efforts to Reduce Damages Caused by Droughts

K-water is already preparing for droughts by dividing drought phases into four stages (attention, caution, vigilance, and seriousness) according to the severity of droughts and overhauling the water supply plan according to the phases to ensure water supply stability/security in case of droughts.

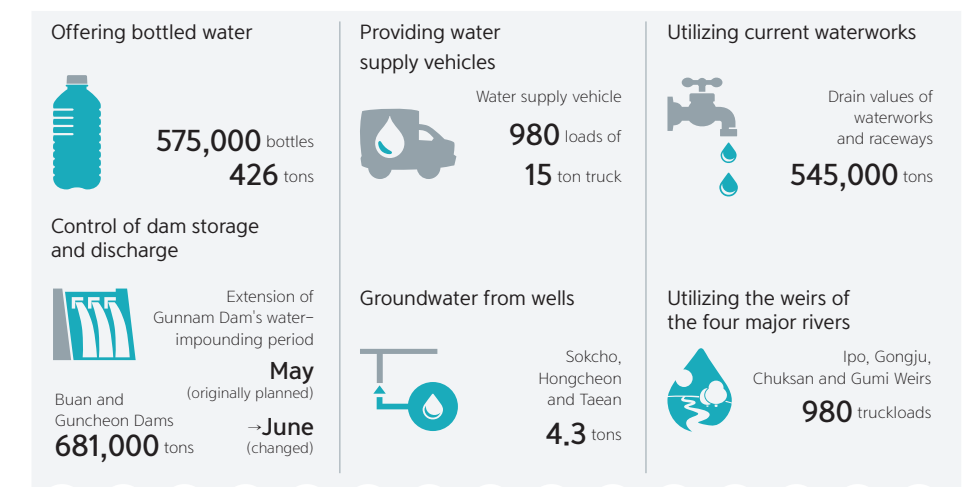
For example, the company supplied water to the western area of South Chungcheong Province which suffered the most from the prolonged drought in 2015 via Yongdam and Daecheong Dams beginning in September. Starting in October, we induced voluntary 20% savings of domestic and industrial water supplies. K-water implemented a water-saving subsidy system in self-controlled water supply areas. The subsidy is KRW 1,240 per 1m<sup>3</sup> which is three times the water charge of multi-regional waterworks a year ago. For the prevention of water shortage caused by drought in the western area of South Chungcheong Province, the company built Boryeong Dam Waterway Tunnel to send water from the Geum River to Boryeong Dam. Through these efforts, Boryeong Dam, which suffered its worst ever drought in 2015, accumulated a total of 10.5 million m<sup>3</sup> (45 days) of water. In case of the Han River, which supplies water to the Seoul metropolitan area, we were able to overcome an extreme drought by stockpiling 1.91 billion m<sup>3</sup> of water (equivalent to 220 days of average water supply)

Furthermore, K-water is actively conducting projects to increase water flow rates\* of entrusted waterworks of municipalities. The company signed an agreement on emergency water supply projects with Dangjin, Boryeong, Seochon, Hongseong and Taeon in South Chungcheong Province and dispatched experts to the sites. Therefore, we raised accounted water rates by 16.6% on average through the construction of a flow-monitoring system, old pipe replacement, systematic water leak repair, pipe network maintenance and hydraulic management which enabled the municipalities to overcome the severe drought.

\* Flow rate: The ratio of flowing water to the amount of water supplied to water pipes. A flow rate decreases if there is a large amount of water leaking from water pipes

On top of that, K-water strived to address water shortages. That is, the company provided bottled water and water supply vehicles to areas devoid of direct benefits from multi-regional and local waterworks such as islands and mountainous regions in order to improve water-related welfare. We also connected the pipes of multi-regional waterworks to agricultural irrigation canals and supplied water using the weirs of Korea's four major rivers.

## Diversified Measures to Cope with Water Shortages





# Coping with Climate Change and Prolonged Drought

Approach to Sustainability  
 K-water, Global Hub of Water Management  
 K-water's Five Pledges for Sustainable Management  
 Appendix

Pledge 1, Intelligent Water Management and Satisfied Customer  
 Pledge 2, New Water Values for All  
 Pledge 3, Leading Global Water Management Company  
 Pledge 4, Global Sharing of Water-related Welfare  
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# Environmental Management for Healthy National Territory

K-water's corporate activities are affected by climate change and pollution and vice versa. It is important for K-water to cope with climate change and the protection of the environment as greenhouse gas (GHG) emissions and waste, among others caused by corporate activities can have a negative impact on climate, nature and the environment. We are making efforts for the systematic implementation of environmental management. Such efforts should be steadily managed in terms of K-water's social responsibilities. Given that we are a government-owned water management company, we view this as a common good.

## Mid & Long-term Drought Prevention Measures

K-water is actively devising measures to minimize damages caused by droughts due to abnormal weather. The company will continue to supply water in the face of droughts by directly supplying water from multi-region waterworks to unserved areas less than 2km away from the waterworks. At the same time, we will convert/upgrade superannuated or unstable local waterworks into multi-region waterworks or connect them to emergency systems. In addition, we are endeavoring to protect people from droughts through various activities such as promoting small dams, stepping up the use of underground water resources, preparing integration convergence by basins, raising utilization rates of dams via regular dam evaluation and introducing retention ponds.

### Summary of K-water's Activities to Protect People from Droughts

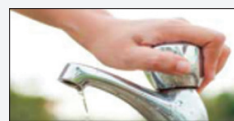
Short-term Measures	Preemptive and Systematic Responses such as Emergency Water Supply and Raceway Construction	Supplied 31,000m <sup>3</sup> of water a day to the western area of South Chungcheong Province which suffered from a severe drought and made good use of surplus water from Korea's four major rivers by building a raceway between Baekje Weir and Boryeong Dam
	Implementing a Water Saving Subsidy System the First Time in Korea	Implemented a water-saving subsidy system which gives KRW 1,240won per 1m <sup>3</sup> which is three times the charge of multi-region waterworks to induce tap water savings of residents and firms in eight cities and counties in the western area of South Chungcheong Province
	Signing of an Agreement on the Implementation of Emergency Water Leakage Reduction Project with Five Municipalities in the Western Area of South Chungcheong Province	Signed an agreement on the implementation of an emergency water leakage reduction project with five municipalities with a flow rate of less than 70% in the western area of South Chungcheong Province for the purpose of tackling a severe drought of the region and raised the flow rates by 16.6% on average within six months
Mid & Long-term Measures	Special Technical Support to Lower the Water Leakage Rate in the Western Area in South Chungcheong Province	Conducted a program to provide technical support to lower the water leakage rate in six municipalities which were Dangjin, Boryeong, Seocheon, Taean, Hongseong and Cheongyang in the western area of South Chungcheong Province among municipalities that receive water from Boryeong Dam
	Opening of the National Center for Drought Information Analysis	Opened the National Center for Drought Information Analysis which will support the introduction and implementation of forecasts and warnings about droughts to preemptively deal with droughts and minimize damages caused by droughts in November 2015. The center provides support for policy-makers in relevant ministries, municipalities, and water management organizations to ensure prompt decisions based on real-time drought information from all over the country. By integrating and analyzing the data, policy-makers can make informed decisions on which measures to take to address specific drought issues.

### Spotlight on K-water's Efforts



#### Providing Special Technological Support to Raise Flow Rate for Western Area of South Chungcheong Province

K-water provided a special technological support team to increase the flow rate for the western area of South Chungcheong Province which suffered from the worst-ever drought. The company took the lead by raising the efficiency of water use and overcoming the drought more wisely by reducing water leakage through water leakage detection and hydrologic pressure management.



#### Subsidies for Water Savings

In order to induce people's voluntary water savings, K-water is implementing the Water Saving Subsidy System. A total of 54,762 households received subsidies for water savings (KRW 1.1 billion) through water bills for December 2015 in eight cities and counties in the western area of South Chungcheong Province which receive water from Boryeong Dam.

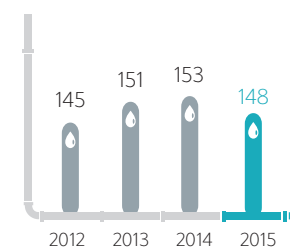


#### Saving 37,928 Tons of Water per Day on Average

Since the start of self-controlled water supplies on October in 2015, the western area of South Chungcheong Province has saved 2,728,500 tons (accumulative) of water which equal nearly 10% the current amount of water in Boryeong Dam. In order to achieve such results, K-water carried out a wide array of activities such as a water saving campaign on the streets in eight cities and counties, attaching water saving stickers and putting messages on public buildings that called for residents to reduce water consumption.

### K-water's Environmental Performance Evaluation Index

[Unit: point]



### Summary of K-water's Environment Management



Execution System



Performance Index



Support Base

#### Running Quality, Environment and Green Management Systems that Honor Global Standards

- Obtained ISO (International Organization for Standardization) certificates in quality, environment and green management (ISO 9001 (quality management), ISO 14001 (environmental management) and KSI 7001 (green management))
- Every year, all departments are annually evaluated by specialized external institutions and internal specialists about quality, environment and green management (customer service quality, safety and environmental management, etc.) and carry out improvement activities

#### Environmental Performance Evaluation Index (EPE)

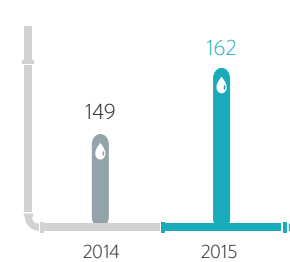
- The index quantitatively measures corporate environmental management performances for all management areas
- Overall corporate environmental management performances improved from base year (2006)
- K-water has been measuring and managing key performance indicators since 2007
- Scored 148 points in the 2015 Environmental Performance Evaluation, and, compared with the base year (2006), performance has improved 48%

#### Fostered Internal Experts in Quality Environmental and Green Management

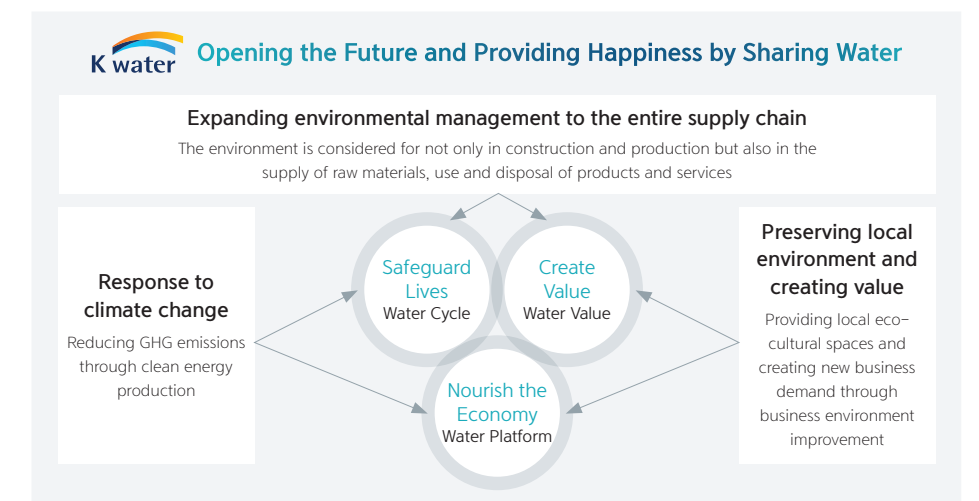
- The company has been selecting employees and providing them with ISO quality and environmental management certification auditor training opportunities since 2007
- By the end of 2015, 162 ISO certified auditors in corporate quality and environmental system have been fostered
- Practical quality and environmental management is implemented that befits international standards at all K-water worksites through internal experts

### ISO Certification Auditors

[Unit: employee]



### Environment Management Strategy



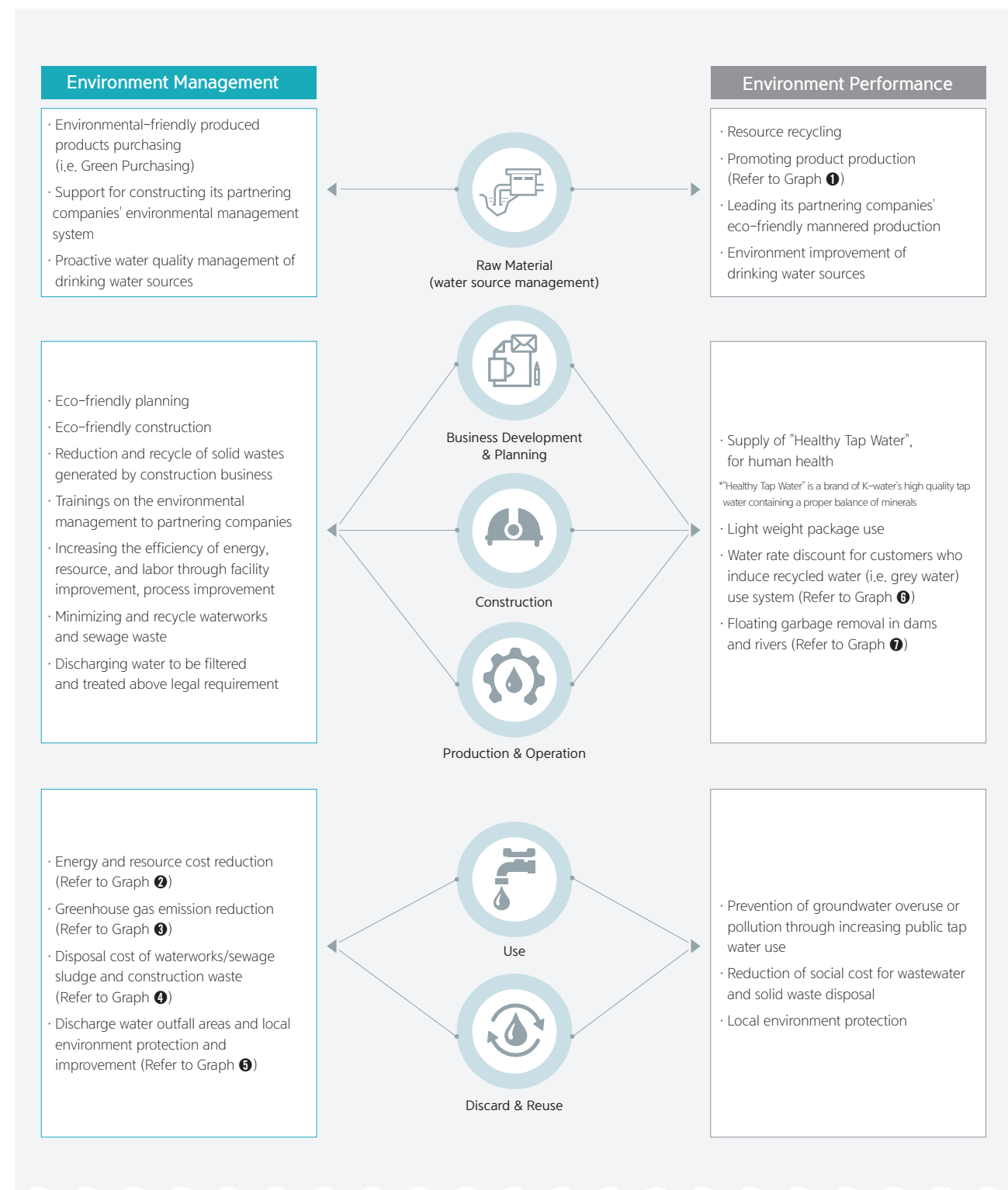


# Environmental Management for Healthy National Territory

Approach to Sustainability  
 K-water, Global Hub of Water Management  
 K-water's Five Pledges for Sustainable Management  
 Appendix

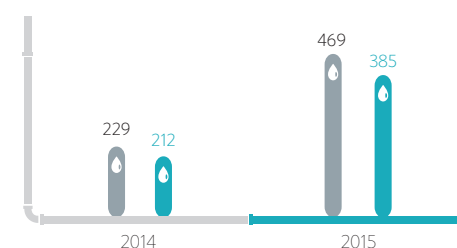
Pledge 1, Intelligent Water Management and Satisfied Customer  
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## K-water's Supply Chain & Environmental Management



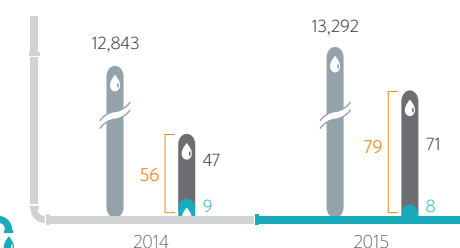
### Green Purchase ①

● Total purchases (KRW 100 million)  
 ● Green purchases (KRW 100 million)



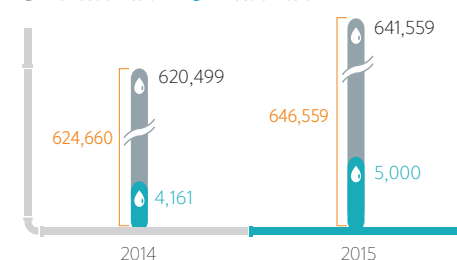
### Energy Consumption and Reduction ②

● Usage (TJ) ● Energy-saving in hydropower facilities (TJ)  
 ● Energy-saving in waterworks (TJ)



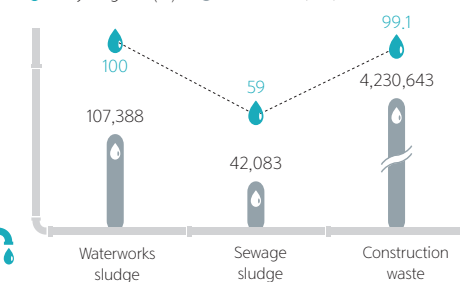
### GHG Emissions [Unit: ton CO<sub>2</sub>-eq] ③

● Indirect emission ● Direct emission



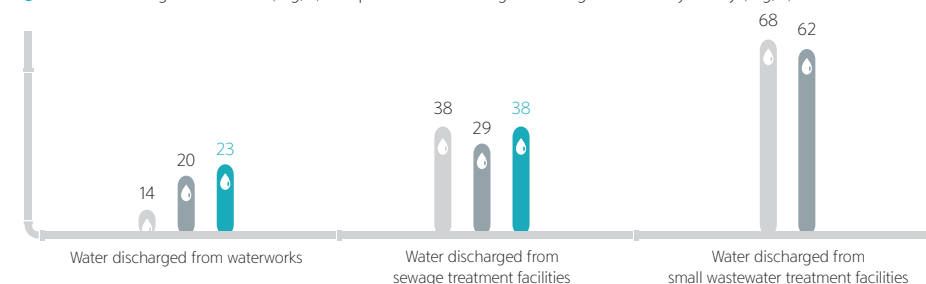
### Waste Production and Recycle in 2015 ④

● Recycling rate(%) ● Production(ton)



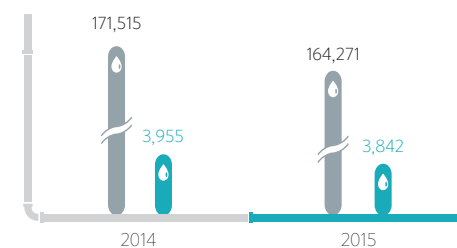
### Discharged Water Quality [Unit: %] ⑤

● Ratio of discharged water BOD(mg/L) compared to strictest legal discharge standard by facility (mg/L)  
 ● Ratio of discharged water SS(mg/L) compared to strictest legal discharge standard by facility (mg/L)  
 ● Ratio of discharged water COD(mg/L) compared to strictest legal discharge standard by facility (mg/L)



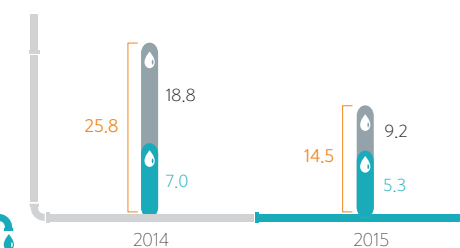
### Water Rate Discount for Customers Using Grey Water ⑥

● Grey water usage (1,000 m<sup>3</sup>)  
 ● Water rate discount (KRW 1 million)



### Floating Garbage Removal in Dams and Rivers ⑦

● Dam reservoirs (1,000 m<sup>3</sup>)  
 ● River weirs (1,000 m<sup>3</sup>)





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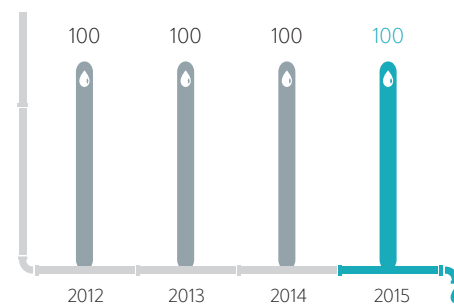
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## Protecting People from Water Disasters

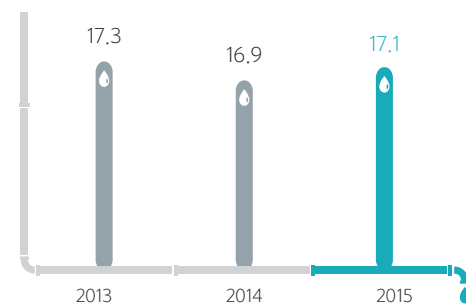
### K-water's Efforts to Cope with Climate Change

K-water is subject to the Korean government's national greenhouse gas (GHG) emission reduction goal management program and has been fulfilling its commitments. In 2015, K-water's GHG emissions increased 3.5% to 646,559 ton CO<sub>2</sub>-eq year on year. Since K-water focused on slashing GHG emissions in 2012, the company has reached its reduction targets for four years in a row. Most of K-water's GHG emissions were indirect emissions from pump operation for tap water supply, while biogenic GHG emissions were not measured. GHG intensity was 17.1 (ton CO<sub>2</sub>-eq/ KRW 100 million), up by approximately 0.2 ton CO<sub>2</sub> -eq from the previous year but down by 0.2 ton CO<sub>2</sub> -eq from 2013. On top of that, K-water launched a Clean Development Mechanism (CDM) project for the first time as a government-invested institution in May 2005 and registered 12 projects with the United Nations (UNFCCC) and had a reduction of 530,000 tons of GHG emissions recognized.

GHG emission goal achievement rate  
 [Unit: %]



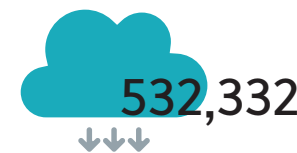
GHG intensity based on sales  
 [Unit: ton CO<sub>2</sub>-eq/KRW 100 million]



### CDM Business

Project name	Facility composition	UN registration Date	Annual generation (MWh/year)	CO <sub>2</sub> reduction (ton CO <sub>2</sub> -eq /year)
Tidal Power	Sihwa Tidal Power Plant	June 2006	507,629	315,440
Small Hydro Power 1	Andong, Jangheung, Seongnam 1st Plant	Oct. 2006	15,473	8,103
Small Hydro Power 2	Deacheong, Juam, Dalbang, Seongnam 2nd Plant	Feb. 2007	13,944	8,331
Wind Power	Sihwa Wind Power Plant	Nov. 2007	6,293	4,013
Small Hydro Power 3	Kosan, Pankyo Plant	Nov. 2009	5,557	2,987
Small Hydro power 4	Seongdeok, Gimcheon-Buhang Dam Plant	Oct. 2010	4,963	2,759
Small Hydro Power 5	Angye, Hoengseong Dam 2nd Plant	Apr. 2012	4,603	3,100
Waterworks Efficiency Improvement	Paldang 3rd Intake Facility	Aug. 2012	-	7,044
Hydro Power 6	Ipo, Yeosu, Kangcheon Weir	Oct. 2012	76,406	50,772
Hydro Power 7	Sejong, Kongju, Beakje, Sangju Weir	Sep. 2012	57,541	38,237
Hydro Power 8	Nakdan, Gumi, Chilgok, Kangjeong Koryeong Weir	Sep. 2012	58,170	38,654
Hydro Power 9	Dalseong, Hapcheon- Changnyeong, Changnyeong- Haman, Seungchon, Juksan Weir	Sep. 2012	79,597	52,892
<b>Total</b>			<b>830,176</b>	<b>532,332</b>

GHG Reduction [Unit: ton CO<sub>2</sub>]

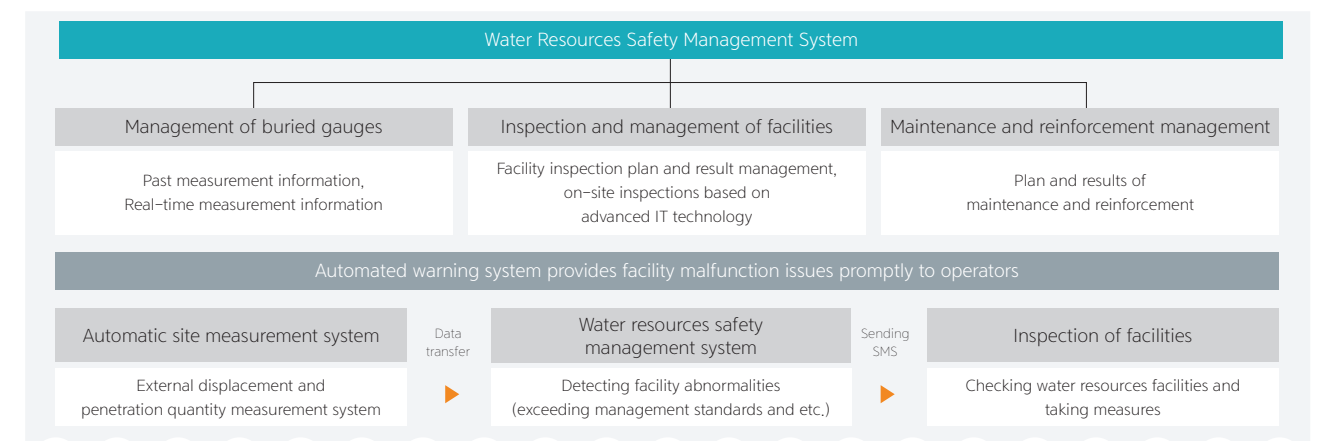


Clean Energy Project

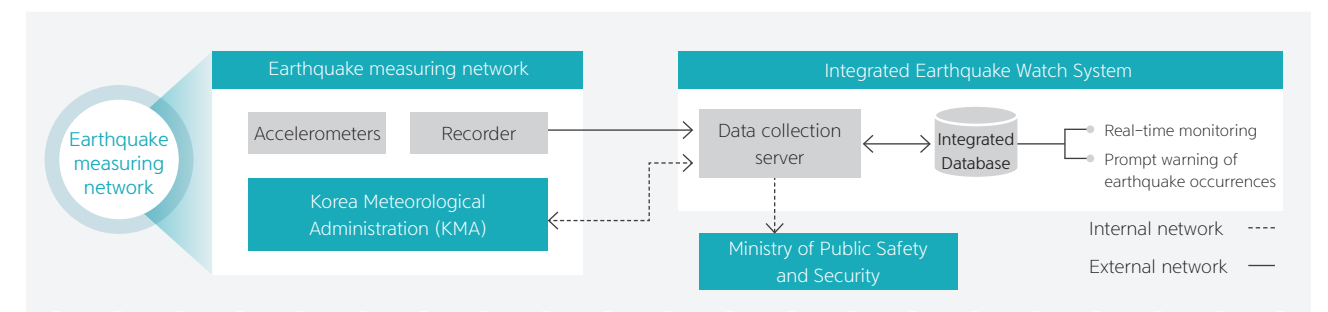
K-water is operating a water resources safety management system that utilizes the latest information and communication technologies to cope with drought and localized torrential downpours due to inclement weather conditions. We will improve the efficiency of water circulation and prepare for various disasters by way of scientific water management.

### Operation of a Water Resources Safety Management System

The Water Resources Safety Management System was built to efficiently support facility management by systematically integrating the real-time status of measurements, inspection plans and results and maintenance histories of measuring equipment installed in multi-purpose dams, water supply dams, flood control dams and weirs and providing facility information quickly and accurately. This system provides a series of processes for users (staff members, the general public and the management) to create, acquire, analyze and process water resources facility operation information in accordance with process-by-process work flows in an easy and convenient manner. Through this, we are making efforts to ensure the safe operation of water resources facilities in preparation for various disasters caused by climate change by improving work efficiency and supporting prompt decision making.



The Integrated Earthquake Watch System was built to conduct real-time seismic monitoring of national infrastructure (such as dams and weirs) under K-water's management and to quickly share information in the wake of an earthquake in concert with the National Emergency Management Agency and the Korea Meteorological Administration. The system supports quick crisis responses by automatically linking to the K-water risk management system (KRM).

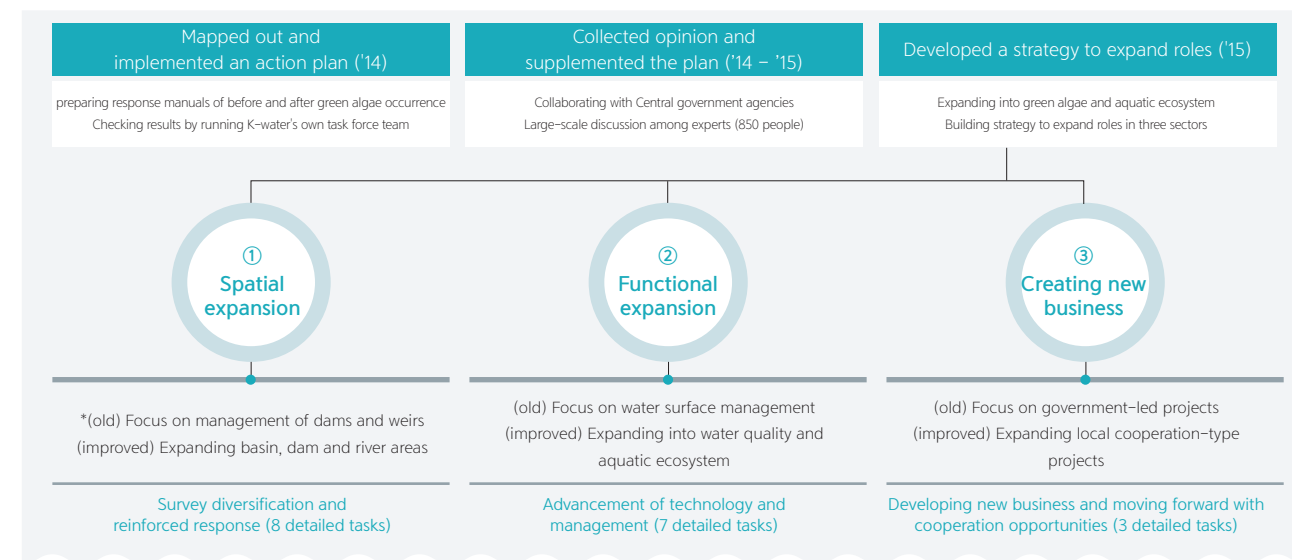




## Solving Green Algae Issues through River Management in Consideration of River Ecology

Having broken away from ineffective post-algae responses in the past, K-water drew up an action plan to resolve green algae issues in 2014 and since then, has been implementing it for the systematic and proactive management. In 2015, the company made three strategies for expanding its roles and laid the foundation for actively responding to algae problems in accordance with revised relevant laws. In addition, we stepped up on-site monitoring by increasing the number of onsite monitoring personnel (1.9 fold) and are operating a situation room for immediate response to green algae.

### K-water's 3 Strategies for Managing Green Algae



### Revision of Relevant Laws to Reduce Green Algae

Classification	Old	Improved	Expected effects
<b>Aquatic Ecosystem Law</b>	No ground for responses to green algae	Expanding responses into lakes, marshes and rivers	Expected to play an important role in tackling green algae
<b>Livestock Excretion Law</b>	No ground for investigation into livestock excretion	Establishment of a fact-finding committee	Expected to reduce pollution sources in basins



Algae removal vessel

### K-water Full-Time Green Algae Response System

Classification	Overcoming efforts
<b>Monitoring and Inspecting outbreak sites</b>	Expanding the number of inspectors in areas which are affected by severe algae to include holidays, 2,144 man-days (1.9 times number of previous year)
<b>On-site Measures</b>	Variation of used vessels in cooperation with local residents, Measures were taken for 2,907,000 m <sup>2</sup> (5.4 times number of previous year)
<b>Green Algae Situation Room</b>	Constantly responding via Green Algae Situation Room, Real-time monitoring and response system (HQ to sites)
<b>Recording and Reporting Results of Inspection</b>	Daily monitoring of 39 sites, Daily responses and sharing information (→ national green algae issue solving task force team)

## Implementation of Tentative Pulsed Discharge

<b>Tentative operation</b>	Section between Gangjeong Goryeong Weir and Changnyeong Haman Weir
<b>Monitoring</b>	33 items including water quality, tides, sediment and flow rates, 36 to 50 spots and 290 site inspectors
<b>Effects of implementation</b>	Drop of 45% to 55% in blue-green algae, Reduction of 9% to 55% in Chl-a (based on day of discharge)

## Developing and Advancing Green Algae Technology

To proactively respond to green algae issues, K-water tentatively carried out pulsed discharges in the Gangjeong Goryeong Weir-Changnyeong Haman Weir section in cooperation with relevant organizations from June to September of 2015. Pulsed discharges is a method that was used to suppress the growth of green algae in Australia. This method impedes the growth of blue-green algae by mixing upper and lower classes and destroying stratification via the acceleration of flow speeds in rivers through artificial and iterative methods. This method can reduce green algae simply by changing reservoir discharge methods without additional cost or chemical material use. A tentative discharge slashed the concentration of cyanobacteria 45~55% and Chlorophyll-a (pigment materials composing algae) 9~38% on days in which the method was applied. K-water will maximize water quality improvement effects via pulse discharges, step up close cooperation with relevant organizations to prevent overall problems such as accidents from taking place and establish optimized pulse-type weir management methods. Moreover, we will secure safe water quality and lay the groundwork for new technology development and achieve win-win growth with partners by steadily pushing ahead with the development of green algae reduction technology and an improvement in its performances.

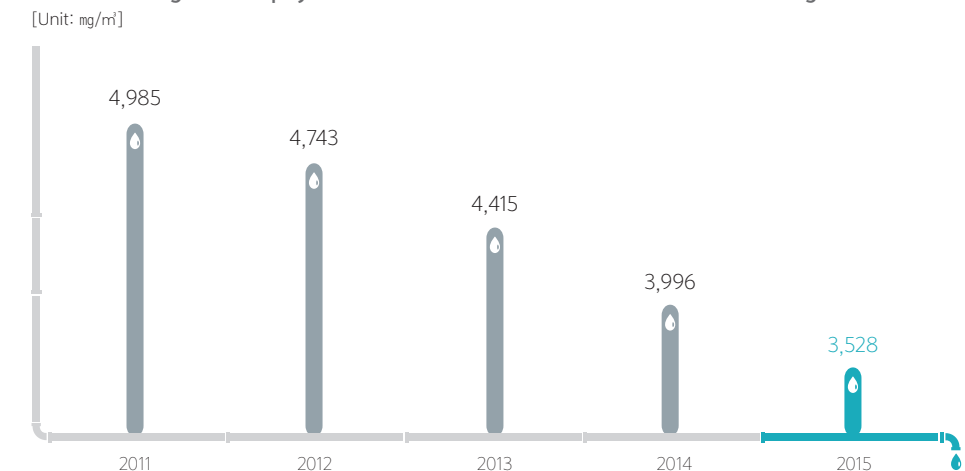
### Development and Improvement of Green Algae Reduction Technology

Floating green algae removal device	Water circulation facility	New technology development
<ul style="list-style-type: none"> <li>Developing high-efficiency green algae removal technology and put it to practical use (Patent application in Jul. 2015)</li> <li>Removing 49 tons of accumulated algae (Increased 4.5 fold from previous year)</li> <li>High-pressure spray to remove materials and facility improvements such as screen replacement</li> </ul>	<ul style="list-style-type: none"> <li>Evaluating green algae removal performances at nine facilities per each of 6 fields</li> <li>Establishing a plan to move facilities to increase circulation effects when operated in connection with weirs</li> </ul>	<ul style="list-style-type: none"> <li>Discovering excellent technology to slash green algae by offering Test-beds*                             <ul style="list-style-type: none"> <li>Applying 22 technologies of small and mid-sized companies to dams and weirs</li> </ul> </li> <li>Improving performances via support program for small and mid-sized firms (profit sharing program)</li> </ul>

**Mitigating the effects of green algae by developing new-concept green algae technology (Drop of 45% to 55% in blue-green algae)**

\* Test-Beds: Providing facilities to test and supplement new technologies developed by small and medium size enterprises etc.

### Annual Average Chlorophyll-a of 29 Dam Reservoirs under K-water's Management



\* The annual average chlorophyll-a concentration of 29 dam reservoirs was calculated as the sum of each dam reservoir's concentration at a ratio of each dam reservoir's capacity to a total of 29 dam reservoir capacity



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 K-water's Five Pledges for Sustainable Management  
 Appendix

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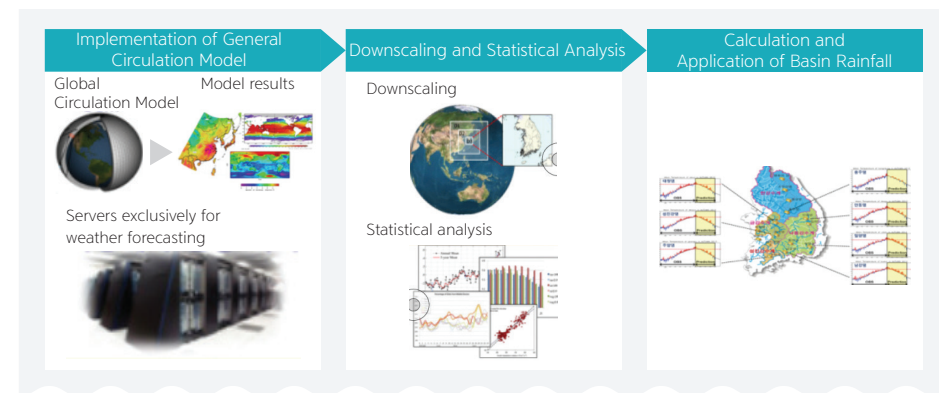
## Real-Time and Integrated Floodgate Data Management

The volatility of Korea's climate patterns are increasing due to the effects of global warming and abnormal weather conditions. Combined with Korea's unique landscape of steep terrain and fast flow of rivers, floodgate management is growing increasingly complex. This makes it necessary for the government to quickly grasp and cope with hydrological phenomena such as floods and droughts and secure clear water for public use in response to drastic climate changes. K-water runs the Hydrological Data Information Management System (HDIMS) through constant real-time hydrological data monitoring in one-minute intervals from multipurpose dams, water supply dams, multipurpose weirs and flood control sites.

## Completion of K-LPM (K-water Long-term Precipitation Model)

With a view to enhance water management and taking into consideration long-term precipitation forecasts, K-water has built and is operating K-LPM by developing and applying a long-term precipitation downscaling method based on the GCM (general circulation model). The company is utilizing data from K-LPM as basic materials for the establishment of a monthly reservoir operation plan for stably water supply. K-LPM has also enabled K-water to lay the foundation for addressing water-related disasters such as droughts, floods and water quality problems.

We applied the latest forecasting method (the Ensemble Forecasting Method, a method actively used for probability-based forecasts) which includes physical processes within the model in an effort to boost the K-LPM's accuracy. For high-volume numeric calculation, we introduced and are utilizing a super computer exclusively for weather forecast.



## Flow Rate Management System for Efficient Water Resources Management

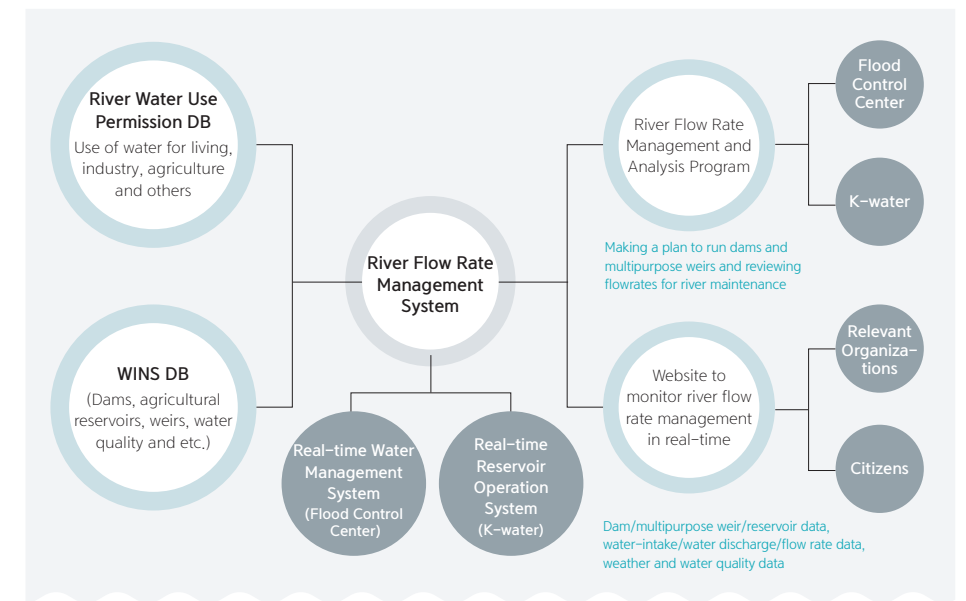
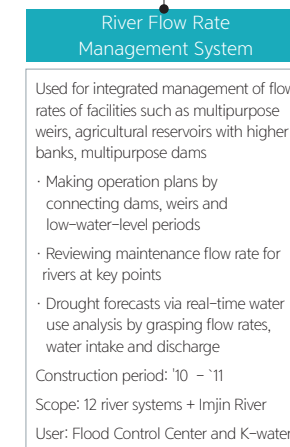
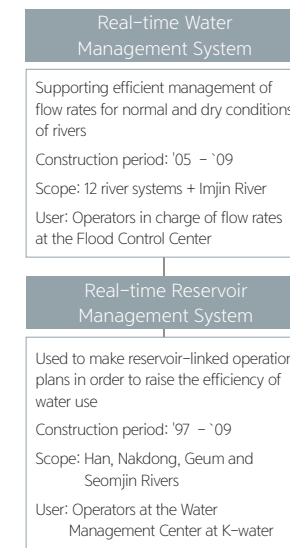
In order to secure the necessary amount of water from rivers with limited water resources, it is necessary to be able to collect water demand and supply data in real-time for analytical purposes. By utilizing weather and discharge analysis models, data can be used to predict future demand patterns. K-water has integrated the "Real-Time Water Management System" of the Ministry of Land, Infrastructure and Transport and its "Real-Time Reservoir Operating System" and built the River Flow Rate Management System. Based on the system, we are contributing to rational and scientific water resources management such as mapping out a plan to run dams and multipurpose reservoirs in conjunction with multipurpose weirs and agricultural reservoirs with raised banks.



Screenshot of the Real-Time Floodgate Information System

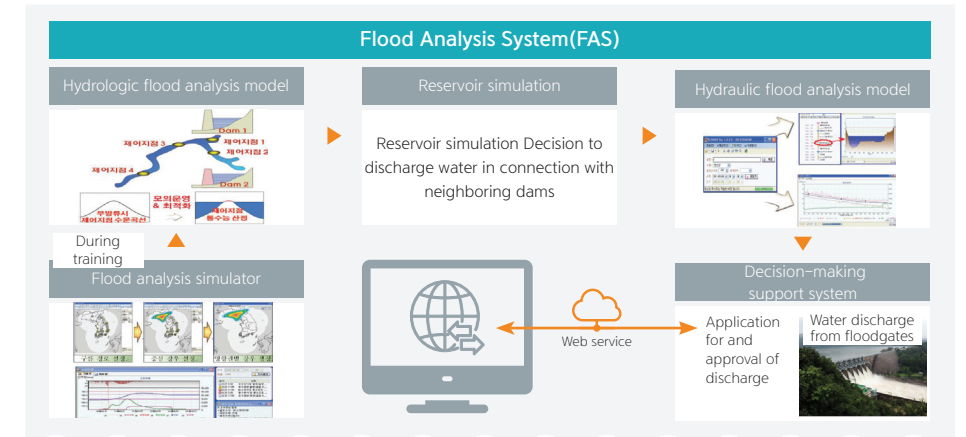
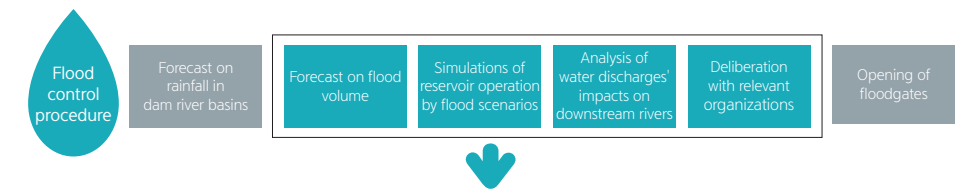


Screenshot of the Real-Time Floodgate Data Quality Management System



## Analyzing Floods and Monitoring Water Disasters

With the aim of elevating the efficiency of flood control and securing the groundwork for a system to manage water by basins by integrating and managing current facilities, K-water built and is running its own flood analysis system (FAS) for all basins. FAS can automatically collect hydrological observation data and rainfall forecast data using a super computer that operates in real-time. The system is designed to be easily used through simple education, not to mention compatibility with an office automation environment.





Pledge 2

# New Water Values for All

K-water is the No. 1 new renewable energy company in Korea and is expanding into new water business areas such as the development floating solar power generation facilities. We will increase water's value and secure competitiveness for future water management not only by developing clean energy, but also by creating future-oriented and water-friendly waterfront and leisure spaces.

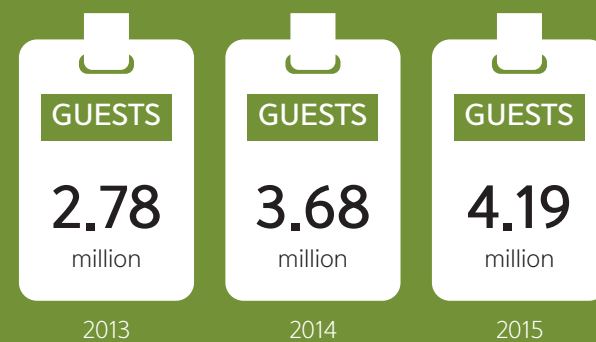


### Performance

- New and renewable energy facilities: 1,345MW (18% of the national total)
- Replacing imported oil amounting to about KRW 290 billion a year
- Reducing about 1.35 million tons of CO<sub>2</sub> emissions a year
- Developing K-HIT\* or K-water Hydro Intelligent Toolkit for Integrated Water Resources Management Decision Support

\* K-HIT: Consisting of real-time hydrologic information system, rainfall prediction system, reservoir water supply system and flood analysis system based on elements technologies for integrated water management including weather forecasting, hydrological data management, water quality management and integrated power generation management

[Visitors to Dams, Weirs and Cultural Centers]



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## K-water's Respect of the Natural Order

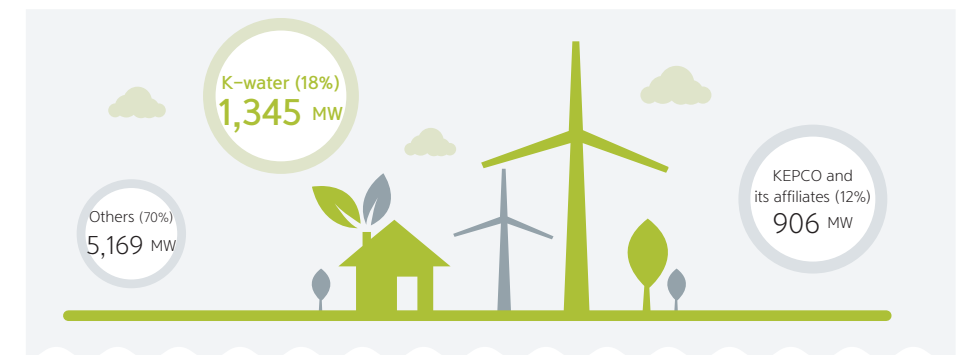
K-water is Korea's number one new and renewable energy firm that accounts for 18% of new and renewable energy generation capacity and 61% of hydroelectric power generation capacity. The company is contributing to the government's new and renewable energy policies through the development of creative water-specialized business models.

### Energy Independence and Carbon Emissions Reduction via Hydroelectric, Tidal and Clean Energy Business

Water-based new and renewable energy is being optimized to take advantage of Korea's unique hydrological conditions. K-water is developing the economy and the environment in a harmonious way by lowering the cost of energy imports via the production of clean energy and reducing carbon emissions such as hydroelectric energy generated by dams and tidal energy based on differences in ebbs and flows of the sea.

#### Status of K-water's new and renewable energy

- Number-one new and renewable energy company in Korea (accounting for 18% of entire domestic capacity)



#### K-water's new and renewable energy facilities capacities

Classification	Capacity(MW)
Hydropower	1,074
Tidal power	254
Wind power	8
Solar power	9
Total	1,345

#### K-water's annual power generation

Classification	By the end of 2015
Capacity(MW)	1,345
Annual power generation (GWh/year)	1,753
Crude oil replacement effects (10,000 barrels/year)	300
CO <sub>2</sub> reduction (1,000 tons/year)	820

Phase-by-phase implementation through the development of 11 hydroelectric power generation facilities (14MW) including Chungju Equalizing Reservoir Dam by 2020

Implementing the plan step by step by developing 5.6MW at 13 sites Including Hwaseong Water Purification Plant by 2020

#### Hydroelectric Power Generation

K-water is actively utilizing the surplus energy of water resources infrastructures and waterworks for the purpose of expanding the development of hydroelectric power.

- Completion of one facility at Ilsan Water Purification Plant in 2016 (0.3MW)
- Will complete three facilities including one at Daechong Equalizing Reservoir Dam in 2017 (3.4MW)
- Will complete three facilities including one at Chungju Equalizing Reservoir Reservoir in 2018 (7.8MW)
- Will complete two facilities including one at Wabu Water Purification Plant in 2019 (1.1MW)
- Will complete two facilities including one at Goyang Water Purification in 2020 (1.4MW)

#### Solar Power Generation on Land

With the aim of responding to the government's policy to promote new and renewable energy, K-water is developing solar power generation on land by making good use of idle spaces (roofs, water purification sites and clarifiers)

- Completion of two facilities including one at Hwaseong Water Purification Plant in 2016 (1.0MW)
- Will complete three facilities including one Hwangji Water Purification Plant in 2017 (0.5MW)
- Will complete four facilities including one at Seongnam Water Purification Plant in 2018 (2.1MW)
- Will complete two facilities including one at Wabu Water Purification Plant in 2019 (0.8MW)
- Will complete two facilities including one at Paldang Intake Station in 2020 (1.2MW)

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Approach to Sustainability  
 K-water, Global Hub of Water Management  
 K-water's Five Pledges for Sustainable Management  
 Appendix

Pledge 1, Intelligent Water Management and Satisfied Customer  
 Pledge 2, New Water Values for All  
 Pledge 3, Leading Global Water Management Company  
 Pledge 4, Global Sharing of Water-related Welfare  
 Pledge 5, Enterprise for and of Public Users

## Floating Solar Power Generation

K-water is a leader in the development of floating solar power generation systems. The company successfully installed a 500kW commercial model in the river that passes through Hapcheon Dam after a floating 100kW test-bed solar power generation system was introduced in 2011. We moved into an era of floating solar power generation system development by building a 2MW floating solar power generation system in the river that passes through Boryeong Dam in February 2015. Floating solar power generation systems can address the problems of reckless abuses of land and botanical damage since they are floating on water. At the same time, they increase electric power production by over 10% thanks to the cooling effect of water surfaces and hamper the creation of algae. In addition to these, there are other positive effects.

- Laying the foundation for the development of floating solar power generation systems by completing Boryeong Dam Floating Solar Power Generation System (Feb. 2016, 2MW)
  - \* The foundation was laid for large-scale floating solar power generation system projects by securing social and environmental acceptance and cost cutting
- Carrying forward the creation of eco-friendly e-Towns near dams by developing 206MW floating solar power systems in Hapcheon Dam (90MW), Soyang River Dam (100MW), Yongdam Dam (16MW) by 2021 with a pilot project in Hapcheon Dam (10MW) commencing in 2017.
  - \* Preparing a variety of fund-raising models such as SPC(Special Purpose Company) by taking into account financial burdens that arise from massive investment



Image of Floating Solar Power Generation

## Hydrothermal Energy

K-water is carrying forward a new business model to supply heat sources and heating and cooling sources for big buildings around water resources and waterworks and urban areas by using the heat energy of water under K-water's management.

- Carried forward the supply of large-scale building heating sources to tall buildings in downtown areas such as Hyundai Motor's new building (10 thousand RT) following the second Lotte World (3,000 RT and the start of the service: Oct. 2010) by utilizing K-water's potential volume (393,000 RT)
  - \* Developing and applying heating source supply models to community heating and cooling facilities specialized for K-water's water front cities such as Sihwa MTV, Songsan GC and Busan EDC

## K-water's New Energy Business Model

The global trend is pushing for the development of new and renewable energy sources. This is because now it is essential to develop clean energy for the reduction of CO<sub>2</sub> emissions, the culprit behind global warming. K-water is taking the lead in national energy policies through the development of new and renewable energy sources such as small hydropower generation, wind power generation and the discovery of the hydrothermal energy business.

- Create eco-friendly towns that rely on clean energy near dams
- Develop Sihwa Lake Energy Cluster
- Expand the development of hydrothermal energy externally
- K-water type prosumer system
- Develop a Korean-type hydroelectric power generation facility model

\*prosumer: electronic device that is in a level between the consumer and the professional model and contains some professional features: professional consumer, person who is knowledgeable enough to buy the prosumer device/equipment

## Sihwa Lake Energy Cluster that creates synergy between Energy, Tourism and Culture

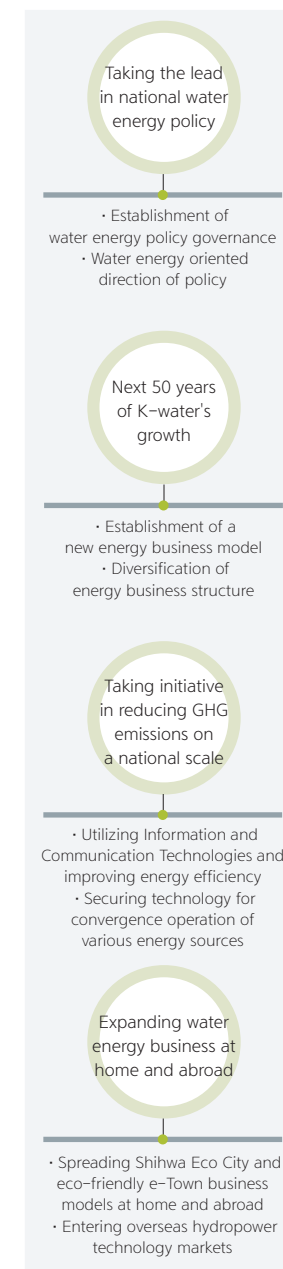
K-water will build a new and renewable energy experience center with land (7MW) and sea floating solar power (20MW) generation facilities and sea wind power (30MW) generation facilities with Sihwa Lake and its embankment as the center by 2021. The facilities will be integrated into current tidal and wind power generation facilities, thereby serving as a 315MW new and renewable energy complex and a marine energy tourist attraction.

- Mapped out basic plan to build Sihwa Lake Energy Cluster in 2015
- Complete Sihwa Lake Bangameori solar power generation facility (1MW) on land
- Will complete solar power generation facilities (6MW) on slopes of seawalls in 2018
- Will complete solar power generation facilities (20MW) in sea in 2020
- Will complete wind power generation facilities (30MW) in sea in 2021



Image of Sihwa Lake Energy Cluster

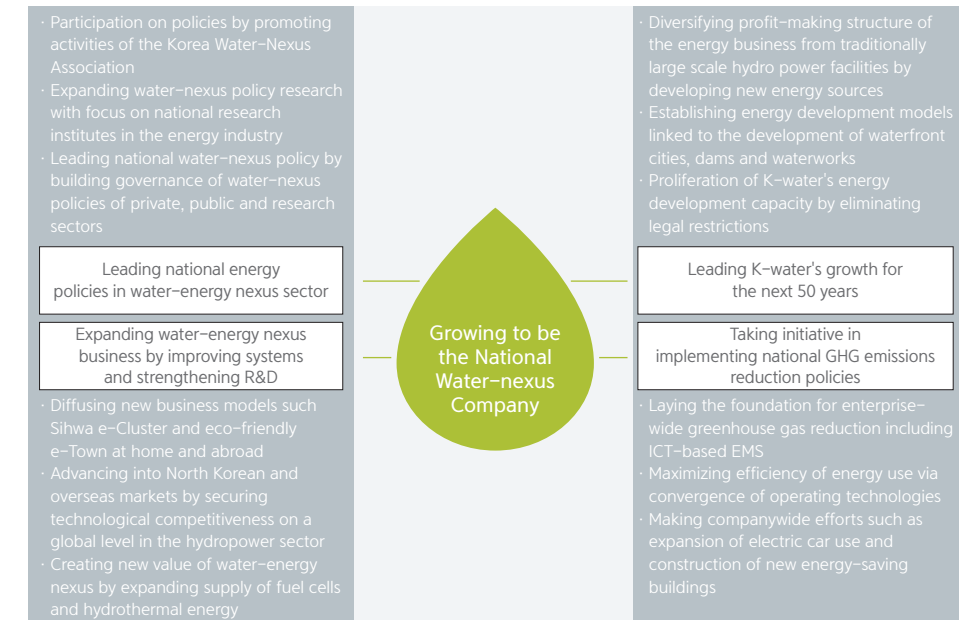
## Presenting a vision for K-water's energy business model that will lead the future



## Implementation Plan for Water-Energy Nexus Promotion

K-water drew up and is pushing forward with a water-energy nexus promotion plan in order to re-create the value of water resources facilities and maximize its use via the development of clean energy based on dams and waterworks. The company responds to the government's policies on the growth of the new energy businesses and the expansion of new and renewable energy and make the energy business a future growth engine.

Vision	Representative company of water-energy nexus		
Goal	Securing profit base in a water-energy nexus and making more contribution to country		
Strategic direction	Strengthening policy's influence	Preoccupying energy technology	Focus on a water-energy nexus business
9 Strategic tasks	1. Construction of policy governance 2. Making nation agenda goals 3. Taking lead to improve coherence and regulations	1. Expanding GHG emissions reduction 2. Strengthening energy technology capacity 3. Advancing Hydraulic Equipment Technology	1. Internalizing existing businesses 2. Strengthening connections with local businesses 3. Creation of new energy business models



## Status of Operation and Development of Clean Energy Generation Facilities (As of Dec. 31, 2015)

Category	Operation State		Development State	
	Contents	Capacity(MW)	Contents	Capacity(MW)
	Total	1,344.8	Total	14.4
Hydro Power	Large Scale	Soyang River Dam and others (in total, 9 dams)		1,000.6
	Small Scale	Andong Small Hydro Power Plant and others (42 plants)	73.0	Chungju, Daechyeong, Ilsa and Danyang
Tidal Power		Sihwa Tidal Power Plant (World's Biggest)	254	
Floating Solar Power Generation		4 including one in Boryeong	2.7	Chungju
Wind Power		Sihwa Bangameori, Keongin Port, Kampo Dam and others (3 plants)	8.0	
Solar		Bonpo Solar Energy and others (23 plants)	6.5	Siheung, Gwangmyeong, Sihwa
Hydrothermal Energy		Hakya Water Treatment Plant and others (12 plants)	623RT*	Hoingsong Water Purification Plant
				50RT*

\* Refrigeration Ton (RT): Capacity of cooling and heating system using hydrothermal energy



# Securing Future Water Management Competitiveness

K-water's integrated water resources management is a future-oriented water resources management model designed to let people in the present and future enjoy the benefits of rich and safe water. K-water is steadily endeavoring to create a new water resources management paradigm in Korea through the convergence of government agencies to improve governance.

## Securing Global Water Competitiveness for Future Water Management

A national policy coordination meeting in September 2015 and the Ceremony to Proclaim Vision for the Integrated Management of Water of Seomjin Dam in November of the same year meant that integrated water management was introduced to Korea and the water resources management paradigm is changing. K-water, Korea Rural Community Corporation, Korea Hydro & Nuclear Power, North Jeolla Provincial Government and the Metropolitan Government Council vowed to seek the development of the Seomjin River by building close cooperative relationships. Furthermore, we will build our own standard water management model for the integrated management of water quantity and quality and secure future water management competitiveness by way of the gradual development of the model into an integrated national water management standard model and the exportation of the model.

### Integrated Water Resources Management (IWRM)

Integrated water resources management (IWRM) is a new water management paradigm to manage water by basins in order to maximize synergies in terms of efficiency, fairness and sustainability by integrating and managing an entire basin as one entity. The importance of integrated water management is growing in order to deal with water-related disasters and disputes for water among regions affected by climate change.

Approach to Sustainability  
 K-water, Global Hub of Water Management  
 K-water's Five Pledges for Sustainable Management  
 Appendix

Pledge 1. Intelligent Water Management and Satisfied Customer  
 Pledge 2. New Water Values for All  
 Pledge 3. Leading Global Water Management Company  
 Pledge 4. Global Sharing of Water-related Welfare  
 Pledge 5. Enterprise for and of Public Users



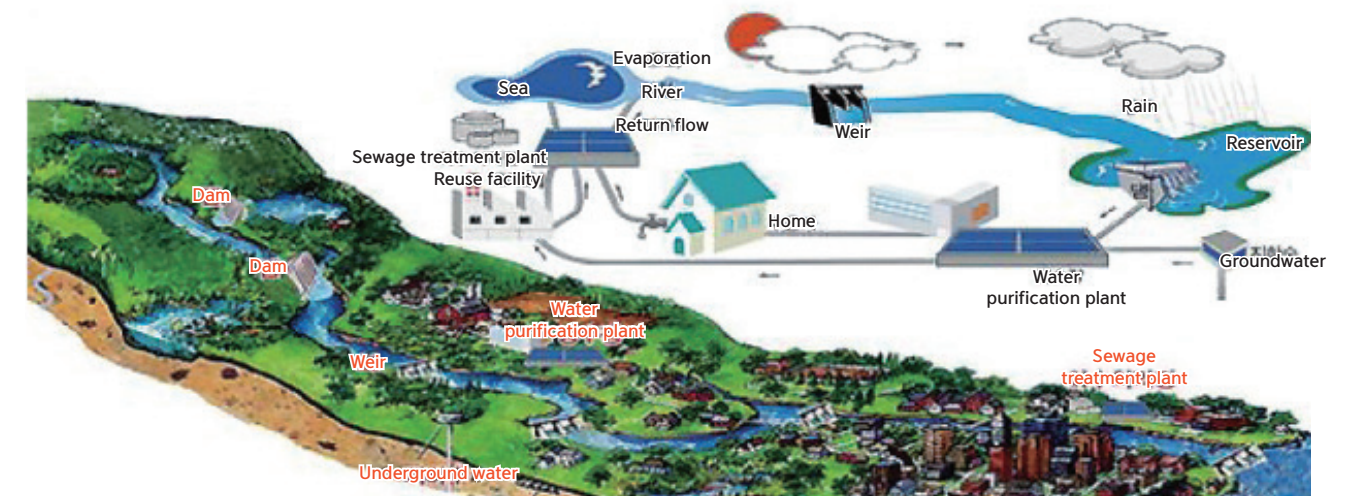
Seomjin River Dam

## Goals of Integrated Water Management

With an eye toward accurately preparing countermeasures needed to change the water K-water is forming a public consensus via an IWRM pilot project, realizing what people want by creating a systematic foundation and tirelessly working to realize a healthy water environment and a cooperative water culture.

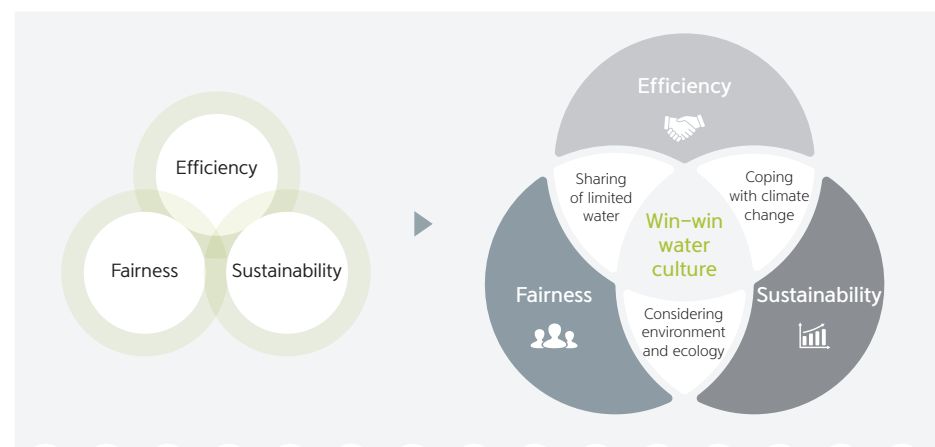
### Realization of a healthy water environment and cooperative water culture

Healthy water environment where water quantity, quality, ecology, energy and culture are in harmony  
 Cooperative water culture based on efficiency, fairness and sustainability



### Comparison of Current and Integrated Water Management Operations/Systems

Current Water Management Systems	Integrate Water Resources Management Systems
<ul style="list-style-type: none"> <li>Quantity management-oriented</li> <li>Surface water-oriented management</li> <li>Devoid of information-sharing and integrated management systems</li> <li>Absence of governance</li> <li>Inefficient water management</li> </ul>	<ul style="list-style-type: none"> <li>Encompassing water quantity, water quality &amp; ecology ecology</li> <li>Integrating surface water, ground water and alternative water resources</li> <li>Integrated management and information sharing systems</li> <li>Establishing an effective governance system</li> <li>Consideration of fairness, efficiency and sustainability</li> </ul>



### Direction of Integrated Water Management

- Efficiency**
  - Boosting usefulness prior to development
  - Sharing technological data
  - Prevention rather than recovery
- Fairness**
  - Sharing of limited water
  - Considering rural towns apart from cities
  - Considering branches apart from rivers
- Sustainability**
  - Preparing for the present and future generations
  - Separating Nature from people
  - Preparing future-oriented strategies

### Efficiency

Maximizing the efficiency of water use and establishing water management principles

Integration and expanding water functions from the planning stage	Advancement of a quick and accurate decision-making system	Implementing core measures to enhance the utilization of facilities	Laying a foundation for establishing and promoting water management
<ul style="list-style-type: none"> <li>Making integration plans by basins</li> <li>Expanding and utilizing water functions</li> </ul>	<ul style="list-style-type: none"> <li>Real-time monitoring of water circulation in basins</li> <li>Expanding and utilizing characteristic factors of basins</li> <li>Advancement and utilization of water management technology</li> </ul>	<ul style="list-style-type: none"> <li>Reevaluating water resources facilities and adjusting their functions</li> <li>Normalization of flood control capabilities in connection with dams and rivers</li> <li>Introducing flexible dam operation standards</li> </ul>	<ul style="list-style-type: none"> <li>Establishing a Basic Water Management Act (tentative name)</li> <li>Improving water rights and cost burdening system</li> <li>Easing water-related regulations for win-win growth</li> <li>Establishing integrated governance by basins</li> </ul>

### Fairness

- Addressing water problems in remote areas
- Providing basic services in areas suffering from droughts (islands and mountainous years)
  - Developing an integrated river branch disaster management system (municipalities)
  - Improving the to water distribution systems in consideration of downstream areas
  - Diversifying measures to tackle water issues (local dams, utilization of sea water and rainwater)

### Sustainability

- Climate change response, facility safety and healthy environment
- Actively coping with climate change
  - Advancing and overhauling the facility safety management system
  - Strengthening the national land use-water integration management system
  - Strengthening pollution source management by integrating basins and providing forecast information.

# Achieving Happiness through Water Competitiveness

Approach to Sustainability  
 K-water, Global Hub of Water Management  
 K-water's Five Pledges for Sustainable Management  
 Appendix

Pledge 1, Intelligent Water Management and Satisfied Customer  
 Pledge 2, New Water Values for All  
 Pledge 3, Leading Global Water Management Company  
 Pledge 4, Global Sharing of Water-related Welfare  
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## Creation of a Eco-Friendly Waterfront Complex Cities

K-water is devoting itself to building waterfront cities that harmonizes water, nature and ecosystems in addition to scientific water management. The company is doing everything it can do build future-oriented complex cities with tourism and leisure facilities in harmony by way of the development of eco-friendly complex cities such as Sihwa Multi Techno Valley (MTV), Songsan Green City and Busan Eco Delta City and various water-friendly space creation projects such as general river improvement projects, the Ara Waterway and Sihwa Lake.

### Water-Specialized Eco-Friendly Waterfront Cities merging the Benefits of Nature and Urban Life

K-water is building eco-friendly complex cities via the re-creation of waterfront spaces. The company is contributing to vitalizing local economies and seeking to develop specialized development by regions by building eco-friendly complex cities with multiple functions such as commercial, industrial, cultural, tourism and leisure facilities with water-friendly spaces near national rivers and streams

### Industrial and Ecological Cities with Waterways

National industrial complexes and new cities which laid the foundation for the growth of the national economy are growing into eco-friendly ecological cities and multipurpose complex cities by realizing industrialization and urbanization based on ICT where water, nature, tourism and leisure are mixed in harmony.

#### Status of Development of National Industrial Complexes

- Began to push ahead with the development of industrial complexes in 1974 in accordance with government's policy to promote heavy and chemical industries
- Built 2nd to 4th Industrial Complexes of Onsan, Changwon and Gumi and Yeosu National industrial complexes
- Creating eco-friendly industrial complexes such as the Expanded Gumi Industrial Complex and Hi-Tech Valley

#### Status on the Development of Sihwa Area

- Developed Ansan New City to secure urban industrial land in the Seoul metropolitan area
- Created Ansan New City (1977 - 2009 / Population: 750,000)
- Created Sihwa New City (1986 - 2010 / Population: 150,000)

#### Creation of Creative Waterfront Cities

- Created Global Sihwa Waterfront City
  - Sihwa Multi Techno Valley (MTV): Multi-purpose complex city with advanced industry and research capabilities
  - Songsan Green City: Resources recycling ecological city with a focus on tourism, culture and environment
- Created 3S(safe, stable, smart) waterfront cities
- Created smart waterfront city based on water-centric urban plan design method
- Created complex city for tourism, leisure, culture and living based on waterfront spaces (marine resorts, theme parks and waterfront trails)

### Luxurious Cultural Spaces with Tourism and Leisure Infrastructure

Beautiful waterfront spaces near dams, rivers and the Ara Waterway are happy spaces in which animals, plants and local residents live in harmony. We will enhance people's quality of life and vitalize local economies by developing waterfront spaces and producing cultural contents.

#### Adding new value to waterfront spaces

- Past - Origin of civilization, trade spaces and center of living
- Present - Passively used spaces, spaces isolated from cities and spaces vulnerable to disasters
- Future - Actively used spaces, exciting leisure spaces and complex spaces which provide opportunities for life, work and rest

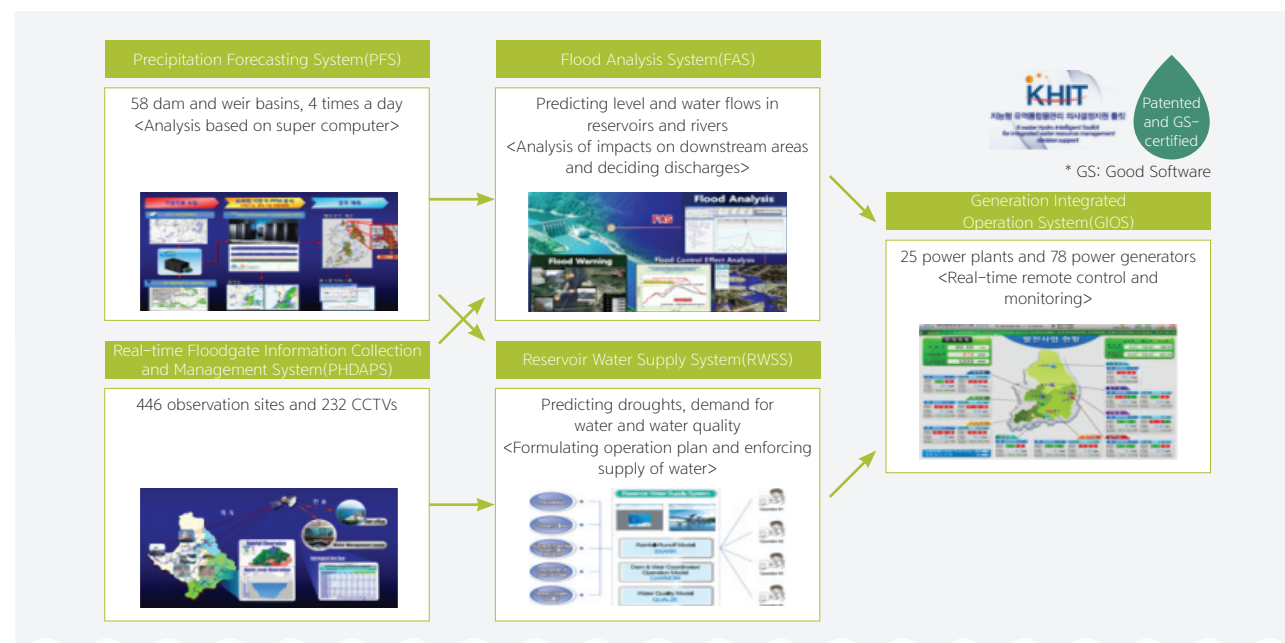
#### Creating future value through convergence of waterways and culture

- Cultural event spaces
- Modern facilities for leisure, recreation, etc.
- Spaces where nature and human beings co-exist
- Spaces with various contents of local communities

### Development of K-HIT

K-HIT or K-water Hydro Intelligent Toolkit for Integrated Water Resources Management Decision Support was developed to empower K-water to achieve the technological level of advanced countries and lay the groundwork for new growth engine businesses by securing integrated basin water management technology.

K-HIT is made up of basic technologies for integrated water management such as floodgate data modeling (or software), water use modeling (analysis software), remote control operation of dams and power generation facilities. K-water took the initiative in developing integrated basin water management technology based on its 40-year of know how in practical water management. K-HIT is expected to contribute to spreading Korea's water management technologies at home and abroad by way of the completion and branding of new technologies. We will boost our competitiveness in the water industry at home and abroad by steadily advancing with the development and advancement of a system based on differentiated and specialized technology.



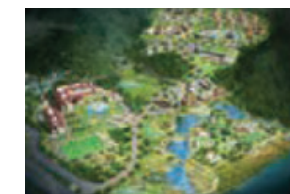
### Developing a Water Safety System by Proactively Responding with Focus on Prevention

The establishment of integrated water management enables the integrated operation of water resources facilities such as dams and the integrated management of rivers and basins and can maximize flood control capabilities, raising the efficiency of water management significantly. In addition, integrated water management can address drought and floods issues on droughts and floods on islands and in mountainous areas via the development of customized water resources based on local agreement. At the same time, this method can provide benefits for water shortage areas from fair water environments through the elimination of streamflow depletion via the expansion of maintenance water and an improvement in water quality. We are exerting ourselves to build a water safety system that can be sustained despite climate change among other issues by overhauling and maintaining old reservoirs and dams through prevention-oriented preemptive responses.



#### Buyeo Gyuan District

- Designated as water-friendly zone
- Waterfront village with water leisure facilities and history landmarks from the Baekje Kingdom
- Eco-friendly tourist destination for travelers such as pension complexes and motels for bike riders connected to waterfront parks



#### Naju Noan District

- Designated as a water-friendly zone
- Water-friendly rural village connected to Yeongsan River
- Southern cultural village with southern foods and styles
- Picturesque old village in which tradition and modernization are in harmony



#### Busan Eco Delta City

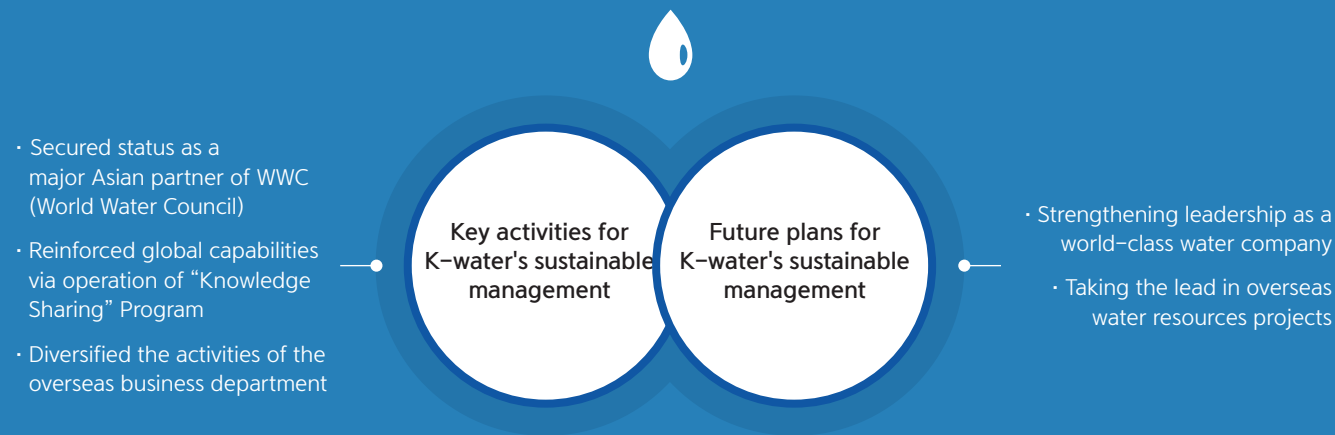
- Joint project with Busan Government
- Future-oriented eco-friendly waterfront city which harmonizes nature of nature, people and life
- Developed as a base for international logistics and advanced industries which will lead the way for new growth in Busan



**Pledge 3**

# Leading Global Water Management Company

The water resources business is a major growth engine for the expansion of a nation's economy. K-water is successfully carrying out overseas water resources projects through its rich experience and technological power and is growing into a world-class water-specialized player through active exchanges with leading global water-related organizations.



**Performance**

- Launched the Smart Water Management Initiative (SWMI) at 7th World Water Forum (Apr. 2015)
- Received the order a hydroelectric power plant project in Nenskra, Georgia
- Received the order for a waterworks project in Bulacan, Philippines

- Completed a waterworks operation project in Shayang, Jiangsu, China
- Completed waterworks project in Ebinayong, Equatorial Guinea

**Hydroelectric Power Generation Project in Patrind, Pakistan**

- Capacity : 150MW
- Total cost: USD 436 million
- Working drawing was completed(2014. 12)
- Scheduled to start commercial power generation(2017. 3~)

**Angat Dam Hydroelectric Project in the Philippines**

- Capacity : 218MW
- Total cost: USD 469 million
- Completion of acquisition and start of commercial power generation(2014. 10)
- Financial closure(2017. 7~)

**Waterworks Management Project in Equatorial Guinea**

- Capacity : 7,200m<sup>3</sup>/day
- Total cost: USD 41.6 billion
- Mongomo waterworks(2006~)
- Ebinayong waterworks(2013~)
- Ebebiyin waterworks(2013~)

**Nenskra Hydroelectric Power Generation Project in Georgia**

- Capacity : 280MW
- Total cost: USD 950 million
- Signed implementation agreement(IA) and power purchase agreement(PPA)(2015. 8)
- Financial closure and start of construction(2016. 12~)

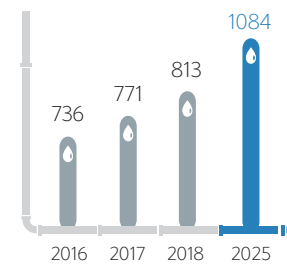


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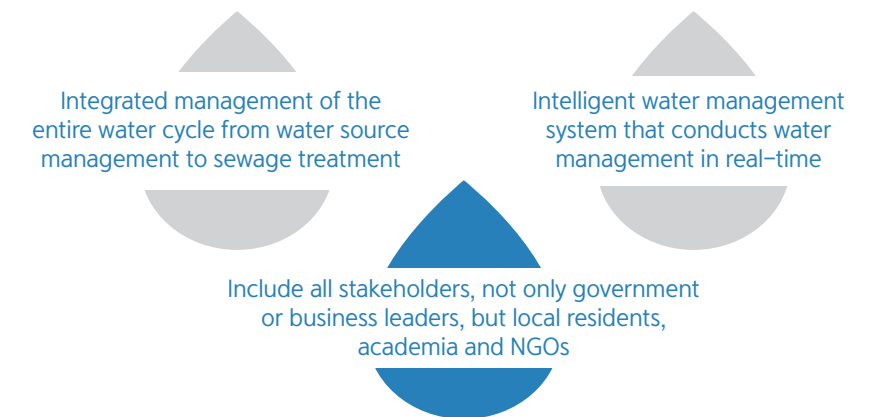
## Smart Water Management, a Scientific Solution to Address Global Water Problems

K-water began to expand into overseas markets by successfully hosting the World Water Forum in April, 2015. The company strives to take the lead in the KRW 1,000trillion world water market based on half a century of water management experience that covers the entire water circulation process experience and smart water management technology which incorporates ICT (Information and Communication Technologies).

Size and Outlook of the World Water Market [Unit: KRW trillion]



Smart Water Management Initiative (SWMI)



### Taking the Lead in the World Water Market by Hosting 7th WWF and Launching SWMI in the World Water Forum, 2016



7th World Water Forum

Experts evaluated that the 7th World Water Forum which opened under the theme of "Water for Our Future" on April 12 accomplished the most remarkable outcomes with the participation of 40,996 people from 168 countries. The hottest issue of the forum was to include the scientific and technological sector. In the science and technology session newly established at the suggestion of Korea, K-water hosted a special session on the SWMI (Smart Water Management Initiative), K-water's scientific solution initiative to address the world's water problems.

K-water which announced SWMI, an innovative water management method based on ICT, received favorable reviews from people who evaluated that K-water created a new paradigm of future water management. After launching SWMI, K-water received positive responses such as proposals from Suez, Veolia and Deltares who call themselves leaders in smart water management.

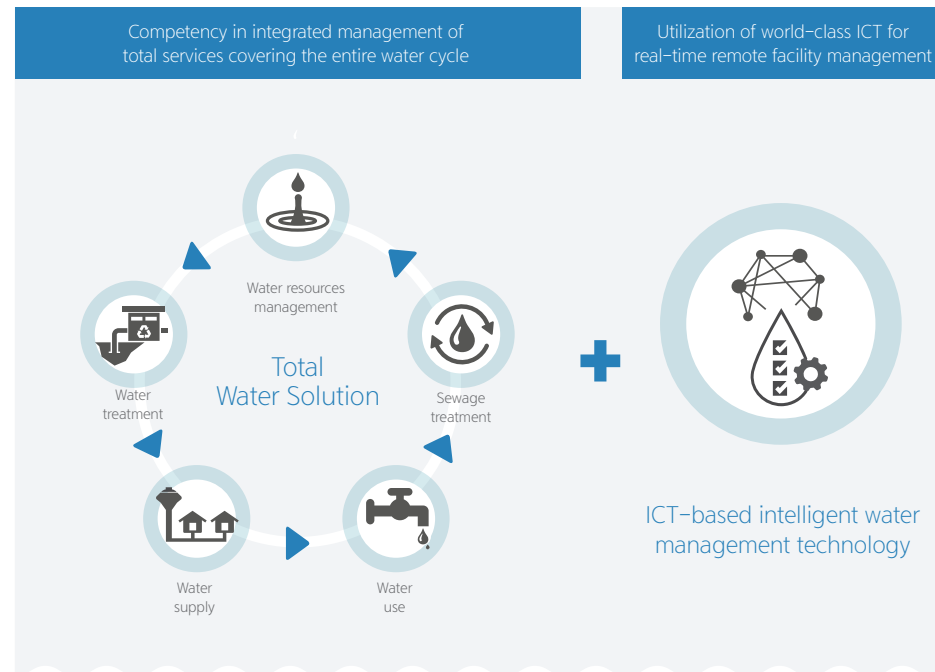
### SWMI, an ICT-based Intelligent Water Management System

Participants had discussions in about 400 sessions of the four sectors -- theme, political, science and technology and regional sessions in an effort to address the world's deteriorating water problems. In the science and technology session suggested by Korea, a total of 38 sessions were held to deal with efficient water management, smart water management and waste water recycling technology among others. We put our utmost efforts into promoting SWMI as a global agenda while preparing the 7th World Water Forum. With harnessing all of such results, we launched SWMI and are planning to strategically develop and expand SWMI.

# Leadership and Capability Development to Solve Global Water Issues

Approach to Sustainability  
 K-water, Global Hub of Water Management  
 K-water's Five Pledges for Sustainable Management  
 Appendix

## Smart Water Management (SWM)



\* SWM is a solution of actualizing SWMI – an ICT-based intelligent water management system which maximizes the efficiency of water resources by applying ICT to the entire water management process from planning to management

## Global Leadership to Solve Water Problems

K-water, which has played a leading role in strengthening international cooperation in the water sector in Asia, co-hosted the 7th World Water Forum (Daegu, Korea in April, 2015) and demonstrated leadership in solving global water issues. K-water developed AWHoT, which is a high-level meeting to address Asian water issues and seek solutions, into the Asia Water Council (AWC), an executing council and is serving as the chair of the AWC. Through this, we became a regional partner in Asia of the World Water Council (WWC) and are playing a central role in the Asia region in preparing the eighth World Water Forum to be held in Brazil in 2018.



\* AWC, The 3rd Board of Council Meeting

## Emerging as a Global Water Company

With the 7th World Water Forum as momentum, K-water carried out technology research and human resources exchange, discovered joint projects and is commercializing the projects. The company is also taking part in the AWC (Asia Water Council) in order to discuss pending water-related issues in Asia. After the 7th World Water Forum, the company announced five strategic tasks and ten implementation tasks under the goal of becoming an SWMI-based global leading company and is making steady efforts to elevate its brand value and expand its advancement into overseas markets.

Pledge 1. Intelligent Water Management and Satisfied Customer  
 Pledge 2. New Water Values for All  
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# Expansion of Advancement into the Global Water Market and Bolstering its Global Capabilities

K-water is planning to secure competitiveness by turning integrated SWM-based water management and technology to supply healthy water into the the "K-water Program" (K-water's oversea business model that provides customized solutions for pending water-related issues of overseas countries).

## Expanding Advancement into Overseas Water Markets

K-water paved the way to enter overseas water markets by organizing the K-Water Program Integration Council with the participation of the government, government-run and private companies and financial institutions. With the aim of enhancing business development capabilities, the company formulated a plan to expand from ten current overseas offices to thirty by 2017. We have been exporting our technology on a full scale since 2015 and incorporated them into the designs and plans for the hydroelectric power generation project in Nenskra, Georgia and for the commencement of operation of power generation facilities at Angat Dam in the Philippines and exporting integrated water management technology to Algeria and Indonesia.

## K-water in the World Water Market



### K-water was in Charge of Equatorial Guinea's First Water Purification Plant

K-water is enjoying booming waterworks business abroad. The company is in charge of the outsourcing operation of Equatorial Guinea's first water purification plant in Africa. We began to manage a water purification plant in the Mongomo area in 2006. At the moment, we are supplying water for a total of 45,000 people in three cities including Ebebiyin and Ebinayong.



### Commencement of Repairs and Reinforcement of Angat Dam

Angat Dam, a core part of the Philippines' infrastructure is 58km northeast of Manila. The dam has a power production capacity of 218MW which eclipses that of Soyonggang Dam (200MW) and supplies about 98% of the tap water to the capital of Manila. K-water was selected as a new operator in 2010 based on its excellent technology for dam operation and management and has been commercially generating power since November 2014. The company began to repair and supplement Angat Dam completed in 1967 to secure its stability after completion of its precise diagnosis. The repairing and supplementing work is to heighten the dam by 1.2m in order to protect it from recent abnormal weather and install measuring devices such as a seismometer, an underground water hydrograph and a penetrating water gauge. The work will cost about KRW 22 billion and will take 18 months to complete (Dec, 2016). This work is expected not only to prevent floods in the Manila area but also to contribute to the operation and commercial power generation of the dam for the next 50 years.

## Strengthening Global Capabilities

After co-hosting the World Water Forum, K-water is operating a Knowledge-Sharing Program for the purpose of improving its global capabilities. The program began with a view to serve as a bridgehead to overseas markets by systematically fostering water management specialists who will carry out the government's water industry promotion policies internally and diffusing its water management experience and technology to overseas countries through educational programs externally. K-water has been conducting presentations about water education and holding workshops.



### Increasing Global Capabilities by Disseminating Water Management Experience and Technology

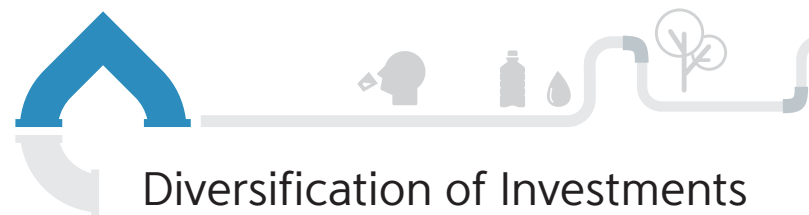
After co-hosting the World Water Forum, K-water is operating the Knowledge-Sharing Program for the purpose of improving its global capabilities. The program aims to nurture human resources that will play the role of a bridgehead to overseas markets by disseminating K-water's water management experience and technology abroad.



### Solving Water Management Problems by Taking the Lead in Discussing River Disputes

With respect to solving disputes of transnational rivers in Asia, K-water steadily discussed disputes such as the Mokong River and the Aral Sea via the AWHoT. We will devote our efforts to address water problems in the Asian region via the AWC.

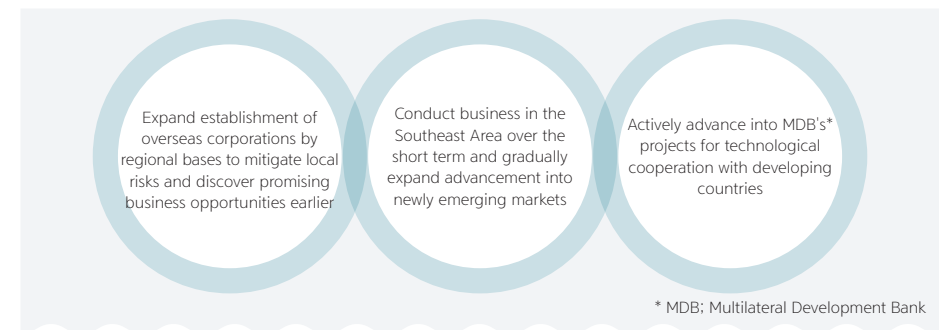




## Diversification of Investments and Operations

K-water is carrying forward the diversification of investments and operations through its overseas business department. The company is planning to increase the number of overseas offices to 30 by 2025. Based on its experience in the global water market, K-water has ventured into new business opportunities such as the hydroelectric power generation projects in Patrind, Pakistan and Nenskra, Georgia. As well K-water is involved other types of projects such as the waterworks project in Bulacan, Philippines and North Korean reunification preparations.

### Overseas Business Strategy



### Proactively Preparing for Unification with North Korea

- Preparing plans to connect in conjunction with government policies
- Establishing a tentative water resources infrastructure plan in consideration of North Korean special district plan among others
- Prepare a plan to jointly utilize water and electric power by turning superannuated hydroelectric power plants into multipurpose ones
- Strengthen international cooperation with neighboring countries such as China and Russia

### Key Results of Overseas Projects in 2015



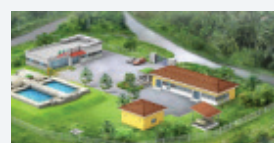
#### [China] Shayang, Jiangsu Province Water Supply Project (2010~2015)

- Providing tap water through the acquisition, construction and operation of local waterworks in Jiangsu Province's Shayang in Yangtze River Delta region, China's largest economic development zone
- Acquisition and operation of local waterworks



#### [Equatorial Guinea] Ebebiyin City Waterworks Project (1st phase) (2013~2015)

- Increasing possibility of participating in future similar projects through technology transfer and management of new waterworks facilities in Ebebiyin City area in Equatorial Guinea
- Technology support for operational management and education and training of local human resources among others



#### [Equatorial Guinea] Ebinayong City Waterworks Project (1st phase) (2013~2015)

- Increasing possibility of participating in future similar projects through transfer of operation and management technology of new waterworks facilities in Ebinayong City area of Equatorial Guinea
- Technology support for operational management and education and training of local human resources among others

Approach to Sustainability  
K-water, Global Hub of Water Management  
K-water's Five Pledges for Sustainable Management  
Appendix

Pledge 1. Intelligent Water Management and Satisfied Customer  
Pledge 2. New Water Values for All  
Pledge 3. Leading Global Water Management Company  
Pledge 4. Global Sharing of Water-related Welfare  
Pledge 5. Enterprise for and of Public Users

## Building Global Networks via Sophisticated Business Management

K-water is beefing up its business capabilities by establishing the Risk Management Committee with a view to coping with possible risk in overseas projects. Moreover, the company is differentiating operation by regions and business sectors and building and maintaining cooperative relationships with relevant units.

### Global Business Management

- Reinforce quantification of business selection standards and risk management by sectors and nations
- Build close strategic bond with global organizations such as international organizations and MDB among others
- Strengthen localization strategy for strategic overseas countries such as Thailand and Pakistan

### Expanding Markets

- Laying foundation for related business such as ICT-based water management methods and alternative water resources
- Carrying forward business with focus on Southeast Asia and expand business into newly emerging economies
  - Southeast Asian Belt: Thailand, Philippines, Indonesia, Laos, Myanmar, Vietnam, Cambodia
  - European and Latin American markets: Georgia, Peru, Chile, Brazil and etc.



[Pakistan] Patrind Hydroelectric Power Generation Project

#### [Pakistan] Established a plan to complete Patrind Hydroelectric Power Plant in time and for its optimal operation

- Completed working drawings by applying changes to the grit chamber design, held briefing session for creditors and mapped out preemptive operation and management plan(size of O&M human resources and test operation plan for power generation facilities)

#### Created SWM business opportunities by utilizing the 2015 World Water Forum

- Expanded business development opportunities such as signing two MOUs and having 14 discussions about cooperation on water management
  - \* Suez of France (advancement into Asian water market) and Indonesian Public Project Department (project to build an integrated dam management system)



Taking the lead in World Water Market by co-hosting in 2015

#### [Philippines] Awarded the Bulacan Waterworks Project for submitting a comprehensive and competitive bid

- Based on the combination of business experience, local company networks (e.g. San Miguel) and price competitiveness and the formation of strategic consortium with company with construction experience (Hanjin Heavy Industries)

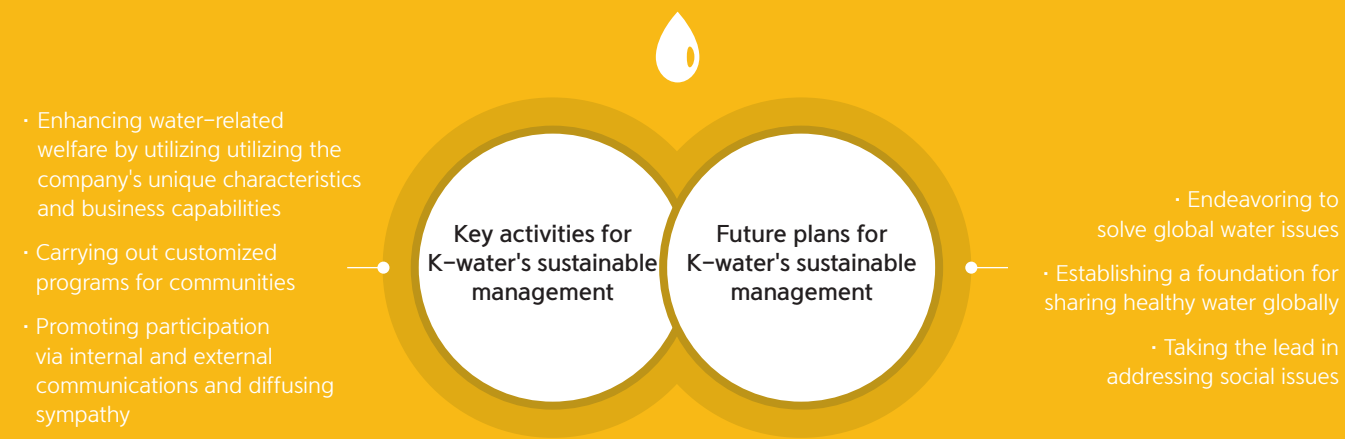
#### [Georgia] Awarded the Nenskra Hydroelectric Generation Project(Total cost: KRW one trillion, 280Mw)

- Reduced construction cost and optimized project budget via EPC international bids
  - Utilized past successful cases such as Patrind Hydroelectric Power Generation
  - \* EPC: a turn-key project including engineering, procurement, and construction

**Pledge 4**

# Global Sharing of Water-related Welfare

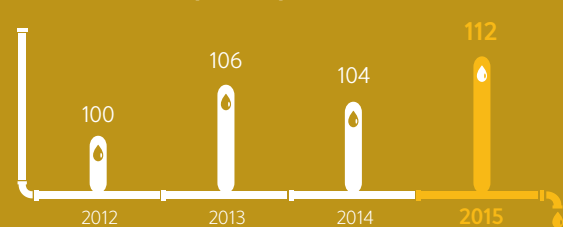
According to its unique social contribution vision, K-water is implementing social contribution activities by setting three core values of social contribution and future directions to which its value system and strategy were applied by concentrating resources and capabilities. By making the most of its expertise in water management, K-water will become a company that realizes a society where people share love and happiness with one another and contribute to the development of the nation and communities.



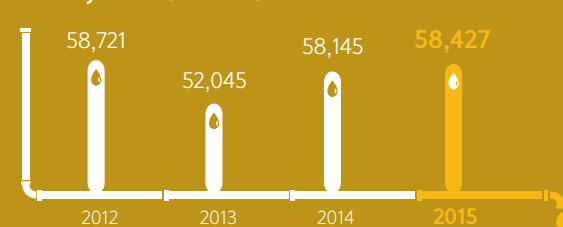
**Performance**

- Grand Prize in the social contribution sector of national sustainability management
- CSR Activity Prize among Korean companies which entered the Philippines market
- Recipient of a Prize from the Ministry of Gender Equality & Family for support for teenagers outside schools
- Educational Donation Prize among Korean Public Organizations

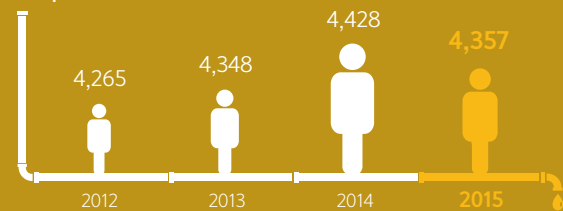
**Number of clubs [Unit: clubs]**



**Activity hours [Unit: hours]**

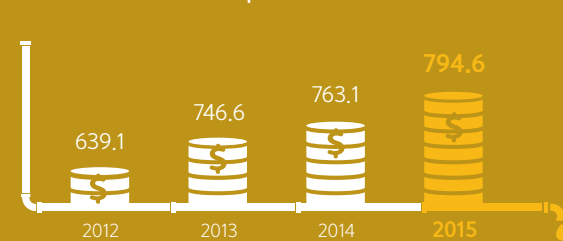


**Employees participating in corporate social contribution activities [Unit: persons]**



\* It has counted the number of employees physically participating into social contribution activities since 2014 (excluding the employees dispatched to overseas offices, who participates into fund-raising programs, but not into actual activities).

**Social contribution expenses [Unit: KRW 100 million]**



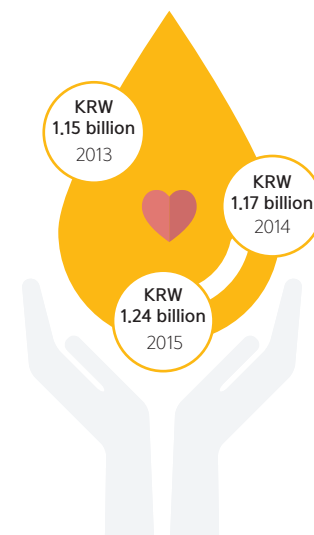
- Pledge 1. Intelligent Water Management and Satisfied Customer
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- Pledge 5. Enterprise for and of Public Users

# Water Love Sharing Corps

K-water's Water Love Sharing Corps is made up of employees that have been steadily carrying out a wide array of voluntary service activities such as environment preservation, disaster relief, helping the marginalized and contributing to local communities since its establishment in July 2004. K-water is systemically managing voluntary service activities by the establishment of internal volunteer social service clubs and the management of results. The company is giving support to the corps' activities by allocating matching grants as part of its budget commensurate with the Love Water Sharing Fund raised with monthly donations from employees. In 2015, 4,357 employees, 99% of all employees, carried out social contribution activities totaling 58,000 hours by joining 112 voluntary service clubs under the Water Love Sharing Corps.

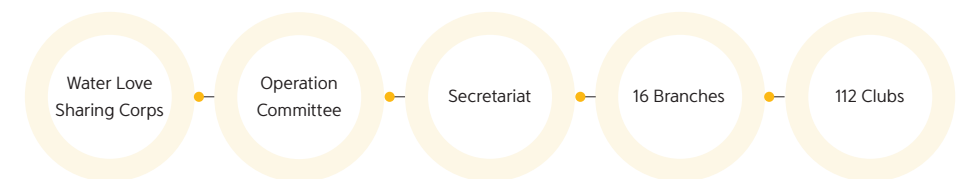
The Ministry of Health and Welfare and the Korea Social Welfare Council designated the Water Love Sharing Corps as an internal volunteer social service club in 2009. Therefore, the corps issues certificates of participation in social contribution activities to the general public. Through the organization, employees' families and students are actively participating in local social contribution programs.

**Love Water Sharing Fund**



Water Love Sharing Corps

**Organizational Chart**



**Major Activities**

<p><b>Helping people in need</b></p> <p>Various activities such as giving side dishes and becoming friends for marginalized people such as home-alone senior citizens, disabled people, teenagers who are heads of families and others</p>	<p><b>Environment protection activities</b></p> <p>Activities to protect the environment such as campaigns, river cleanups, planting trees and others</p>	<p><b>Support for disaster relief</b></p> <p>Quick activities such as giving support to help people in regions stricken by disasters such as floods and droughts</p>	<p><b>Contribution to communities</b></p> <p>Community-friendly activities such as free technological services, drinking water quality tests and support for local events</p>
<p><b>Love Water Sharing Fund</b></p> <p>Sharing 1% of employee salaries are donated for the first time as state-run company (Collecting a certain amount of money each month)</p>		<p><b>Matching grant</b></p> <p>Company donates the same amount as that of Love Water Sharing Fund</p>	
<p><b>Expenses for Supporting Dams</b></p> <p>Contributing some of profits from selling dam water and power generation at dams</p>		<p><b>Coins of love</b></p> <p>Donating coins left after business trips</p>	
<p><b>Donating prize money from Knowledge Suggestion Program</b></p> <p>Donating some of the prize money from the Knowledge Suggestion Program</p>		<p><b>Raising social contribution funds</b></p>	

**Water for a Happier World**  
Water Love Sharing Corps



# Water for a Happier World, K-water's Water-related Welfare Projects

Approach to Sustainability  
 K-water, Global Hub of Water Management  
 K-water's Five Pledges for Sustainable Management  
 Appendix

Pledge 1, Intelligent Water Management and Satisfied Customer  
 Pledge 2, New Water Values for All  
 Pledge 3, Leading Global Water Management Company  
 Pledge 4, Global Sharing of Water-related Welfare  
 Pledge 5, Enterprise for and of Public Users

K-water is putting forth efforts to improve water welfare conditions and supply healthy water through projects in places where water welfare is limited such as farms, fishing towns, islands, military bases, marginalized superannuated houses and welfare facilities.

## Bringing Happiness to Areas Once Devoid of Water-related Welfare

The Happy Water Project aims to repair water-related facilities in remote areas and provide water-related welfare services. K-water made an improvement to water use environments including kitchen sinks and water pipes at 279 sites including aging housing for vulnerable groups, welfare centers welfare centers and soup kitchens via this project from 2013 to 2015. The company addressed residents' inconveniences by quickly mobilizing water supply trucks and emergency bottled water to the South Chungcheong Provincial area that had trouble in using water such as the suspension of water supply due to a severe drought. K-water is steadily developing and expanding water welfare projects by directly supplying water from multi-regional waterworks to three unserved farming and fishery areas in three regions of South Chungcheong Province and improving water supply facilities at 692 military bases so that all people can enjoy the benefits of healthy water.

## Stabilization of Aging Reservoirs Managed by Local Governments.

As the steady deterioration of old reservoirs become a threat to people, K-water is taking part in preventing reservoir-related accidents, making the country safer. At the moment, the company is engaging in reservoir stabilization projects in seven cities and counties.

## Direct Supply of Water from Multi-Region Waterworks to Unserved Areas

K-water is going forward with the direct supply of water from multi-region waterworks to unserved areas less than 2km from multi-region waterworks. The project, which is underway in 27 cities and counties, is improving welfare conditions by increasing the quantity and quality of water to previously unserved area.

## Improving the Small-Scale Waterworks Management System

Small-scale waterworks in small towns are hard integrate with local waterworks systems due to geographical characteristics and are vulnerable in terms of the management of water quantity and quality. Therefore, K-water is running and managing an ICT-based integrated operation system to monitor water quantity and quality in real-time and pushing forward with automated water services.

## Outsourcing Operation of Seawater Desalination Facilities on Islands

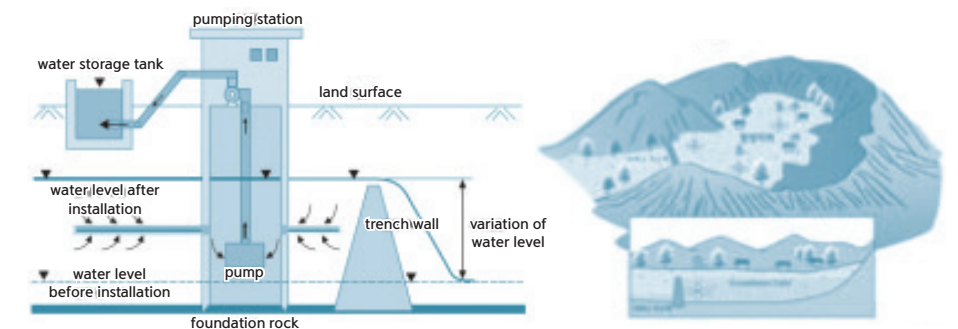
K-water has been carrying out the outsourcing operation of 39 seawater desalination facilities in eight municipalities since Seosan City in 2004. The company endeavors to relieve people on islands whom suffer from droughts by supplying 1,915m<sup>3</sup> of drinking water.



## Groundwater Management Plan to Improve Regions Devoid of Water-related Welfare

A groundwater dam refers to groundwater resources securing facility that makes groundwater flow low by building an artificial cut-off wall in an aquifer and extract the water via a tube well. At the moment, Korea has six groundwater dams capable of supplying about 150,000 m<sup>3</sup> of water a day. First all, the company selected ten areas and applied a mid- to long-term plan to the Basic GroundWater Management Plan established in December 2012 to stably supply water to areas with poor water welfare such as islands and coasts and prevent saline water from penetrating into such areas. We are planning to carry the plan forward step by step.

### Concept map of groundwater dam



Classification	Target area	Project year
Yellow Sea (Island)	Incheon Ongjin-gun Daeijak-do	2013~2016
Yellow Sea (Island)	Jeonbuk Gunsan Gaya-do	2013~2016
Yellow Sea (Island)	Chungnam Buyeong Sapsi-do	2017~2020
Yellow Sea (Island)	Jeongnam Yeonggwang-gun Anma-do	2013~2016
Yellow Sea (Island)	Jeongnam Shinan-gun Wooi-do	2015~2018
Yellow Sea (Island)	Jeongnam Shinan-gun Daedun-do	2015~2018
South Sea (Island)	Gyeongnam Tongyeong Yukji-do	2015~2018
South Sea (Island)	Jeongnam Wando-gun Cheongsan-do	2016~2016
South Sea (Island)	Jeongnam Yeosu Nang-do	2017~2020
East Sea (Island)	Gyeongbuk Yeongdeok-gun Yeonghae-myeo	2017~2020

<Source: 2016 World Water Day Data Book (page 172)>

## Status of Groundwater Dam Development

Classification	Ssangcheon	Ian	Namsong	Okseong	Gocheon	Uil
Location (river name)	Sokcho, Gangwon (Ssangcheon)	Sangju, Gyeongbuk (lancheon)	Pohang, Gyeongbuk (Gokgangcheon)	Gongju, Chungnam (Yugucheon)	Jeongeup, Jeonbuk (Yonghocheon)	Jeongeup, Jeonbuk (Hangyocheon)
Basin area (km <sup>2</sup> )	65.3	21.3	153.0	275.0	27.0	22.0
Supply capacity (m <sup>3</sup> /day)	33,000	24,000	23,600	27,900	25,110	16,200
Usage	water for living	for agriculture	for agriculture	for agriculture	for agriculture	for agriculture
Year of completion	1998	1983	1986	1986	1986	1986
Length of trench wall(m)	800	230	89	482	192	778

# Water for a Happier World, K-water's Water-related Welfare Projects

Approach to Sustainability  
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Appendix

Pledge 1, Intelligent Water Management and Satisfied Customer  
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## Key Results of K-water's Social Contributions in 2015

### K-water Reaches Every Corner of Korea



#### Development of an Integrated Flood Control System For River Branches

K-water is active about preventing flood damages to municipalities by helping them with its ICT-based scientific flood management technology and related experience. Its integrated flood control system for river branches is spreading nationwide from Namwon, Muju and Gunsan.



#### Providing Drinking Water to Elementary and Middle Schools

K-water is supplying safe and clean drinking water by building membrane filtration facilities at 37 elementary and middle schools in unserved areas where people drink unhealthy drinking water.



#### Linking Tap Water Branch Outlets to Local Tap Water Pipes for Marginalized's Homes near Dams

K-water is paying the fees associated with linking the tap water branch outlets to local tap water pipes for homes with safety and hygiene problems due to old water supply facilities.



#### Upgrading Water Supply Facilities at Military Bases

K-water prepares improvement measures for military bases that have a difficulty in securing drinking water due to water scarcity issues and poor water quality. The company supported them by testing and analyzing the water quality and provided them with bottled water for safety reasons.



#### Improving the Operations and Management of Management of Small-Scale Waterworks

Small-scale waterworks in small towns are hard integrate with local waterworks systems due to geographical characteristics and are vulnerable in terms of the management of water quantity and quality. Therefore, K-water is running and managing an ICT-based integrated operation system to monitor water quantity and quality in real-time and pushing forward with automated water services.

### Efforts to Address Global Water Problems

As a water specialist, K-water is fulfilling its responsibilities as a global leader while making efforts to develop waterworks, provide educational support, repair public buildings and enhance people's quality of life through its technology and experience in nations with water shortages. The company has steadily implemented drinking water resources development and life support projects for locals in nations that have trouble using safe drinking water such as Tajikistan, East Timor, Cambodia, Mongolia, Vietnam and the Philippines under the theme of creating a happier world with K-water. In 2015, about 59 employees and college student supporters "shared love" locals by building waterworks facilities (water tanks, pipelines, wells and water purification facilities in Bulacan of the Philippines and in Salinji of Myanmar), providing medical, educational and financial support to people there.

#### Status of Overseas Social Contribution Activities [Unit: person]

	Participants	Country
2013	76	Nepal, Laos
2014	73	Philippines, Laos
2015	59	Philippines, Myanmar



#### Receiving the Trade, Industry and Energy Minister Award at the "Third Beloved Korean Company Awards"

K-water led a new water management paradigm based on the Smart Water Management (SWM) which applies with cutting-edge ICT and existing water management technology, and it also played an important role in the water industry by helping small and medium-sized businesses, such as supporting technology development, providing financial support, and finding sales routes. Along with these efforts, K-water endeavored to expand the water welfare benefits for the public through various activities, including desalinating seawater on islands, expanding water supply in metropolitan cities, and repairing water facilities used by the vulnerable. All of K-water's efforts have been duly recognized.



#### Devoting all corporate strength to mitigate local drought

K-water contributed to mitigating local drought by securing dam water storage and sending water trucks and bottled water to drought areas through the expansion of its drought-relief headquarters.



#### "Sharing Corporate Love" event for a Lunar New Year day

K-water designated two weeks around the Lunar New Year as the "Love Sharing Weeks for Lunar New Year" and exercised love and service through various programs, such as providing necessities to the vulnerable, sharing holiday food, offering opportunities for multi-cultural families to experience traditional Korean culture, and bathing senior citizens who live alone, with the help of 112 voluntary groups known as "Water Love Sharers."



#### "Free Medical Services to Share Love" with local residents

K-water provided medical treatment and prescription drugs free of charge to improve the health and welfare of residents living in poor areas near dams. K-water, cognizant of its corporate social responsibility, will continue to carry out resident support activities.



#### Overseas Social Contribution Activities in the Philippines

K-water is engaged in vigorous volunteer activities overseas. A volunteer team composed of 24 people, including the children of K-water employees and university student supporters, visited a village near Angat dam in the Philippines together with the international non-governmental organization (NGO) "Korea Food for the Hungry International," and shared joys and sorrows with Filipino men, women and kids.



#### Generous Volunteer Activities during Chuseok

For Korean thanksgiving day, Chuseok, K-water provided groceries and provided lunch to the disabled and local residents. K-water employees were engaged in volunteer activities such as donating money to buy washing machines for the army troops located in Jinan-eup.



#### Volunteer K-water's Social Service Brand "Happy Water Project"

K-water has implemented the "Happy Water Project" to increase the quality of lives through healthy water by improving the water use environment of the needy. This year, 131 K-water branches are endeavoring to make a happier world with water.



**Pledge 5**

# Enterprise for and of Public Users

As a representative public water management institution in Korea that is directly connected to citizens' lives, K-water seeks to provide the best water services to the public. K-water will become a company for the people and of the people through mutual respect with various stakeholders, including its executives and staff members.



**Performance**

- Received the Prime Minister Award for Promoting Gender Equality
- Received the Prime Minister Award for Family Friendly Company
- Awarded the grand prize at the 100 Good Work Place(GWP) Awards
- Recognized by the Minister of Commerce, Industry and Energy's Prize at the Korea's Reliable Company Awards
- Awarded the Minister of Commerce, Industry and Energy's Prize as an excellent company in shared growth

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## The Autonomous, Positive, and Dynamic Corporate Culture of K-water

The general public is calling for a new corporate culture where people realize work-life balance due to an increase in desire for self-realization and personal activities outside their workplaces. K-water is putting forth efforts to establish a self-regulatory, positive and dynamic corporate culture and earn more trust from its members.

### Five Activities for Smart Organizational Culture Innovation

K-water fosters competent employees based on an autonomous, positive, and dynamic work culture. In January 2015, the company set up an organizational culture secretariat dedicated to organizational culture innovation and established five smart innovation models for an autonomous, positive, and dynamic workplace culture. Labor and management are working together to create a happy and enriching workplace such as reducing overtime work by focusing on work and improving the family-friendly system.

Work Smart	Life Smart	People Smart	Team Smart	Brand Smart
<ul style="list-style-type: none"> <li>Reduction of demand for unnecessary data (Construction and operation of data submission system)</li> <li>Streamlining meetings (Establishment and operation of a schedule management system)</li> </ul>	<ul style="list-style-type: none"> <li>Reduction of unnecessary overtime such as turning PCs off (power off after work hours)</li> <li>Expansion of a flexible working system based on demand survey</li> </ul>	<ul style="list-style-type: none"> <li>Selection of excellent organizational culture (department) leaders</li> <li>Campaign to promote culture of praise and encouragement (banners, pop-ups)</li> </ul>	<ul style="list-style-type: none"> <li>Team trust diagnosis (for all teams within the company)</li> <li>Providing customized organizational culture consulting (for departments at the head office)</li> </ul>	<ul style="list-style-type: none"> <li>Participating in public-private corporate culture improvement campaigns for first time as public corporation</li> <li>Reported by HR Insight (Human Resources management magazine) as public enterprise best practice</li> </ul>

\* K-water is implementing systematic monitoring by developing a new data submission system and a schedule management system since 2015

\* K-PuB: K-water's communication events between management and staff which CEO take the lead in

### Spread of Communications and Trust

- Running K-PuB\*, a communication platform for CEOs and employees in all aspects of management issues and organizational culture
- Operating BOD with participation of employees for promotion of various members' participation in management and communications

Classification	Participants
<b>Junior Board</b>	In K-water's ranking system, employees who have a Grade 4 or lower ranking and worked for 12 years or less for K-water and creative thinking and strong enthusiasm to make improvement to work
<b>Middle Board</b>	Team leader and managerial-level employees with passion for organizational innovation
<b>Senior board</b>	Employees who are heads of departments of higher and have worked for 25 years or longer and can take lead in organizational culture and make suggestions and give advice using the accumulated experience

- Collecting various opinions through online communication channels such as a CEO 1:1 Online Dialogue and an anonymous bulletin board
- Disseminating activities by using everyday spaces such as toilets, outdoor signs, and computer screen savers among others

Results (as of November 2016)				
Number of data requests decreased 81% compared to 2014	Meeting satisfaction (efficiency): * 96% * Survey results of meeting participants	Approval time reduced by 50% compared to 2014 (27% of all departments)	Flexible work system utilization rate: 14.6% increase compared to 2014	Members' trust of organizations *: 37.5% increase compared to 2014 * Trust management index: 56 points in 2014, 68 points in 2015 and 77 points in 2016

## Maternity Protection and Family-Friendly Management

In order to improve the working condition of employees through maternity protection and family-oriented management, K-water is also boosting the morale of employees through the improvement and operation of various systems such as the expansion of periods and the division of the childcare leave system, the implementation of short-term paid work during female employees' pregnancy, posting those who want parental leaves where they want to work. Therefore, in 2015, the company was awarded of the Prime Minister's Prize for the Promotion of Gender Equality and the Prime Minister's Prize for a Family-Friendly Company and was selected as the best company in gender equality practice, and was recognized as one of the top 100 Great Work Places.

### Parental Leave Status

	Classification	2013	2014	2015
Total	Personnel applied for leave (person)	37	33	43
	Personnel on leave (person)	37	33	43
	Reinstatement Rate (%)	100	100	100
	Maintenance Rate (%)	97.3	100	100
Male	Personnel applied for leave (person)	6	1	8
	Personnel on leave (person)	6	1	8
	Reinstatement Rate (%)	100	100	100
	Maintenance Rate (%)	100	100	100
Female	Personnel applied for leave (person)	31	32	35
	Personnel on leave (person)	31	32	35
	Reinstatement Rate (%)	100	100	100
	Maintenance Rate (%)	96.8	100	100

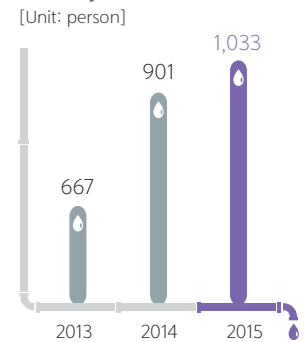
\* Those subject to parent leaves: Employees who applied for parental leaves  
 \* Maintenance rate: Proportion of those who worked for 12 months or longer after returning to work

## Business and Human Rights

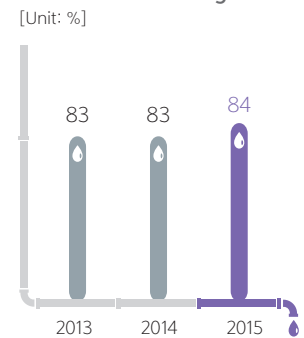
As the nation's leading public institution responsible for water resources, K-water has accepted human rights management as its legal obligation and has been actively working to prevent human rights abuses for sustainable management. K-water hires employees without any discriminatory views on matters such as race, religion, disability, gender, place of birth, and political opinions in order to respect employee rights. To guarantee freedom of association and collective bargaining, K-water allowed employees to freely organize a labor union and is scrupulous in creating no disadvantages to employees due to their participation and activity in the labor union.

As well, K-water continues to make constant efforts to create a safe and hygienic work environment and makes every effort not to violate the rights of residents living in areas where K-water conducts business management activities. K-water is engaged in numerous activities to protect consumer rights and fully respects consumer privacy by solidifying personal information protection systems.

### Status of Flexible Working Hour System



### Labor Union Joining Rate



\* All employees became labor union members due to the union shop system

## K-water's Declaration of Human Rights Management

**In order to realize a better future based on water and share happiness via water, we will actively implement human rights management that respects and protects human dignity and value in all management activities, and pursue sustainable development.**

**To this end, we support human rights management as a standard of value judgments and actions that all employees should observe and pledge to put it into practice.**

We respect and support international standards and norms for the protection and promotion of human rights, including the UN's Universal Declaration of Human Rights.

We institutionalize human rights management and actively eradicate human rights violations.

We do not discriminate on the basis of races, religions, disability, gender, places of birth, or political opinions among others.

We guarantee the freedom of association and collective bargaining.

We do not use any form of forced labor in employment and do not allow child labor.

We provide a safe and hygienic working environment.

We support all our partners' implementation of human rights management.

We respect and protect the human rights of local residents in areas in which we do business.

We establish and maintain an environmental management system to prevent environmental problems.

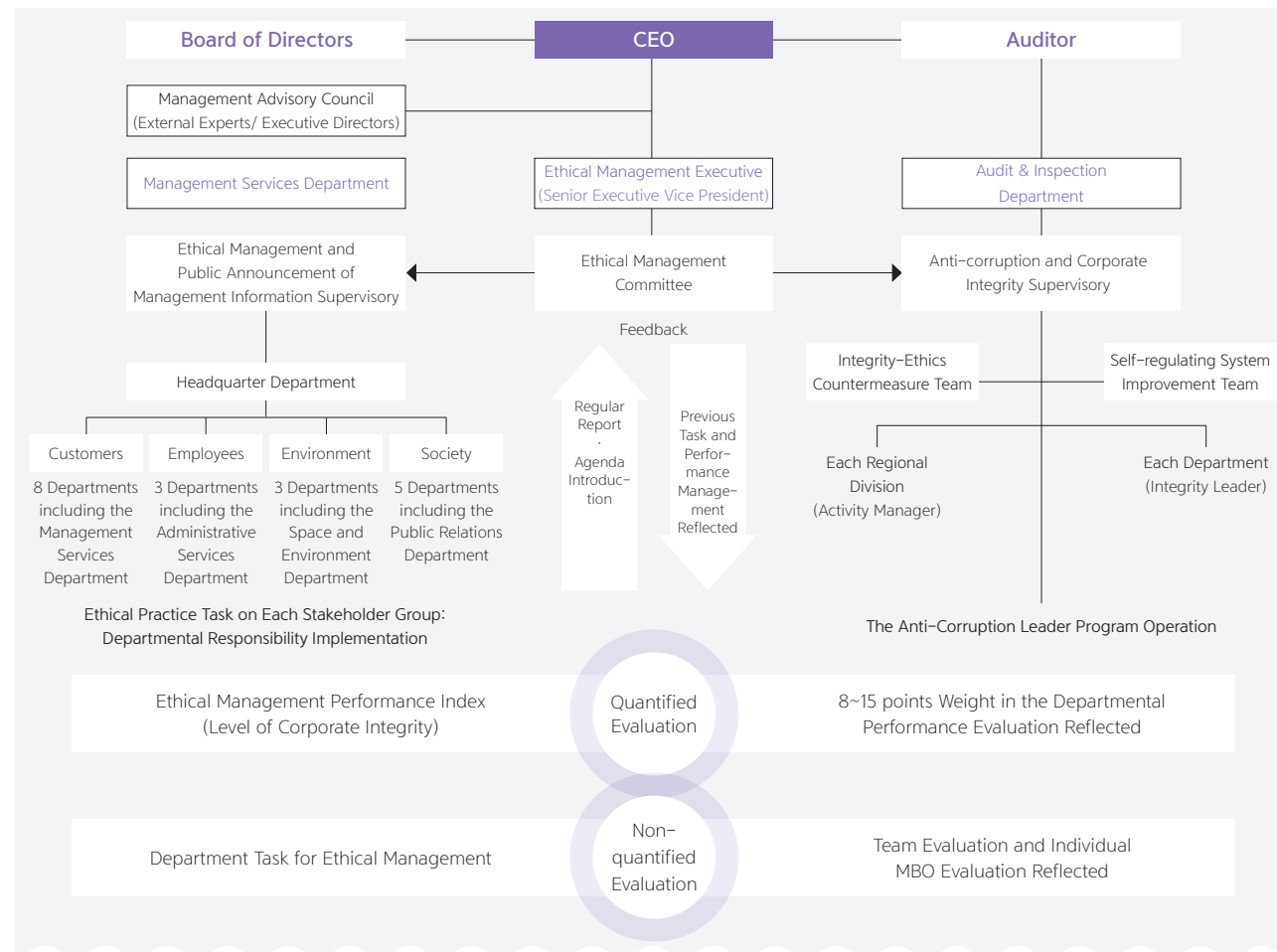
We provide safe and transparent water services to consumers and protect customer value such as personal information collected during our business activities.

**We will take a responsible attitude to protect and respect the human rights of all stakeholders involved in our management activities and pledge to do our best to establish and spread human rights management.**

**All employees of K-water**



As the globalization process has deepened, business ethics, such as human rights, labor, environment, and anti-corruption, are being emphasized as a focal point for business management. As a result, social expectations have increased for public enterprises, and K-water is also required to implement and adhere to high ethical management practices. To live up to the expectations, K-water has been selecting and implementing ethical tasks appropriate to the demand of stakeholders since 2014 in order to strengthen the implementation of social responsibilities through advanced ethical management and work. K-water has established the ethical management system and entered the advanced stage wherein value is shared with stakeholders.



## Vitalization of Whistle-blowing and internal audits for Clean K-water

K-water focuses on the spread of its unique ethical culture through constant training and mailing for employees in order to establish an ethical corporate culture. In 2015, K-water conducted corporate-wide ethical activities in which management showed leadership in ethical activities and employees voluntarily participated in those activities, and it established ethical rules for non-executive directors for the first time among public enterprises. While promoting the spread of internal ethical culture through various activities, such as revising personnel policies, establishing guidelines for an integrity code of conduct by positions and duties, making ethics-oriented posters, and operating data request systems, K-water strengthened its confidentiality and integrity culture so that corrupt acts could be precluded or avoided through an internal corruption reporting hotline and informant protection efforts. Besides these efforts, K-water constantly endeavors to curb corrupt acts and solidify its internal ethical culture by annually improving, developing and measuring the K-water ethics index (KEX) to which its management environment was applied.

### 01 Internal reporting for misconduct in regards to corruption and violation of public interests (i.e. whistle blowing)

When employees notice a corrupt act or an act of violating public interest, anyone can anonymously report the act through report channels in order to correct the misconduct.

### 02 What can be reported?

#### [Corrupt act]

- ① An act of an employee abusing his position or authority in relation to his duties or violating the laws in order to promote personal or third party's interests
- ② An act of using the budget of K-water or making a contract that allows the acquisition, management, and liquidation of assets or has K-water as a contracting party, or an act that inflicts property damage on K-water through the violation of laws and company policy
- ③ An act that solicits, recommends, proposes, or induces the aforementioned acts or hides such acts

#### [Act of violating public interest]

An act of violating the interest of the whole society by infringing provisions specified in 180 laws regarding the five public interest areas (Public Health, Public safety, Environment, Consumer interest, and Fair competition)

### 03 How to report?

Category	Reporting channels
<b>Internal channel</b>	Oasis (K-water's intranet portal): Click the link to the internal reporting center ("Help-Line") "Corporate Integrity" section Homepage: Click the link to the internal reporting center ("Help Line") in "Voice of Customer" section
<b>External channel</b>	Portal site: Type in "Korea Business Ethic Institute" or "K-Whistle" in the search engine · Create a report at "Help-Line"
<b>Other</b>	Mail (to the Audit & Inspection Dept.) · Violation of public interest Fill the annex #1 template in the "Operating Standards for Public Interest Report Processing and Reporter Protection, etc." · (Corruption) Clearly specify the personal information of the details of misconduct Email (clean@kwater.or.kr)

\* If you report through the internal corruption reporting center (Help-Line), the report will be processed by being transmitted to an external site and an external responsible person will take care of the case. (It is impossible for the company to track the personal information of the reporter, IP, etc.)

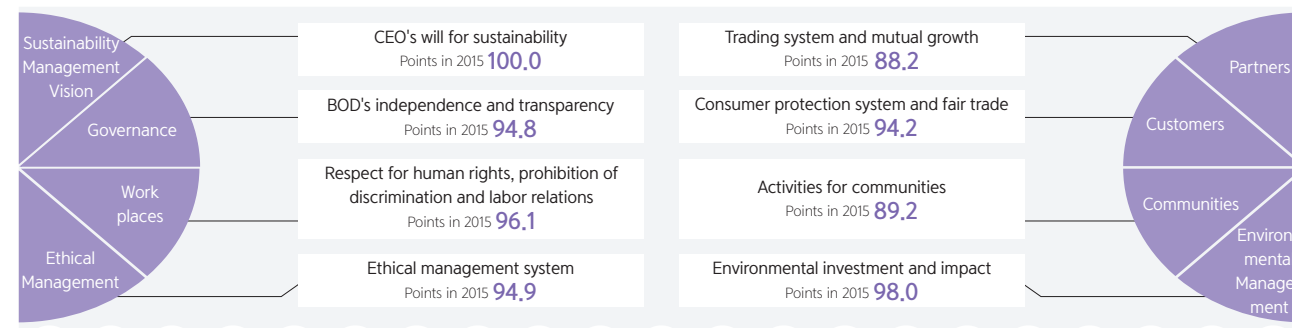
## Pledges of ethical practice by all employees



## Achievement of the Highest Grade (AAA) in KoBEX-SM Index for Five Consecutive Years

In regard to the Korean ethical management diagnosis indicator "KoBEX-SM Index" developed by the Ministry of Knowledge Economy in 2003, K-water has maintained the highest grade for five straight years. In 2008, the KoBEX-SM index evolved into an investigation of the overall sustainable management areas by expanding its diagnostic scope. Pleasing though this may be, K-water is not resting on its laurels but is making corporate-wide efforts to maintain an excellent grade in the overall evaluation areas.

### Results of Ethical Management in 2015



\* KEX(K-water Ethics Index) Index (composed of 11 areas, 39 items) developed to measure comprehensive ethical management results by applying unique work characteristics that cannot be measured by external indices

\*\* Trust Management Index Index to measure the level of the management for "Great Workplace" which made up of five areas (trust, respect, fairness, pride, and fun) and 59 items

\*\*\* KoBEX-SM(Korean Business Ethics Index - Sustainability) A sustainability management survey (composed of 8 areas, 19 items) jointly conducted by the Ministry of Commerce, Industry and Energy and the Institute for Industrial Policy Studies

### Results of Ethical Management

Performance index	Cycle	Evaluator	2013	2014	2015
KEX*	Annual	K-water	87.2 points	87.1 points	85.6 points
Customer satisfaction with government-run firms	Annual	Ministry of Strategy and Finance	97.2 points	96.2 points	94.7 points
Integrity of public organization	Annual	Anti-Corruption & Civil Rights Commission of Korea	IV Grade	III Grade	II Grade
Trust Management Index**	Annual	External Professional Organization(GWP Korea)	66 points	56 points	68 points
Expansion of advanced information disclosure	Annual	K-water	229 cases	260 cases	296 cases
KoBEX-SM Index***	Annual	Institute for Industrial Policy Studies(IPS)	Highest grade (AAA)	Highest grade (AAA)	Highest grade (AAA)

### Ethical Management Tasks



## Received a Superb Grade (S) in Shared Growth Evaluation (the Ministry of Commerce, Industry and Energy) for Two Consecutive Years

K-water has achieved 163% against its plan by making 54 agreements to transfer intellectual property rights (IPR) technology, such as water pipe automatic flushing equipment, to realize ethical management with partnering companies, and its achievement on the performance test has exceeded the previous year. Furthermore, K-water has been involved in the transparent society implementation network in order to better perform as a morally upright public enterprise by taking part in anti-corruption promotion activities. K-water is expanding networks with civil society and public institutions for sustainable integrity activities and is fulfilling its social responsibilities as a public enterprise and spreading anti-corruption and integrity culture by collaborating with both the public and private spheres.

### Implementation of Proactive Ethical Management by Applying the Needs of Stakeholders

K-water aims to establish advanced ethical management through communication with outside stakeholders and the internalization of an ethical culture. K-water increased the number of ethical implementation tasks from 28 in 2014 to 33 in 2015 by expanding the scope of direct and indirect stakeholders and strengthening these tasks.

#### Implementation of Proactive Ethical Management

Target	Achievement	Result	
Existing	People	Promotion of homepage to communicate with people	Increase of 39% in visitors per day from previous year
	Employee	Operation of safety and integrity watch call system to prevent corruption	Made ten times (no annual violation)
	Customer	Improvement in customer contact work and service quality	Excellent customer satisfaction rating for 9 consecutive years
Expanded	Partners	Promotion of overseas expansion with small and mid-sized firms	Selected as an excellent project for collaboration with public organizations Grand Prize at Korea Sustainability Management Awards (in social contribution category)
	Community	Expansion of specialized social contribution based on characteristics of K-water	Management Awards (in social contribution category)
	Future Generation	Expanding clean energy development to combat climate change	Achieving goal of development in 2015



# Talent-Based Management

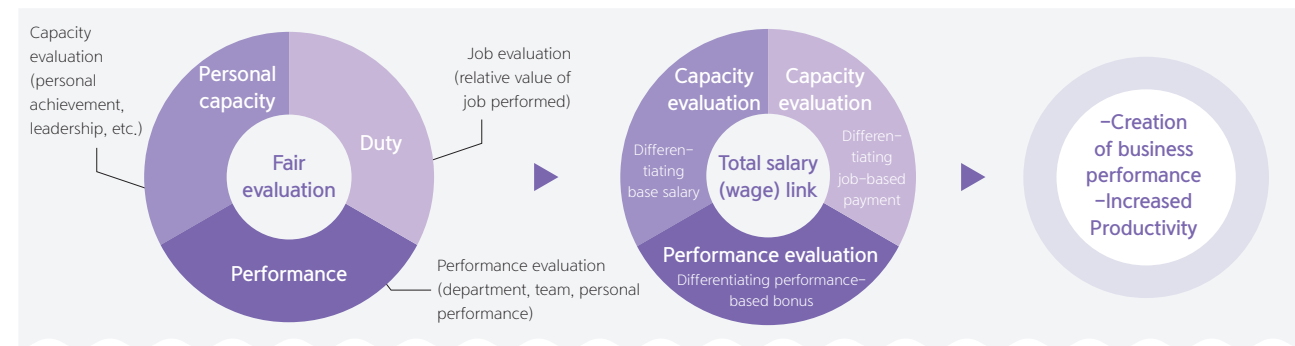
Approach to Sustainability  
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The productivity of an organization is directly related with the involvement of its employees. For sustainable management and successful business implementation, K-water endeavors to create an optimum work environment for its members. As a public enterprise, K-water is implementing social responsibility and productivity improvement activities in an effort to create jobs for young people and operate a salary and welfare system that satisfies government policy and citizens' expectations for a public enterprise.

## Reinforcement of the Performance-Based Pay System

K-water has been enhancing its performance-based pay system to improve management performance and help increase productivity through fair and systematic performance management and differential rates of pay. While connecting a salary with evaluation results in terms of personnel capability, duty difficulty, and work performance, and enhancing the credibility of the evaluation results through the operation of the corporate performance management system (K-BEST), the adjustment of evaluation indicators in advance, and the post-evaluation procedure of filing an appeal, K-water operates a leading evaluation and feedback system which encourages the improvement of personal and organizational performance by providing performance-improvement consulting and refresher training courses. The excellence of K-water's performance-based compensation system has been recognized as a good example of a public institution at workshop in 2015 and 2016.



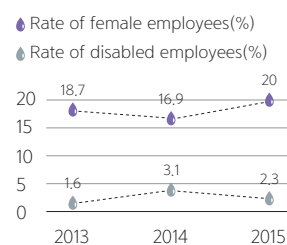
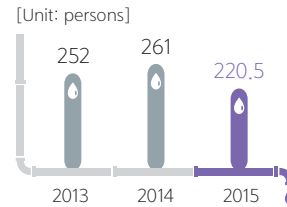
## Expansion of Open Employment

Not all K-water employees have college and as such, it endeavors to continuously create customized opportunities to meet the job qualifications of employees with a high school diploma and women whose career experience has lapsed. K-water changed the existing recruiting system, which gives additional points and preferential treatment by personal advantages, to a recruitment goal system. The company improves the diversity of social members and tries to contribute to social integration through measures such as hiring people based on social equity by increasing employment opportunities. These exceed the government's recommended standards. K-water employed 19 women as its regular workers for the first time among public enterprises by creating short-time jobs customized for women with discontinued career experience. With this achievement, K-water was selected as a good example of practicing time-flexibility gender equality in 2015.

### New Recruitments (Unit: persons)

Classification	Reco-mmenda-tion(A)	Results(B)	Achievement rate(B/A)	Classification	Reco-mmenda-tion(A)	Results(B)	Achievement rate(B/A)
High school graduates	44.1	54.75	124%	Work protection subject	476	477	100%
Youth	131.4	187	142%	Disabled	3	3.40	113%
Women reentering Job Market	None	7	700%	Flexitime workers	6.75	7.5	111%

### Full-Time New Employees [Unit: persons]



## Global Talent Development

In line with its efforts to expand the overseas businesses, K-water is making efforts to strengthen global expertises of its employees. The company is creating opportunities for talent-exchange programs with international institutions including MDBs (Multilateral Development Banks) through the development of a network with international professional institutions in water industry. K-water conducts education and training customized for each role (new -> working-level -> management staff) and actively supports the improvement of global working capabilities for its employees (e.g. providing a variety of foreign language classes). By assigning trained workers to relevant jobs by considering their accumulated job expertise and work performance, the company is realizing talent- and performance-based human resource development and management, linking the tailored training with duty assignment.

### Status of overseas secondments

Year	Institution	Country	Relevant Areas
2013	OECD	France	Analysis of global water and green growth policy
	CEH (Centre for Ecology and Hydrology)	The U.K.	River basin management and water quality improvement model development
2014	World Bank	The U.S.	Climate change response and integrated water resource management
	CA DWR	The U.S.	Analysis, etc. of economic feasibility of water resource management strategy
	UNESCO	France	Research, etc. on urban water management in preparation for climate change
2015	ADB	Philippines	Case study regarding water policy, etc.
	USACE	The U.S.	Research on international water resource projects
	IHA	The U.K.	Analysis of green growth and hydroelectric power business feasibility

## Talent Development Index

- 42% 2015 Target
- 42.5% 2015 Performance
- 101% Target Achievement Level
- Performance Analysis

Enhancing the development of talent with expertise by securing customized talent, etc.

Talent development index = (top expertsx1.5)+(expertsx1.2)+(semi expertsx1)

Number of targeted persons considering (expert-level) experience, academic degree, education history, etc.

## Link of Human Resources Development and Management

Job training	Competency Reinforcement Plan (CRP*) *self-directed learning -> evaluation of capability -> training tailored to a need of individual  + Establishment of a plan for the development of the employee expertise by providing a variety of short-term and long-term training opportunities optimized for a need
Long-term training	Providing opportunities of study and work training abroad in order to enhance global work forces  + Management of individual training performance and profile
HR operation	HR(Human Resources) assignment management by assigning high-performing employees in each job area to appropriate positions



# Shared Growth

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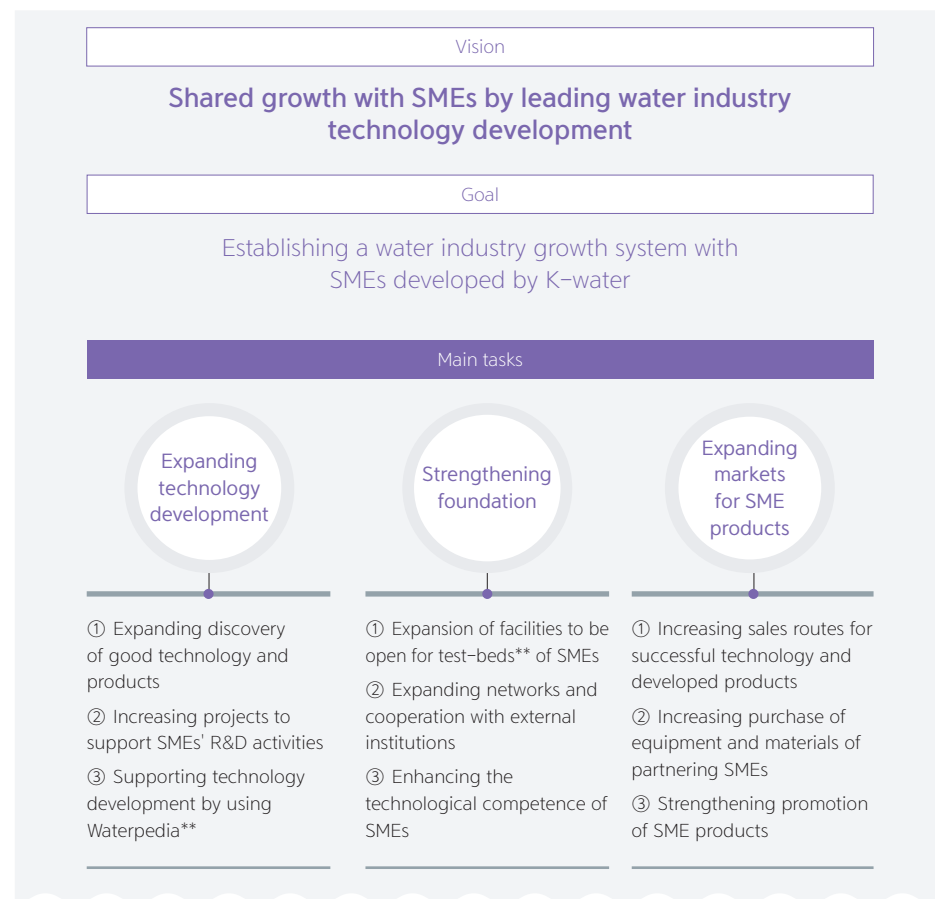
K-water is performing various activities to present itself as a global company through mutual cooperation and social responsibility implementation.

## K-water's Shared Growth Implementation System

Every year, K-water reviews its shared growth plan and selects major tasks through SWOT\* analysis for strategic management, analysis of the environment at home and abroad, feedback, and possessed capabilities. Under the goal of systematically implementing shared growth, K-water established a control center and organized a shared growth team by utilizing the shared growth taskforce team under the leadership of the vice president. By going beyond shared growth efforts in the domestic market, K-water played an important role in 2015 to help small and medium-sized businesses in the water industry enter the overseas market by expanding its overseas business division's taskforce team, which is responsible for such duties.

\*SWOT: A tool for a corporate to analyze its strength, weakness, opportunity, and threat

## Master plan for a water industry SMEs\* growth system developed by K-water



\* SME: Small and Medium size Enterprises  
 \*\* Waterpedia: Water-related information portal operated by K-water  
 \*\*\* Test-Beds: Providing facilities to test and supplement new technologies developed by SMEs, etc.

## External Commendations



Commended by Ministry of Health and Welfare for promoting purchases of products made by the disabled (August)  
 Commended by Minister of Commerce, Industry and Energy for commercialization of new technology (November)

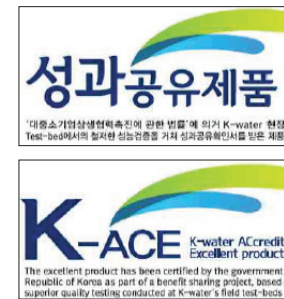


Commended by Minister of Commerce, Industry and Energy for shared growth (November)  
 Commended by director of Small and Medium Business Administration (December)

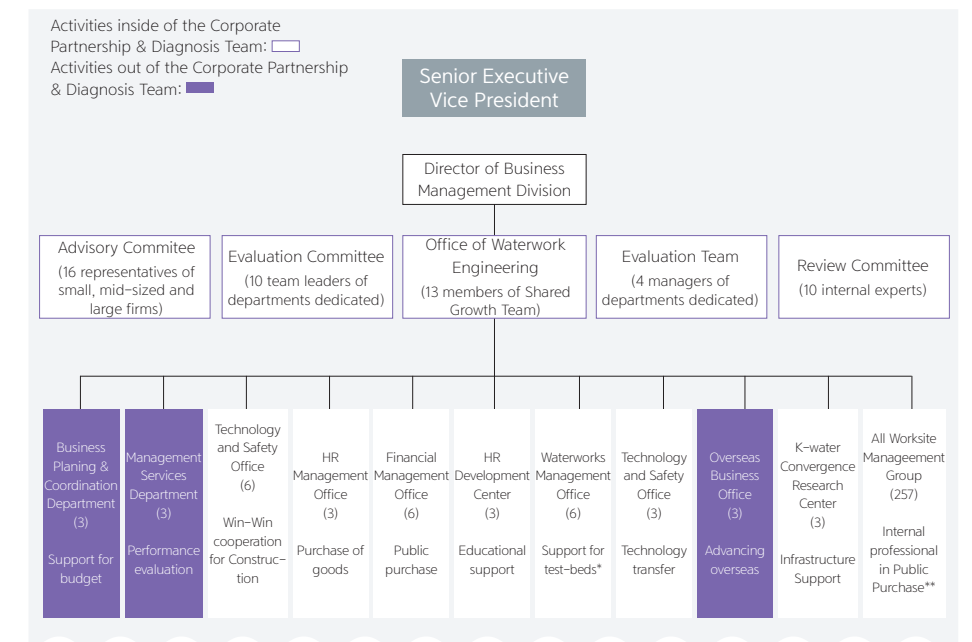


Commended by administrator of Public Procurement Service (December)

## Official Emblem of K-water Accredited Excellent Products



## Shared Growth Promotion Organization



\* Test-Beds: Providing facilities to help small and mid-sized companies test and supplement their new technologies  
 \*\* Internal professional in Public Purchase: 257 experts at regional headquarters and worksites. They promote active public purchase from design stages at each department

## Implementation of Benefit-Sharing Product Certification to Help Small and Medium-Sized Businesses Expand their Market at Home and Abroad

K-water evaluated SME products, which were developed and verified through the benefit-sharing system, in 11 categories, such as corporate credit rating, A/S infrastructure, and user. The purpose of implementing this system is to mitigate the difficulties SMEs experience in having sales channels in the domestic market and in entering the overseas market due to their low brand awareness. By accrediting benefit-sharing products with an official certification emblem based on a thorough evaluation, K-water is enabling small and medium-sized businesses to use its brand recognition and is actively supporting these businesses to increase sales channels in Korea and overseas. In 2015, K-water shared growth with small and medium-sized enterprises by approving the certification of 12 companies, including Techwin (high concentration sodium hypochlorite generator).

### K-water Accredited Excellent SME Products in 2015

No.	SME Name	Technology Name
1	YoungNam Metal	Clamp for coping with water leakage
2	Baek Kwang IST	Chlorine dispenser/vacuum regulator/ejector/intelligent controller
3	RPM Tech	Sludge discharge equipment for settling reservoir in waterworks
4	TechWin	High concentration sodium hypochlorite generator
5	Shin Jin Precision Industrial	Equipment for supplying water at pipelines into water supply trucks
6	Hyclor	Open cell (electrolysis) type on-site sodium hypochlorite generator
7	Gentro	Waterproof technology for concrete structure by using PE sheet
8	Mireotack	Mobile VPN Modem
9	Dongyang Electro-Systems	Mechanical seal float-type horizontal paddle flocculator
10	Ilсан Electricity	Incoming and distributing electrical panel board
11	Jain Technology	Wall-attaching type ultrasonic flow meter
12	Dae Han Industry	Freeze prevention water meter



## Project to Become First Customer

K-water opened the New Technology Counseling Center to support small and medium-sized enterprises, which have difficulty in securing initial sales routes due to on-site workers' lack of confidence in construction-related new technology. To increase the interest and awareness of registered new technology, K-water conducted 67 new technology exhibits and four presentations. By selecting 25 new technologies with high possibilities to be applied to K-water's business, the company provided 1:1 matching opportunities for small and medium-sized businesses to meet with K-water employees who are responsible for placing orders.

## Gratuitous Transfer of Unused Intellectual Property Rights

Small and medium-sized businesses in the water industry have difficulty in securing customers and developing new technology due to a shortage of researcher infrastructure. K-water enhances the technical competitiveness of small and medium-sized businesses and facilitates their growth through the gratuitous transfer of its unused intellectual property rights in order to support the development and growth of small and medium businesses by fulfilling its responsibility as a public enterprise. In 2015, K-water selected 31 intellectual property rights for gratuitous transfer for the first time among public enterprises and transferred three intellectual property rights to two companies. K-water will continue to promote the foundation for intellectual property in the water industry and the vitalization of technology transfer.

## Continued Efforts to Address Unfair Trade Practices Toward Subcontractors

K-water endeavors to promote a fair trade culture by strengthening the effectiveness of mutual growth by considering site conditions to address fundamental unfair trade practices between project owners and subcontractors at construction sites. For this, K-water designated 93 tasks to improve unfair trade practices in 2015, and 84 of those tasks have been completed. K-water is making consistent efforts to address the remaining nine tasks.

	Unfair Practice Improvement TF	Construction Work Consultative Group	Construction Site Meeting
Organization	K-water department (6 person), construction-site officials (425 person)	K-water and 53 construction site project owners and subcontractors (projects valued at over KRW 3 billion)	K-water and 67 construction site project owners and subcontractors (projects valued at over KRW 1 billion)
Operation	Regular meeting and permanent two-way communication system establishment (cyber consultative body)	Regular meetings once a month	Meetings twice a year
Role	Unfair practice improvement task preparation, system improvement, feedback	Establishment of annual shared growth plans for each site department, implementation of mutual growth activities	Sharing construction system improvement issues and gathering site opinions



## Nurturing Small but Competitive Global Companies via K-water's "SME Development Ladder" Program

### STEP A

Strengthening Capabilities of SMEs by Jointly Entering Overseas Markets	
Mid-term overseas export capability diagnosis	Development of competitive global SMEs
<ul style="list-style-type: none"> <li>(Background) Difficult to secure overseas information and capability status due to a shortage of human resources and poor financial status of small and medium businesses (SMEs)</li> <li>(Implementation) Export support for SMEs in collaboration with KOTRA, such as capability diagnosis customized to K-water's cooperation SMEs</li> </ul>	<ul style="list-style-type: none"> <li>(Support model) Development of competitive SMEs in the water industry through K-water's "SME Development Ladder" Program by providing technology notice and financial support</li> <li>(Cooperation) Creation of SME development foundation through collaboration with the Ministry of Environment and metropolitan city governments (common verification and purchase support) (50 tasks discovered, KRW 3.1 billion provided for R&amp;D)</li> </ul>

### STEP B

Increasing Brand Value of Products Entering Overseas Markets		
Development and provision of K-water type certification brand	Joint participation in international exhibition	Export product performance verification support
<ul style="list-style-type: none"> <li>(Background) Difficult to enter overseas due to low awareness of SMEs</li> <li>(Branding) Development and provision of certification brand (emblem) to excellent SMEs which allows them to utilize K-water's certification emblem for promotional materials on agreed items.</li> <li>*Beneficiaries: To be selected through evaluations of product quality verified through K-water benefit-sharing system (Emblem use approval certification issued to 12 companies, including Techwin (high concentration sodium hypochlorite generator))</li> </ul>	<ul style="list-style-type: none"> <li>Awareness increased through 2015 World Water Forum exhibition joined by 170 countries → Joint participation in overseas exhibitions, including 2016 Singapore exhibition (Participation of six cooperation SMEs in exhibitions, including water technology)</li> </ul>	<ul style="list-style-type: none"> <li>(Performance inspection) Providing an access to 101 facilities for test-beds* to SMEs (Provided 33 accesses for test-beds to 26 SMEs)</li> <li>(Performance test) Increasing overseas export competitiveness by guaranteeing performance of industrial valves, hydropower equipment, etc. based on K-water's global-level performance test infrastructure</li> </ul>
		*Test-Beds: Providing facilities to help small and mid-sized companies test and supplement their new technologies

### STEP C

Increasing Overseas Sales Routes		
Overseas market entrance	Overseas customer-specific marketing support	Joint participation in K-water overseas business
<ul style="list-style-type: none"> <li>Hosted an investment promotion seminar (in China) with K-water technology transfer companies in collaboration with institutions</li> <li>*Collaboration institutions: Ministry of Land, Infrastructure and Transport, Korean Industrial Property Office, KOTRA, K-water (four institutions)</li> <li>*Participating companies: 11 companies (Five in the land and transport sector, six in the water industry sector) (Dongyang Valve and six companies (12 cases), signing export contracts worth KRW 34.6 billion)</li> </ul>	<ul style="list-style-type: none"> <li>Provided technology capabilities training to potential customers (e.g. water related Government officers from the Philippines), promoting qualified SME products and technologies (capability training twice, 24 participants, three SMEs)</li> </ul>	<ul style="list-style-type: none"> <li>Entering overseas markets and creating growth foundation by jointly entering K-water overseas business (Equatorial Guinea and the Philippines) with good collaboration SMEs (Five cooperation SMEs, KRW 1 billion in sales)</li> </ul>

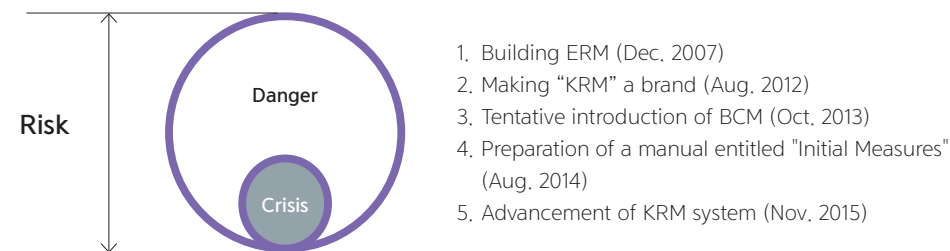


# Risk Management

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As K-water's role in providing safe and healthy water expands in Korea, the risk of disaster is also increasing. As such, K-water is reinforcing its capabilities to cope with risk by introducing a companywide risk management system implemented by all departments with the Technology and Safety Office under the direction of the Senior Executive Vice President.

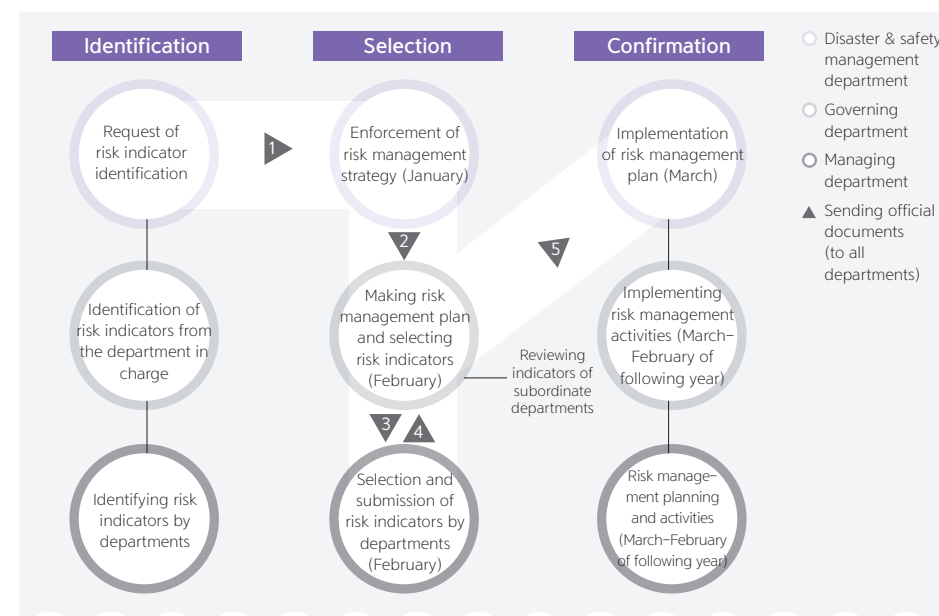


\* ERM: Enterprise Risk Management  
 \*\* KRM: K-water Risk Management  
 \*\*\* BCM: Business Continuity Management

## Companywide Risk Management System

With the aim of developing risk management strategies every year, K-water analyzes and revises existing plans under the direction of the Senior Executive Vice President.

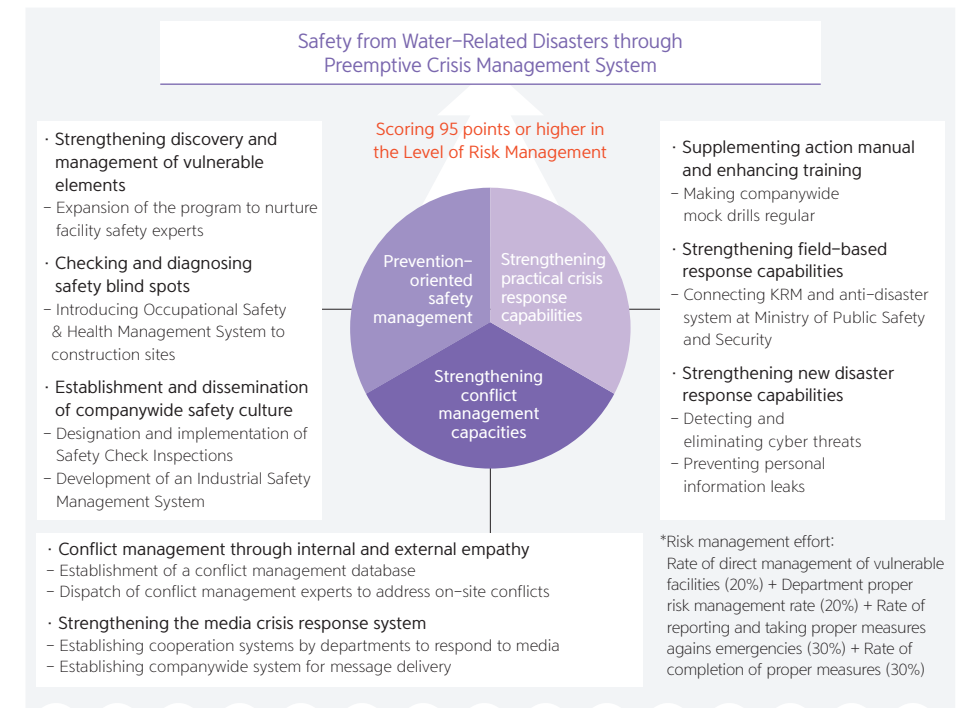
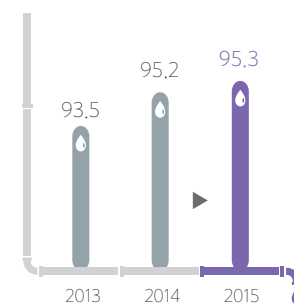
### Formulation Process of Risk Management Plans



## Companywide Risk Management Strategy

With a view to protecting people from water-related disasters, K-water is reinforcing and advancing the preemptive crisis management system. Under the goal of scoring 95 points or higher in the Level of Risk Management, a corporate key performance index, we began to build a companywide crisis management system. The direction of the system is based on eight strategic tasks in order to secure prevention-oriented management, enhance practical risk resolution capabilities, and to reinforce conflict management capabilities.

Level of Risk Management (unit: point)



## Advancing KRM (K-water Risk Management System)

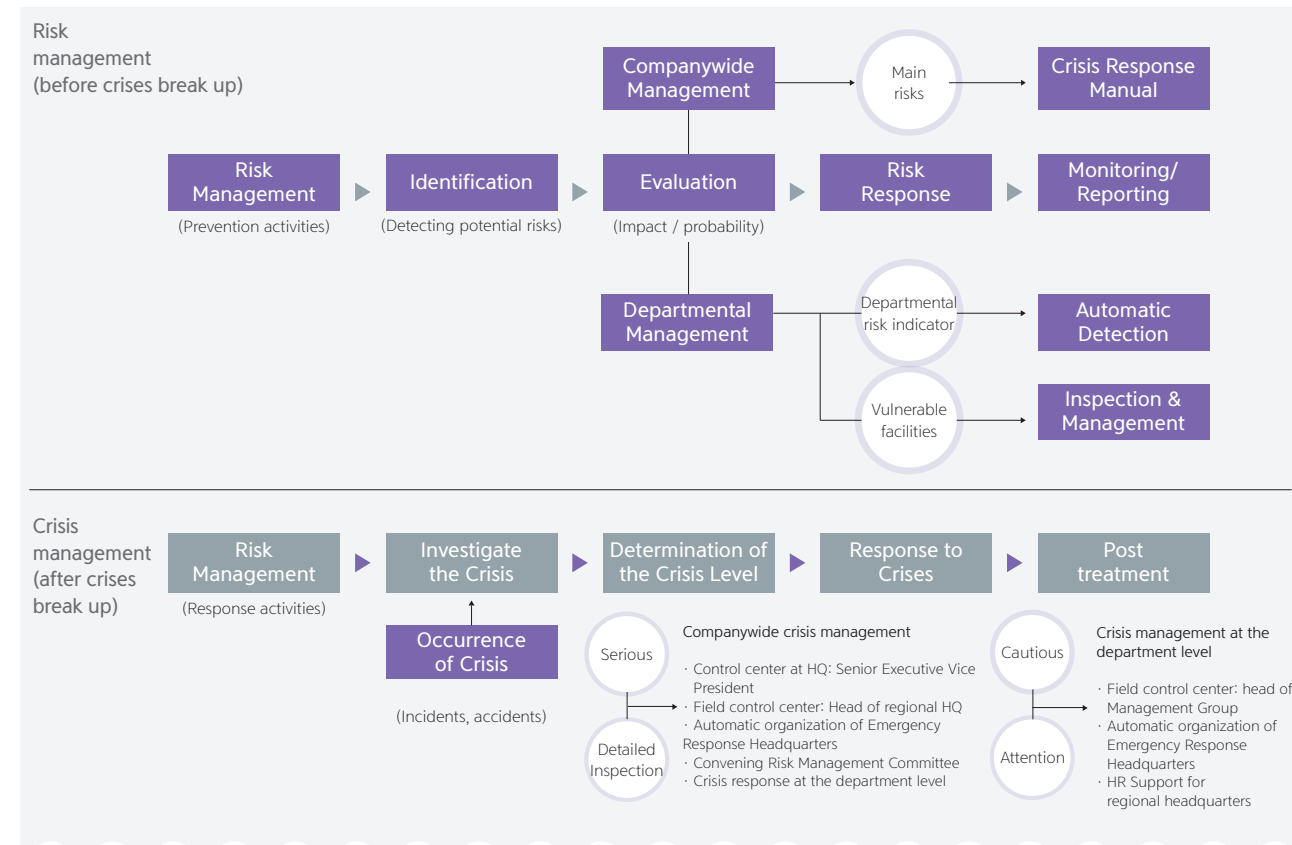
K-water has been building a prevention-oriented crisis management system by making a companywide risk management plan which includes proper management of risk indicators, companywide drills to cope with crises and manual maintenance. The company is expanding its practical crisis response capabilities by establishing an emergency response system, routinizing drills, strengthening a collaboration system among departments and improving the ICT-based KRM. In 2015, the results of drills were applied to the KRM system, which boosted the effectiveness of crisis management and user convenience.

Classification	Main Contents	Remarks
Measures to Improve Alerting System	Adding function to send short messages to external organizations (local governments and fire stations among others) Identifying short message senders and inquiring sending histories	Supplement Supplement
Measures to Scale Up System Utilization	Improving KRM statistical features and real-time EMC* Systemization of individual mission cards Building history management system during whole process	Supplement Newly Introduced Newly Introduced
Measures to Improve the System	Opening of "Opinion Collecting Room" (i.e. messenger or bulletin board) for information sharing and communication Newly establishing functions to revise and delete contents registered as risk	Newly Introduced Newly Introduced

\* EMC (Emergency Management Center): A system to provide real-time broadcasting and real-time information such as recovery materials, an emergency countermeasure team and situation reports in the event of a crisis



## Risk Management Process



## Major Outcomes of Risk Management in 2015

K-water actively responded to the prevention of risk by discovering and managing 291 KPI cases at worksites and 287 vulnerable facilities for advanced risk management. As a result, the company confirmed the effectiveness of its crisis response system by responding to crises such as quick notification of 355 incidents in 2015, the most since the KRM system was introduced and obtained a score of 89.58 points in reports within one hour and 90.99 in measure completion.

### Key Outcomes of Risk Management in 2015

		Management	Conflict	Disaster	PR	Total
Risk prevention	KRI (Department risk indicator)	7	17	257	10	291
	Vulnerable facilities	0	0	287	0	287
Crisis management		1	5	345	4	355

Classification	Evaluation standard	Achievement rate (evaluated cases)
Risk prevention	Proper KRI management rate	97.25 (283/291)
	Proper management rate of vulnerable facilities	100 (287/287)
Crises Management	Proper reporting rate	89.58 (318/355)
	Complete rate of measures	90.99 (323/355)

## Establishment and Diffusion of Companywide Safety Work Culture

K-water designated "K-water Safety Check Day" on the 4th day of every month, operating programs to eradicate poor safety precautions of veering away from customary safety management. By doing so, the company is putting forth efforts to raise employees' awareness of safety and establish a safety culture. For pan-national communication on establishing establishment of a safe work work culture, we are carrying out activities such as a campaign to find out risk factors, participation in safety checks and drills and contests of innovative ideas for safety, while holding "Safety Check Day with People"

### Activities of Safety Check Day



## Implementation of Safety Patrol Activities

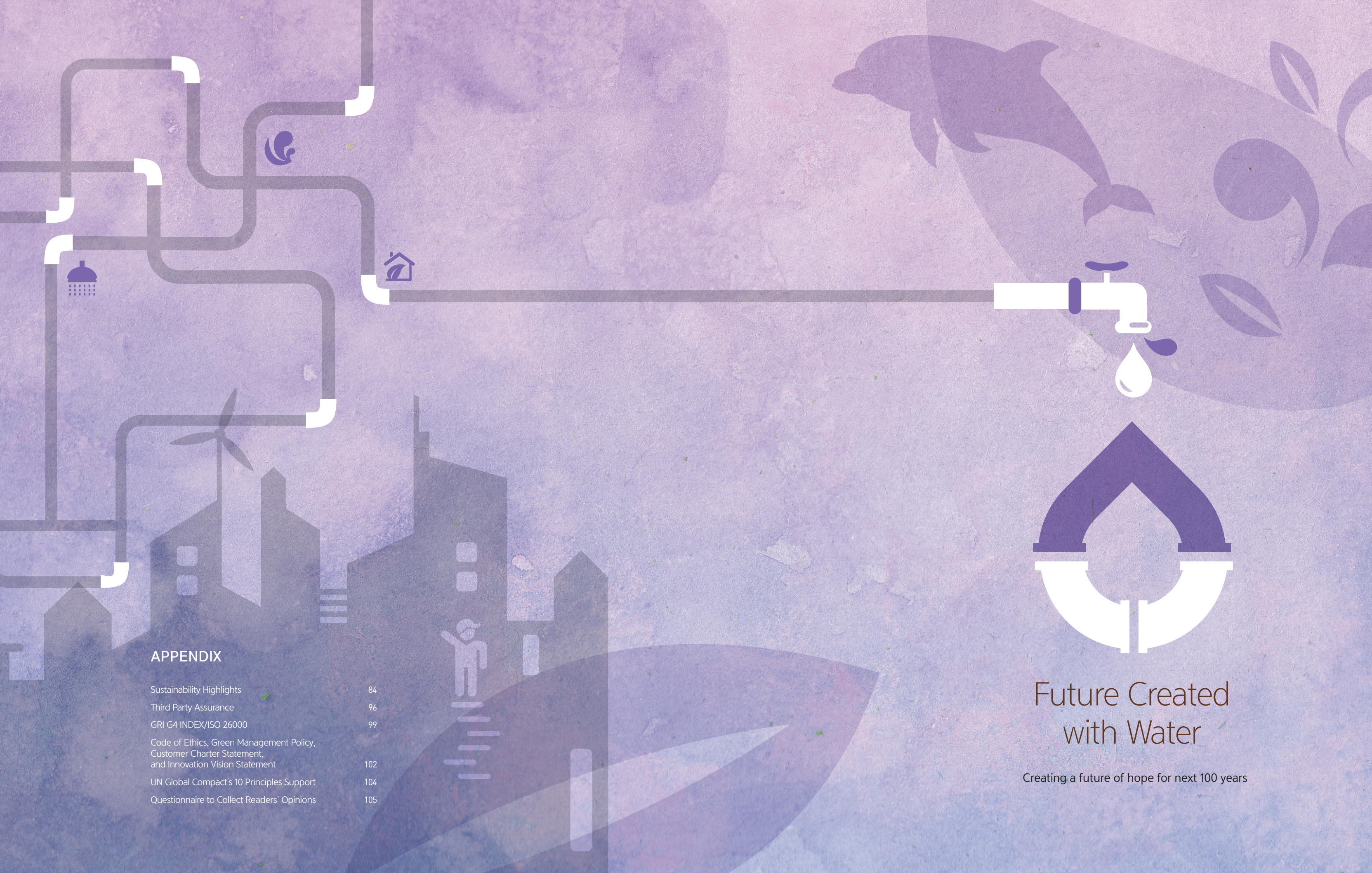
With an eye towards discovering and eliminating hidden risk factors, K-water assembled "Safety Patrols" with employees in the Technology & Safety Management Department, departments in charge or on-site duties, who have expertises and experiences. K-water Safety Patrols are taking a role of discovering mismanagement in safety control, safety inspections, addressing grievances, and investigating the causes of accidents. As well, the company is tentatively operating the certified corporate Safety & Health Management System (KOSHA 18001) even at small-scale construction sites. The company is removing risk factors in advance and inducing sound management for construction sites through on-site regular inspections and guidances by composing "Safety Quality Supervisors" with experienced employees and internal specialists.

### Establishing a Worksite-led Quality Management

- Implementing activities to determine the causes of deterioration and improve quality with the participation of main parties (K-water, contractors, subcontractors, and laborers)

Periodic Risk Assessment → Meeting → Training, Activities → Check, Evaluation





## APPENDIX

Sustainability Highlights	84
Third Party Assurance	96
GRI G4 INDEX/ISO 26000	99
Code of Ethics, Green Management Policy, Customer Charter Statement, and Innovation Vision Statement	102
UN Global Compact's 10 Principles Support	104
Questionnaire to Collect Readers' Opinions	105

# Future Created with Water

Creating a future of hope for next 100 years



# Sustainability Highlights

## Economic Performance

### Financial Performance

Statement of Financial Position [Unit: KRW in millions]

Category	2012	2013	2014	2015	Half 2016	
Asset	Current assets	5,213,014	5,785,518	5,631,464	6,006,540	7,129,944
	Non-current assets	19,803,369	19,818,389	19,807,635	13,544,099	13,699,153
	Total	25,016,383	25,603,907	25,439,099	19,550,639	20,829,097
Liabilities	Current liabilities	2,722,666	3,358,548	2,161,443	2,795,626	4,195,000
	Non-current liabilities	11,055,255	10,639,904	11,299,992	10,477,544	10,035,804
	Total	13,777,921	13,998,452	13,461,435	13,273,170	14,230,804
Equity	Capital stock	6,815,621	6,898,731	7,016,965	7,196,145	7,547,082
	others	4,411,461	4,697,176	4,945,222	-942,043	-975,013
	Equity attributable to owners of the Company	11,227,082	11,595,907	11,962,187	6,254,102	6,572,069
	Non-controlling interest	11,380	9,548	15,477	23,367	26,225
	Total	11,238,462	11,605,455	11,977,664	6,277,469	6,598,294

\* Consolidated statement as per application of Korea-International Financial Reporting Standards (K-IFRS) since 2011

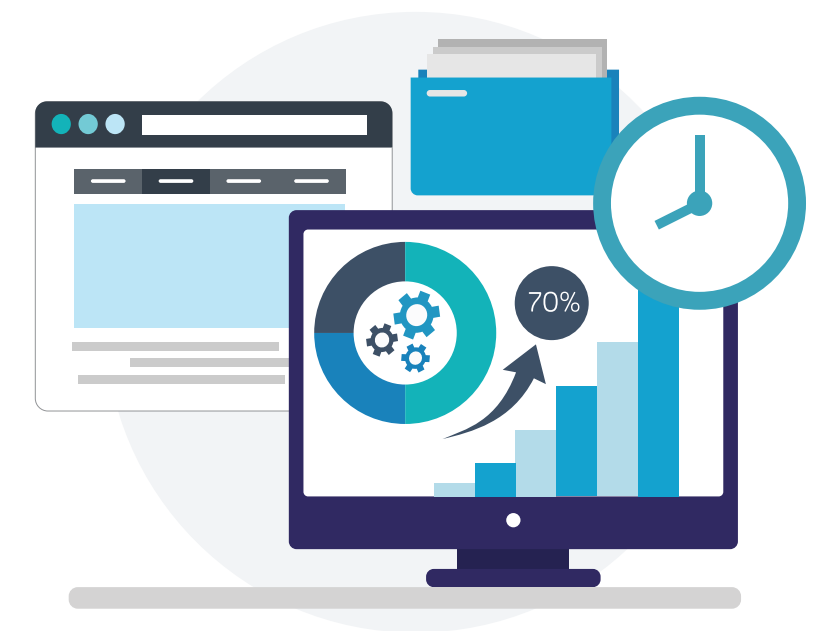
Condensed Income Statement [Unit: KRW in millions]

Category	2012	2013	2014	2015 (1st Half)	2015 (Total)	2016 (1st Half)
Revenue (Sales)	3,668,445	3,645,387	3,698,372	1,682,380	3,777,345	1,647,891
Cost of sales	3,117,070	2,989,350	3,178,494	1,397,124	3,288,664	1,409,611
Selling, general and administrative expenses	117,048	123,920	129,419	71,111	139,064	63,508
Gross profit	434,327	532,117	390,459	214,145	349,617	174,772
Other income	296,308	315,516	323,280	176,025	349,076	8,150
Other expenses	3,856	43,087	6,826	6,743	7,437	4,736
Other gain	-5,296	2,078	-13,221	-16,032	-6,295,565	-52,560
Financial income	195,182	97,870	91,264	37,904	85,503	34,732
Financial costs	515,371	449,185	400,656	186,296	370,962	180,316
Share of profit of equity accounted investees	395	1,565	33,248	-1,520	-8,058	102
Profit before income tax	401,689	456,874	417,548	217,482	-5,897,826	-19,856
Income tax expense	93,394	108,756	118,222	31,866	-102,186	-2
Net profit	308,295	348,118	299,326	185,617	-5,795,638	-19,854
Other comprehensive income	13,386	-9,901	18,874	-10,511	-8,023	-8,521
Total comprehensive income	321,681	338,217	318,200	175,106	-5,803,661	-28,375
Profit attributable to owner of the company	308,247	346,443	298,554	184,992	-5,799,067	-21,785
Profit attributable to non-controlling interest	48	1,675	772	625	3,429	1,931

\* Consolidated statement as per application of Korea-International Financial Reporting Standards (K-IFRS) since 2011

Creation and Distribution of Management Performance [Unit: KRW in millions]

Category	Distribution Target	2011	2012	2013	2014	2015
Creation of economic value(1)		6,354,088	3,694,659	3,682,884	3,739,658	3,825,466
a) Net sales	-	6,325,786	3,668,445	3,645,388	3,698,372	3,777,345
b) Interest income, rent, sale of assets, etc.	-	28,302	26,214	37,496	41,286	48,121
Others (Government subsidy)		-	236,679	298,786	317,196	304,710
Distributed economic value(2)		6,139,990	3,492,452	3,259,297	3,429,512	3,357,400
a) Operating cost: manufacturing cost, asset purchase cost	Partner	5,260,373	2,493,275	2,128,902	2,378,105	2,408,387
b) Wages and welfare: Labor costs	Employees	357,221	360,591	377,361	359,206	402,373
c) Capital cost: Interest paid, dividend	Shareholders, Financial institutions, etc.	399,552	501,674	541,310	537,615	447,082
d) Taxes: Income tax and local tax payments	Government, Local government	68,159	73,677	138,349	79,636	18,239
e) Community investment: donations, contributions	Customers, Local communities	54,685	73,677	73,375	74,950	81,319
Surplus economic value(1-2)		214,098	202,207	423,587	310,146	468,066



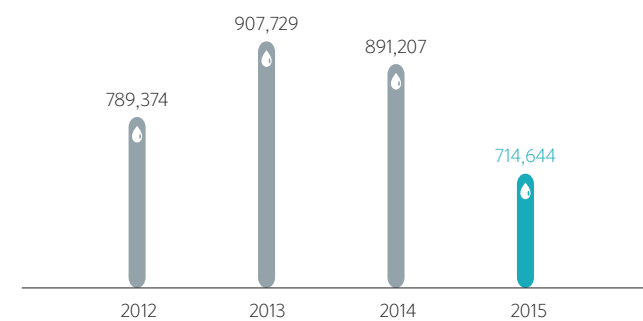
# Sustainability Highlights

## Economic Performance

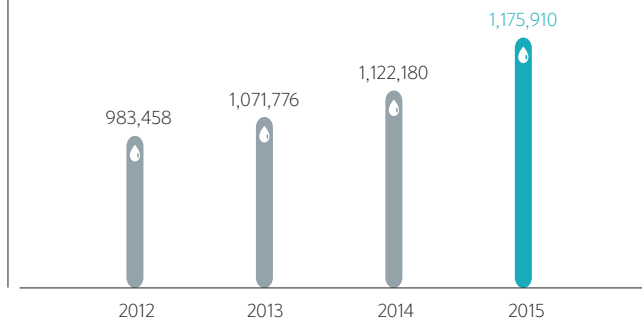
### Sustainable Growth through Innovation

Business Revenues [Unit: KRW in millions]

Integrated Water Resource Management (IWRM)

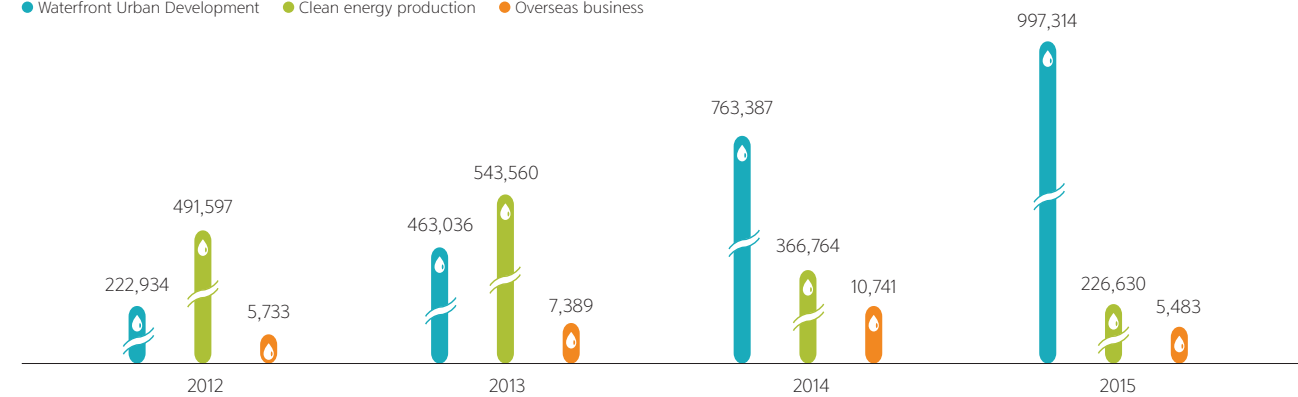


Healthy Tap Water Supply Business



Related Business

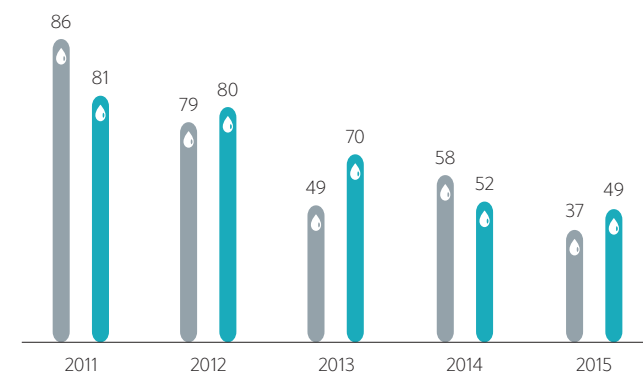
Waterfront Urban Development Clean energy production Overseas business



Patent and Research Projects Achievement

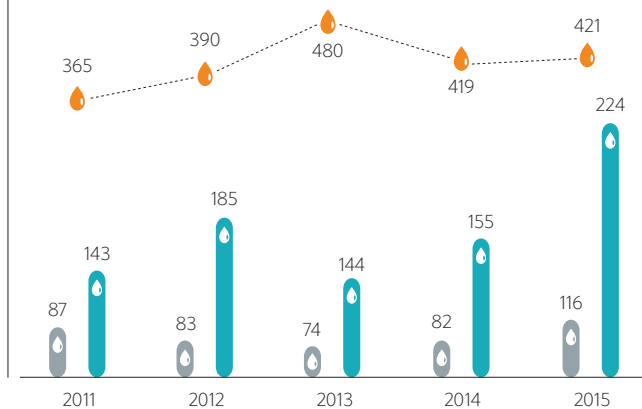
Patents

Application for a patent (case) Registration (case)



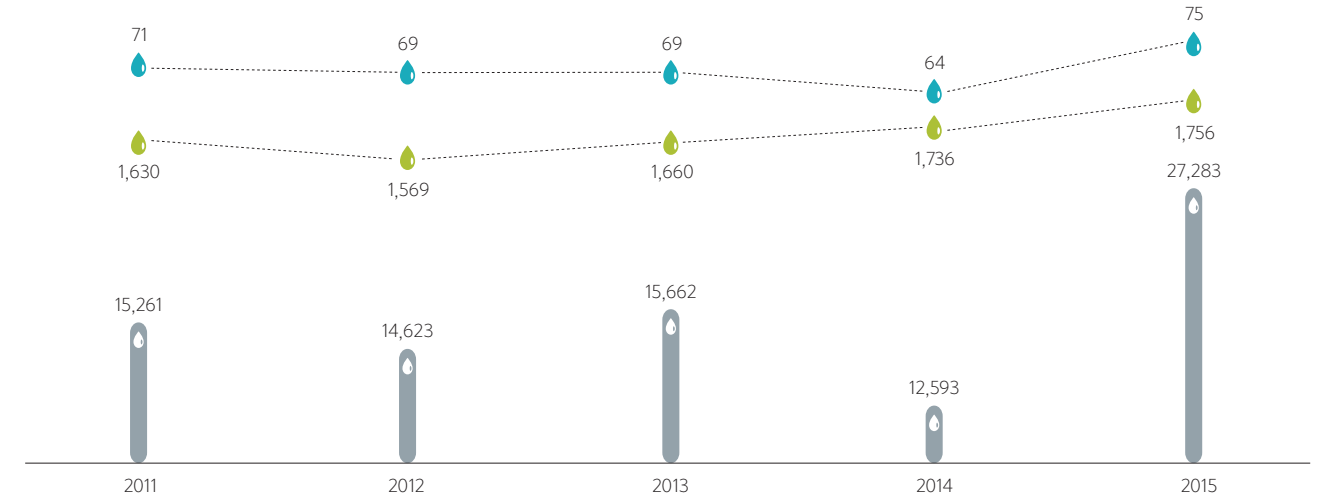
Research Projects

Research projects (case) Research development budget (KRW 100 millions) Number of research paper publication (case)



Employee Education Status

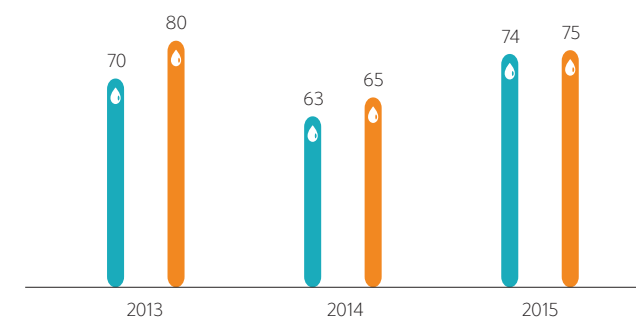
Educated employees (person) Average investment in education per person (KRW in thousands) Average time of education per person (hour)



Average Time of Education per Employee [Unit: hour]

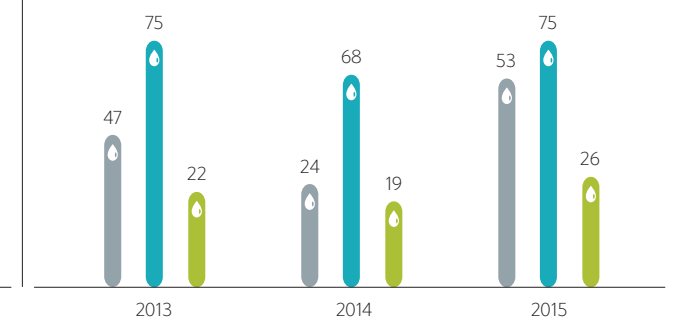
Gender

Male Female

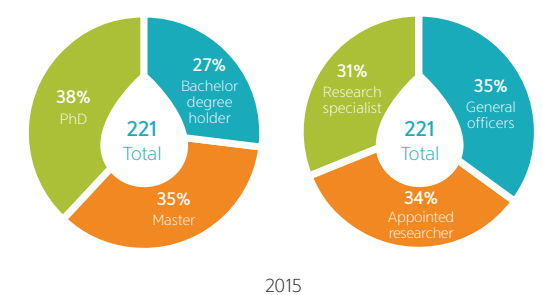
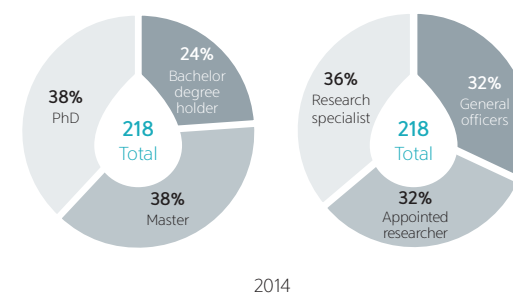


Employment Status

Executives General officers Specialists



Secure R&D expertise





# Sustainability Highlights

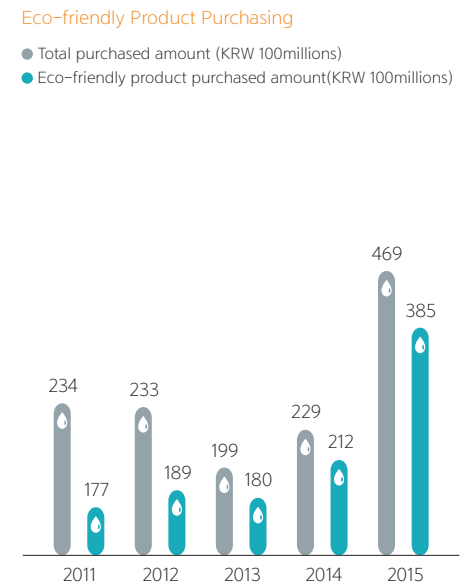
## Environmental Performance

### Enhanced Environmental Management over the Entire Corporate Supply Chain

#### Input

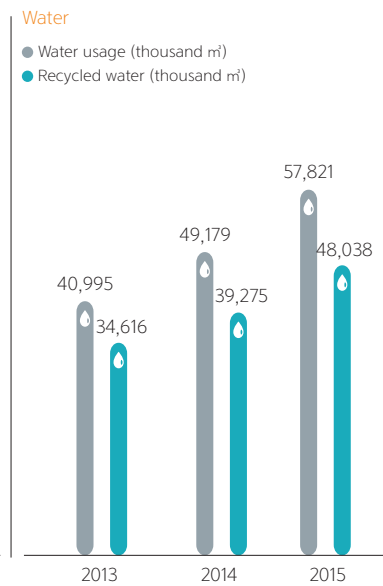
##### Eco-friendly Product Purchasing

- Total purchased amount (KRW 100millions)
- Eco-friendly product purchased amount(KRW 100millions)



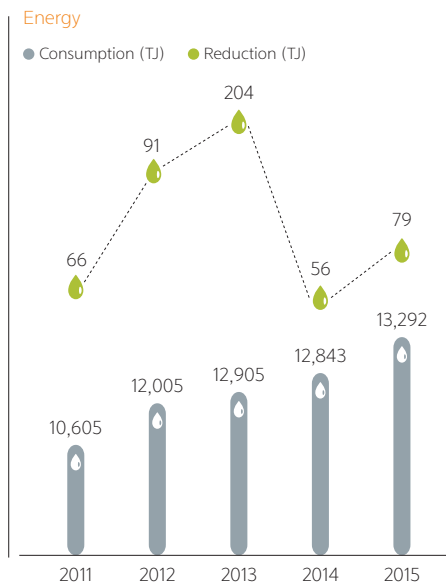
##### Water

- Water usage (thousand m<sup>3</sup>)
- Recycled water (thousand m<sup>3</sup>)



##### Energy

- Consumption (TJ)
- Reduction (TJ)



\* Energy reduction performances made over 2013~14 were counted in the performance of 2013

#### Output

Category	2011	2012	2013	2014	2015	Discharge standard	
Multi-regional waterworks	BOD(mg/l)	2.1	2.1	2.0	1.7	1.4	10 below
	COD(mg/l)	4.1	4.1	3.3	3.4	4.5	20 below
	SS(mg/l)	3.2	3.2	2.4	1.6	2.0	10 below
Sewage treatment plant	BOD(mg/l)	2.6	1.9	1.5	1.8	1.9	5 below
	COD(mg/l)	7.7	6.9	6.8	6.6	7.6	20 below
	SS(mg/l)	2.8	2.6	3.0	2.5	2.9	10 below
Waste water processing facility	BOD(mg/l)	6.5	7.0	6.0	6.3	6.8	10 below
	SS(mg/l)	6.5	6.8	5.4	6.0	6.2	10 below

\* Applied highest requirement standard in "Water Quality And Aquatic Ecosystem Conservation Act" and "Sewerage Act"

Category	2011	2012	2013	2014	2015	
Greenhouse gas	Emissions (ton CO <sub>2</sub> )	549,711	583,655	631,431	624,660	646,559
	Reduction (ton CO <sub>2</sub> )*	-	69,154	79,702	60,551	29,133
Air pollutant emission	PM-10(kg)	218	244	226	220	256
	SOx(kg)	1,495	1,678	1,628	1,443	1,671
	CO(kg)	3,446	3,533	4,568	4,223	5,565
	HC(kg)	883	896	1,197	1,106	1,470
	NOx(kg)	8,924	9,235	11,566	10,892	14,166

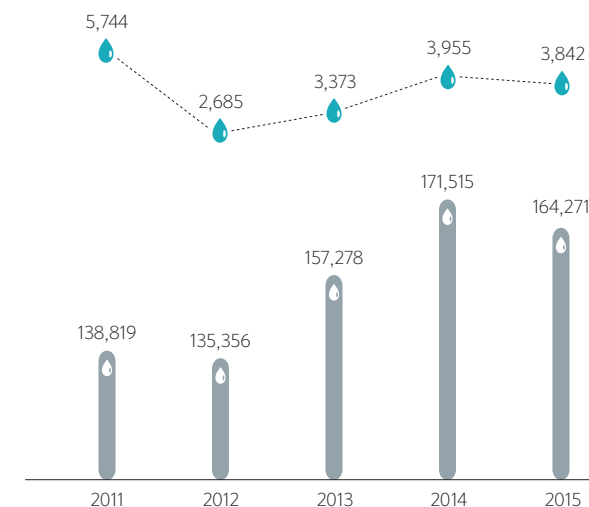
\* K-water began GHG emissions reduction goal management in 2012. Data in 2014 includes an early reduction volume in addition to the reduction volume of the year and data in 2015, emissions allowed next year

Category	2011	2012	2013	2014	2015	
Sludges from multi-regional waterworks	Generated amount (ton)	131,615	111,414	110,027	110,397	107,388
	Amount of sludge generated per 1 m <sup>3</sup> water processed(g/m <sup>3</sup> )	73.1	59.5	54.2	55.3	52.3
	Recycling rate (%)	100	100	100	100	100
	Cement raw materials	76.7	77.5	83.8	40	43
	Cover soil, fill materials	2.5	3.6	12.4	57	50
Sludges from sewage treatment plants	Generated amount (ton)	44,288	42,876	39,565	42,083	37,894
	Recycling rate	40	46	49	59	65
Waste	Generated amount (ton)	583,519	471,366	496,260	520,149	4,230,643
	Waste concrete	312,996	272,580	255,578	258,881	4,143,304
	Waste asphalt	187,295	114,453	121,827	218,061	17,376
	Wood waste	20,315	50,649	69,669	1,646	145
	Synthetic resin	10,166	2,709	1,314	183	525
Construction waste	Mixed waste	52,747	30,975	47,873	41,377	69,292
	Recycling rate	93.8	94.8	96.8	98.9	99.1
	Recycled concrete	100.0	97.7	98.9	99.5	99.2
	Recycled asphalt	100.0	99.0	99.2	99.7	100.0
	Wood waste	98.4	100.0	100.0	100.0	100.0
Construction waste	Synthetic resin	0.8	0.0	14.1	100.0	100.0
	Mixed waste	51.6	53.1	76.7	91.5	96.4

### Effort to Improve & Protect Local Environment

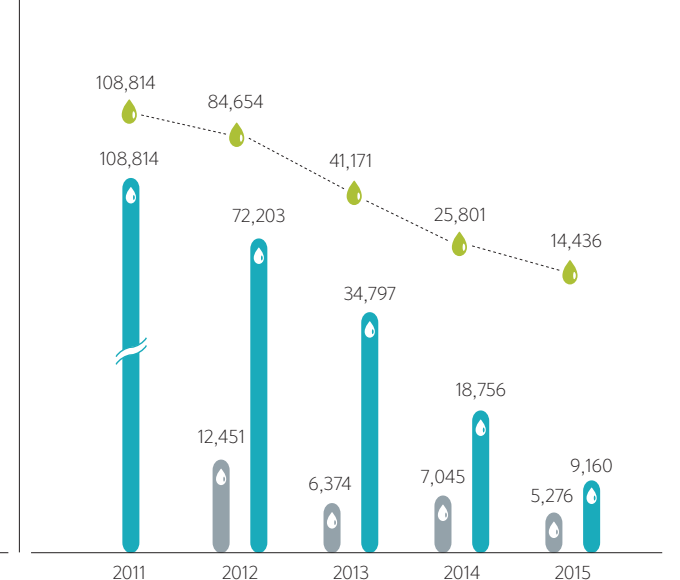
#### Water rate discount for customers who induce grey water reuse system

- Grey water usage applied for discount (thousand m<sup>3</sup>)
- Discounted amount for users of grey water (KRW in millions)



#### Waste disposal in dam reservoirs and rivers

- River weir (m<sup>3</sup>)
- Dam reservoir (m<sup>3</sup>)
- Total (m<sup>3</sup>)



# Sustainability Highlights

## Environmental Performance

Post Environmental Impact Study on Construction Sites in 2015

Category		Hantan River Dam	Gimcheon Buhang Dam	Seongdeok Dam	Youngju Dam	Boheonsan Dam	Environmental standard*
Water quality	BOD (mg/l)	1.4	1.1	2.1	1.2	0.9	3 below
	COD (mg/l)	3.1	2.9	4.2	2.5	3.1	5 below
Atmospheric environment	PM-10 (μg)	45	40	39	36	37	100 below
	NO2 (ppb)	9	13	7	16	11	60 below
Noise/Vibration	Noise (dBA)	45	45	48	47	48	65
	Vibration (dBV)	18	26	24	23	24	65

\* Highest standard among the standards required by the Environmental Impact Assessment of projects

Category		Hantan River Dam	Gimcheon Buhang Dam	Seongdeok Dam	Youngju Dam	Boheonsan Dam
Mammal	Total (species)	17	12	16	12	12
	Legally protected species	2	2	2	2	2
Fish	Total (species)	36	14	20	21	14
	Legally protected species	5	0	0	0	0
Reptiles	Total (species)	26	10	12	10	13
	Legally protected species	3	0	0	0	0
Birds	Total (species)	63	47	42	61	63
	Legally protected species	4	3	2	5	8

## Creating local eco-cultural spaces (Ecological Restoration Measures Taken, 2014~2015)

● Alternative habitat (site) ● Fish spawning ground (site) ● Wildlife passage (site) ● Artificial marsh (site) ● Fishway (site)

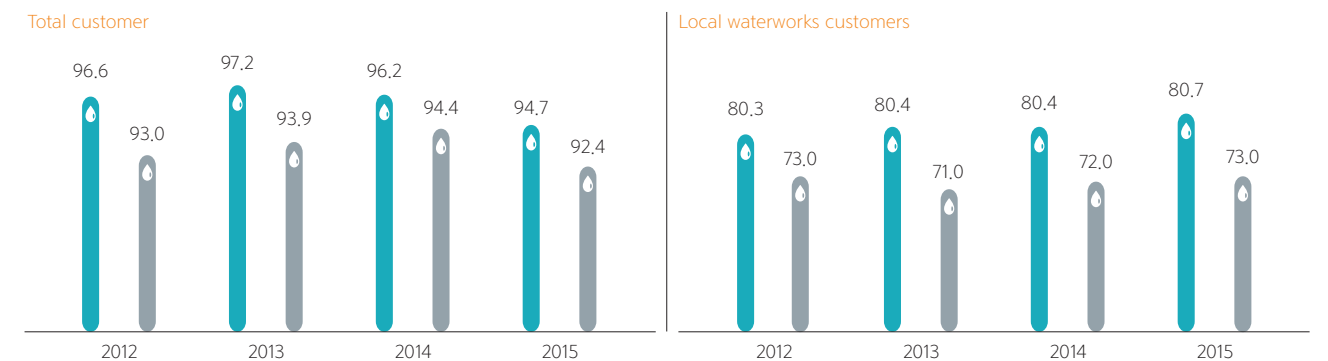


## Social Performance

### Impressing customers beyond customer satisfaction

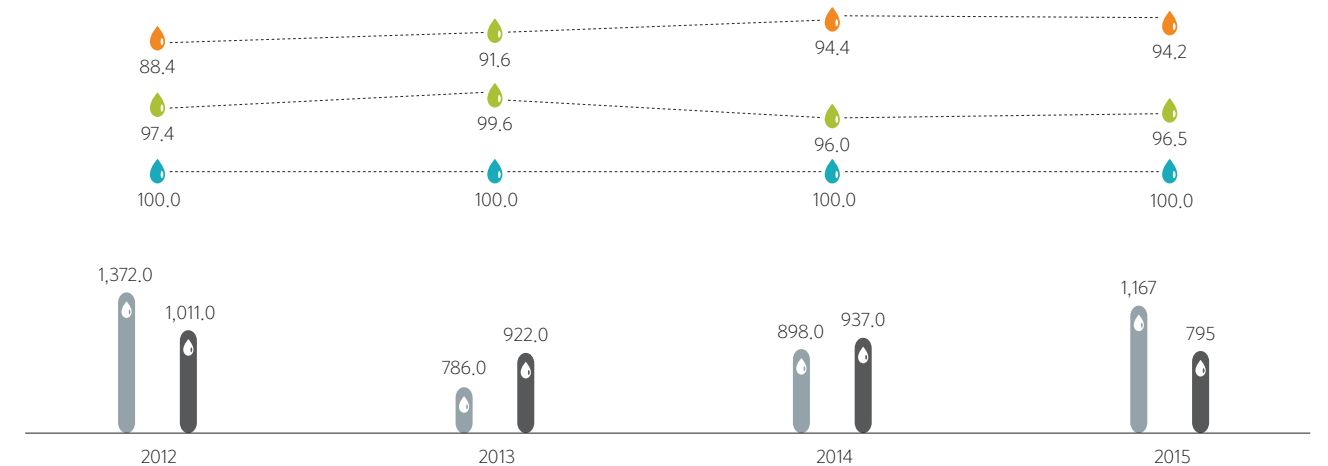
Customer Satisfaction [Unit: point]

● K-water ● Evaluation group average



### Customer Communication

● Written civil complaint(case) ● Electronic civil complaint(case) ● Civil complaint processed in a timely manner rate(%)  
● Customer service quality index(point) ● Information disclosure rate(%)



### Highest level of personal information security and management

<b>Minimizing leakage risks</b>	Discovering items for improvement through assessment of impacts on personal information in information systems	Reducing personal information under management: <b>1,570,000</b> pieces of <b>30</b> kinds in 2014 to <b>1,510,000</b> pieces of <b>24</b> kinds in 2015
	<b>Enhanced monitoring</b>	Building system to monitor personal information access histories
Selected as an excellent company in personal information management in an evaluation by the Ministry of Government Administration and Home Affairs. Honored as the best organization in mock training to cope with crises by the National Intelligence Service		

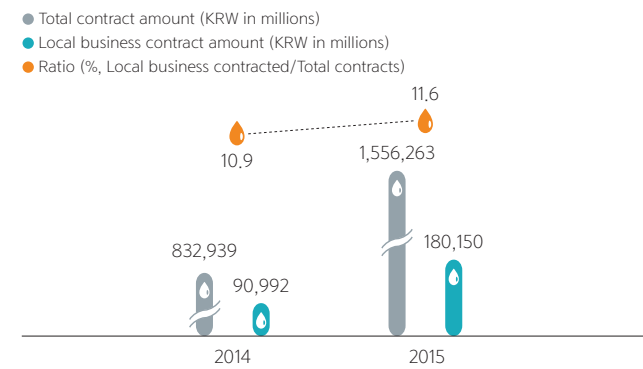


# Sustainability Highlights

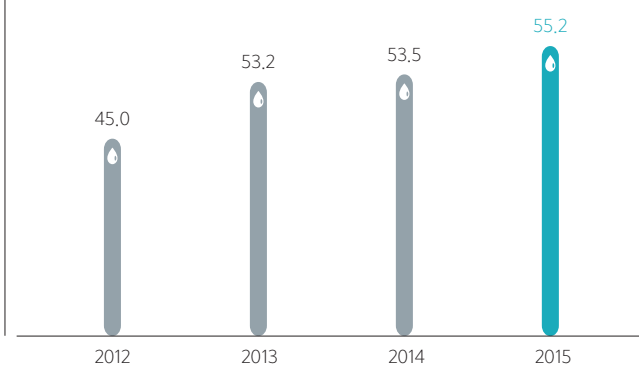
## Social Performance

### Horizontal Cooperation, Vertical Growth

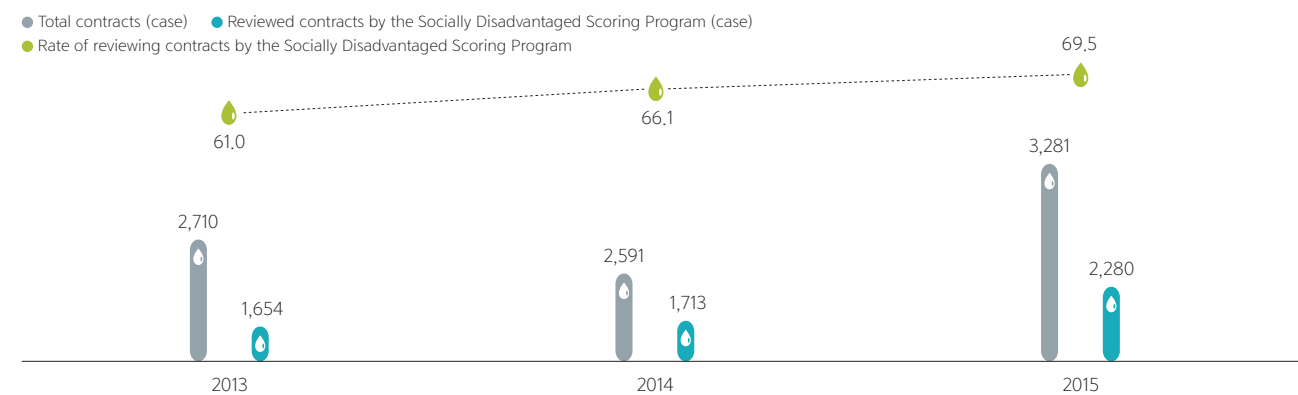
#### Local Business, Contract Amount



#### Ratio of SME Product Purchasing [Unit: %]



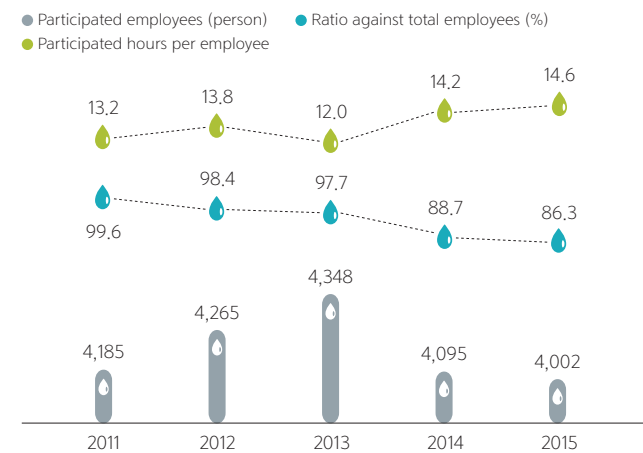
#### Socially Disadvantaged Scoring Program Operation Result



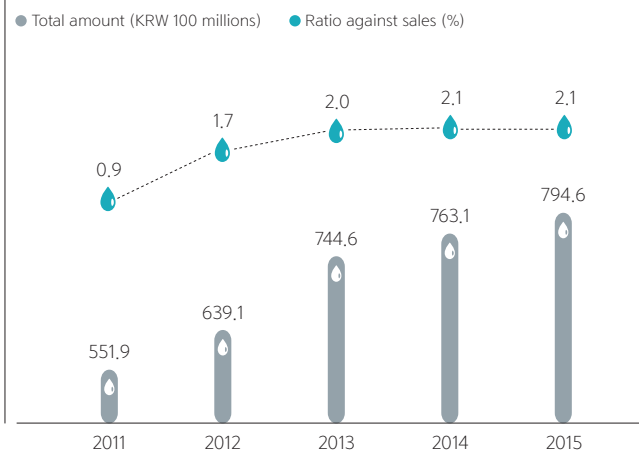
### Cooperation with Local Communities

#### Social Contribution

##### Social Contribution Participation



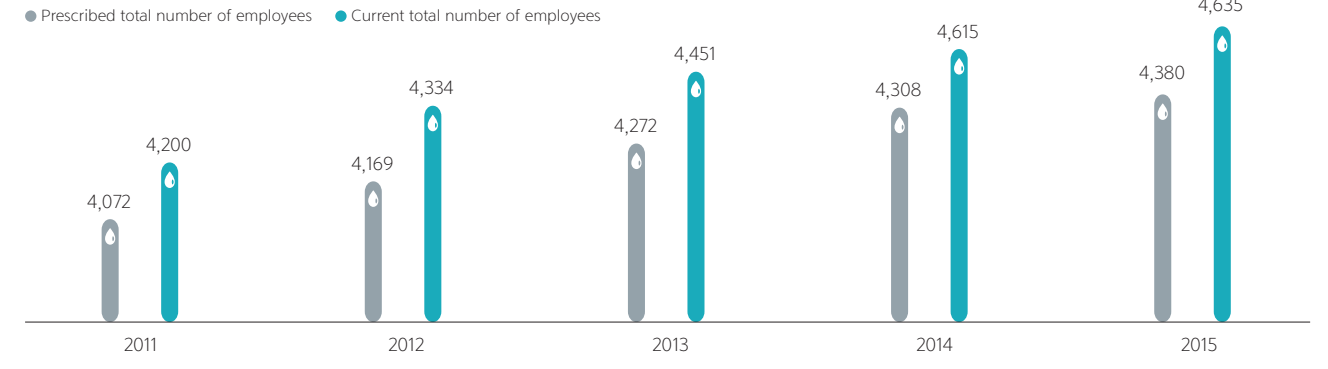
##### Social Contribution Investment



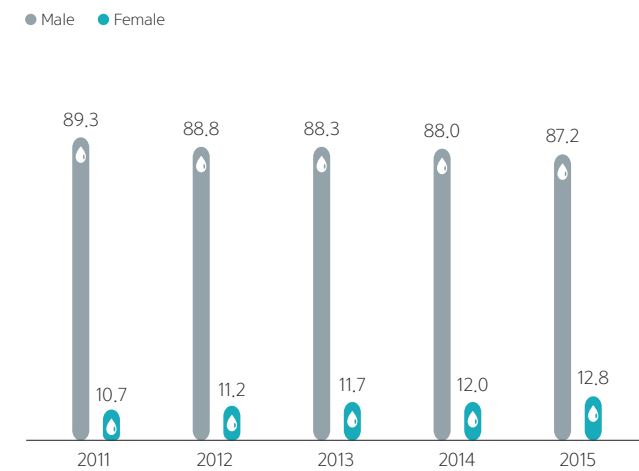
\* K-water has calculated the number of employees who directly participated in social contribution activities since 2014 (Employees working overseas were excluded although they indirectly participated in raising social contribution funds among others)

### Fair and Diversified Workplace

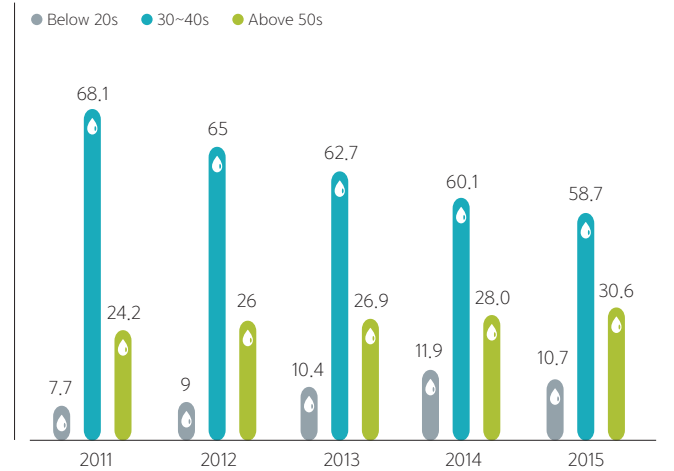
#### Employee Composition [Unit: person]



#### Gender [Unit: %, ratio against current total number of employees]



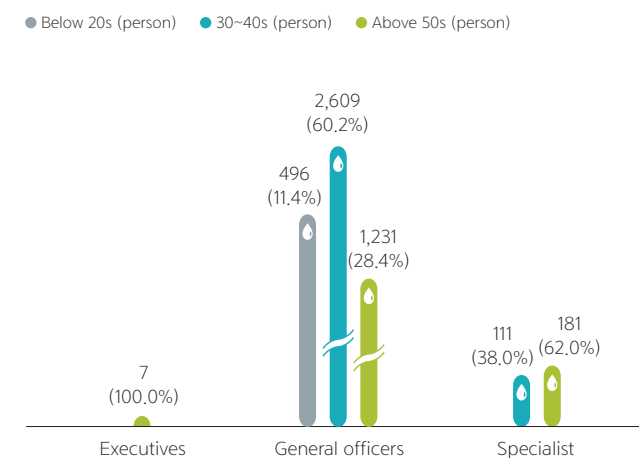
#### Age [Unit: %, ratio against current total number of employees]



\* Current total number of employees: Full-time employees including those in entrusted business, those spending time with their children on parental leaves and serving in the military

#### Employee Composition Ratio according to Employment Type in 2015

##### Employment type



##### Gender



# Sustainability Highlights

## Social Performance

### Vulnerable Class Employment

Category	2011		2012		2013		2014		2015	
	Number of persons	Ratio(%)	Number of persons	Ratio(%)	Number of persons	Ratio(%)	Number of persons	Ratio(%)	Number of persons	Ratio(%)
<b>Total new recruits</b>	173	-	222	-	252	-	261	-	220,5	-
Female	32	18,5	40	18,0	47	18,7	42,25	16,2	41,75	16,2
<b>Employment Type</b>										
Disabled	19	11,0	2	0,9	4	1,6	7,5	2,9	4,75	2,9
Regional talent	107	61,8	128	57,7	161	63,9	175,5	67,2	119,75	67,2
High school graduate	13	7,5	51	23,0	71	28,2	86	33,0	54,75	33,0

\* Ratio based on current total number of employees (%)

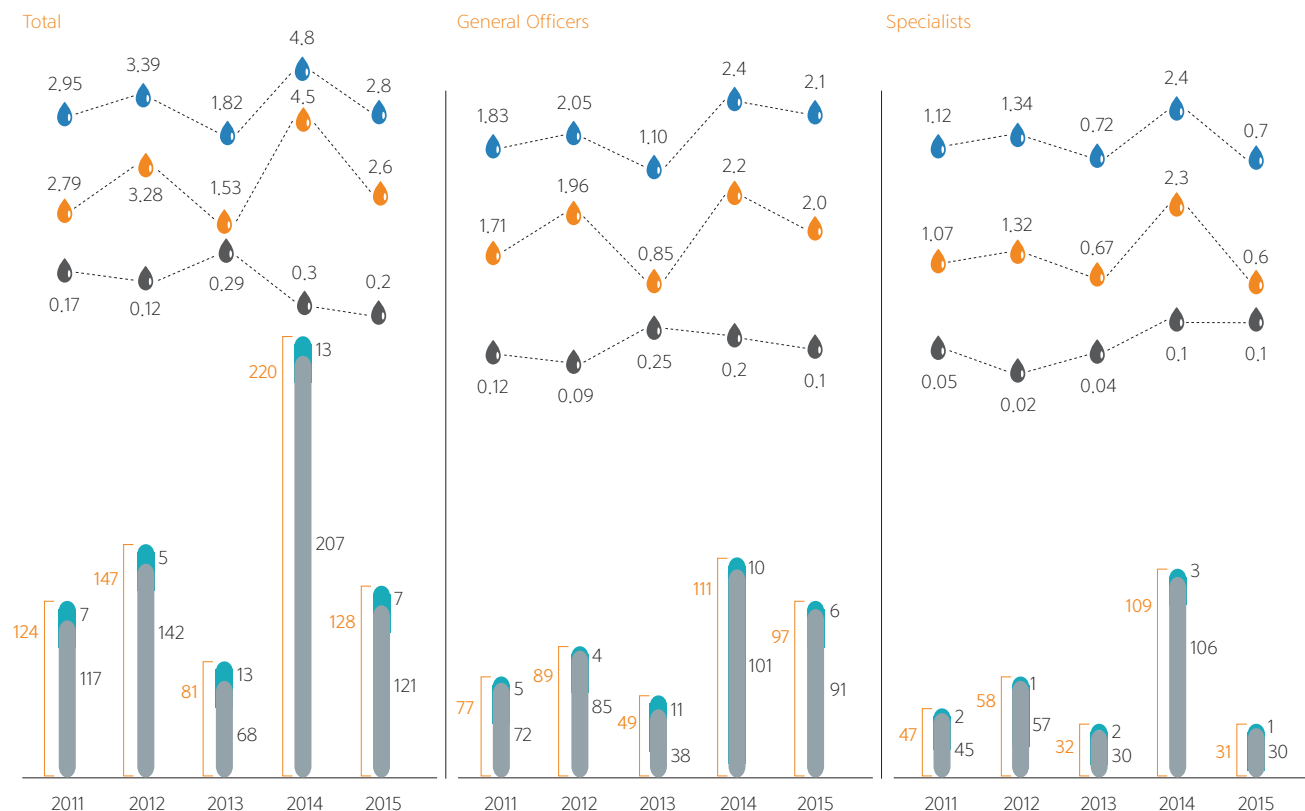
### Non-Regular Employment

Category	2011		2012		2013		2014		2015	
	Number of persons	Ratio(%)	Number of persons	Ratio(%)	Number of persons	Ratio(%)	Number of persons	Ratio(%)	Number of persons	Ratio(%)
<b>Total non-regular employees</b>	426	9,3	364	7,8	414	8,5	403	8,1	359	7,2
Fixed-term employees	355	7,8	293	6,3	340	7,0	322	6,5	323	6,5
<b>Employment Type</b>										
Short-period employees	71	1,6	71	1,5	74	1,5	66	1,3	21	0,4
Other Non-regular employee	-	-	-	-	-	-	15	0,3	15	0,3

\* Ratio(%) = Non-regular employee / (non-regular employee + non-fixed-term contracted employee + regular employee)

### Turnover

● Male (person) ● Female (person) ● Total employee turnover (%) ● Male employee turnover (%) ● Female employee turnover (%)



\* Ratio based on current total number of employees (%)

## Happy Workplace where Work and Family are Harmonized

### Creating Corporate Culture Where Work and Family are Harmonized

**Flexible Working Hours** - Expand "Smart Work Centers" (work centers equipped with telework systems) and telecommuting working out of home on alternating workdays  
- Operate various types of flexible working hours and part-time works

**Work Practice Improvement** - Run "Family Day" (On every Wed., all employees are encouraged to leave work at the regular time and have time with family members)  
- Conduct shut-down and PCs-off program on weekdays after 9PM, PCs-off on weekend  
- Increase task efficiency through improving work practices  
- Meeting Practice Improvement

**Childbirth Response Policy** - Parental leave notice system  
- Operate a daycare center in the work place (reintroduce empty office space to daycare center, increasing the capacity of children caring)

**Balance of Work and Family** - Couple coaching, "Father School" (Coaching program for fathers) and other family related education  
- Support for access to cultural performance and recreational facilities

### Workplace Safety [Unit: ratio based on current total number of employees, %]

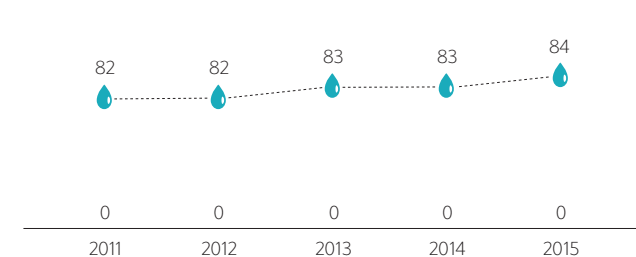
Category	2011	2012	2013	2014	2015
<b>Injury</b>	0,14	0,23	0,22	0,16	0,30
<b>Occupational Disease</b>	0,00	0,00	0,00	0,00	0,00
<b>Industrial Accident</b>	0,12	0,22	0,08	0,06	0,25
<b>Prevalence</b>	9,2	7,1	7,0	6,7	8,7

### Flexible Working [Unit: person]

Category	2011	2012	2013	2014	2015
<b>Part-time Working</b>					
New (recruits)	0	0	0	12	10
Changed from full-time	0	0	2	28	31
Staggered office hours	360	525	662	858	978
<b>Flexible Working</b>					
Flexible work schedule	0	0	0	0	0
Compressed work schedule	0	3	3	3	5
Discretionary work schedule	0	0	0	0	0
<b>Telecommuting</b>					
Work from home	0	0	0	0	9
Smart work center	0	0	0	0	0

### Labor and Management Relationship

● Labor dispute(case) ● Labor union joining rate(%)



\* All employees became labor union members due to union shop system

### Labor Practices Grievance Resolving Performance

Category	2011	2012	2013	2014	2015
<b>Total cases</b>	73	78	63	56	55
<b>Resolved cases</b>	52	56	53	50	50
Cases submitted in the previous year but resolved in the following year	-	-	13	10	3
<b>Resolving rate(%)</b>	71,2	71,8	84,1	89,3	90,9



# Third Party Assurance

## To K-water's stakeholders

K-water commissioned the Korea Productivity Center (the "Assurer") to provide an independent assurance of its 2016 Sustainability Report (the "Report").

## Responsibility and Integrity

K-water is responsible for the reliability and accuracy of all information and opinions presented in this "Report". The Assurer holds the responsibility that lies solely in providing third party verification of the content in the "Report". As an independent assurance agency, the Assurer was neither involved in the process of preparing this "Report" with K-water nor in any conflicts of interest that may undermine our independence.

## Assurance Standards

The independent verification process was planned and performed in accordance with the AA1000AS (2008) Assurance Standard to provide Type 2 moderate level of assurance. This is achieved through the evaluation of the organization's adherence to the AA1000APS Accountability Principles (2008) of Inclusivity, Materiality, and Responsiveness. Additionally, the assurance was performed to ascertain the organization's adherence to the Global Reporting Initiative (GRI) G4 Guidelines.

## Assurance Limitations

Based on the aforementioned assurance standards, the Assurer performed verification of the organization's sustainability performance and credibility from 2015 to November 2016. We verified financial data by way of financial statements audited by auditing institutions and publicly disclosed data. In terms of environmental and social data, we conducted verification activities through a sampling-based checking process so that such activities honored the Type 2 verification standard (moderate level). As for some environmental data such as greenhouse gas emissions and the amount of water usage, we finally confirmed the data approved by a third verifier. Site inspection was performed at the head office in Daejeon. Therefore, the Assurer clearly states that any additional verification conducted in the future may issue varied results.

## Assurance Methodology

The assurance was undertaken by following the methodology specified below.

1. Verified compliance with the requirements for Core Options in the GRI G4 Guidelines.
2. Verified consistency with the principles dictating the content and quality of sustainability reports based on the GRI G4 Guidelines.
3. Verified the appropriateness of identifying key issues and the responsiveness to the content presented in the Report by the various analysis methodology
4. Verified the appropriateness of the report content with other sources and searched for incorrect information through comparative analysis.
5. Onsite verification at the head office and plant has been conducted to confirm evidence for key data and information as well as internal processes.

## Findings and Conclusions

It is the Assurer's opinion that the Report fairly and accurately presents the sustainability efforts and performance of K-water. It is also verified that the Report complies with the requirements for Core Options in the GRI G4 Guidelines. In terms of General Standard Disclosures, the Report is found to comply with the requirements for Core Options. For Specific Standard Disclosures, Disclosure on Management Approach (DMA) and indicators for material issues drawn by the decision process, the items for the Report are as follows.

Contents	Material Aspect	DMA & Indicators
<b>Pledge 1 Intelligent Water Management and Satisfied Customers</b>	Economic Performance	DMA, EC2
	Energy	DMA, EN3, EN6, EN7
	Water	DMA, EN8, EN9, EN10
	Biodiversity	DMA, EN13
	Emissions	DMA, EN15, EN16, EN18, EN19, EN20, EN21
	Effluents and Waste	DMA, EN22, EN23, EN24, EN26
	Compliance	DMA, EN29
	Customer Health and Safety	DMA, PR1, PR2
	Product and Service Labeling	DMA, PR3, PR4, PR5
	<b>Pledge 2 New Water Values for All</b>	Energy
Biodiversity		DMA, EN13
Indirect Economic Impacts		DMA, EC7, EC8
Product and Service Labeling		DMA, PR3, PR4, PR5
<b>Pledge 3 Leading Global Water Management Company</b>	Economic Performance	DMA, EC1
	Indirect Economic Impacts	DMA, EC7, EC8
<b>Pledge 4 Global Sharing of Water-related Welfare</b>	Local Communities	DMA, SO1
	Procurement Practices	DMA, EC9
	Employment	DMA, LA1, LA3
	Training and Education	DMA, LA9
	Diversity and Equal Opportunity	DMA, LA12
	Labor Practices Grievance Mechanisms	DMA, LA16
	Freedom of association and collective bargaining	DMA, HR3
	Anti-corruption	DMA, SO4
	Anti-competitive Behavior	DMA, SO7
	Customer Privacy	DMA, PR8
<b>Pledge 5 Enterprise for and of Public Users</b>		

## 1. Inclusivity: Stakeholder Engagement

The principle of inclusivity articulates that organizations should include stakeholders in developing and achieving an accountable and strategic response to sustainability. K-water defines employees, labor unions, policy-making organizations, expert groups, customers (local governments, etc.) and local communities as six key stakeholder groups in accordance with degrees of understanding of and cooperation with stakeholders in water management. We confirmed that K-water was actively communicating through shared channels and programs that take into account the characteristics of stakeholders. In particular, we judge that it is a great achievement in communications that K-water has comprehensively collected the opinions of stakeholders through the participation of stakeholders such as the Korean Federation for Environmental Movement and their discussions of K-water's pending business issues since the establishment of the Mutual Growth and Cooperation Committee in 2014. We recommend that K-water continue to report specific issues and response activities discussed in shared growth meetings.

## 2. Materiality: Selecting and Reporting Major Issues

The principle of materiality articulates that organizations should focus on issues relevant and material to both the organization and its major stakeholders. In order to identify key issues related to its industry and organization, K-water drew key issues by analyzing internal and external environmental issues through mid- to long-term management strategies, media research, benchmarking analysis among others. The company conducted a materiality test on drawn issues based on international standards such as the ISO26000 and the GRI, and major issues were identified in the order of the biggest to smallest differences between concerns and performances. This is a materiality test method steadily used by K-water. We confirmed that K-water spelled out its five promises for sustainability management in the report.

# Third Party Assurance

## 3. Responsiveness: Responding to Issues by the Organization

The principle of responsiveness articulates that organizations should be responsive to issues that may have impacts on stakeholders' performance. K-water prepares its report through five different promises. We verified that K-water sincerely disclosed contents regarding the five themes. In particular, the report intensively covers results that cut across the main business of K-water. We judge that it is excellent for K-water to disclose its future aspirations by releasing plans based on new management strategy in the report. We recommend K-water to clearly report to stakeholders what it intends to do in the long term by disclosing the key results and goals of sustainability management.

### Recommendations

The Assurer commends K-water for carrying out a variety of efforts to improve sustainability and resulting performances, and presents the following recommendations to enhance future sustainability reports and sustainable management.

1. K-water operates a customized communication channel which befits the characteristics of its stakeholders and actively promotes response activities. We recommend K-water to build a process and reporting system that can manage major issues in an integrated manner in order to manage major discussions initiated by stakeholders and issues raised by stakeholders more systematically.
2. It is an encouraging achievement for K-water to disclose 2026 management goals connected with its newly established management strategy. We recommend that K-water continuously review results and goals under a more regularized management system.



*Ang Sun Jik*

November 2016  
Chairman Korea Productivity Center Hong Sun-jik

*D.S. Kim*

Kim Dong-su  
Director of Sustainability  
Management Center

*Lee Tae-ho*

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*Ju-mi*

Park Ju-mi  
Expert advisor

*Lee Hee-woon*

Lee Hee-woon  
Researcher

*Son Seon-young*

Son Seon-Young  
Researcher

The Sustainability Management Center of the Korea Productivity Center is an assurance agency officially certified by Accountability, which established AA1000, the international standards for Stakeholder engagement and verification, and has qualifications to perform independent assurance engagements. Our Assurance Committee is also comprised of competent experts who have in-depth experience in sustainability management consulting and assurance and completed the relevant professional training.

\* AA1000AS (2008): Enacted by Accountability, the AA1000 Assurance Standard (2008) is a global standard for verification and provides methods for reporting issues on sustainable management by assessing the operation of organization for management performance, compliance with principles, and credibility of information on performance

\* AA1000APS (2008): Enacted by Accountability, the AA1000 Accountability Principles Standard (2008) is a global standard for verification and provides the principles for the foundation of the AA1000 standard.

# GRI G4 INDEX/ISO 26000

## General Standard Disclosures

Reference	Contents of Index	ISO 26000	Page	Note	External Verification
<b>Aspect: Strategy and Analysis</b>					
G4-1	Provide a statement from the most senior decision-maker of the organization about the relevance of sustainability to the organization and the organization's strategy for addressing sustainability	4.7/6.2/7.4.2	2-3		✓
<b>Aspect: Organizational Profile</b>					
G4-3	The name of the organization		12		✓
G4-4	The primary brands, products, and services		6-9, 12-13		✓
G4-5	The location of the organization's headquarters		12		✓
G4-6	The number of countries where the organization operates, and names of countries where either the organization has significant operations or that are specifically relevant to the sustainability topics covered in the report		12-13		✓
G4-7	The nature of ownership and legal form		12		✓
G4-8	The markets served including geographic breakdown, sectors served, and types of customers and beneficiaries		12		✓
G4-9	The scale of the organization	6.3.10/	12		✓
G4-10	Report on the total number of employees	6.4.1-6.4.2/	12, 93-94		✓
G4-11	The percentage of total employees covered by the collective bargaining agreement	6.4.3/6.4.4/	66, 95		✓
G4-12	The organization's supply chain	6.4.5/6.8.5/7.8	36		✓
G4-13	Any significant changes during the reporting period regarding the organization's size, structure, ownership, or its supply chain		About This Report		✓
G4-14	Whether and how the precautionary approach or principle is addressed by the organization		78-81		✓
G4-15	List externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses		99-105		✓
G4-16	List memberships of associations and national or international advocacy organizations in which the organization		4		✓
<b>Aspect: Identified Material Aspects and Boundaries</b>					
G4-17	List of all entities included in the organization's consolidated financial statements or equivalent documents		About This Report		✓
G4-18	Explain the process for defining report content and the Aspect Boundaries, and how the organization has implemented the Reporting Principles for Defining Report Content		24-25		✓
G4-19	List all the material Aspects identified in the process for defining report content	5.2/7.3.2/	25		✓
G4-20	For each material Aspect, report the Aspect Boundary within the organization	7.3.3/7.3.4	25		✓
G4-21	For each material Aspect, report the Aspect Boundary outside the organization		25		✓
G4-22	The effect of any restatements of information provided in previous reports, and the reasons for such restatements		About This Report		✓
G4-23	Significant changes from previous reporting periods in the Scope and Aspect Boundaries		About This Report		✓
<b>Aspect: Stakeholder Engagement</b>					
G4-24	A list of stakeholder groups engaged by the organization		19		✓
G4-25	The basis for identification and selection of stakeholders with whom to engage		19		✓
G4-26	Report the organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group	5.3	20-21		✓
G4-27	Report key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting. Report the stakeholder groups that raised each of the key topics and concerns		22-25		✓
<b>Aspect: Report Profile</b>					
G4-28	Reporting period for information provided		About This Report		✓
G4-29	Date of most recent previous report		-	2015. 7	✓
G4-30	Reporting cycle	7.5.3/7.6.2	About This Report		✓
G4-31	The contact point for questions regarding the report or its contents		About This Report		✓
G4-32	Report the 'in accordance' option the organization has chosen		About This Report		✓
G4-33	External assurance of the report		96-98		✓
<b>Aspect: Governance</b>					
G4-34	The governance structure of the organization, including committees of the highest governance body, and any committees responsible for decision-making on economic, environmental and social impacts	6.2/7.4.3/7.7.5	16-17		✓
<b>Aspect: Ethics and Integrity</b>					
G4-56	The organization's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics	4.4/6.6.3	103-105		✓



# GRI G4 INDEX/ISO 26000

## Specific Standard Disclosures

Material Aspects	Reference	Contents of Index	ISO 26000	Page	Note	External Verification
<b>Economy</b>						
	G4-DMA	Generic DMA		28, 52		✓
<b>Economic Performance</b>	G4-EC1	Direct economic value generated and distributed	6.8.1-6.8.2 /6.8.3/6.8.7/6.8.9	84-86		✓
	G4-EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	6.5.5	6-9, 32-34		✓
	G4-DMA	Generic DMA		44, 52		✓
<b>Indirect Economic Impacts</b>	G4-EC7	Development and impact of infrastructure investments and services supported	6.3.9/ 6.8.1-6.8.2/ 6.8.7/6.8.9	45-51, 53-57		✓
	G4-EC8	Significant indirect economic impacts, including the extent of impacts	6.3.9/6.6.6/6.6.7/ 6.7.8/6.8.1-6.8.2/6.8.5/ 6.8.7/6.8.9	45-51, 53-57		✓
<b>Procurement Practices</b>	G4-DMA	Generic DMA		64		✓
	G4-EC9	Proportion of spending on local suppliers at significant locations of operation	6.4.3/6.6.6/ 6.8.1-6.8.2/6.8.7	74-77, 92		✓
<b>Environment</b>						
	G4-DMA	Generic DMA		28, 44		✓
<b>Energy</b>	G4-EN3	Energy consumption within the organization	6.5.4	36-37, 88		✓
	G4-EN6	Reduced energy consumption	6.5.4/6.5.5	36-37, 88		✓
	G4-EN7	Reductions in energy requirements of products and services	6.5.4/6.5.5	36-37, 88		✓
<b>Water</b>	G4-DMA	Generic DMA		28		✓
	G4-EN8	Total water withdrawal by source	6.5.4	88		✓
	G4-EN9	Water sources significantly affected by withdrawal of water	6.5.4	-	None of the water sources were significantly affected by withdrawal of water	✓
	G4-EN10	Percentage and total volume of water recycled and reused	6.5.4	88		✓
<b>Biodiversity</b>	G4-DMA	Generic DMA		28, 44		✓
	G4-EN13	Habitats protected or restored	6.5.6	40-41, 51, 90		✓
<b>Emissions</b>	G4-DMA	Generic DMA		28		✓
	G4-EN15	Direct greenhouse gas(GHG) emissions (Scope1)	6.5.5	37, 88		✓
	G4-EN16	Indirect greenhouse gas(GHG) emissions (scope 2)	6.5.5	37, 88		✓
	G4-EN18	Intensification of greenhouse gas(GHG) emission	6.5.5	38		✓
	G4-EN19	Reduction of greenhouse gas(GHG) emission	6.5.5	28, 38, 88		✓
	G4-EN20	Emissions of Ozone-depleting substances	6.5.5	-	No process to emit ozone depleting substances such as freon gas	✓
	G4-EN21	NOX, SOX, and other significant air emissions	6.5.3	88		✓
<b>Effluents and Waste</b>	G4-DMA	Generic DMA		28		✓
	G4-EN22	Total wastewater discharge by quality and destination	6.5.3/6.5.4	37, 89		✓
	G4-EN23	Total weight of waste by type and disposal method	6.5.3	37, 89		✓
	G4-EN24	Total number and volume of significant spills	6.5.3	-	None	✓
	G4-EN26	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organization's discharges of water and runoff	6.5.3/6.5.4/6.5.6	40-41, 90		✓
	G4-DMA	Generic DMA		28		✓
<b>Compliance</b>	G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	4.6	-	None	✓

## Specific Standard Disclosures

Material Aspects	Reference	Contents of Index	ISO 26000	Page	Note	External Verification
<b>Society</b>						
<b>Labor Practices and Quality Jobs</b>						
	G4-DMA	Generic DMA		64		✓
<b>Employment</b>	G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region	6.4.3	72, 94		✓
	G4-LA3	Return to work and retention rates after parental leave by gender	6.4.4	66		✓
<b>Training and Education</b>	G4-DMA	Generic DMA		66		✓
	G4-LA9	Average hours of training per year per employee by gender, and by employee category	6.4.7	73, 87		✓
<b>Diversity and Equal Opportunity</b>	G4-DMA	Generic DMA		64		✓
	G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age, group, minority group membership, and other indicators of diversity	6.2.3/6.3.7/6.3.10/6.4.3	93-94		✓
<b>Labor Practices Grievance System</b>	G4-DMA	Generic DMA		64		✓
	G4-LA16	Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms	6.3.6	95		✓
<b>Human Rights</b>						
	G4-DMA	Generic DMA		64		✓
<b>Non-discrimination</b>	G4-HR3	Total number of incidents of discrimination and corrective actions taken	6.3.5	66-67, 72, 92-94	No discrimination case	✓
<b>Society</b>						
	G4-DMA	Generic DMA		58		✓
<b>Community</b>	G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs	6.3.9/6.5.1-6.5.2/6.5.3/6.8	59-63, 92		✓
<b>Anti-corruption</b>	G4-DMA	Generic DMA		64		✓
	G4-SO4	Communication and training on anti-corruption policies and procedures	6.6.1-6.6.2/6.6.3	68-71		✓
<b>Anti-competitive behavior</b>	G4-DMA	Generic DMA		64		✓
	G4-SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes	6.6.1-6.6.2/6.6.5/6.6.7	-	None	✓
<b>Product Responsibility</b>						
	G4-DMA	Generic DMA		28		✓
<b>Customer Health and Safety</b>	G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement	6.7.1-6.7.2/6.7.4/6.7.5/6.8.8	29-43		✓
	G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	4.6/6.7.1-6.7.2/ 6.7.4/6.7.5/6.8.8	-	None	✓
	G4-DMA	Generic DMA		28		✓
<b>Product and Service Labeling</b>	G4-PR3	Type of product and service information required by the organization's Procedures for product and service information and labeling, and percentage of significant product and service categories subject to such information requirements	6.7.1-6.7.2/ 6.7.3/6.7.4/6.7.5/6.7.9	29-32, 42-43		✓
	G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes	4.6/6.7.1- 6.7.2/6.7.3/6.7.4/6.7.5/6.7.9	-	None	✓
	G4-PR5	Results of surveys measuring customer satisfaction	6.7.1-6.7.2/6.7.6	94		✓
<b>Customer Privacy</b>	G4-DMA	Generic DMA		64		✓
	G4-PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	6.7.1-6.7.2/6.7.7	91	None	✓

# Code of Ethics, Green Management Policy, Customer Charter Statement, and Innovation Vision Statement



## Code of Ethics

K-water is a business of the people that contributes to the quality of life of all citizens and the development of the country by developing, managing, and preserving Korea's water resources to be sustainable in environmental, economic, and social aspects and by providing the best products and services. Based on our experience, know how, and advanced technology, we promise the following to become a global professional water business.

We accomplish our missions through creative thinking and challenges and make efforts to actualize transparent management by processing tasks with an honest and fair attitude.

We recognize that the Earth is a precious heritage for our offspring and is a healthy and clean shelter of and as such, we are obligated to practice eco-friendly management.

We provide the best products and services to customers and actualize consumer-oriented policy through customer satisfaction and management of new value creation.

As a part of the local community, we respect the tradition and the culture of the community and enrich the lives of local residents by contributing to the development of the local community.

We comply with ethical/legal values, respect market order of free competition, and seek realization of fair competition.

We respect the unique personalities of all people without discrimination, and respect characters and creativity.

We develop partnership of labor and management based on mutual trust and harmony, promoting our mutual prosperity.

\* Please refer to Ethics Management section on K-water's official website ([www.kwater.or.kr](http://www.kwater.or.kr)) for details about our principles of ethics and principles of employee behavior.



## Green Management Policy

We deeply recognize that this is a time that needs the best effort to make sustainable development that harmonizes with environment in order to create a clean and livable environment. Our company, which handles water, the source of life, declares the policy of green management with the participation of all employees in order to become an eco-friendly business that receives the trust and love of citizens by developing and managing water resource in eco-friendly ways.

We proactively involve ourselves in protecting water sources, air and the environment.

We take the responsibilities and duties of preventing natural pollution, promptly addressing natural pollution that occur from business activities, while always keeping in mind that these kinds of practices are the foundations of our business ethics.

We secure a healthy consumption culture of saving and reusing resources and energy, and seriously consider them at all times so that we will not destroy the environment through inattention.

We reflect the opinions of the citizens as best we can in making plans that relate to the environment, and we disclose information and materials so that we will increase the trust on the organization as well as the transparency of the task.

We fully take responsibility of our obligations to prevent environmental damages. If and when environmental damage occurs, we place utmost effort to resolve the damage.

We provide continuous environmental education, so that our activities reflect our code of ethics and we make our best efforts for research development of conserving and improving the environment.

All employees of K-water practice this declaration so that future generations will enjoy prosperity in a clean environment.



## Customer Charter Statement

K-water will make best efforts to practice customer-oriented management by approaching its customers based on the management philosophy 'The values of customers are our values.'

We will provide water and waterfront spaces of the best quality so as to ensure customer trust.

We will provide information and services for the safety and ownership protection of customers even before customers request them.

We will always be open to the advice and suggestions of customers, regularly accept opinions, and use them for the improvement of customer services.

We will perform our tasks without any discrimination to any customers and will secure the profit of customers to the maximum by seeking the most efficient management.

We promise that we will set the best service performance standards that K-water can provide and practice them in order to realize ideal goals on the side of customers.



## Innovation Vision Statement

We declare the following in order to provide clean and safe water to citizens, protect the lives and properties of citizens from water-related disasters, and to become the best water service organization through continuous changes and innovations.

We place customer-satisfaction management first in everything we do, we ensure customer-oriented values are embedded in our values, our code of conduct, and systems.

In order to become a trusted public enterprise, we process tasks in an honest and fair manner without violating conscience, common sense, or the law, and actively participate in social contribution activities in order to be together with the local community.

With confidence and passion that do not fear change, we will secure global-level competency to accomplish the vision and establish a continuous and stable foundation for growth.

We recognize the importance of nature for health, life, and sustainable growth of future generations and make efforts in order to preserve them.

By putting this declaration into action, we focus all of our capabilities to make K-water a business that does its job well, a business that has competitiveness, and a business that is loved by the citizens.





## UN Global Compact's 10 Principles Support

The UN Global Compact's Ten Principles are derived from the following international agreements.



- The Universal Declaration of Human Rights
- The International Labor Organization's Declaration on Fundamental Principles and Rights at Work
- The Rio Declaration on Environment and Development
- The United Nations Convention Against Corruption

The UN Global Compact asks companies to embrace, support and enact, within their sphere of influence, a set of core values in the areas of human rights, labor, the environment and anti-corruption.

### Human Rights

Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights.

Principle 2: make sure that they are not complicit in human rights abuses.

### Labor

Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.

Principle 4: the elimination of all forms of forced and compulsory labor.

Principle 5: the effective abolition of child labor.

Principle 6: the elimination of discrimination in respect of employment and occupation.

### Environment

Principle 7: Businesses should support a precautionary approach to environmental challenges.

Principle 8: undertake initiatives to promote greater environmental responsibility

Principle 9: encourage the development and diffusion of environmentally friendly technologies.

### Anti-Corruption

Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

K-water practices and complies to the ten principles of UN Global Compact.

## Questionnaire to Collect Readers' Opinions

We welcome your valuable opinions.

With a view to publishing a better sustainability report in the future, K-water wants to hear the opinions of various stakeholders including our readers about the 2016 sustainability report. Please complete the following and send it to the address listed on the bottom of this questionnaire by mail or fax.

1. What kind of groups do you belong to?

- Customers  Employee  Government  Local residents  Partners  NGOs and Civic Groups  
 Specialized organizations  Others( )

2. How did you find this sustainability report?

- K-water's home page  Media such as newspapers  Web surfing  K-water's employees  Seminars/lectures  Others( )

3. For what purpose do you use this report? (Multiple responses are possible)

- To get information about K-water  
 To understand K-water's sustainability management activities  
 To compare and analyze the characteristics of the industry to which K-water belongs  
 For research and education  
 Others( )

4. Which section was most interesting to you in this report? (Multiple answers are possible)

- K-water, Global Hub of Water Management  
 Pledge 1: Intelligent Water Management and Satisfied Customers  
 Pledge 2: New Water Values for All  
 Pledge 3: Leading Global Water Management Company  
 Pledge 4: Global Sharing of Water-related Welfare  
 Pledge 5: Enterprise for and of Public Users

5. Which pledge requires more supplementing information? (Multiple answers are possible)

- K-water, Global Hub of Water Management  
 Pledge 1: Intelligent Water Management and Satisfied Customers  
 Pledge 2: New Water Values for All  
 Pledge 3: Leading Global Water Management Company  
 Pledge 4: Global Sharing of Water-related Welfare  
 Pledge 5: Enterprise for and of Public Users

6. Was this report helpful for you to have a better picture of K-water's sustainable management activities?

- Very  A little  Neutral  Not  Not at all

7. How satisfied are you with this report?

- Understanding of information  Very Satisfied  Satisfied  Normal  Unsatisfied  Very Dissatisfied  
 • Accuracy of information  Very Satisfied  Satisfied  Normal  Unsatisfied  Very Dissatisfied  
 • Quantity of information  Very Satisfied  Satisfied  Normal  Unsatisfied  Very Dissatisfied  
 • Design  Very Satisfied  Satisfied  Normal  Unsatisfied  Very Dissatisfied

8. Feel free to write your opinions about the overall configuration and contents of the report.

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Send to

Management Services Innovation Team, K-water Sintanjin-Ro 200, Daedeok-Gu, Daejeon 34350, Republic of Korea

TEL. 82-42-629-2356~8 / Fax. 82-42-629-2399



Management Services Innovation Team, K-water  
Sintanjin-Ro 200, Daedeok-Gu, Daejeon 34350,  
Republic of Korea



2016 Sustainability Report

## ***Opening the Future and Providing Happiness by Sharing Water***

K-water 2016 Sustainability Report

### **Contact Information**

For more information, please contact  
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