

Water for the happier world

K-water 2014 SUSTAINABILITY REPORT



About this Report

Purpose of Publication This is a retrospective report on the performance of K-water’s sustainable management which is mainly based on stakeholders’ issues of concern. As well, the future direction in which K-water ought to take as a global water management company and a state-owned company for the public is reflected in this report.

Publication Cycle K-water 2014 Sustainability Report is the 10th report. K-water has published annually since 2005.

Reporting Standard This report has been drafted in accordance with the G4 Guidelines (Core option) of the GRI (Global Reporting Initiative) which is the most recent international reporting standards and have included K-water related-indices among the disclosure indices of the Electric Utilities Sector Supplement.

Reporting Period The reporting period is from January 1 to December 31, 2013 and qualitative performance partially includes performance up to June in 2014. Quantitative performance primarily reports the figures of the last five years from 2009 to 2013.

Reporting Boundaries This report contains information on the performance and current status of management practices for the head office, 8 regional divisions, 1 business division, and 28 regional offices along with the performance of 24 overseas projects in 18 countries. This report does not include invested entities or subsidiaries. With regards to some materials in connection to education, support performance, etc, we have included the contents of partnering companies within our corporate supply chain. Financial performance have been calculated based on standards that comply to international accounting standards (K-IFRS). (G4-17b, 23)

Amendments There were not any significant changes in terms of size, structure, base year, ownership structure, etc during the reporting period when compared to the previous year. Some data were compared with the report published last year and were re-calculated according to the changes that occurred with the calculation and application standards. (G4-22)

Verification by Third Party The report and the materials that were included have been verified by Korea Management Association Registration Inc.

Membership Activities

Nov. 1971	Korea National Committee on Large Dams
Jan. 1976	Korea Electricity Association
Dec. 1985	Korea Energy Foundation
Mar. 1997	Korea Electric Engineers Association
May 2001	Korea Power Exchange
Sep. 2001	Korea New & Renewable Energy
Jan. 2002	Korea Water & Wastewater Works Association
Mar. 2004	Korea Environmental Impact Assessment Association
Sep. 2004	Korea Business Council for Sustainable Development
Oct. 2005	Korea Engineering and Consulting Association
Jul. 2006	BEST (Business Ethics and Sustainability management for Top performance) Forum
Feb. 2007	UN Global Compact
Feb. 2007	U-City Association
Mar. 2007	International Water Association (IWA)
Mar. 2007	American Water Works Association (AWWA)
Jan. 2012	Korea Environmental Policy and Administration Society
Mar. 2014	Korea Society for Quality Management

Awards

Apr. 2007	The Most Admired Company in Korea (The Federation of Korean Industries, Seoul Economic Journal)
May 2007	Global Standard ‘Grand Award’ and ‘Chief Executive Officer Award’ (Korea Management Association)
May 2007	Enterprise with an outstanding performance in family-friendly management, ‘Prime Minister Commendation’ (The Ministry of Gender Equality)
Jul. 2007	Enterprise certified to display outstanding performance in service quality (Korean Agency for Technology and Standards)
Oct. 2007	‘Award of Excellence’ in the field of Digital Knowledge Management (The Ministry of Knowledge Economy)
Nov. 2007	ISO/IEC20000 Certification (LRQA)
Nov. 2007	Sewage Treatment Technology, ‘Presidential Award’ (Ministry of Environment)
Nov. 2007	LOHAS Management Awards ‘Grand Award’ (Environmental Foundation)
Dec. 2007	Sustainable Management ‘Award for Highest Excellence’ (The Ministry of Knowledge Economy, Korea Chamber of Commerce and Industry)
Apr. 2008	Korea Management Innovation ‘Grand Prize’ (The Ministry of Knowledge Economy, Maeil Business Newspaper)
Oct. 2008	Korea Social Contribution ‘Grand Award’ (Korea Journalist Forum)
Oct. 2008	Sustainable Management ‘Award of Highest Excellence’ (The Ministry of Knowledge Economy, Korea Chamber of Commerce and Industry)
Oct. 2008	Korea Eco-Friendly Company ‘Grand Award’ (The Ministry of Environment)
Oct. 2008	Asian MAKE* Award (Teleos, *Most Admired Knowledge Enterprise)
Jan. 2009	Continuity & Creation Management Award (Environmental Management) (The Ministry of Knowledge Economy, UN Global Compact)
Oct. 2009	Low Carbon Green Growth Commendation (Green Growth Association, the Ministry of Environment)
Oct. 2009	New Regeneration Energy Awards ‘Prime Minister Commendation’ (The Ministry of Knowledge Economy)
Oct. 2009	Asian MAKE* Award (Teleos, *Most Admired Knowledge Enterprise)
Dec. 2010	National Green Technology ‘Grand Award’ (The Ministry of Knowledge Economy, the Ministry of Education)
Jun. 2011	Korea Green Management Award (The Ministry of Knowledge Economy, the Ministry of Environment)
Jun. 2011	Eco-Star Eco-technology Award (The Ministry of Environment)
Jan. 2012	The first public company to be awarded the ‘Smart Work Superior Institute Award’ (The Ministry of Public Administration and Security)
Feb. 2012	The most admired Company in Korea (KMAC)
Jun. 2012	Environmental Impact Management ‘Grand Prize’ (The Ministry of Environment)
Jun. 2012	Global Social Contribution Institute of Excellence Commendation (The Ministry of Health and Welfare)
Jun. 2012	Selected as an excellent company with an outstanding performance in ‘Labor and Management Relations’ (The Ministry of Employment and Labor)
Jul. 2012	Korea Digital Innovation Award ‘Public Sector Grand Prize’ (The Ministry of Knowledge Economy)
Sep. 2012	Excellent enterprise with an outstanding performance in purchasing goods from small and medium enterprises (The Small and Medium Business Administration)
Oct. 2012	Family-Friendly Enterprise (The Ministry of Gender Equality and Family)
Oct. 2012	Top 100 Enterprise selected as ‘Great WorkPlace’ (GWP Korea)
Oct. 2012	Asian MAKE* Award (Teleos, *Most Admired Knowledge Enterprise)
Nov. 2012	Sustainability Grand Award, Innovation Management Award (The Ministry of Knowledge Economy)
Dec. 2012	State-owned Company Award ‘Grand Prize’ (Sisa Journal)
Jul. 2013	13th Korean Digital Green Management Award (MSIP)
Oct. 2013	Korea Green Architecture Competition ‘Award of Excellence’ (Presidential Commissions on Architecture Policy)
Oct. 2013	‘Commendation for Service’ in Renewable Energy Supply Obligation System (The Ministry of Trade, Industry and Energy)
Nov. 2013	The Natural Environment Grand Award (The Ministry of Environment)
Nov. 2013	Asian MAKE* Award (Teleos, Most Admired Knowledge Enterprise)
Dec. 2013	Global MAKE* Award (Teleos, Most Admired Knowledge Enterprise)

CONTENTS

As We Proceed	
K-water, a Water Specialist Corporation	4
Corporate Overview	8
Creating Sustainable Values	10
CEO Message	12
Sustainability News for 2013	13

Sustainable Management	
Corporate Governance	16
Vision and Strategy	17
Sustainable Management System	18
Developing Together with Our Stakeholders	20
Selecting K-water’s Matters of Materiality	22
Ethical Management	24
Environmental Management	26
Risk Management	28

4 Focus Issues	
Focus Issue 1 Creative Management	34
Focus Issue 2 Smart Water Services	39
Focus Issue 3 Society Prospering Together	52
Focus Issue 4 Creating a Happy Workplace	58

Economic, Environmental and Social Performances for 2013	
Economic Performance	66
Environmental Performance	69
Social Performance	77

Appendix	
Sustainable Management Performance Data for 2013	84
GRI G4 Index	92
Third Party’s Assurance Statement	94
ISO 26000	96
Publishing the 2014 Sustainability Report	97
Code of Ethics Preamble, Green Management Policy, Customer Charter Statement, Mission Statement for Innovation Vision	98
UN Global Compact	100
Glossary	101
Voice of Readers	103

K-water, a Water Specialist Corporation

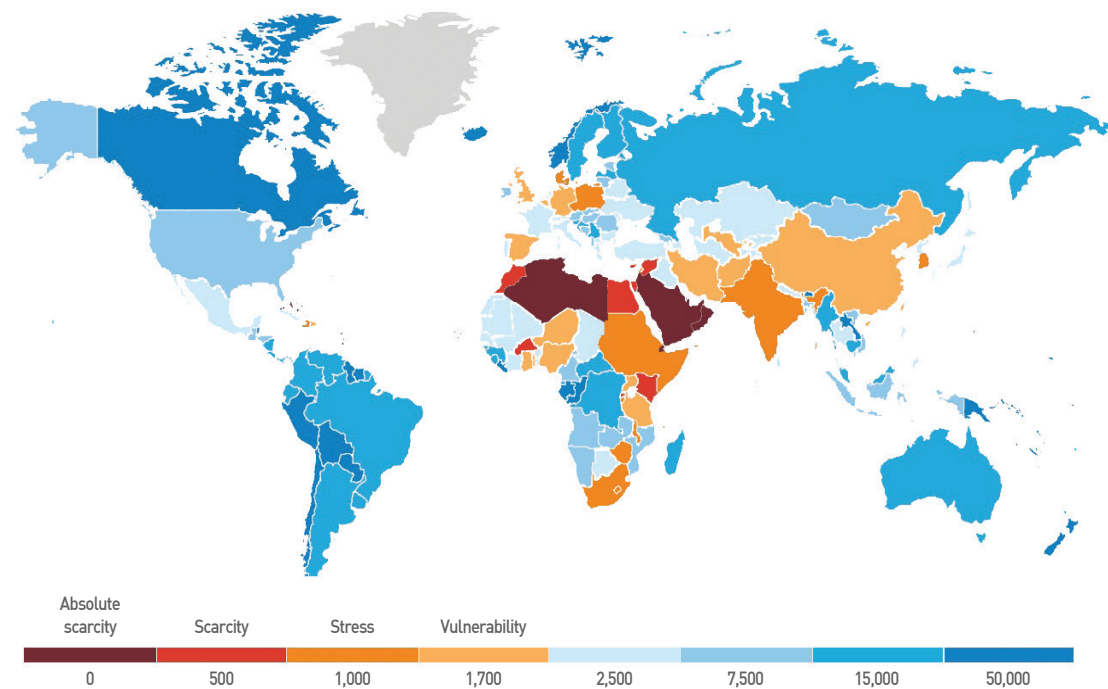
As an integrated water management organization, K-water endeavors to improve the safety of the public and heighten national competitiveness through safe water management practices to mitigate the effects of climate change. As well, we are committed to playing a vital role as an anchor that facilitates the growth of the domestic water industry.

The Water Crisis

Water is a precious resource that is essential for the survival of all organisms. Without clean and abundant water, we cannot ensure individuals' health, national development or better living conditions for our citizens. Our country has been striving to secure adequate water resources year-round and to improve the quality of water in various ways. Population growth, however, has led to increased water consumption. It is a proven fact that we are currently facing a water resource crisis due to the effects of climate change such as more intense droughts, floods, and water pollution.

As the world population increased twofold over the last century, water consumption has increased by nearly 6 times during the same period. Based on this trend, the demand for water in 2030 will amount to approximately 6,900km³. This exceeds the supply of sustainable water by about 40%. In addition, the rapid urbanization of approximately 3.5 billion people, which is roughly 50% of the entire world population, has resulted in severe water-related environmental damages and these damages are expected to increase.

■ Total renewable water resources, 2011(m³ per capita per year) ■



Source : The United Nations World Water Development Report 2014

In recent years, the damages from droughts and flooding have been increasing rapidly. The severity of climate change could not only demolish entire ecosystems but also cause negative impacts to a wider range of areas including water resources, food, industries and human health issues. On September 2013, IPCC (Intergovernmental Panel on Climate Change) published its 5th evaluation report and it forecasts that the average temperature of earth will increase about 3.7 degrees Celsius by the end of the 21st century (year 2081~2100) in comparison to the average temperature of the earth during 1896~2005, and the sea level is also expected to increase by 63cm.

WEF (World Economic Forum) selected water shortage and extreme climate change along with the global financial crisis and structural unemployment as the top 10 global risks in its "Global Risk 2014 Report". Also, "UN Future Report 2040" warned that issues such as prolonged drought caused by climate change will be a catalyst to trigger wars in Southeast Asia, Middle East and Africa by 2022. This acutely depicts the severity of the water situation.

Our country has also been encountering damages such as flooding, droughts and algal blooms. In some mountain sides and islands, we are already facing a water shortage issue which is causing an imbalance between water supply and demand. Thus, the voice of the public is demanding that the government provides high level water services such as sustainable water management, a healthy supply of water and the realization of welfare in relation to water.

International Community's Efforts to Resolve Water Issues

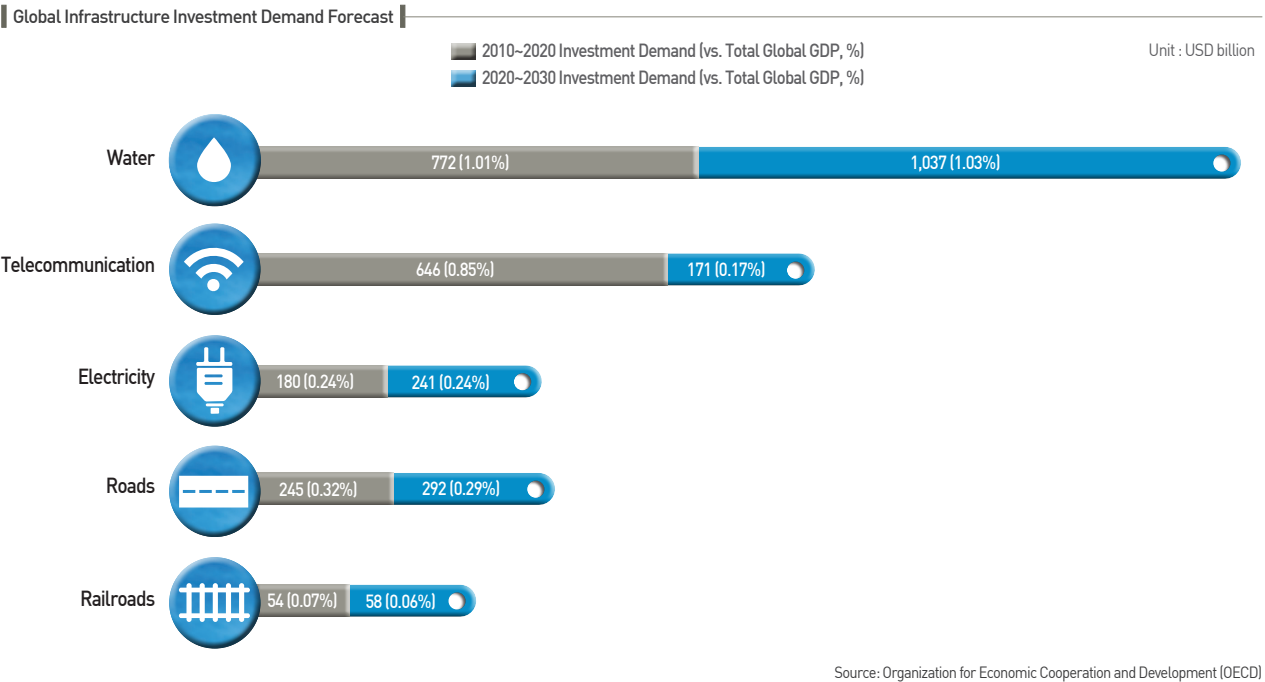
The international community adopted "The Right to water" at the UN General Assembly held in July 2010, and the universal rights for all humans to have access to safe drinking water which is essential to sustain life and health were recognized. The UN Human Rights Council is demanding each nation to legalize and implement policies regarding water-related human rights. The concept of water-related human rights approved by the UN Human Rights Council consists of the availability of sustainable water supply, quality that guarantees safety in health and hygiene, acceptability that guarantees privacy and dignity, accessibility which enables easy and secure access ubiquitously and a reasonable and affordable price for everyone to use water. As such, stricter human rights regulations regarding clean water and hygiene have been established as fundamental rights constitutionally, and the national government is responsible for supplying water and sewage of which its responsibility used to be that of local governments.

As mentioned above, worldwide environmental changes such as climate change have augmented the seriousness of water-related issues including the worsening of water insufficiency, increased frequency of water related disasters, water contamination, and the degradation of the aquatic ecology. Such crisis situations threaten the public's safety on a national level and the lives of all mankind on a global level. This is why the importance of water security is becoming a big issue recently. On a global level, phenomena triggered by insufficient water supply such as climate change, desertification, population increase, etc are resulting in increased water disputes among countries. Thus, many nations are establishing and implementing policies to acquire water resources to secure the public safety and well-being while achieving economic and industrial growth.

Opportunities in the Water Market

While the severe effects of rapid climate change have created adverse conditions from a water management perspective, there is still great opportunity from an industrial perspective. A water research organization in the UK, GWI (Global Water Intelligence) estimated the size of the global water industry to be approximately USD 557.8 billion as of 2013, and the Japanese Ministry of Economy, Trade and Industry forecasted that the size of the global water industry will grow to approximately USD 865 billion by 2025.

Also, OECD (The Organization for Economic Cooperation and Development) forecasts the investment demand for global water-related infrastructure to be approximately USD 1.37 trillion in 2025. This rapid growth trend in the water industry offers new opportunities for the local water industry.



K-water is Preparing for the Future

We have been actively researching and developing advanced IWRM (Integrated Water Resources Management) and SWG (Smart Water Grid) as more specific and practical measures to respond to climate change. In order to resolve issues such as flooding and droughts which are becoming worse day by day and to settle water related conflicts between districts that arise as a result, we have decided to adopt IWRM through which we set forth to consider not only the technical aspects but also the economy, society, and environmental issues in order to realize water management which maximizes both the national economy and social welfare. Also, it is essential that we diversify the sources of water through use of ICT technologies in order to more securely and efficiently supply and manage water, and furthermore to adopt SWG (Smart Water Grid) which can increase the efficiency of the water supply while consuming less energy.

In the midst of changing circumstances where water management is becoming more complex due to the impact of climate change, K-water is making a transition in the paradigm through Integrated Water Resources Management (IWRM) and Smart Water Grid (SWG). In addition, as a water management organization which possess global competencies, K-water leverages upon its strengths as the nation's sole state-owned company in the field of water resources, water and sewage in order to provide a foundation for fostering the growth of the water industry.

As part of K-water's efforts to prepare for the future, centering on the following 4 major issues, we have included the results of our efforts to address the issues which our stakeholders regard as important in this Sustainability Report.



Focus Issue 1 Creative Management

We will pioneer new businesses and markets with financial stability, technologies and know-how accumulated to date, and contribute to the growth of developing countries.



Focus Issue 2 Smart Water Services

We will endeavor to manage water resources efficiently and supply "Healthy Tap Water," containing balanced minerals, through the Integrated Water Resources Management (IWRM) and the Smart Water Grid (SWG).



Focus Issue 3 Society Prospering Together

We will do our best to win the trust of the public by strengthening social contribution activities that fit with the characteristics of K-water, strengthening interaction and cooperation with local communities, creating jobs in the private sector, supporting SMEs (Small and Medium Enterprises) and venture technology companies, and through efforts in joint growth such as establishing fair cooperation relationships with SMEs.



Focus Issue 4 Creating a Happy Workplace

We are planning to increase our corporate productivity through impartial human resources management which centers on capacity and performance, open communication, vibrant organization culture through work and life balance, and effective human resources development and management.

As the sole state-owned enterprise specializing in water in Korea, K-water sets the goal of making a happier world with water by managing the nation's water resources efficiently to securely protect the public from water-related disasters such as floods and to supply clean water to ensure that there are no districts that fails to receive water benefits.

Corporate Overview (as of 12.31.2013)

- **Company name** K-water (Korea Water Resources Corporation)
- **Location of head office** Sintanjin-Ro 200, Deadeok-Gu, Daejeon 306-711, Republic of Korea
- **Incorporation date** November 16, 1967
- **Institution type** Semi-market type state-owned enterprise
- **Basis of establishment** Korea Water Resources Corporation Act

• Business portfolio

- ① Construction, operation and management of the water resource facilities.
- ② Construction, operation and management of multi-regional waterworks, local waterworks and sewage.
- ③ Development of complexes and special zones
- ④ Installation and operation of renewable energy facilities
- ⑤ Overseas business, business in North Korea, etc.

- **Employees** : 4,265 people

• Organization system

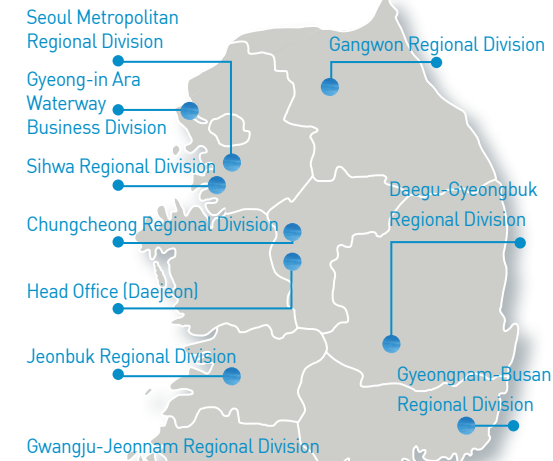
Head office: 1 vice president, 4 business divisions, and 24 departments
Regional office: 1 business and 8 regional divisions, and 28 regional offices
Overseas business: 24 projects in 18 countries

- **Total assets** : KRW 25.6 trillion
- **Sales** : KRW 3.6 trillion
- **Total liabilities** : KRW 14.0 trillion
- **Credit rating** : Domestic AAA, Moody's A1, S&P A+

- **Composition of investors:** Korean government 91.1 %
Korea Finance Corporation 8.8%
Local government 0.1%

• Subsidiaries and Affiliates (G4-17a)

Waterway plus Co., Ltd. (Ownership 100%)
Korea Construction Management Co., Ltd. (Ownership 18.9%)
Prunjangryang Co., Ltd. (Ownership 5.0%)
P-Waters Co., Ltd. (Ownership 2.0%)
KDS Hydro Pte., Ltd. (Ownership 80.0%)
K-water Thailand Co., Ltd. (Ownership 99.9%)
Jiangsu Shenshui Water Co., Ltd. (Ownership 32.5%)



Regional Offices and Overseas Projects

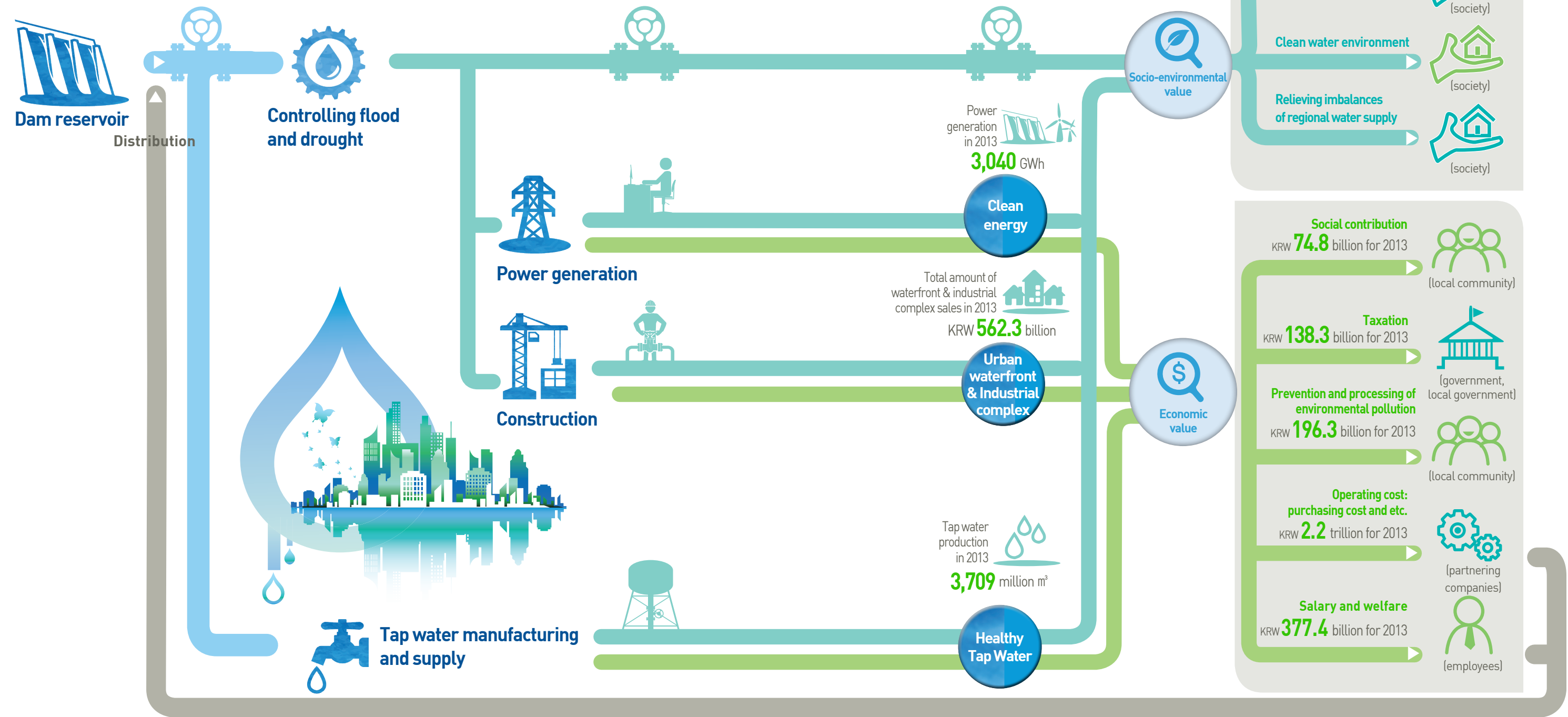


Corporate History

- **1990s** Constructed waterworks in metropolitan areas (ie: Ulsan, Gumi)
 - **2000s** Entered the local waterworks business (ie: Nonsan, Jeoneup)
Completed Four Major Rivers Restoration Projects
Opened Gyeong-in Ara Waterway
Completed installation of Sihwa Tidal Power Station
Expanded overseas businesses (ie: Pakistan, Philippines, etc)
 - **2010s**
- **1967** Established as Korea Water Resources Development Corporation
 - **1970s** Changed the company name into Industrial Sites and Water Resources Development Corporation in 1974
Constructed multipurpose dams in Soyang River & Andong
Constructed industrial complexes (ie: Changwon & Yeosu) and new cities (ie: Sihwa & Ansan)
 - **1980s** Changed the company name into Korea Water Resources Corporation in 1988
Constructed multipurpose dams in Daejeon, Chungju, Hapcheon, Juam, Imha, and Namgang
Constructed Nakdonggang Estuary Barrage

Creating Sustainable Values

K-water participates in the making of a sustainable society through its management activities. K-water supplies “Healthy Tap Water,” high quality tap water that contains naturally balanced minerals, clean energy, and high class urban waterfront and industrial complex to our society. K-water’s business creates economic value which is allocated to partnering companies, local communities, etc, and thereby contributes to the making of a society in which we jointly grow and create social, environmental values by providing a safe and clean water environment for everyone.



CEO Message



Based on our
47 years of history,
we will start anew with
“Brand New Smart Management”
heading forward
the centennial K-water

We would like to express our sincere gratitude to the stakeholders of **K-water for pursuing our vision, making a happier world with water**, and it is the pleasure to publish the 10th Sustainability Report which contains information on our sustainable activities and performances.

Creating a cleaner water environment for 47 years

As the only integrated water service company in South Korea, we have been supplying clean and safe tap water to the public and also carrying out our mission to protect the lives and wealth of the public from disasters arising from water such as flooding and drought.

Preparing for the next half century

In this, the 2014 Sustainability Report, we classified K-water’s sustainable management activities to prepare for the next half century into 4 themes based on our stakeholders’ interests: “Creative Management”, “Smart Water Services”, “Society Prospering Together”, and “Creating a happy workplace”, and endeavored to make a concrete reporting on each of the themes.

By strengthening its financial solvency and initiating strategic water-specific businesses, K-water pursues creative management and creates a sustainable driver of growth. Through IWRM (Integrated Water Resources Management) and SWG (Smart Water Grid), K-water is increasing the level of safety and efficiency of water management, delivering smart water services which manufacture and distribute “Healthy Tap Water,” which is high class tap water that contains naturally balanced minerals. We contribute through joint efforts to develop our nation by sharing with social communities and supporting the growth of our partnering companies. As well, we set forth to compete fairly, establish a balance between work and life, and create a workplace environment where we can learn and develop.

As we have been doing for the past half century, K-water promises that we will continue to secure the public safety from water crises and uncertainties and maintain a sustainable growth through creative and smart water services.

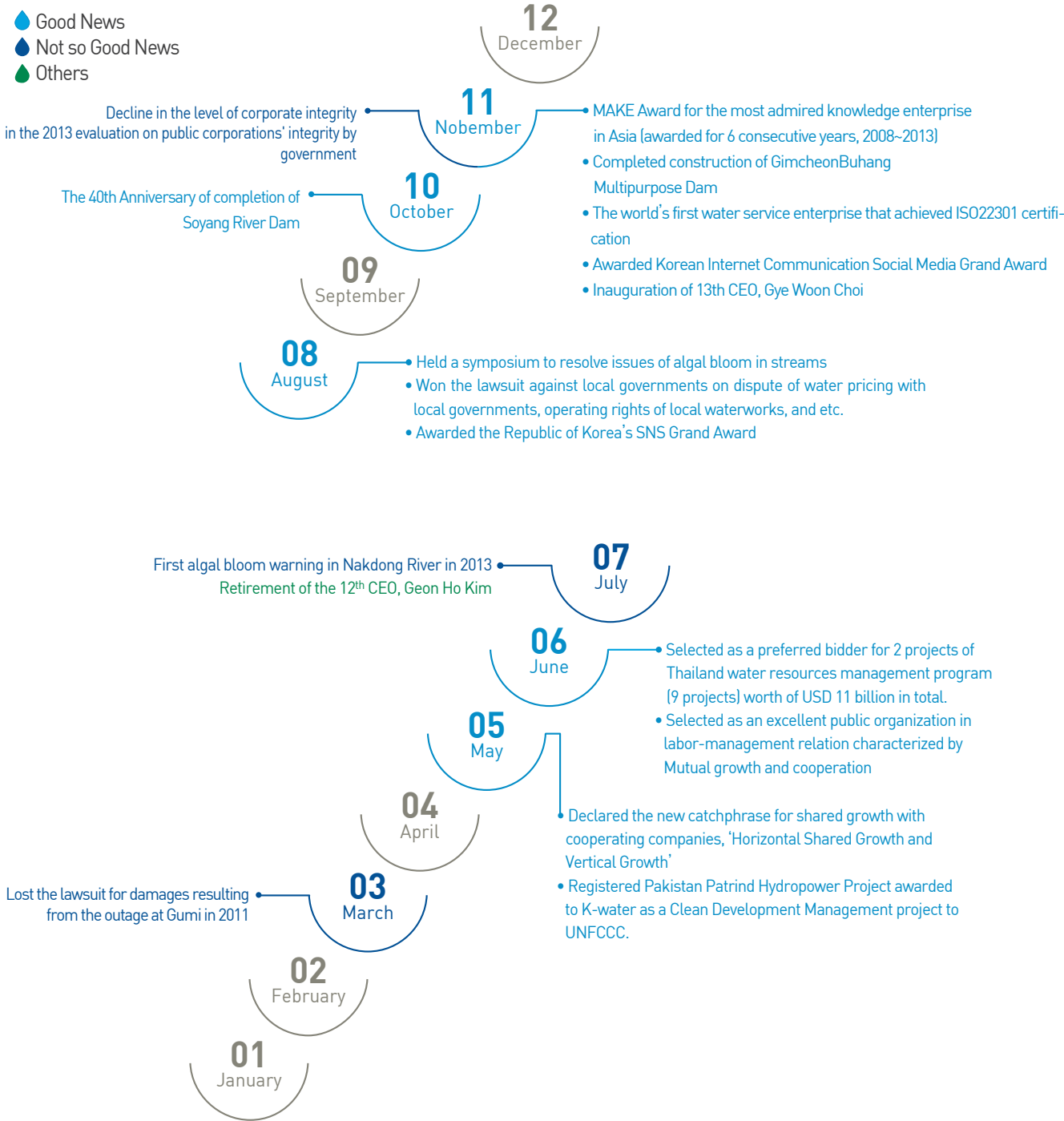
Thank you.

K-water CEO Choi, Gye Woon

Choi gye woon

Sustainability News for 2013

This report discloses both good and bad information pertaining to K-water for the purpose of maintaining a balance in the provision of information in order to make it possible to enable an objective evaluation of K-water’s sustainable management performance.



미리내를 품다 Embracing 'Mirinae'

Sustainable Management	
Corporate Governance	16
Vision and Strategy	17
Sustainable Management System	18
Developing Together with Our Stakeholders	20
Selecting K-water's Matters of Materiality	22
Ethical Management	24
Environmental Management	26
Risk Management	28

Corporate Governance

K-water aims at productive management by reinforcing not only the executive directors', but also the non-executive directors' participation in management and sharing their expertise.

Composition of investors

K-water's main tasks are to construct and maintain dams and water supply systems for comprehensive use and the development of national water resources, both of which have a significant impact on the quality of life and public welfare. Thus, the Korea Water Resources Corporation Act limits K-water's investors to the national government, local governments, and the Korea Development Bank (KDB). The law also states that "the national government must invest more than 50% of the total capital." As of 2013, K-water's shareholders are comprised of the national government (91.1%), KOFC (8.8%), and local governments (0.1%).

Board of Directors' composition and operation

K-water's Board of Directors(BoD), the highest decision-making body, deliberates and passes resolutions on K-water's major issues for its management goals by taking into account economic, social, and environment alterms. It also checks and supports the executives at the same time. K-water's Board of Directors is comprised of 15 directors: 7 Executive Directors and 8 Non-executive Directors, and a stakeholder who has direct interests with K-water cannot be appointed as a non-executive director. The position of chairman is served by a senior non-executive director, thereby, contributing to checks and balances in the Board. In 2013, a total of 13 general meetings of the Board of Directors were held, in which 176 major management directions were reported. 64 management proposals that came up within the Board of Directors were reflected 100% and contributed to the improving of K-water's management.

Current status of the Board of Directors (As of september, 2014)

Position	Name	Title
Executive Director	Choi, Gye Woon	President
	Kang, Dae Ka	Auditor General
	Lee, Hak Su	Senior Executive Vice President
	Han, Kyu Beom	Vice Presidentof Management Support Division
	Choi, Byeong Seub	Vice Presidentof Water Resources Business Division
	Kim, Jae Bok	Vice President of Water Supply Business Division
	Seo, Eul Seong	Vice President of Urban Waterfront Business Division
Non-executive Director	Noh, Joo Seok	Chairman / Senior Reporter, Editorial Department at Seoul Newspaper
	Yoon, Ee Sook	Professor, Division of International Cooperation, Kwangwoon Univ.
	Kong, Myung Jae	Professor, Department of Business Management, Keimyung Univ.
	Kim, Kab Sung	Professor, Department of Urban Engineering, Yonsei Univ.
	Kim, Won Tae	Professor, Graduate School of Public Policy, Hanyang Univ.
	Park, Seung Ki	President, Hyundai SNC. Co., Ltd
	Lee, Won Suk	Committee Member at the Federation of Happy Smart Exercises
	Kim, Keun Sik	Advisor, Policy Advisory Committee, Yeouido Research Center of Saenuri Party

Board of Directors' remuneration policy

K-water's Board of Directors is objectively evaluated on various fields including management proposals, system operations, attendance rates, and remarks according to the government's management evaluation and K-water's internal evaluation every year. In addition, the outside (non-executive) directors and executive directors receive performance-based payments according to the results of government evaluations, which consist of quantified and non-quantified outcomes, implementation outcomes, and efforts. Based on this remuneration policy, K-water's CEO was paid with about KRW 230 million in 2013, three times more than the average employee compensation and seven times more than that of a new employee.

Non-executive Directors' roles and strengthened professionalism

K-water's Board of Directors has selected outside directors that have expertise to solve management issues such as improving financial soundness and developing waterfront areas. As a result, financial and urban experts make up 38% of the entire outside directors. More than half of the members of the Board, Executive Recommendation Committee, and the Audit Committee are the outside directors to guarantee their independence and reinforce the role of checks and balances. Also, K-water has enhanced the reporting to the BOD, focusing on current issues and major events; it strategically supports non-executive directors' activities by arranging their offices in each area and matching each of their professional skills with appropriate departments. Such reinforced roles and responsibilities of the outside directors have led them to be more active in improving management and contribute more to K-water's major issues such as overseas projects.

Internal & external audits

In order to supervise the appropriateness and impartiality of the works carried out, K-water operates an internal audit committee and an independent Audit & Inspection department, which inspects public officials' disciplines, conducts regular audits, and performs comprehensive audits. Furthermore, K-water is being supervised by external auditing institutions such as the Board of Audit & Inspection, Fair Trade Committee, Parliamentary Inspection, the Ministry of Land, Transport and Maritime Affairs, and the Prime Minister's Office.

Vision and Strategy

K-water's sustainable management aims to create 'a happier world with water' by contributing to public welfare; it aspires to create sustainable values and pursue a balance of environmental integrity and social responsibility based on economic efficiency.

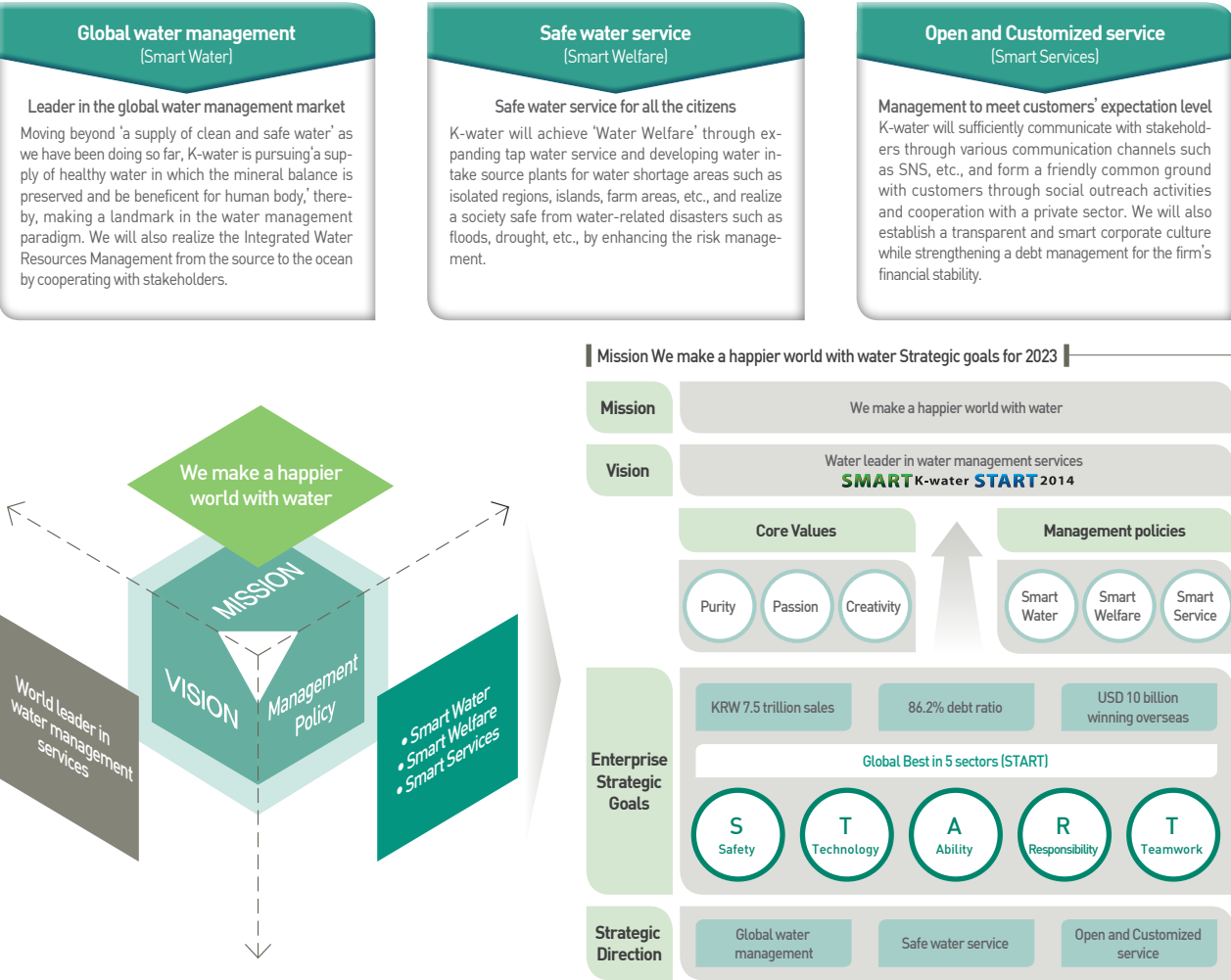
Declaration of the new 'SMART Management' system

In order to secure new growth power for the future after the national project and to take full responsibility as a the nation's only water-expert public corporation which offers nation-wide services, K-water declared the new 'SMART Management' system and established the new mid- and long-term (2014~2023) Strategic Management Plans in January 2014. By making a new vision slogan **SMART K-water START 2014**, setting new 3 management policies and 3 strategic goals as well as selecting 9 strategic tasks and 115 detailed tasks accordingly, and reorganizing its business

directions, K-water clarified its determination to practice the new SMART Management.

Sustainable management strategic directions SMART K-water START 2014

Through the new SMART Management by ICT (Information & Communication Technology)-based water management (Smart Water Grid, Integrated Water Resources Management), K-water will play a pivotal role in solving the domestic and overseas water problems. Implementing its roles, K-water aims at realizing its vision, 'a world leader in water management services.'



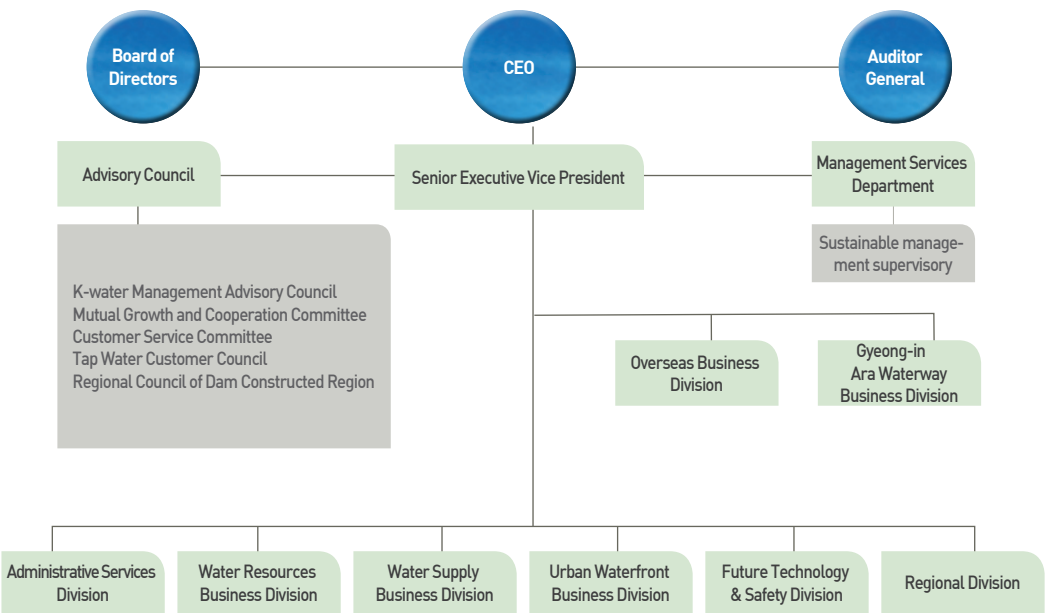
Sustainable Management System

K-water manages 23 Key Performance Indices (KPI) in order to systematically implement sustainable management; its excellence was proven by receiving the highest grade in the Sustainable Management evaluation of Korean Business Ethics Index (KoBEX SM) by the government.

Sustainable management system organization

The Management Services Department under the Office of the Senior Executive Vice President is in charge of overseeing K-water's sustainable management, and has been annually publishing a sustainability report with third-party verification since 2005. In 2014, K-water reformed its organizational structure in accordance with the new SMART Management system. First, K-water established the Future Technology & Safety Division in order to enhance safety services and future technologies. Second, K-water also

operates the Corporate Partnership & Diagnosis Team under the Water Supply Business Division to strategically promote shared growth with partnering companies within the enterprise supply chain. Third, K-water founded the Conflict Management Team under the Office of the Senior Executive Vice President in order to build a sustainable relationship based on mutual trust with its stakeholders. Lastly, K-water operates advisory committees and councils that encompass economic, environmental, and social matters in order to accompany the stakeholders' various opinions.



CEO	Business Executive Director	Regional Executive Director	Director General	Employees
Lay a foundation for K-water's next 100 years and form internal and external consensus <ul style="list-style-type: none">Concretize future development assignments through communication, encouragement, and supportFocus on solving current management issues through company-wide competenciesBuild an energetic and cooperative organizational culture based on trust	Secure the foundation for sustainable management by generating business performances <ul style="list-style-type: none">A supervising leader in charge of realizing divisional responsibility managementStrategic approach with a strong determination to be responsible for K-water's future developmentSupport employees to generate performances by utilizing internal and external network	Facilitate the businesses under jurisdiction by strengthening regional community and networking <ul style="list-style-type: none">Solve current issues by thoroughly understanding all works of the regional divisionHandle and select all decision-making of the regional division based on customers' standardsExpand consensus of and promote K-water's future development tasks	Priority placed on generating performances and ensuring customers' safety from disasters <ul style="list-style-type: none">Build a safety-conscious organizational culture based on fundamentals and compliance of principles.Implement and feedback on CEO's management policies based on authenticityImprove organizational productivity through efficient and performance-oriented minds	Pursue higher efficiency and competency through creativity <ul style="list-style-type: none">Carry out given tasks with trust and cooperation that overcome distrust and conflictsInnovate an organizational culture and ways to work with open-mindsFocus on improving self and the organization's competitiveness with passion

Key performance indicator for K-water's mid- and long-term sustainable management

Strategy Direction	Key Performance Indicator (KPI)	2013 (Performance)	2014	2023	Note
Leader of global water management (8)	• Dam water supply (billion m ³)	5,503	5,516	6,569	
	• Flood control capacity (billion m ³)	49.3	49.5	54.6	
	• Industrial water sales (KRW billion)	198	243	2,282	
	• Urban waterfront & Industrial complex sales (KRW billion)	5,623	9,915	148,933	
	• Clean energy supply (GWh)	3,040	2,854	3,050	
	• Overseas sales (USD million)	986	5,801	11,072	
	• Index for fostering human resources (%)	40.5	40	45	
	• Secured 'Star Brand technologies' (fostering Key-technologies) (number of cases)	4	4	31	
Water welfare services with national safety (6)	• Water supply (billion m ³)	3,709	3,772	4,499	
	• Global Water Quality Standard achievement rate (%)	99.99	99.98	100	
	• Retrofitted water pipes (km)	32.7	35.5	79.1	
	• Flow rate in local waterworks (%)	81.4	80.0	83.0	
	• Level of risk management effort (points)	93.5	95 or above	95 or above	
	• Rate of accident prevention efforts (%)	0.52	0.46	0.10	
Open and customized service, empathizing with customers (9)	• Level of corporate integrity (grade)	Unsatisfactory	Outstanding	Outstanding	
	• Debt ratio (%)	120.6	121.6	86.2	Except construction profit of private investment businesses
	• Sales increase rate (%)	19.7	6.7	9.7	Except construction profit of private investment businesses
	• Profit rate (%)	22.5	12.5	15.9	
	• Trust management index (points)	66	69	84	
	• Environmental Performance Evaluation index (points)	151	150 or above	154	
	• Social contribution activity index (points)	89.6	90 or above	90 or above	
	• Customer satisfaction rate of public corporations (grade)	Highest	Highest	Highest	90 points or above
	• Level of creativity and innovation (σ)	2.96	3.10	6.00	

Highest Grade for 3 consecutive years in Sustainable Management Evaluation (KoBEX-SM index)

K-water received the highest grade (AAA) for 3 consecutive years (2011~2013) on the Korean Business Ethics index-Sustainability Management (KoBEX-SM) evaluation, an investigation on the level of sustainable management by the Ministry of Trade, Industry & Energy. K-water endeavors to practice sustainable management.



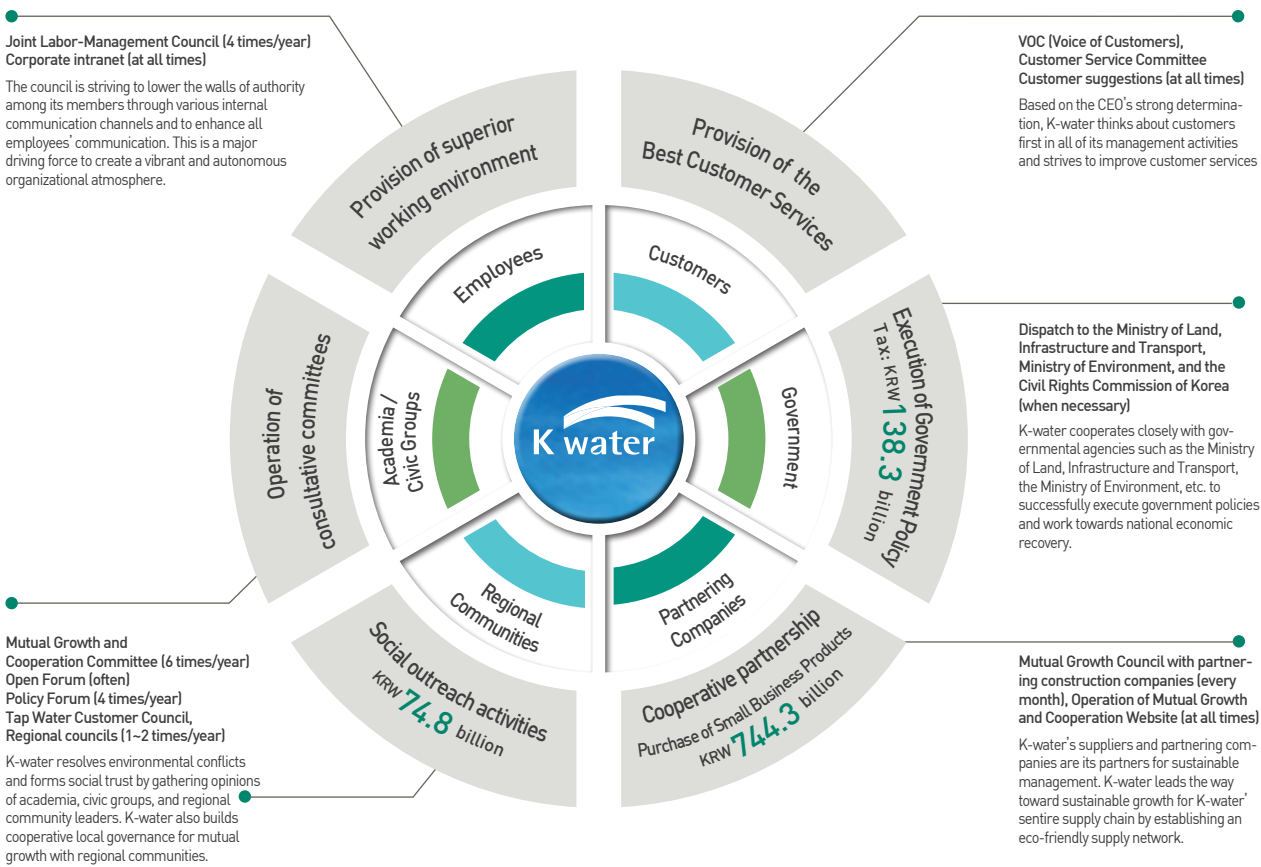
Developing Together with Our Stakeholders

K-water has been securing transparency and credibility while preventing conflicts that might occur during project implementation through stakeholders' participation in decision-making and projects.

Stakeholders' communication and participation

K-water's stakeholders are defined directly as the customers who receive K-water's services, and indirectly as: a regional community that exchanges influences through K-water's projects; academia, civic groups, and the government who influence the direction of project implementation; participating partnering companies in projects; and all employees carrying out the projects. K-water draws stakeholders from 5 strategic businesses: water resources, waterworks, urban environment, renewable energy, and overseas and North Korea. It also operates various communication windows per stakeholder group such as advisory councils, customer service committees, regional councils, etc. so that all stakeholders can directly and indirectly participate in all process of management. In particular, K-water has been running the Mutual Growth and Cooperation Committee consisting of stakeholders for true communication that accommodates critical opinions since 2014. There is also a Voice of Customer bulletin board and customer suggestion system on K-water's official website, through which customers and stakeholders' diverse interests and opinions are continuously collected and actively reflected on management. Anyone can participate, and outstanding suggestions can lead to rewards up to maximum of KRW 5 million. [G4-25]

K-water stakeholder groups [G4-24, 26]



Transparent information disclosure to stakeholders

K-water expands the public announcement of management and strengthens the disclosure of information that influences people's lives in order to practice open and transparent management. By analyzing public opinion and the claiming condition of information disclosure in 2013, we disclosed in advance the state of how we handle the algae bloom in reservoirs and the state of information disclosure on our official website, as they are deemed of high demand by customers. On top of this, K-water posts information on source water quality and tap water quality from production to supply on its website on a real-time, and offers an electronic display of water quality for apartments that take tap water. Furthermore, K-water has simplified its information announcement website to be more image-based so that customers can check notices on mobile, and has improved the website for them to access and find information more easily.

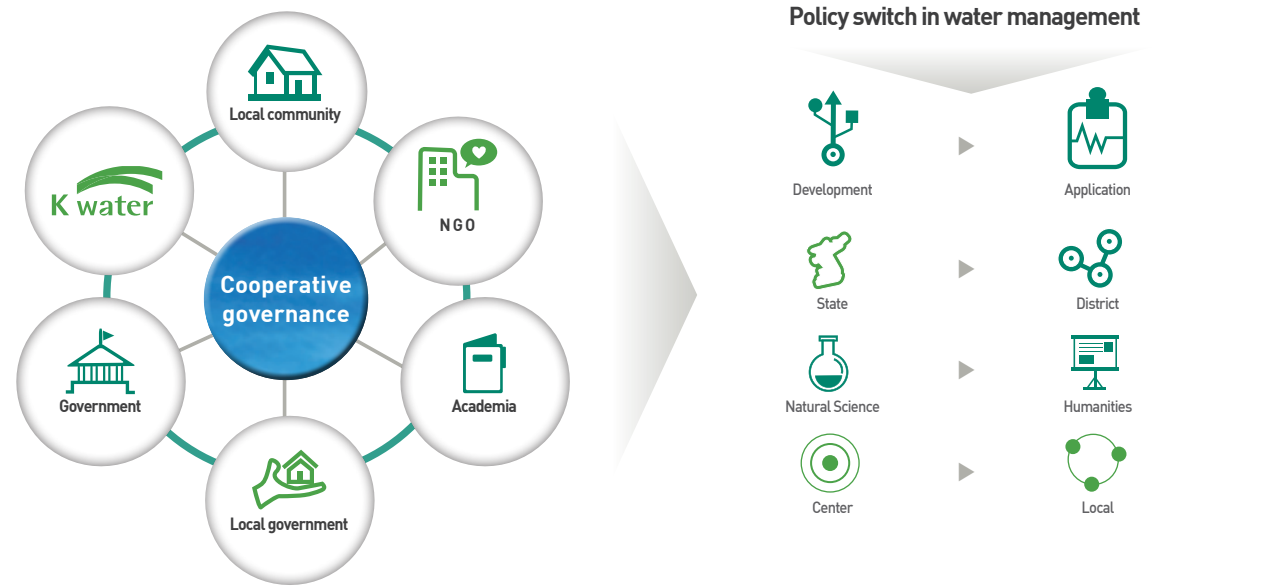
Open disclosure of company's rules and an enhanced communication system with stakeholders

We institutionalized the prior notification of enactments or legislation of company's regulations, so that we can more fully reflect various opinions regarding the company's rules in civil service. As of June, 2014, you can access the firm's 94 regulations on K-water's website. In 2013, we heeded diverse opinions and enhanced transparency through a prior notification of the amendment of "Lots sale and rent regulations." Moreover, in order to improve the fairness and transparency of K-water's civil service as well as to heed people's opinions or experiences regarding corruption, we operate "Integrity Happy Call" and "Integrity Postcard" around the clock. Through these programs, we can effectively communicate with the stakeholders. Such interactions enable us to better understand and solve whatever discontent that the stakeholders may have throughout the work process.

Cooperative governance among stakeholders

The business of K-water has both direct and indirect impacts on the stakeholders and in turn, the stakeholders exercise large influence on K-water's policies. Therefore, K-water pursues the shared growth between the firm and the stakeholders by trying to understand and respond to potential risk factors in advance. It highly values communication with stakeholders, and considers such communication to be indispensable for K-water's sustainable growth. K-water also maintains cooperative governance with local communities, NGOs (Non-Governmental Organizations), academia, local governments, the central government, and individual water management organizations. Through this cooperative governance, K-water aims to realize IWRM (Integrated Water Resources Management) centering on regions and basins in connection with coexistent local development through cooperative governance, in which local community, NGO, academic circles, local government, central government and individual water management organizations participate together. For this purpose, it is important to construct continuous relationships with stakeholders on the basis of trust; in this context, K-water is developing its efforts for a long term stakeholders trust construction by assigning the Conflict Management Team in exclusive charge of stakeholders under the Office of the Senior Executive Vice President.

Cooperative governance based on IWRM



Selecting K-water's Material Issues

Through a ‘Materiality Test’, an investigation on stakeholders’ interests based on the GRI G4 framework, K-water investigated stakeholders’ interests from various angles and tried to provide sufficient information about them in this, the 2014 Sustainability Report.

K-water’s 2014 Sustainability Report addresses important issues that are selected by reflecting internal and external stakeholders’ interests. The issues were drawn through a 3-step process: collecting pertinent information, understanding interests of both the people in and out of the industry, and selecting material issues. Material issues were selected in accordance with ‘4 Reporting Principles for Defining Content’ in the GRI Sustainability Reporting Guidelines: Sustainability context, Materiality, Completeness, and Stakeholder inclusiveness. [G4-18]

Step 1: Collecting issues that stakeholders concern

We examined the K-water 2013 Sustainability Report, firm’s policies, KPI (Key Performance Indicator), and legislation. We, thereby, garnered 42 relevant issues from benchmarkings of advanced companies within the same field, media reports, and surveys targeting both people in and out of water resource industry.

Step 2: Identifying the interests of both the people in and out of the industry

K-water implemented ‘Materiality Test**’ in order to grasp internal/external level of concern targeting the selected 42 issues. The materiality test reflects the 6-step test results: in-house policy, KPI, norms and laws, survey on stakeholders, benchmarking and media analysis. K-water grasped the internal level of concern by combining survey results with K-water’s in-house policies, KPI, and review of related norms and laws, while grasping the external level of concern by combining the survey result on external stakeholder, benchmarking of business circles of the same category and advanced corporations, and media search analysis results.

Step 3: Selecting the material issues

Integrating both external and internal concerns in relation to the selected 42 issues, we were able to analyze and prioritize the issues. We categorized 20 high-ranked issues, which are placed above the threshold**, into ‘4 Focus Issues,’ and made efforts to make a concrete reporting of them in this report.

Process of identifying material issues

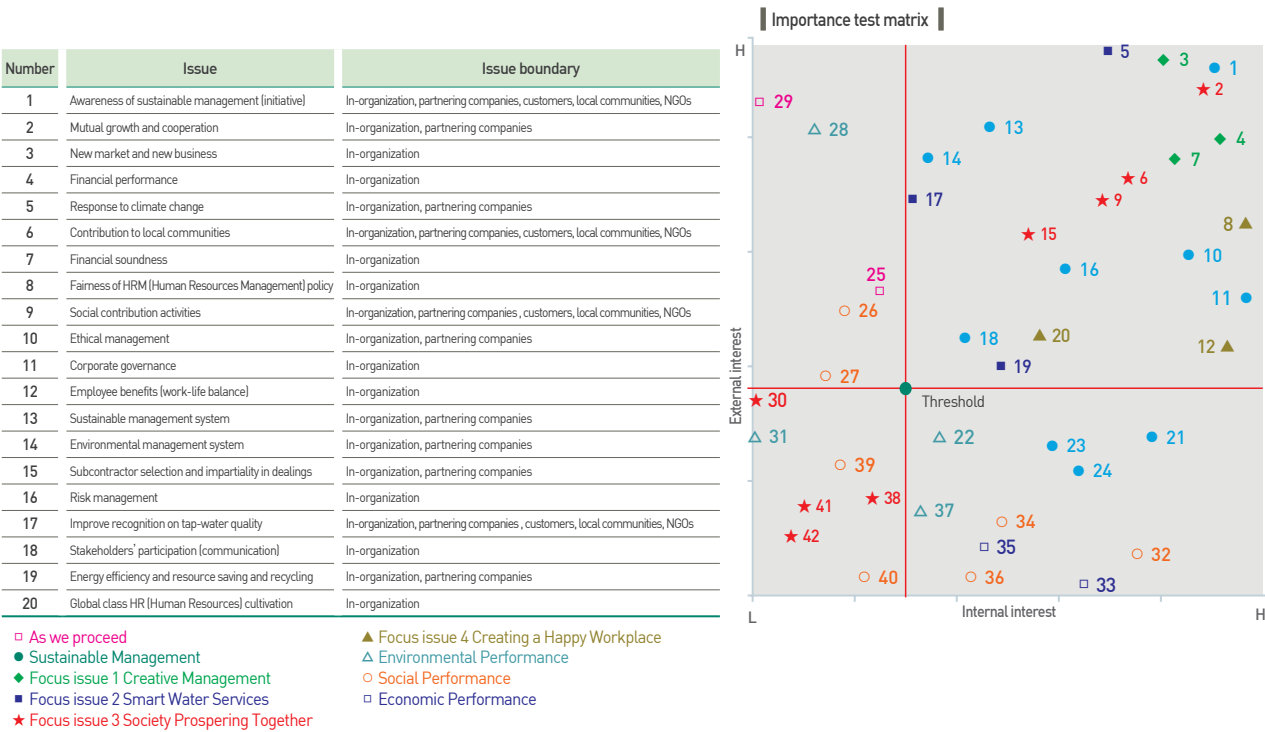


Method of identifying material issues per stakeholder

Stakeholder	Issue approach
Customer, Local community	Press reports, homepage VOC, Customer Service Committee, etc.
Academia, NGO	Analysis on the minutes of 2013 Management Advisory Council and Policy Forums, Surveys, etc.
Government	Analysis on 2013 Government Evaluation Report about K-water's performances
Employee	K-water's in-house policies, KPI, Surveys
Partnering Company	Analysis on the minutes of 2013 Mutual Growth and Cooperation-Committee, Surveys, etc.

* IPS Materiality Test Model : Developed by The Institute for Industrial Policy Studies (IPS) in 2006 to develop sustainable management strategies and sustainable report, it is a 6-step test model to draw out materiality issues of a corporation based on corporation's characteristics and its current status.

** Threshold: The GRI G4 guideline directs a company to set a threshold for significance of economic, environmental and social impacts by company's sustainable management and stakeholder assessment based on the result of IPS Materiality Test, and to report issues above the threshold as major ones.



Number	Issue	Number	Issue	Number	Issue
21	Complying with government policies	29	Brand value	37	Preserving biodiversity
22	Disposing industrial and waste water	30	Partnering company satisfaction	38	Social contribution implementation system
23	Preventing bribery and corruption	31	Green purchase	39	Customer communication
24	Accounting transparency	32	Labor-management relationship	40	Female leadership
25	CEO leadership	33	Innovative management (organization & system)	41	Spread and support of sustainable management in supply chain
26	Workplace safety and health	34	Customer satisfaction	42	Subcontractor communication
27	Service improvement and responsibility	35	New technology R&D (Research & Development)		
28	Waste discharge and recycling	36	Childcare and women's health support		

4 Focus Issues

K-water ranked 4 Focus Issues integrating the stakeholders’ interests investigated in the materiality test, and defined Aspect and Aspect boundary of the issues based on GRI G4 Guideline. [G4-19, 20, 21, 27]

Rank	Issues	G4 Aspect	Aspect boundary	Share strategies
1	Financial performance New market and new business Financial soundness	Economic Performances, Indirect Economic Impacts	In-organization	Focus Issue 1 Creative Management (p.34~38)
2	Fair HRM (Human Resources Management) policy Employee benefits (work-life balance) World class HR (Human Resources) cultivation	Employment, Training and Education, Equal Remuneration for Women and Men, Labor Practices Grievenss Mechanism	In-organization	Focus Issue 4 Creating a Happy Workplace (p.58~63)
3	Mutual growth and cooperation Contribution to local communities Social contribution activities Subcontractor selection and impartiality in dealings	Produrement Practices, Local Communities	In-organization, Partnering companies, Customers, Local communities, NGOs	Focus Issue 3 Society Prospering Together (p.52~57)
4	Response to climate change Energy efficiency and resource saving& recycling Improve recognition on tap-water quality	Energy, Water, Emissions, Customer Health and Safety, Proudct and Service Labeling	In-organization, Partnering companies, Customers, Local communities, NGOs	Focus Issue 2 Smart Water Services (p.39~51)

Ethical Management

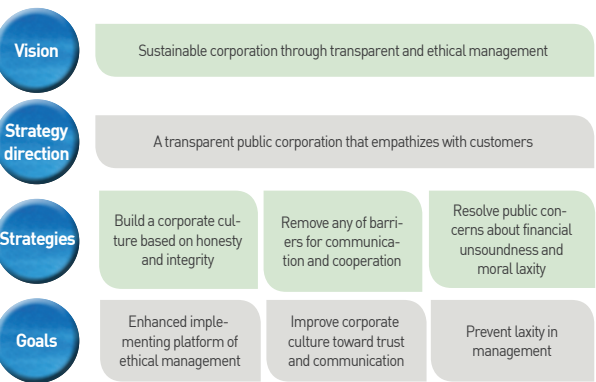
A corporation where personal ethics and business ethics stand upright is the core value that K-water pursues.

A clean corporation that produces clean tap water
“We emphasize the fact that an organizational climate with transparency and integrity is more important than anything else.” (CEO inauguration speech, November 2013)

K-water is aggressively pursuing ethical management in accordance with its creed that ethical management is the most fundamental and serves as the strongest competency. In 2009, with a strong determination to pursue honesty and practice public values through water services, K-water included “Purity” in one of its three core values. K-water is also putting efforts toward clean and ethical management by creating a transparent organizational climate in its mid- and long-term Strategic Management Plans and emphasizing on basic principles. In order to internalize ethical enterprise culture, we have enhanced our ethical management system centering on ethical norms, implementing organization, Employees’ consensus, monitoring, etc.

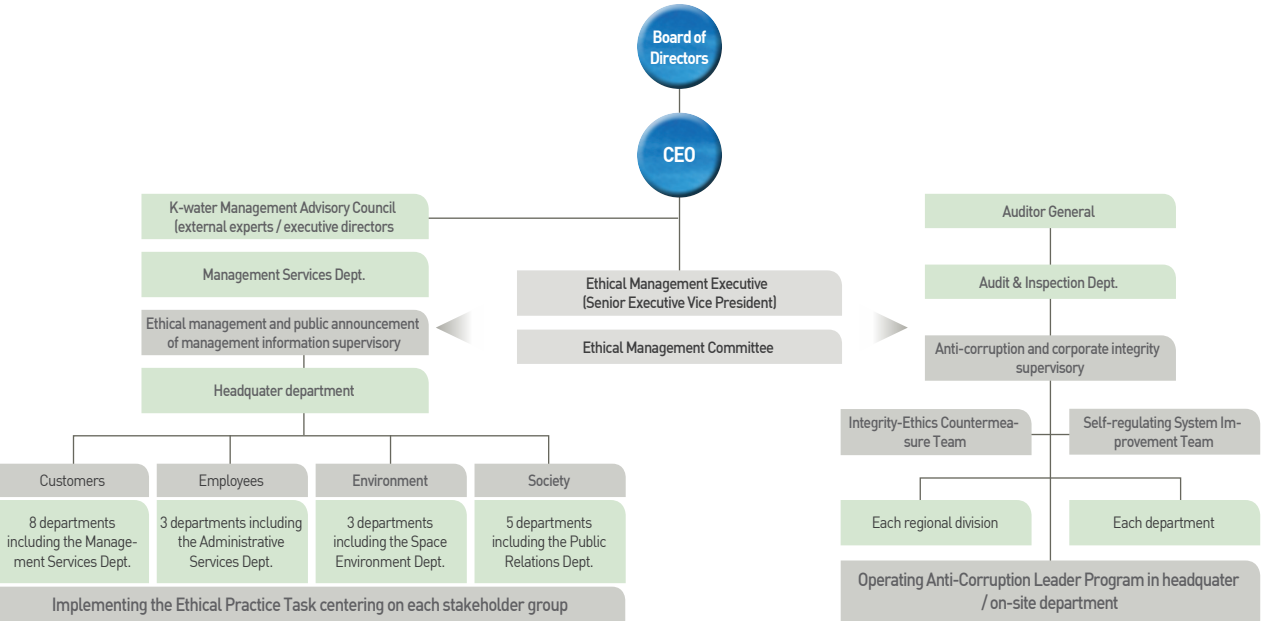
Ethical norms

K-water’s ethical norms consist of Code of Ethics, Employees’ Code of Behaviors, and Regulation of Occupational Integrity Pact. In 2013, K-water extended the Code of Ethics to be applied to temporary workers and declared “establishing of a fair cooperation relationship with subcontractors” as a mandatory duty in its Employees’ Code of Behaviors, thereby strengthening its responsibility as a state-owned enterprise.



Implementing organization

In order to implement ethical management, K-water operates with the Ethical Management Committee, which is the highest decision-making body supervised by the CEO. Under the control of the Ethical Management Committee, K-water constructed an implementing organization systematically for its ethical management; it operates supervising bodies: Management Services Dept. and Audit & Inspection Dept., and practicing bodies: Ethical Practice Task Manager (who leads each department’s implementing ‘Ethical Practice Task,’ a key task for the ethical management and ‘Anti-corruption Leader’ (who leads each department’s anti-corruption activities).



Formation of employee consensus for ethical management

Item	Content
Establish a leadership of integrity	Anti-corruption education through innovation workshop for executives and special training for directors
Customized anti-corruption education	Make customized, regular clean education compulsory for new employees, promoted employees, and the management group Clean communication and community workshop between departments
Ethical Practice Manual	Put information on the importance of clean ethics, Q&A, violation cases, related regulation, etc. to be used easily
Lead the self-directed practice of ethical management	•Employee’s pledge of ethical management practice •Operating the ‘Corruption Report Center’ and ‘Voluntary Returning Job-related Gifts Window’ •Raising funds by collecting and selling all employees’ wreaths for congratulating promotion or transference, and using the funds toward social contribution activities (2007~)

Ethics and integrity monitoring

Ethical management practiced in K-water’s overall businesses is monitored through ‘K-water Ethics index (KEX),’ which is evaluation indices developed based on K-water’s business features, and surveys on employees’ ethical awareness. The results of monitoring feedback into each department’s management and the future K-water Ethical Management Implementation Plans. K-water has advanced its own intelligent monitoring system, WARN (Wide Audit & Risk Network), which utilizes the Computer Assisted Audit Techniques (CAATs); 93 risks in 43 management systems are monitored on daily basis and fed back for corruption prevention (real-time remedial actions for 200 abnormal conditions in 2013). Furthermore, K-water has established and operated ‘Corruptibility Assessment’ program for identifying and removing any corruptibilities embedded in the internal regulations, thereby, heightening accountability and transparency in its management activities.

Efforts to discover and remove corruption inducing factors

By improving corruption-vulnerable factors in the management system and implementing the ‘Self-regulating System Improvement Assignments,’ K-water heightened its work transparency and strengthened the internal control for anti-corruption. In 2013, K-water carried out a total of 39 Self-regulating System Improvement Assignments including instituting the establishment of the ‘Promotion Screening Committee’ to ensure the fairness in the promotion. K-water especially has focused on identifying customary and structural corruptions in advance and eradicating them. In addition, the company runs a confidential in-house reporting system called ‘Integrity Help-line’ to encourage the reporting of corruption cases; it also has responded strictly to corruptions by strengthening standards and adhered to zero tolerance policy. Along with this, K-water has put tighter work discipline continuously: operating the ‘Joint Inspection Team’ to monitor work discipline of each department; strengthening a close monitoring at corruption-vulnerable period; executing a monthly self-inspection by a director of each department; inspecting to identify unreasonable practices

prevailed in its management system; and implementing the ‘Advance Notice of Audit,’ etc.

Business ethics that put emphasis on the stakeholders

K-water fully understands that ethical management is essential to earn the trust of its stakeholders: employees, customers, and business partners, etc. With this understanding, K-water carries out programs to enhance cooperation and communication with its stakeholders. First, K-water improved its electronic procurement system to preclude illegal bidding and enhance transparency in bidding process and simplified requirements for bidding documents to protect customers’ privacy and mitigate their inconveniences. Second, we pursue a win-win relationship with our partnering corporations. K-water expands a sustainable partnership with its small and medium-sized partnering enterprises through ‘Green Partnership Program,’ which supports financially its partnering enterprises’ achievement of ISO 14001 (Environmental Management System) certification. Third, K-water carries out an equitable HR management of its employees, systematic accident prevention programs in its workplace, thereby ensuring that K-water’s ethical management steps are leading to high quality water service. In addition, K-water makes its best to implement low-carbon management, expand renewable energy business, and fulfill CSR (Corporate Social Responsibility) through its community services at both home and abroad.

Excellent organization in anti-corruption efforts for 8 consecutive years & Highest-rated organization in work ethics and discipline

Under the CEO’s strong initiative for ethical management, all the employees of K-water have participated in anti-corruption programs actively. K-water’s anti-corruption efforts earned “Excellent” grade in the evaluation by Anti-Corruption and Civil Rights Commission of Korea, which evaluated anti-corruption efforts and transparency of 225 public institutions nationwide. K-water is one of the four organizations in the nation to be rated as excellent for eight years in a row. In addition, K-water’s strong work ethics and discipline made K-water the highest-rated public corporation for 2 consecutive years in MOLIT(the Ministry of Land, Infrastructure, and Transport)’s evaluation on work ethics and discipline of 14 MOLIT-affiliated public corporations. Although K-water received positive reviews on its anti-corruption efforts, its corporate integrity was rated as “Unsatisfactory” in 2013. We humbly listen to this critical opinion and admit that our work ethics might not sufficiently reflect the customer perspective. Through seamless self-scrunity, K-water will **make more efforts to put customer-oriented corporate ethics into practice.**

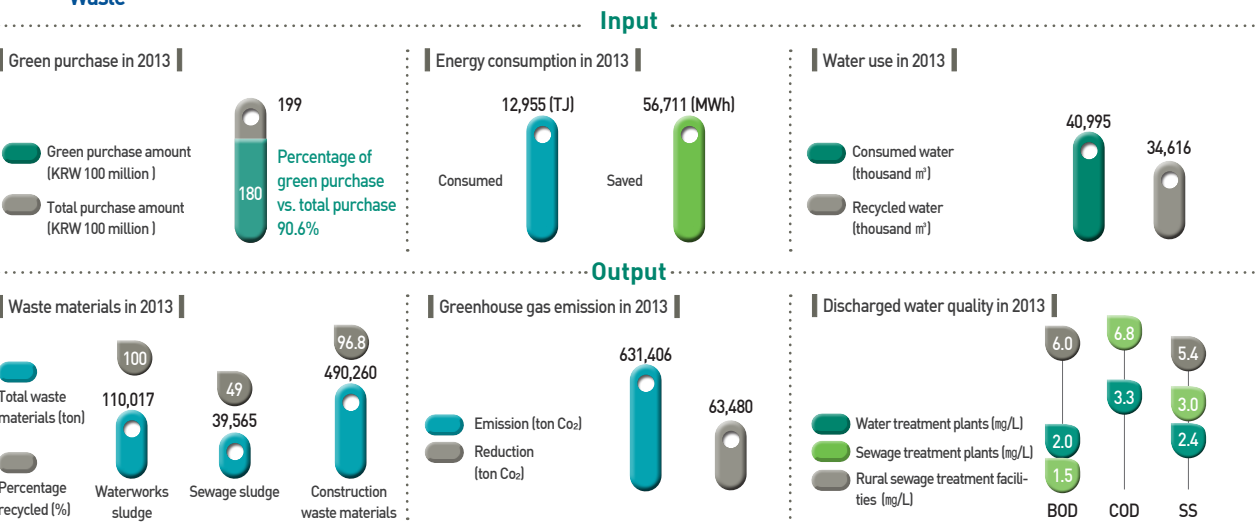
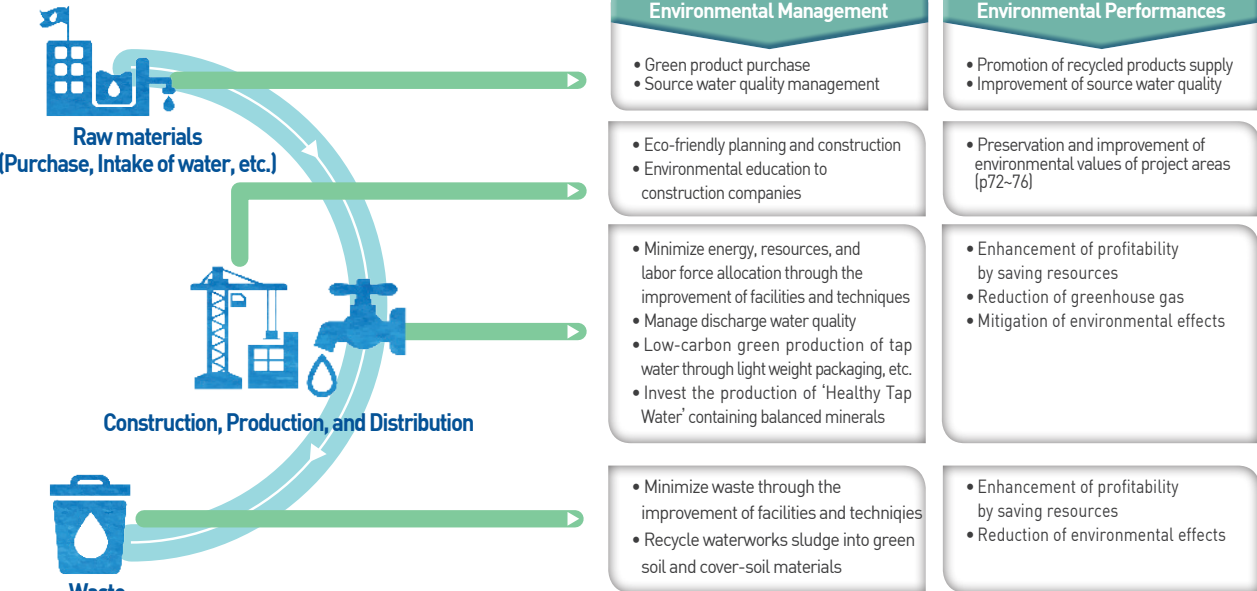
Environmental Management

K-water reinforces environmental management in all of its production processes, and builds eco-friendly its supply chain by supporting its partners and suppliers.

Strengthening environment management of all processes of K-water's production

Environmental pollution influences not only polluters but also all members of a society. K-water has enhanced environmental management in its entire process of production ranging from raw materials to waste disposal, and been pushing its direction toward increasing environmental integrity of the entire corporate supply network. K-water's push towards environmental integrity includes the investment to environmental management of small & medium businesses which are raw materials or equipment makers, the strengthened oversight on on-site environmental management of construction companies, and supports to eco-friendly agriculture, thereby building an environmental business system within the entire corporate network. Through promoting purchase of green products, applying resource recycling and saving technologies, and maximizing reuse and recycle of water and wastes, K-water will increase environmental integrity of its business.

Environmental management and performances



ISO 9001/14001 & KSI 7001 Certifications

K-water is pursuing the advancement of its management system through maintaining ISO 9001/14001 & KSI 7001 Certifications. In particular, in accordance with ISO 14001 (Environmental Management System) and KSI 7001 (Green Management System), K-water has put efforts to establish and improve an eco-friendly way of working. K-water has introduced the cyclic process of the Plan-Do-Check-Action (P-D-C-A) to its all departments, and implemented internal management system audits and the audits by an external accreditation body (every year). In order to instill the environmental management practice into the employees, K-water has fostered certified ISO 9001/14001 auditors among its employees on a regular basis for the past 7 years (2007-2013), and the number of the certified ISO 9001/14001 auditors reached 134 in 2013. Their inspecting and improving the quality of each department's management facilitates the internalization of K-water's environmental management.

Environmental Performance Evaluation (EPE)

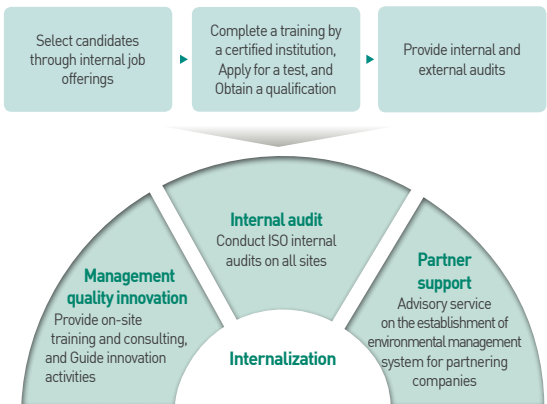
Since 2003, K-water has been implementing the ISO 14001-based Environmental Performance Evaluation (EPE) program. The EPE program is to induce continuous improvement by regularly measuring and diagnosing environmental management performances of a corporation. In 2007, K-water obtained a patent for an EPE computerized system for the first time in Korea, and has been managing its environmental performances utilizing this system. The EPE index represents relative improvement level of environmental performances compared to that of the base year (2006), and is managed as K-water's KPI. In 2013, the EPE index was 151 points, showing that the environmental performances improved by 51% compared to that of the base year (2006).

Environmental accounting

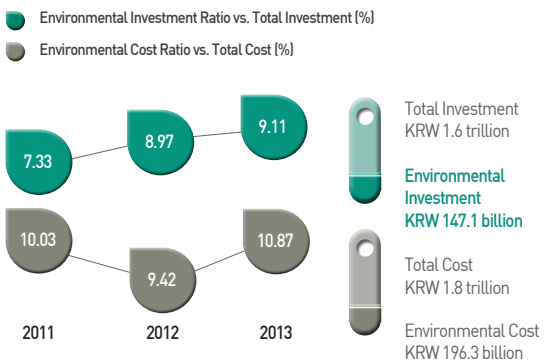
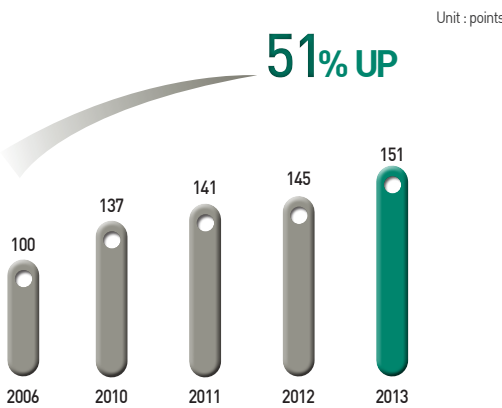
K-water has adopted and run environmental accounting to enhance environmental investment efficiencies and environmental performances. K-water established the concepts and standards of environmental cost and investment on its own, and has been calculating environmental cost and investment annually since 2000. The calculated environmental cost and investment help K-water consider environmental impacts by its business in major decision-making process. In 2013, the total environmental cost was KRW 196.3 billion and the total environmental investment was KRW 147.1 billion. They are used toward operating environmental pollution prevention facilities and activities as well as ecological recovery to contribute to the enhancing of our society's environmental soundness.

Cultivation of certified ISO 9001/14001 auditors (2007~): 134 people

- Establishment of Global Green Management via Fostering Professional Personnel
- Fostering Program & Diversified Utilization Plan



Status of EPE



Risk Management

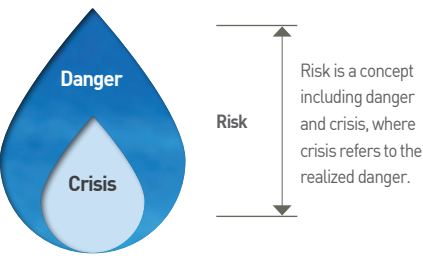
Based on its own unique risk management system called (KRM), K-water predicts and manages potential dangers of management and respond to risks on real-time.

Risk Management System

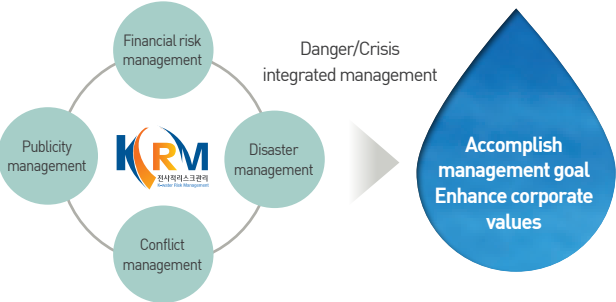
K-water responds to risks through its own, distinct risk management system called KRM (K-water Risk Management). K-water's risk management system is divided into preventive activities and risk response activities, managing four areas of risks: financial risks, conflicts, disasters, and publicity. The preventive activities involve to prevent potential risks (dangers) from evolving into actual risks, and the risk response activities handle the risks actually occurred (crises) with prompt recovery activities.

When a risk is realized, K-water takes immediate recovery steps that include the deciding of a risk alert level and the setting up of 'Emergency Response Head Office' in accordance with its risk response manual for each area of risks. K-water's response to risks differs depending on the alert levels of risks: Moderate, Substantial, Severe, and Critical, thereby, facilitating prompt and efficient response; in case of a risk occurrence that needs company-wide response, K-water calls the Emergency Response Head Office with the Senior Executive Vice President as the Chief Risk Officer (CRO) which oversees the entire recovery processes. The Construction Technology & Safety Department is supervisory of K-water's risk management; establishing risk management strategies, organizing risk management systems, and governing

Risk concept outline



Risk management from company-wide perspective



Risk type

Category	Danger	Crisis
Financial risks	Currency rate, Interest rate, Credit, Corruption, etc.	Currency rate fluctuations, Strikes, etc.
Conflicts	Conflicts	Lawsuits, filing of civil complaints
Disasters	Storm and Floods, Draughts, Accidents, etc.	Pipeline break, Tunnel collapse, Interruptions in source water-intake, Inundation, etc.
Publicity	Press reports	Negative reports

on-site departments to respond to risks promptly and efficiently according to risk types and alert levels.

Audit risk management through K-water Risk-based Internal Audit

Through its own risk management method called KRA (K-water Risk-based Internal Audit), K-water manages and mitigates audit risks in advance by investigating audit opinions by the internal audit. Audit risks are defined as 'inherent risk' and 'control risk'; audit risks are evaluated as high/medium/low, depending on the impact and potential of reoccurrence for the inherent risks and on the inadequacy of the internal control system for the control risks, respectively. For 'high' inherent risks, on-site audits and prevention activities are conducted, and for 'high' control risks, efforts to lower the degree of danger through system improvement are made. In 2013, the audit risks were assessed in the perspectives of: the strengthening of management support, quality assurance and safety prevention, and the prevention of lax management 19 cases of audits were conducted in order to mitigate the risks in advance.

Real-time response to emergency

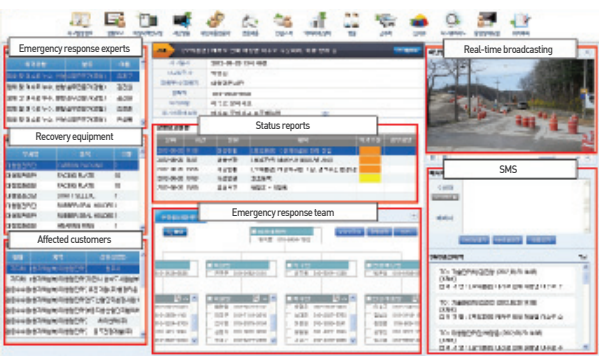
K-water has established risk management processes in stages to prevent risks from spreading, reflecting the public service risk management standards of the government. Employees utilize the risk response hands-on manuals in regards to 297 cases in 4 areas of risks (financial risks, conflicts, disasters, publicity) on-site. Moreover, K-water developed a model of real-time Emergency Management Center (EMC) based on in-depth interviews of the employees who experienced water-shortage crises, which facilitates a prompt recovery. This real-time EMC model installed on KRM helps to report and respond to emergencies more promptly, and organizes and summons an emergency response team more easily. It also facilitates the real-

time broadcasting on emergency sites with mobile broadcasting equipment and the real-time commanding without spatial constraints, integrating the information of: emergency response experts, recovery equipment, emergency response team, and status reports.

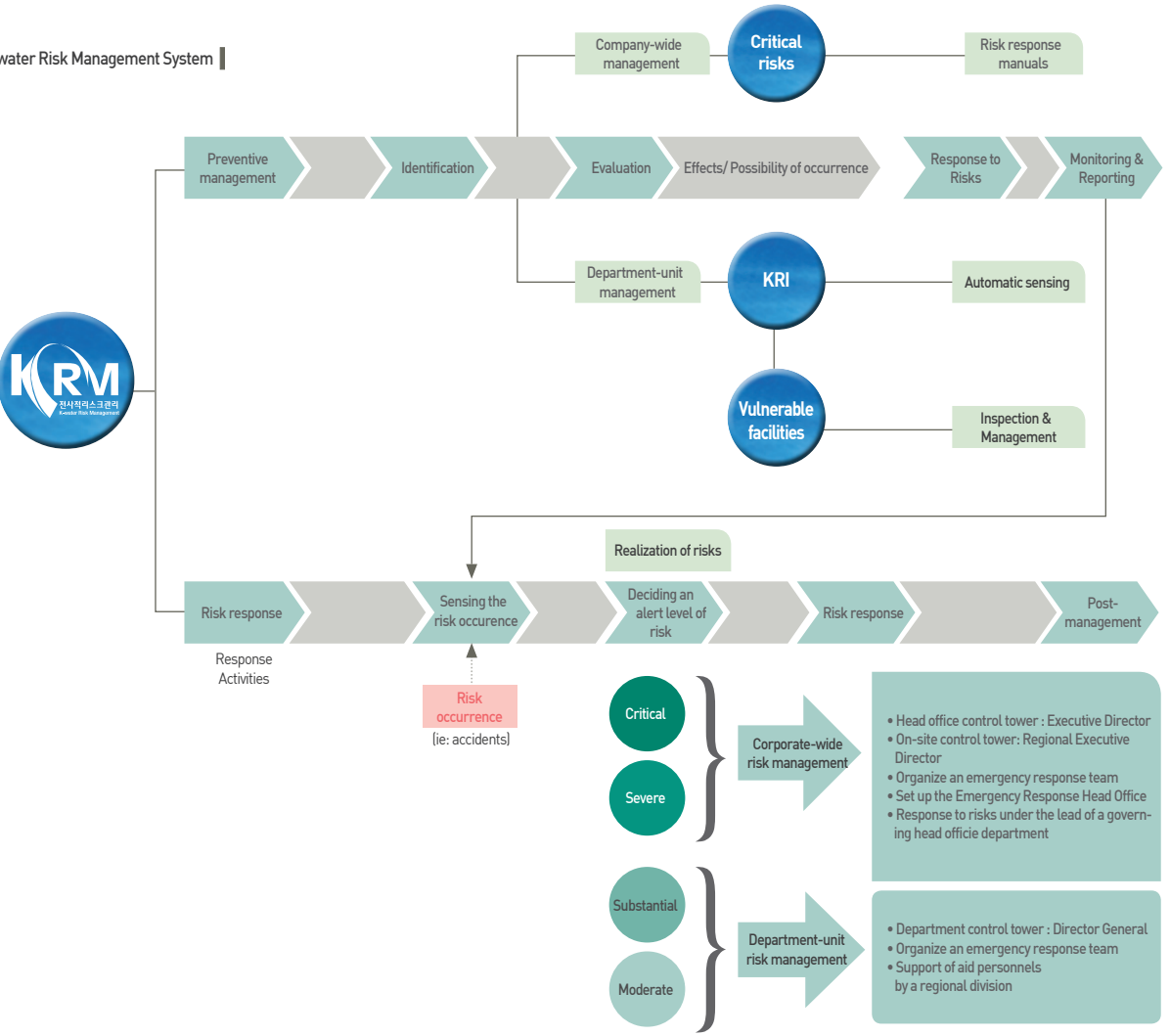
In addition, K-water operates the 'IT (Information Technology) Emergency Reponse Center' in the office of its Chungcheong Regional Division in case its major computer centers' functions break down by disasters such as a fire or an earthquake. K-water also conducts a recovery simulation exercise once a year to activate the facilities of the IT Emergency Reponse Center within four hours after a disaster occurs.

These efforts in risk management led to K-water being selected as the most outstanding institution for 2 consecutive years (2012-3) in the 'Safety Korea Exercise (SKX)' held by the National Emergency Management Agency.

Real-time Emergency Management Center (EMC)



K-water Risk Management System



Prompt recovery of water supply after the helicopter crash in the Imha Dam

On May 9th of 2013, a helicopter operated by Korea Forest Service crashed into the Imha Dam. The fuel tank of the helicopter was filled with approximately 5,000 liters of aviation gasoline. If the fuel was leaked into the Imha Dam Reservoir, which supplies source water for tap water to the Pohang city and other downstream regions, it could have caused a long-term suspension of the water supply. However, a prompt and efficient response by K-water Andong Office minimized interruptions in the water service to the downstream regions by the accident. As soon as being informed of the accident, the Andong Office promptly sent aid workers for search of missing people, and immediately ceased the hydropower generation in the Yeongcheon Waterway, which is connected to the Pohang region, in order to prevent water released through the hydropower turbines from contaminating the Pohang and downstream regions. At the same time, the office promptly notified the Pohang Office of the accident and requested to take the source water from the Yeongcheon Dam Reservoir instead of the Imha Dam Reservoir. In addition, it installed 2 or 3 layers of oil fences around the accident site, removed the leaked oil with absorbent papers, and monitored the water quality to prevent the fuel from spreading on the surface of the reservoir. K-water provided 150 aid workers for the recovery activities during four days after the accident, removing approximately 700 liters of the leaked gasoline with 2,000 meter long oil fence and 200kg of absorbent papers. Soon after its thorough water quality examinations confirmed that the water in the Imha Dam Reservoir was safe for the source water, K-water resumed the water supply from the Imha Dam Reservoir to the downstream regions on the morning of May 15th.

Helicopter crash



Salvage of the wrecked helicopter



K-water's risk response system achieved ISO 22301 Certification for the first time across the world in the field of water resource business

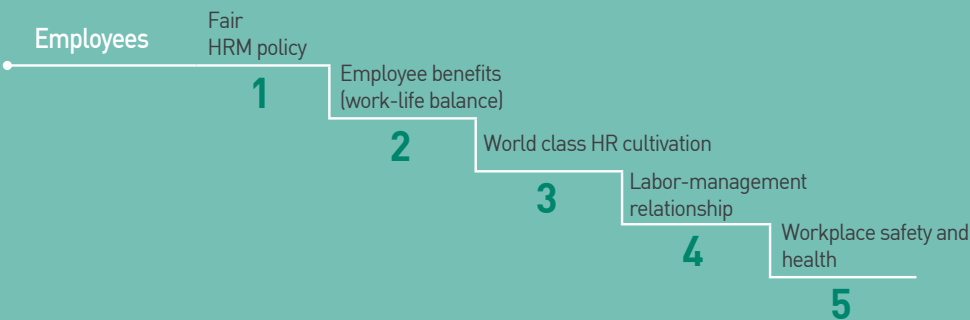
K-water is the world-first corporation in the water resource industry that achieved ISO 22301 Certification (certified by Norway DNV in 2013). Adopting the concept of BCM (Business Continuity Management), K-water has advanced its risk response system, applying its risk response skills and know-how to the emergency situations. The risk response system thereby earned world recognition for K-water's ability of risk response. K-water will continue to strengthen its risk response system, securing the ceaseless water service against any of accidents, natural disasters, and terrors.



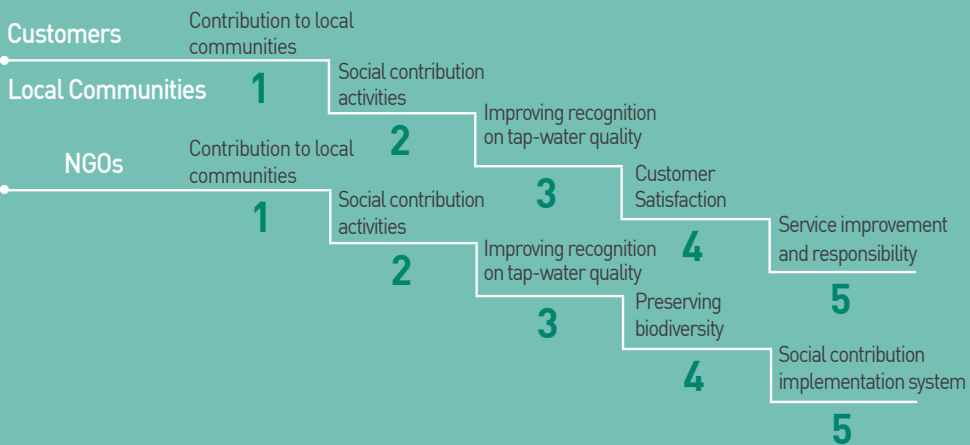
Material issues per each stakeholder group

According to the survey result on K-water's sustainable management (April~May, 2014), top 5 material issues selected by each stakeholder group were significantly different, while four (customers, local communities, NGOs, and academia) out of six stakeholder groups showed interests in improving recognition on tap water quality in common. Those who are supportive of K-water's business, such as its employees, answered that a 'fair HRM (Human Resources Management) policy' is the most significant issue for K-water's sustainable management. On the other hand, those who are critical such as customers, local communities, and NGOs responded that a 'contribution to local communities' is the most pivotal. Both the government and academia (which are neutral) prioritized a 'financial soundness' and a 'contribution to local communities', respectively.

Supportive Group



Critical Group



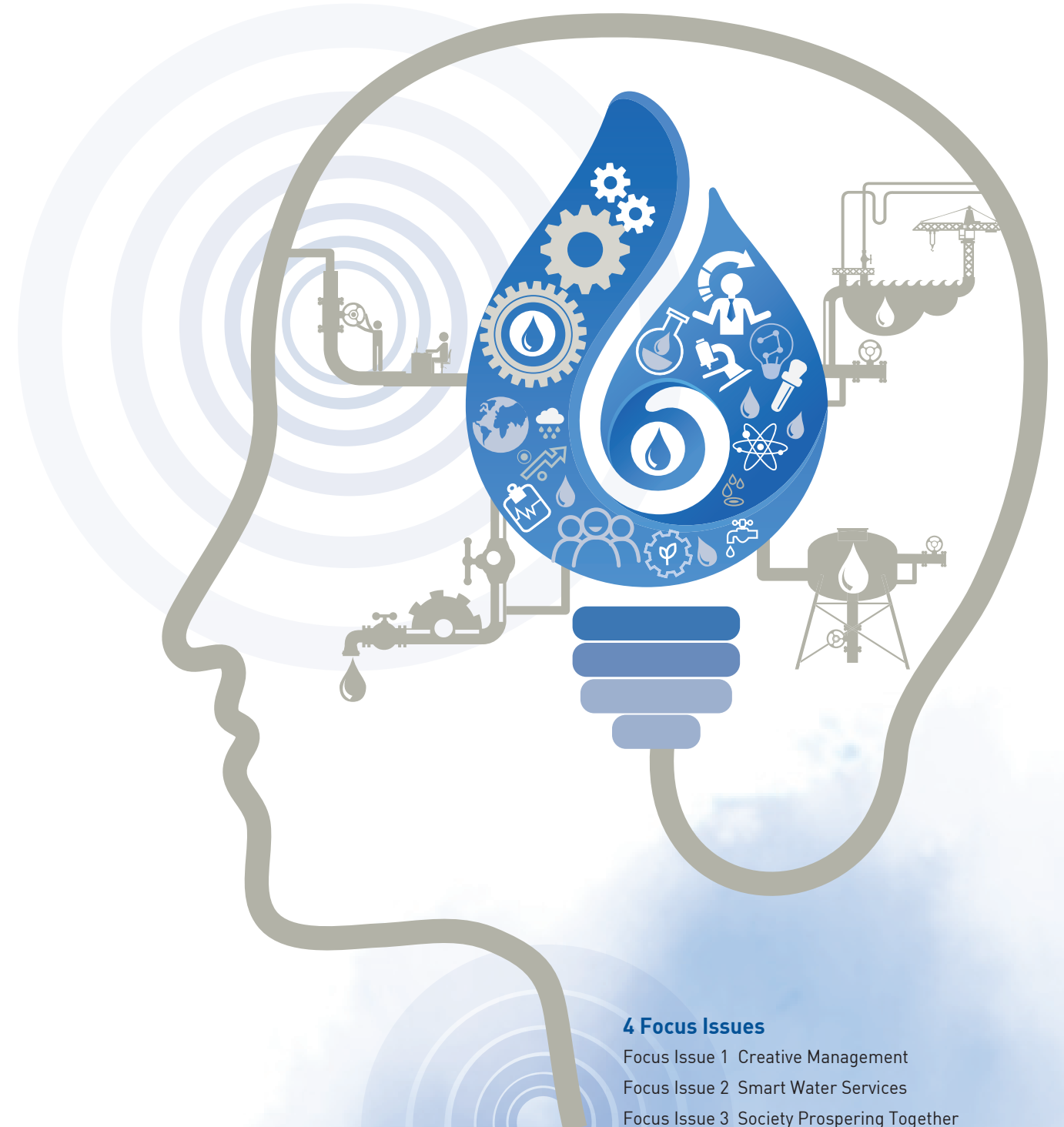
Neutral Group



4 Focus Issues

두물머리를 맞대다 ‘Dumulmeori’, Inspirational Convergence

Just like two streams of water converging at one place called ‘Dumulmeori,’ K-water will make reciprocal efforts for making a society prospering together, a happy workplace, and a happier world through creative management and smart water services.



4 Focus Issues

Focus Issue 1 Creative Management	34
Focus Issue 2 Smart Water Services	39
Focus Issue 3 Society Prospering Together	52
Focus Issue 4 Creating a Happy Workplace	58

Focus Issue 1

Creative Management

Since the completion of major national projects, K-water has recognized the current situation as both a risk and an opportunity, and been pushing ahead with its plan to achieve Sustainable growth by securing financial integrity and restructuring business strategies.



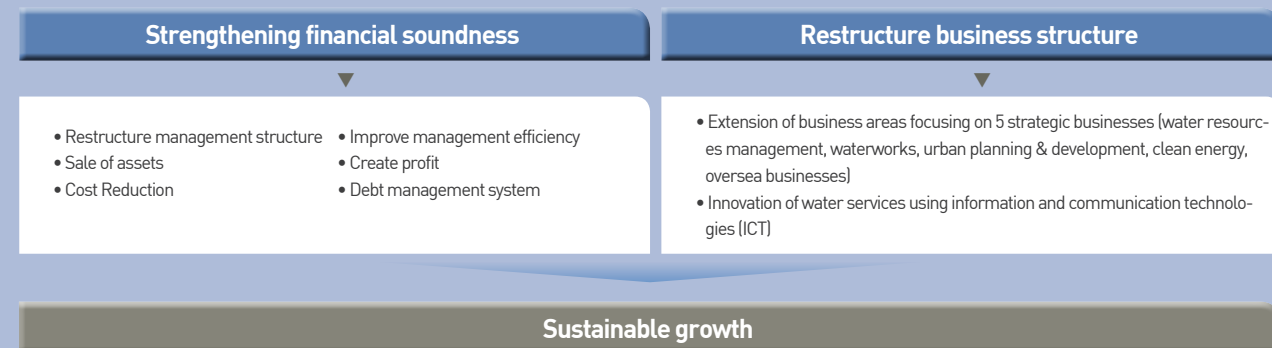
DMA (Disclosures on Management Approach)

1. Importance of the the Creative Management

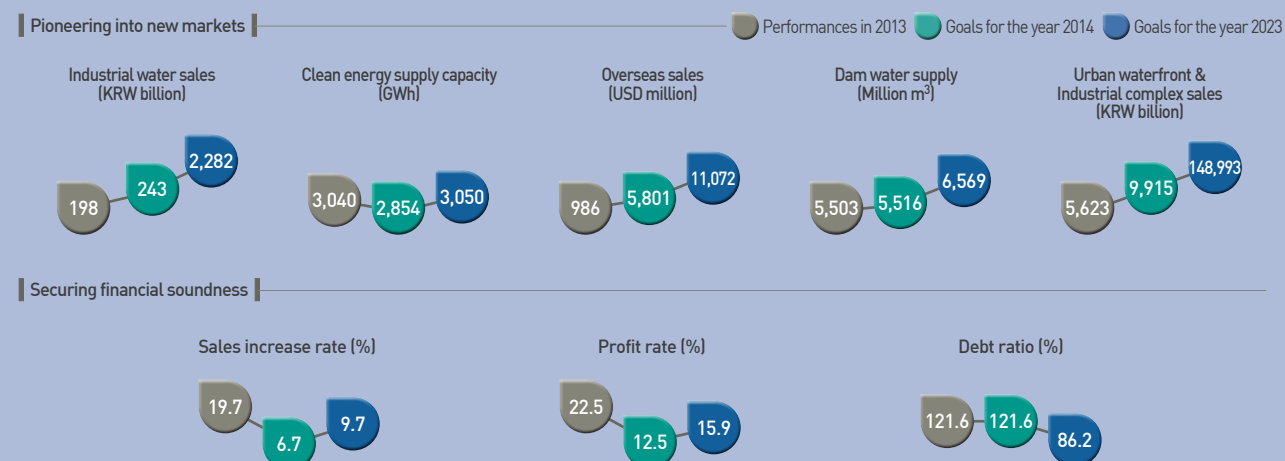
K-water is facing contrasting tasks of securing financial health caused by an increasing debt with the completion of major national projects and discovering new business areas caused by the growth stagnation of the domestic water market. The interest groups of K-water are giving weight to financial performance and financial health of K-water as well as business opportunities in new markets.

2. Approaches of K-water towards the Creative Management

Since the completion of major national projects, K-water has recognized the current situation as not only a risk but an opportunity and been pushing forward to bolster its financial health and expand its business scope by focusing on five major business strategies. For more detailed information, please refer to page 38 in this report.



3. Performance management for the Creative Management



Economic Performance and Tasks

Creation and distribution of economic value

K-water is creating economic value by constructing, operating, and managing water resource facilities such as dams, weirs, local waterworks and sewage facilities. As well, K-water is constructing industrial complexes, waterfront spaces, and is developing and applying renewable energies specialized for water. Economic value created in 2013 decreased compared to the previous year because major national projects such as the Four Major Rivers Restoration Project and the Gyeong-in Ara Water Project were completed. Distributed economic value, thereby, decreased; Over 83% of economic value created in 2013 was used for operating cost, labor, and capital cost, etc. In 2013, investing KRW 2.5 trillion in total into constructing and operating social infra structures, we, thereby, contributed to revitalizing the economy of our society and producing indirect effects that increase socio-environmental values such as safety and environmental soundness.

Unit: KRW million						
Classification	Distributed to	2009	2010	2011	2012	2013
Created economic value [1]		2,032,624	2,167,345	6,354,088	3,694,659	3,682,884
a) Net sales		2,005,384	2,144,750	6,325,786	3,668,445	3,645,388
b) Interest income, rental, asset sales, etc.		27,240	22,595	28,302	26,214	37,496
Others (government subsidies)		3,150	4,309	236,679	298,786	309,286
Distributed economic value [2]		1,511,841	1,678,756	6,139,990	3,492,452	3,259,297
a) Operating cost: production cost, asset purchase price	Cooperative companies	1,160,601	1,077,896	5,260,373	2,493,275	2,128,902
b) Wage and welfare: labor cost	Executives and Employees	285,818	341,990	357,221	360,591	377,361
c) Capital cost: paid interest, dividend	Others	63,971	160,662	399,552	501,674	541,310
d) Tax: corporate tax, local tax payment, etc.	Government, local governments	26,176	37,708	68,159	73,677	138,349
e) Investment to local community: donation, share of expenses	Customers, local community	61,051	60,500	54,685	63,235	73,375
Surplus [1-2]		520,783	488,589	214,098	202,207	423,587

※ Consolidated standard as per application of K-IFRS since 2011

Financial performance

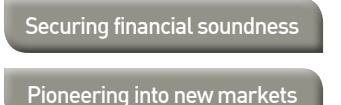
K-water's assets at the end of 2013 totaled KRW 25.6 trillion and the debt was KRW 14.0 trillion [debt ratio 120.6%]. The financial status of the past five years is shown in the table below. The total amount invested in private construction works decreased because of the completion of national projects such as the Four Major Rivers Restoration Project. Thus, the total sales amounting to KRW 3.6 trillion decreased by 0.6% compared to the previous year. However, the net profit reached KRW 348.1 billion which is an increase of 12.9% compared to the previous year because K-water increased the amount of water supplied and electricity generated.

Unit: KRW billion, %					
K-water financial status	2009	2010	2011	2012	2013
Classification	132,770	184,844	234,259	250,164	256,039
Asset	102,814	105,237	108,450	112,385	116,054
Capital	29,956	79,607	125,809	137,779	139,985
Debt	23,601	70,601	112,986	118,689	116,034
Financial debt	29.1	75.6	116	122.6	120.6
Debt ratio	816	1,421	2,933	3,083	3,481

※ Consolidated standard as per application of K-IFRS since 2011

Tasks for the Creative Management

By building a stable financial structure and maintaining future growth engine investments, K-water will accomplish its financial goals which are to increase the sales rate by 9.7% and the operating profit rate by 15.9%, and decrease the debt ratio to 86.2% by 2023.



Securing Financial Soundness

As a state-owned enterprise, K-water sets forth to secure a sound financial structure through stringent self-efforts to accomplish its goal of debt reduction. Also, information on the financial status, performance of improving the financial structure, and debt reduction fulfillment will be disclosed transparently.

Causes of increase in debt

K-water's debt has increased by approximately KRW 12 trillion from KRW 2 trillion at the end of 2008 to KRW 14 trillion at the end of 2013. The causes of debt increase are as the following.

National projects
The significant increase in debt can be attributed to the investment cost for the national projects such as Four Major Rivers Restoration Project and Gyeong-in Ara Waterway Project. Since 2009, investment costs totaled KRW 9.2 trillion, accounting for 77% of the total debt increase amount.

K-water's own businesses
A total of KRW 2.8 trillion of debt was incurred as a result of the investment costs of existing businesses. This amount accounts for 23% the total debt increase, among which K-water's industrial complex construction business has a structural characteristic requiring significant pre-investment with long-term profit collection.

Plans for debt reduction

K-water will reduce KRW 1.7 trillion by 2017 through self-efforts for debt reduction such as business restructuring, asset sales, production cost reduction, management efficiency improvement and profit creation. Through financial management planning and stringent self-efforts, we plan to reduce 32% of the debt increase amount by 2017 and stabilize the debt ratio to 140%.

Business restructuring
Through the scrutiny on all businesses from the beginning stage, we will reduce investment amount & period so to secure the financial health as long as these measures do not damage the quality of public services that we provide. Along with this, we will continue to the investment for new strategic business areas.

Cost reduction
While consistently cutting costs, we will ensure that water services are not negatively affected. As well, we seek to reduce costs by expanding the application of new technologies in the construction stage.

Sales of Assets
Although K-water is limited in terms of improving its financial structure through asset sales because 90% of the total assets consist of mandatory assets for businesses that cannot be sold, we will push forward with asset sales by actively discovering assets that can be sold such as marketable investment shares and non-business sites.

Profit creation
We will expand our sales through marketing campaigns to promote K-water's water services and will make additional profit through measures such diversification of renewable energy sales.

Management improvement
We will consistently discover and proceed with management improvement tasks that meet the expectations and demands of the public. For example, the high-level officers have pledged to return a portion of their 2013-2104 wage increase. The returned funds will be designated for social activities that benefit the public.

Debt management system
We will continuously push ahead with activities such as the establishment of a systematic debt management system, creation of a debt management council, and unification of company-wide capabilities to systematically and effectively implement the debt reduction plan. We also created a new team, under the Office of the Senior Executive Vice President, which has the sole responsibility of improving K-water's financial structure. As well, four briefing sessions for sharing and expanding the efforts to reduce debt to the regional offices are being conducted along with open communication.

As a part of our commitment towards financial integrity, all of the executives and senior officers participate in returning 16% of their total wage increase amount in 2013-2014. Also, we plan to place a freeze on the wages of senior officers for 2014. The outside directors have unanimously agreed to reduce their 2014 wages by 36%. The funds raised by our commitment towards financial health will be used for social contribution activities. As seen from this example, we will make efforts seamlessly to secure financial health by putting the debt reduction plans into practice.

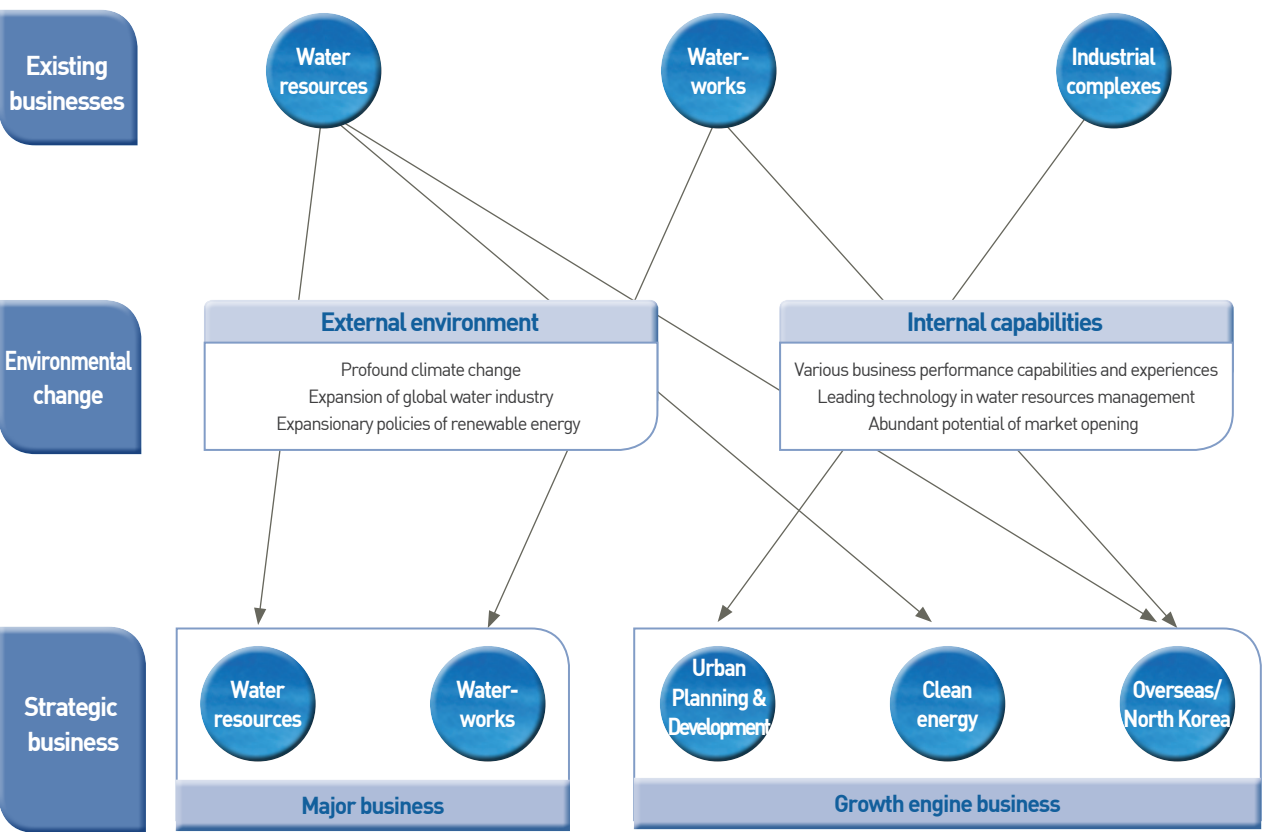
New Businesses in New Markets

We are advancing the capabilities of foundational fields such as water resources and waterworks management, and initiating the expansion of business areas that require specialized expertise in water services.

Business visions and strategies

K-water has designated water resources management, waterworks, urban planning& development, clean energy, and projects in foreign countries including North Korea as its five major strategic businesses. As well, K-water has a long term plan to convert to an integrated management on a river basin unit, covering the whole water circulation based on the Smart Water Grid (SWG) in order to realize the Integrated Water Resource Management (IWRM).

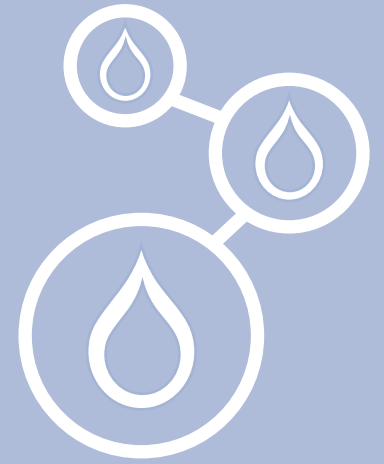
For the water resources management business, we will conduct the Integrated Water Resources Management (IWRM), which considers both water quantity and quality of the basin connecting the operating and monitoring systems of dams, weirs, and streams. For the waterworks business, we will realize the supply of high quality tap water that contains balanced minerals healthy for the human body using advanced water management technologies including the Smart Water Grid (SWG), and will utilize existing waterworks facilities and alternative water resources in order to improve the conditions of areas suffering from water supply and water quality issues. For the urban planning & development business, we will construct eco-friendly urban complex that incorporates water-friendly designs such as waterfront parks and water leisure and tourism facilities. For the clean energy business, we will lead the way in the domestic market by developing and investing in clean and renewable energy sources such as tidal power, solar power on the surface of dam reservoirs, and wind energy. Lastly, for overseas business ventures, K-water has set its goal to accumulate orders worth USD 10 billion by 2023. To achieve this, K-water is creating a business-friendly environment to widen its business scope to new market as well as preparing the foundation for conducting a business in North Korea.





Focus Issue 2 Smart Water Services

Through smart water services combined with Information and Communications Technology (ICT), K-water is pushing ahead with its goals to mitigate the effects of climate change, improve energy efficiency, to secure resources year-round, and to supply “Healthy Tap Water.”



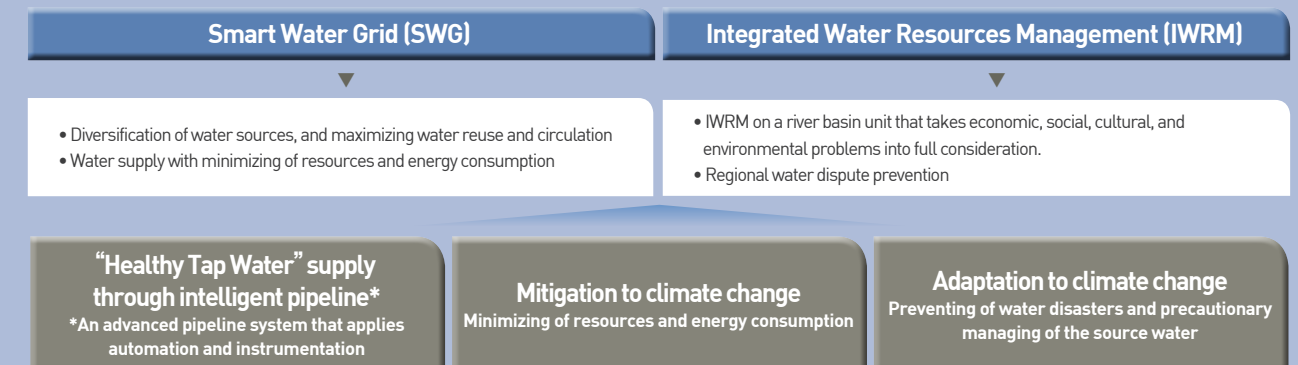
DMA (Disclosures on Management Approach)

1. Importance of the Smart Water Services

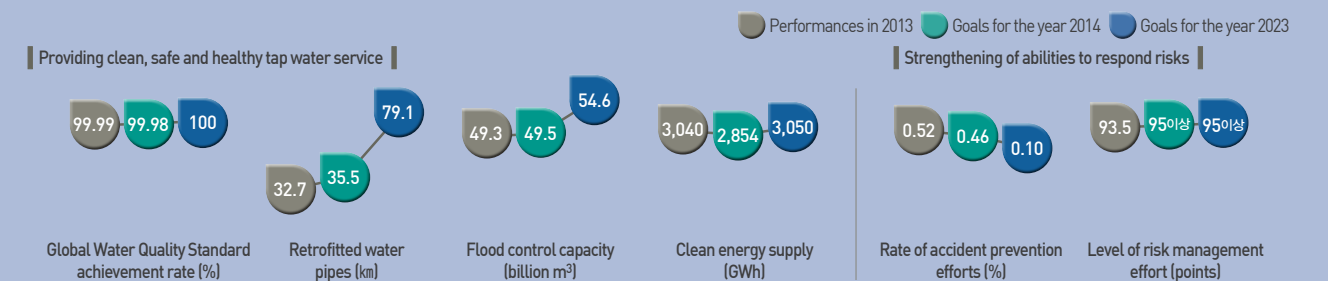
As water is a necessary resource for securing living organisms, safe water management and the securement of clean water by responding to climate change, shortage of energy and resources, and environmental pollution are becoming more important than ever before. As the World Economic Forum selected shortage of water and radical weather phenomenon as parts of the ten global risks, to which the world should pay attention, international as well as domestic societies are concerned about the increasing uncertainty in water resources management. In relation to the water services of K-water, its stakeholders have shown interests in responding to climate change, using energy efficiently, saving resources, and improving public perception on the quality of tap water.

2. Approaches of K-water towards the Smart Water Services

K-water is promoting the Smart Water Services for securing safe and effective water management and supply of high-quality tap water even under the future water conditions threatened by climate change, shortage of energy and resources, and environmental pollution. K-water seeks to actualize the Smart Water Services through the Smart Water Grid and the Integrated Water Resources Management that utilizes ICT. We will supply “Healthy Tap Water” that preserves well-balanced minerals for the human body through maximizing the circulation of water resources and minimizing energy consumption. Also, by realizing the Integrated Water Resources Management over a river basin unit that encompasses water quantity, water quality, and water related natural disaster prevention, we will efficiently respond to climate change, effectively use limited water resources, relieve imbalance of regional water supply, and secure the stability of water supply.



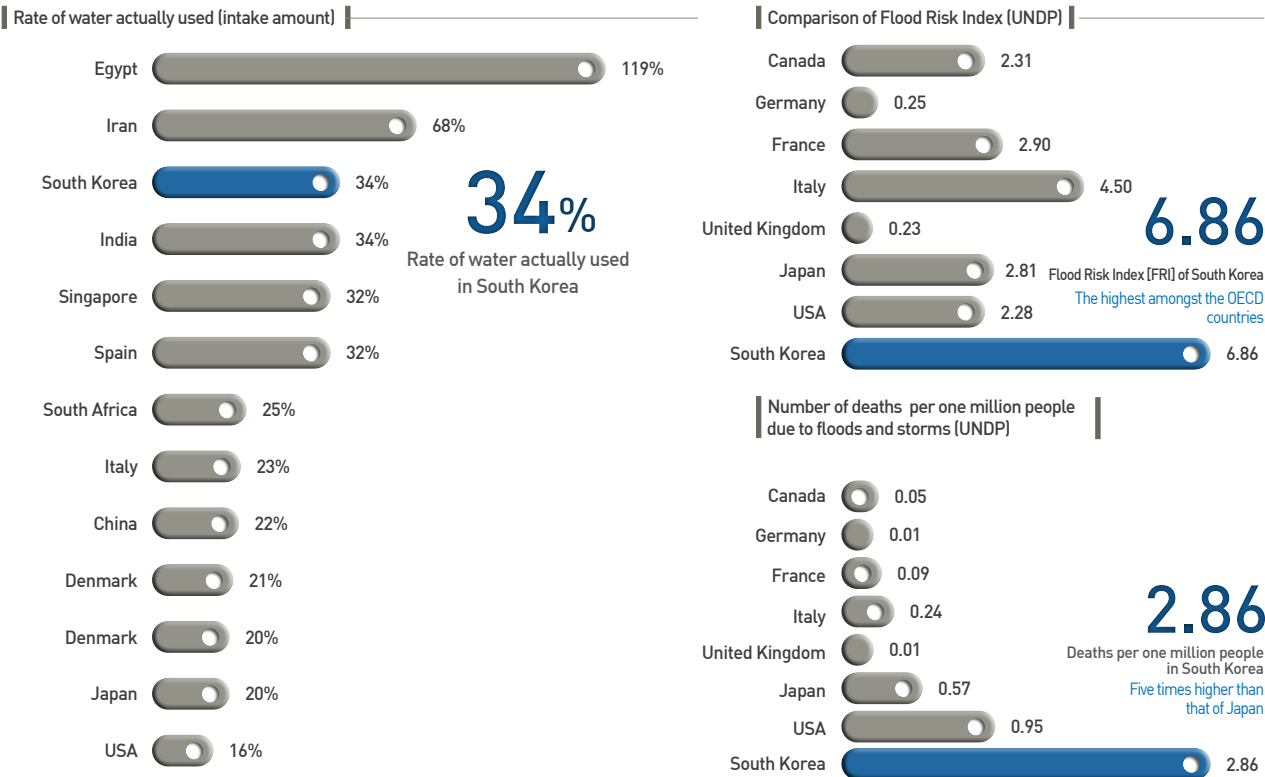
3. Performance management for the Smart Water Services



Water Management Conditions and Smart Water Services

Water management conditions

South Korea has a fundamentally disadvantageous water management condition. Because of high population density, the amount of usable water resources per person is 1/5 of the world average. Also, the rate of the water amount actually used (intake amount) over total usable water amount still remains at 34% because the precipitation varies by periods and regions, and rainfall rapidly runs off into the ocean due to steep slope and relatively short length of river reaches in Korea. This makes water management in Korea difficult, and makes Korea internationally recognized as being a “water scarce nation.” The Flood Risk Index of Korea is three times higher than that of Japan, which has similar water resource conditions to ours, and the water self-sufficiency was once evaluated to be the fifteenth lowest out of 100 countries (UNESCO-IHE).



Smart water services

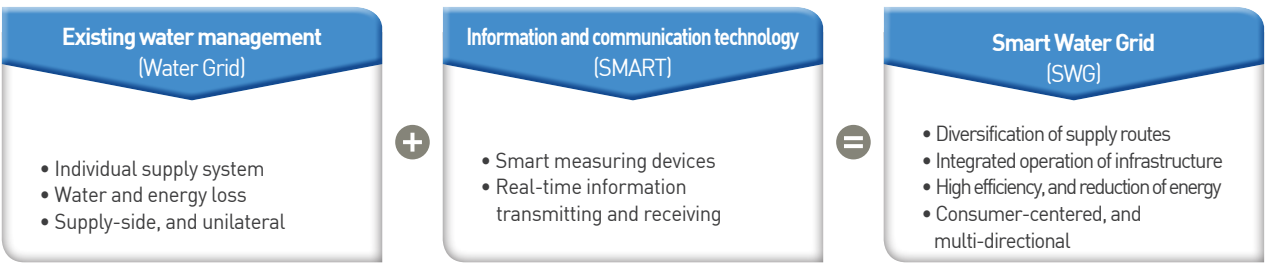
Recent climate changes are affecting nations across the globe as water related issues such as water shortages, water disasters, water pollution, and ecological degradation continue to intensify. These water issues have been becoming threatening since the uncertainty in rainfall pattern has increased and water related natural disasters occur more frequently due to climate change. Moreover, due to the recent complex nature of society and the industrial structure, the management of water resources is becoming more difficult. Therefore, K-water seeks to respond to the increasing uncertainty of water management with the Smart Water Services, which maximizes automation and instrumentation, enhances real-time monitoring and inspections, and minimize resources and energy consumption over the whole business cycles.

Intelligent Water Supply Network Smart Water Grid

Through the Smart Water Grid, K-water provides tap water that is constant in quantity and quality and thereby, customers can trust.

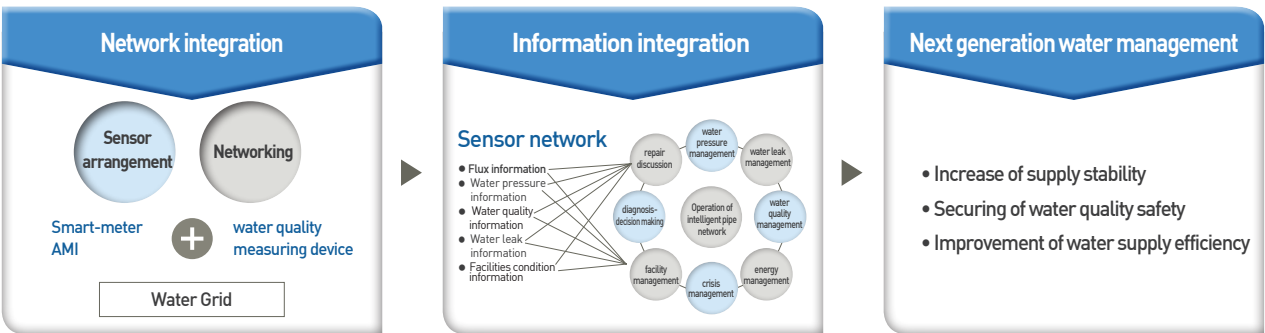
Smart Water Grid has already started

Smart Water Grid (SWG) is a next-generation intelligent water management technology that increases stability, safety, and efficiency through an intelligent water supply network, which combines the water supply network and communication network by connecting existing water grids with information and communication technologies (ICT). The attempt to improve efficiency and functions by integrating ICT to the water management industry has been consistently carried out internationally, and various forms of approaches to the SWG for advancement, informatization, and intellectualization of water services are being made. So far, on one hand, K-water has initiated rearrangement of the water supply networks to relieve water shortages and retrofitting of the waterworks to secure supply stability in the aspect of advancement. On the other hand, K-water has also pursued integrated operation of waterworks and establishment of intelligent management system, which utilize ICT, in the aspects of informatization and intellectualization.



K-water's Smart Water Grid

Smart Water Grid can be applied across all areas of water services such as management of water sources, production and transport of water, reuse, etc., and can be applied in various forms according to water management conditions. K-water is pursuing SWG, especially focusing on the transport process from water treatment plants to consumers, and is targeting to supply tap water to consumers without changes in water quantity or water quality. K-water's approach to SWG includes the bolstering of real-time monitoring on every unit of the entire water supply networks to stably supply water without both loss in quantity and change in quality, and the actualization of intelligent pipeline network through the establishment of a sensor network, which collects and analyzes various water data in pipes such as quantity, quality, pressure, leakage, etc. SWG, thereby, makes a timely and optimal operation possible. As well, it enables customers to access to real-time information about tap water over the whole transport processes, which results in strengthening of customers' trust on tap water.



Not a Choice, but a Requirement for Future Water Resources Management, Integrated Water Resources Management

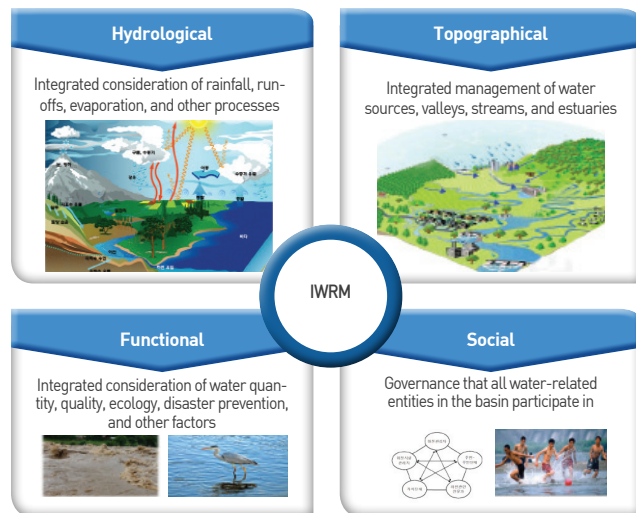
We are pushing forward to implement the Integrated Water Resources Management in order to realize sustainable water use and management by improving the efficiency and safety of water management.

Why is the Integrated Water Resources Management needed?

On one hand, the Integrated Water Resources Management (IWRM) refers to water resource management led by an integrated governance of stakeholders rather than individual interest groups, and on the other hand, water resources management that integrates the economy, society, culture, and environment in a comprehensive perspective of basins and regions as well as technological aspects. Water resources management has been becoming more difficult since the uncertainty about rainfall has increased and water related natural disasters occur more frequently due to climate change. Moreover, water management conditions are worsening due to conflicts and disputes between stakeholders with the increasing social diversity. IWRM is considered to facilitate more effective water services through the integrated management of upstream regions, dam reservoirs, and downstream regions to prevent water disaster and secure usable water resources. Also, it could minimize and prevent water disputes between regions or stakeholder groups through the participation of stakeholders in decision-making on water issues such as quantity, quality, water-related disaster response, etc. Since individual approach by single interest group has a limit to counter these water issues with increasing uncertainty of water condition and deepening social conflicts, IWRM is thus not a choice but a must.

Realization of the Integrated Water Resources Management

K-water has implemented IWRM within its management scope: eg. integrated operation of an upstream dam and a downstream dam, and that of an upstream dam and downstream weirs in a river basin. However, it has not reached the level of the integrated management that covers the entire water system of a river basin unit. As the only state-owned professional water service enterprise in the country, K-water is leading the realization of a country wide IWRM. We plan to form a consensus with policy-making organizations by establishing IWRM master plan customized to the nation and to organize social and political driving forces for IWRM through policy forums. As well, we are proceeding in stages with the establishment of an integrated governance with water-related organizations, residents, environmental groups, and professionals. With the integrated governance, we also move towards the sharing of water related information and data with related organizations.



Mitigation and Adaptation to Climate Change

Creating new growth engine through responding to the risk of climate change

Countering climate change has rapidly emerged as a top priority task in the international society after international organizations such as IPCC (Inter-governmental Panel on Climate Change) have published prospects on the acceleration of global warming. In order to join in the global effort for climate change response and to realize sustainable growth, the government has established a comprehensive plan in response to climate change (September, 2008). In order to counter the risk of climate change and to convert it to an opportunity of creating new power for growth, K-water established the strategy master plan for responding to climate change (December, 2009), and has focused on enhancing the stability of water services to counter the uncertainty and complexity by climate change. As the Korean government is committed to start carbon (greenhouse gas or CO₂) emissions trading in 2015, a risk and an opportunity coexist in the perspective of corporations. K-water plans to participate actively in the efforts made by government such as a pilot emissions trading project, thereby creating a growth engine. Also, as the representative corporation of the nation in renewable energy field, K-water is investing for the development of related technologies to play a vital role in the national low-carbon growth.

K-water's Smart Mitigation To Climate Change

As Korea's No.1 corporation in the field of renewable energy, K-water is actively participating in global carbon emissions reduction efforts and is responding to climate change through smart water services that minimize energy and resource consumption.

South Korea's No.1 corporation in the field of renewable energy generation

Operation and development of renewable energy generation facilities

K-water is actively participating in the development of renewable energy opportunities in order to respond to the global risk caused by climate change and use this move as a stepping stone to make a new leap. K-water's capacity of hydropower generation by 2013 is 1,070MW which accounts for 61% of domestic hydropower facilities (1,767MW). As well, we are in the process of constructing five facilities including Sungdukdam hydropower plant. On the other hand, we finished the construction of Sihwa tidal power plant (254MW), the largest tidal power plant in the world, in November, 2012, and are supplying clean electricity to society. As well as consistently developing and running clean energy facilities such as the Four Major Rivers

hydropower (51MW), Sihwa-Bangahmeori and Gyeong-In Harbor windpower (6MW), we are leading the development of clean energy industry by succeeding in the development of water surfaced solar power plants. K-water built the world's first solar power test-plant (100kW) on the surface of a dam reservoir in November, 2011 and the world's largest commercial water-surfaced solar power plant (500kW) in October, 2012, which secured economic value and safety through the standardization of constructing materials and optimization of a constructing method. Also, through technology development related to water-surfaced solar power, we have accumulated core technologies, registering six intellectual properties (5 patents, 1 design), and made headway into the overseas market. In 2013, K-water produced 3,040GWh in 84 facilities using hydropower, tidal power, wind power, solar power, and temperature difference power generation, which has an equivalent effect of replacing 5.19 million barrels of crude oil and CO₂ emission reduction of 1.35 million tons. The water-surfaced solar power, especially initiated by K-water, is a true eco-friendly technology that does not damage vegetation and has a generating capacity which is 10 percent point greater than that of land-based solar power. This new business option contains vast potential to expand power generation (2,937 MW in 31 dams).

CDM businesses and carbon emissions trading

K-water is making profits by trading carbon (greenhouse gas or CO₂) emission reduction effects (Certified Emission Reductions; CER) from its renewable energy businesses based on the Clean Development Mechanism (CDM). In May 2005, it began CDM business for the first time as a government-invested organization and has registered a total of 12 CDM businesses by January, 2013, including Sihwa tidal power plant and small hydropower plants of 16 dam reservoirs, to UNFCCC, which are the most in the nation (534 thousand tons CO₂ emissions in total). Since selling 6,782 CERs acquired from the CDM business at small hydropower plants (Group 1) to Dutch ABN/AMRO Bank in September, 2008, we have traded 470,537 CERs so far and raised KRW 1.14 billion of carbon profits (accumulated to June, 2013). K-water will continue to create economic values through strategic CERs trading from CDM businesses with the diversification of sales networks.



CDM businesses registered to UNFCCC (as of July, 2014)

Business name	Target	UN registration date	Energy generated (MWh/year)	CO ₂ reduction amount (ton CO ₂ /year)
Sihwa tidal power	Sihwa tidal power	2006.6	507,629	315,440
Small hydropower I	Andong, Jangheung, Seongnam 1	2006.10	15,473	9,689
Small hydropower II	Daechung, Juahm, Dalbang, Sungnam 2	2007.2	13,944	8,664
Sihwa wind power	Sihwa wind power	2007.11	6,293	4,013
Small hydropower III	Gosan, Pangyo	2009.11	5,557	2,987
Small hydropower IV	Sungduk, Buhang	2010.10	4,963	2,759
Small hydropower V	Angye, Hoengseong 2	2012.04	4,603	3,100
Water efficiency improvement	Paldang 3	2012.08	-	7,044
Water power VII	Sejong, Gongju, Baekjae, Sangju	2012.09	57,541	38,237
Water power VIII	Nakdan, Gumi, Chilgok, Gangjeonggyeong	2012.09	58,170	38,654
Water power IX	Dalseong, Hapcheonchangnyeong, Changnyeonghamahn, Seungchon, Juksan	2012.09	79,597	52,892
Water power VI	Ipo, Yeosu, Gangchun	2012.10	76,406	50,772
Total			830,176	534,251



R&D activity and expenditure aimed at providing reliable electricity and promoting sustainable development

Although the size of the local hydropower production market seems to be consistently expanding, current hydropower facilities are highly dependent on foreign technologies. Approximately KRW 250 billion has been spent for importing foreign materials which were required for the Four Major Rivers Restoration, Sihwa Tidal Power Plant, and other major projects. Therefore, the needs for the localizing of core technologies and nurturing of domestic small and large professional hydropower businesses have risen. To fulfill these needs, K-water is initiating a national R&D project to domestically produce hydropower facilities and materials, thereby, creating new growth engines for the future. K-water plans to modernize its facilities with the domestic technologies by investing a total of KRW 630 billion by 2032. Currently, K-water is designing the modernization project of Nam River hydropower plant of which capacity is 8MW (including a basic design for tidal power plant of 30MW) as the national R&D project, and is also initiating the domestic production of small capacity water-turbine generator such as high-efficiency water-turbine generators of under 1MW, and micro water-turbine production systems (Yongdam Dam).

Status of national R&D

Name of task	Participating companies	Research cost	Research period
7MW hydropower turbine generator development and 30MW basic design	7 companies	KRW 17.9 billion	2011.12 ~ 2015.02
High-efficiency hydropower turbine generator under 1MW development	3 companies	KRW 7.9 billion	2013.06 ~ 2016.05
Micro hydropower system development	5 companies	KRW 5.6 billion	2011.07 ~ 2014.06

Past (before 2010)

- 100% reliance on foreign materials (Four Major Rivers Restoration Project, Sihwa tidal power)
- Technological limitation for localization

Present (2011-2015)

- Substantiation of 10MW design production
- Acquisition of 30MW basic design
- Insufficient accumulation of technology for localization

Future (after 2016)

- Substantiation of 50/100MW design production
- Acquisition of local technology capacity
- Pioneering into overseas markets

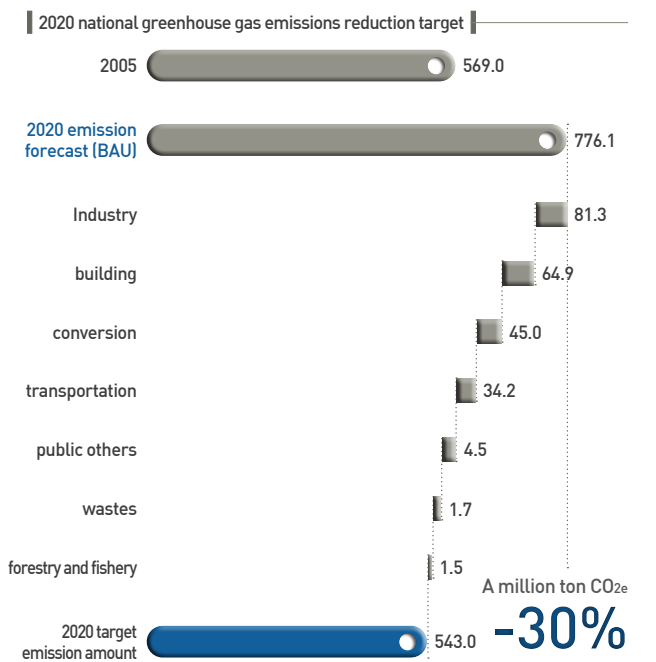
Programs and processes to ensure the availability of a skilled workforce

Although K-water has outsourced the maintenance and inspection of its energy production facilities, it has started conducting facilities maintenance and inspection with its own workforce since the completion of Sihwa tidal power plant in order to achieve technological independence from and venture into the overseas businesses. We have employed 20 technicians with experience in related business for regular inspections and maintenance of the facilities of Sihwa tidal power plant, and have been conducting in-house facilities inspection beginning in May 2012. In May 2014, we converted all of Sihwa's facility inspectors to unlimited contracts, and have established a human resource development program for nurturing outstanding facility inspectors as inspection administrators. For example, according to internal employment procedures and conditions, a unlimited contract can be converted to a regular position, being promoted from a 8th level to a first-level worker. In addition, we are nurturing skillful facility inspectors as facility super intendants and giving them various privileges for technological advancement.

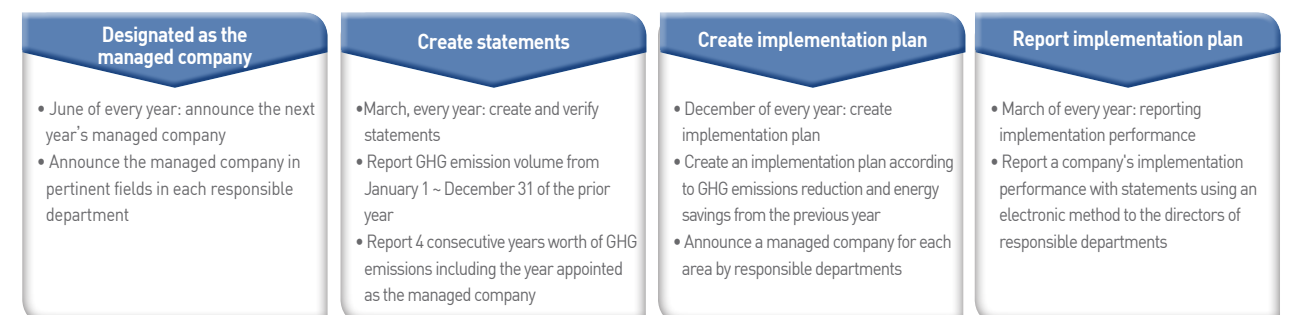
Greenhouse gas emissions reduction

Systematic efforts to reduce greenhouse gas emissions

The Korean government has set a national goal of 30% reduction in greenhouse gas (GHG) (carbon or CO₂) emission compared to BAU (Business As Usual, estimated emission volume) by 2020 in order to respond to climate change. As an implementation measure of this goal, the government has set a GHG emissions reduction goal management policy and the emissions trading policy. K-water was designated as a company to comply with the GHG emissions reduction goal management policy in 2010 and is implementing it to fulfill the national demands to mitigate the impacts of climate change. Applying the corporate GHG inventory system certified by the world-renowned accreditation agency, DNV (Det Norske Veritas, Norway), K-water has managed an annual GHG emission statement and reported the GHG emissions to the government. K-water operates both the EPE system and GHG inventory system to monitor its GHG emissions at all times. Along with this, the company, especially in January, 2013, connected the inventory system with FMS (K-water Financial information Management System), ensuring reliability of energy usage data and convenience of data collection. In addition to these, K-water is mitigating the effects of climate change, by nurturing "Carbon Managers" among its employees, expanding education and workshop programs which invite external professionals for its employees, and publishing and sharing of casebooks on exemplary GHG emissions reduction initiatives.



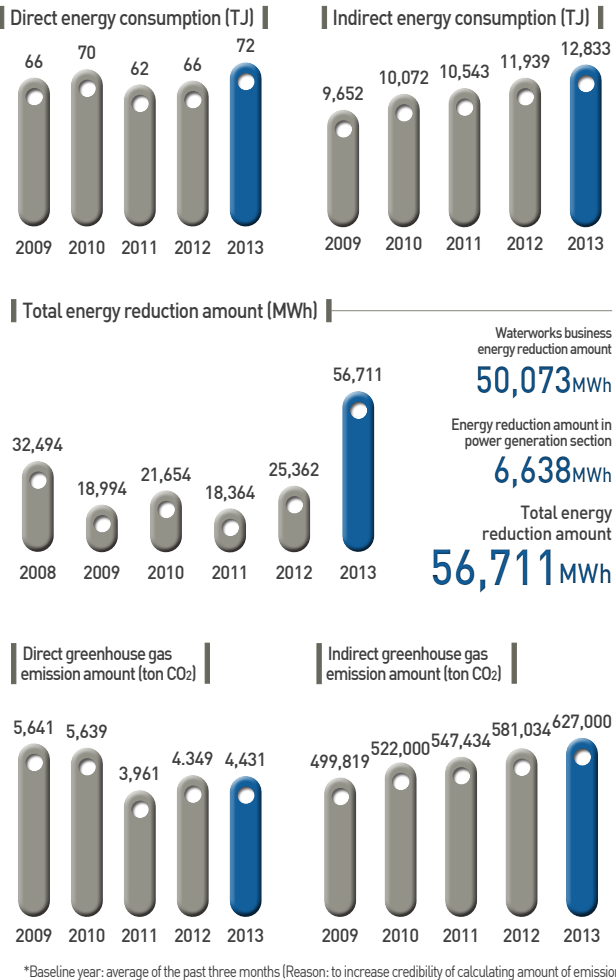
K-water's Response to GHG Emissions Reduction Goal



Achieving the carbon emission reduction goal for two consecutive years

Saving energy reduces GreenHouse Gas (GHG) emissions and cost for tap water production. The energy consumed by K-water in 2013 is 12,955TJ which is an increase of 8.1% from that in the previous year, and the electricity spent on waterworks services such as water intake, transport, and booster of station pumps accounts for most of it. In 2013, the direct consumption of energy, which is by fuel use, was 72TJ, while the indirect amount of consumption, which is by electricity use, was 12,833TJ. Electricity used at K-water's worksites does not come from self-produced electricity, but is purchased from the national electricity supply network of Korea Electric Power Corporation (KEPCO), which is the state-owned corporation that monopolizes the sectors of power generation, transmission, and distribution. About 97% of the electricity supplied by KEPCO is produced from non-renewable energy sources such as fossil fuels (Source: 2013 Korea Strategy Statistics).

K-water is making diverse efforts to save energy, which include analyzing the amount of energy consumed in each unit of its business cycle such as water intake, tap water production, transport, etc., and developing energy saving measures and technologies customized to each facility and process. As a result, the amount of energy consumption was reduced by 56,711MWh in 2013, and K-water achieved its carbon (GHG) emissions reduction goal allocated by the government for two consecutive years from 2012 to 2013. The total amount of GHG emissions from K-water's worksites in 2013 is 631,406 ton CO₂ (Sum of the emissions from each site after eliminating numbers in decimal) which is an increase of 7.9% from the previous year, and this increase is analyzed to be caused by the increased sales of tap water and by the operation of newly constructed waterworks facilities. According to the national policy on carbon (GHG) emissions reduction goal management, K-water's GHG emissions in 2013 was calculated by adding the direct emission of 4,431 ton CO₂ by the fuel use to the indirect emission of 627,000 ton CO₂ by the electricity use. Most of GHG are emitted by the electricity use for running of pumps to transport tap water, while there is no biological GHG emission from K-water's production processes. As well, there is no production process that emits substances such as Freon that destroys the ozone layer, and K-water regularly performs safety inspections on its air-conditioning facilities in order to prevent the leakage of Freon.



2013 achievement estimation of carbon emissions reduction goal of K-water

Classification	Expected emission amount (A)	Allowed emission amount (B)	Goal reduction amount	Reduction performance			Total (E+F)
				Emission amount (D)	2013 Emission amount (E=A-D)	Early reduction performance* (F)	
Greenhouse gas (ton CO ₂)	634,126	570,646	63,480	590,313	43,813	19,667	63,480

* Voluntary reduction of greenhouse gas emission through self-initiated efforts prior to greenhouse gas & energy target management system took effect : Yongdam & Daegok Dam small hydropower project

Low-energy and low-carbon production efforts

① "Carbon Labeling" tap water

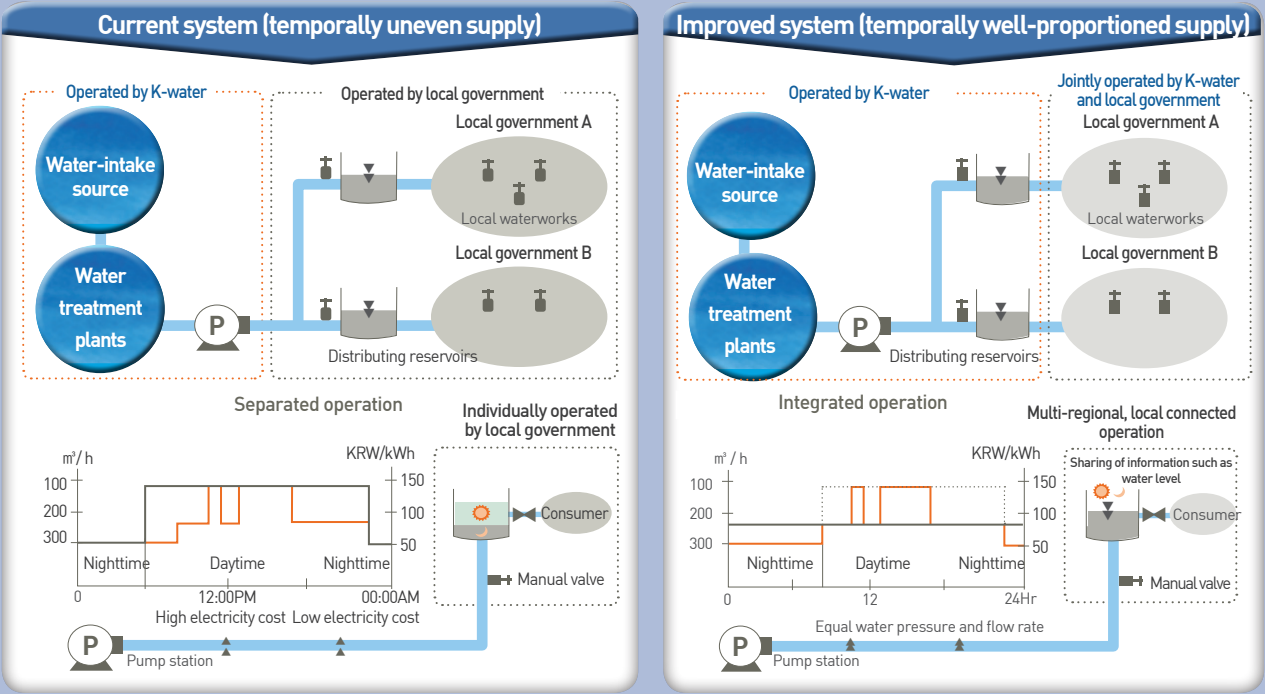
By 2013, 10 K-water waterworks have been qualified for "Carbon Labeling." "Carbon Labeling" certification is granted for a product that has been proven to minimize the emission of GHG in the entire cycle of its production. K-water's waterworks have reduced the use of packing materials or water-purifying substances, thereby, saving energy and minimizing the emission of GHG. As a result, in 2011, the tap water produced at Cheongju waterworks has succeeded in being qualified for the nation-first "Carbon Labeling" tap water in Korea, and the certification of "Carbon Labeling" has been extended to 10 K-water waterworks by 2012.

② Energy efficiency improvement of dams and waterworks facilities

K-water mitigates the impacts of climate change not only by expanding the supply of renewable energy through the performance improvement of hydropower facilities, but also by improving energy efficiency in dams and waterworks facilities. K-water's measures to minimize the electricity use include retrofitting to high-efficiency devices that have less energy loss, using LED light facilities, and optimizing operating methods. Waterworks operations are being improved and optimized in the direction of minimizing the energy consumption by monitoring, analyzing, and remotely controlling on a real-time basis by the Energy Management System (EMS). For this, we are introducing and developing technologies for optimal operation of pumping stations based on tap water demand predictions over time and optimal control of transport flow rate, etc., and for increase of flow rates and reduction of water losses in pipes of local waterworks. Also, we are regularly diagnosing the performance of the main parts of waterworks such as pumps and converting the parts to high-efficiency and low-energy-consuming ones, thereby, saving energy in the whole production cycle. In 2013, we replaced pipeline pumps with low efficiencies to ones with high efficiencies (KRW 1.14 billion/year), installed ball valves that minimizes the resistance of pump station leakage valves (KRW 250 million/year), and converted transformers to high-efficiency ones (KRW 50 million/year).

③ Lower cost and higher quality tap water supply through cooperation with local governments

The binary tap water service system of the nation, which consists of multi-regional waterworks (K-water) and local waterworks (local governments) have caused inefficiencies in water service (limitation of prompt responds to pipeline accidents, increase of expenses from electricity use by uneven water supply, etc.). In order to improve the inefficiencies, K-water has initiated a cooperative operation of 52 main distributing reservoirs of local waterworks linked to 17 multi-regional waterworks along with 25 local governments in 2013. This cooperation has facilitated the integrated management of multi-regional waterworks and distributing reservoirs of local waterworks, thereby, increasing the cost-efficiency and the stability of tap water supply (Previous: temporally uneven supply, increased water supply in day time when the electricity price is expensive → Improved: temporally well-proportioned supply). This makes it possible for us to reduce the electricity cost of KRW 3.3 billion every year, strengthen the ability of prompt recovery in times of pipeline accidents, and secure the stability of water quality and quantity in tap water transport by equalizing the flow rate and pressure.



K-water's Smart Adaptation To Climate Change

Based on the water resources management technologies accumulated for the past 50 years, K-water is providing stable water services against climate change by constructing a national water disaster prevention system and by precautionary acting to preserve the water quality of drinking water sources.

Stable water management and supply to prepare for climate change

As the complexity and uncertainty of water management increase because of climate change, K-water is making efforts to prevent disasters concerning water and to improve the supply stability of tap water. With regards to water resources management, K-water is preventing water disasters such as floods and droughts and securing usable water resources through the integrated management of upstream regions, dam reservoirs, and downstream regions based on accurate predictions of weather and floods. For the monsoon season in 2013, which was the longest (49 days) in history, K-water prevented flood damages in the downstream regions (reduced the damage cost of over KRW 900 billion) by controlling 94% of incoming flood waters. In 2013, although the rainfall was just 78% of the previous year, K-water secured water storage of 104% compared to that of the previous year and generated hydropower of the second highest in history (3.04 billion kWh). Moreover, K-water is establishing a flood disaster integrated prevention system customized to local regions by integrating local flood characteristics and K-water's operation technologies, thereby, contributing to the water disaster prevention. In addition, K-water is preparing for climate change by improving the performance of old dams and by acquiring sufficient water sources. With regards to tap water supply, K-water is focusing on enhancing of the tap water supply stability nationwide just in case that the climate change may affect precipitation and water quality, thereby, threatening the water availability. K-water established a waterworks facility stabilization business plan in 2011, and in accordance with this plan, it has reinforced vulnerable facilities, secured emergency water supply facilities, and retrofitted pipelines in stages since 2012. Also, K-water strengthened the risk management for waterworks facilities and accidents preventions by introducing its own risk management system, KRM (K-water Risk Management), and global water safety management tool, WSP (Water Safety Plan). As a result of these efforts, K-water has reported zero water supply stoppages for two consecutive years of 2012 and 2013, ensuring the stability of tap water supply.

State-of-the-art flood prediction technology

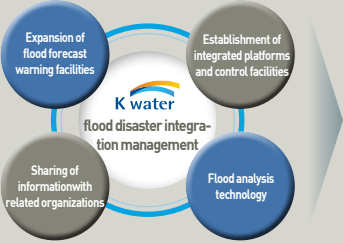
Prompt and accurate predictions of hydrologic conditions are critical for stable flood control and water supply. Therefore, K-water has taken the lead in developing and applying advanced technologies. K-water developed K-HIT (K-water's Hydro Intelligent Toolkit) in 2011, which is the domestically first brand of advanced water management system, integrating weather forecasts and real-time observation, rainfall-runoff and flood analysis, water usage, and energy production systems. In addition, K-water has strengthened and renovated its all management systems by reflecting the newly constructed facilities in the Four Major Rivers Restoration Project and the recent flood control abilities strengthening projects, and has developed and applied its own next-generation water quantity and quality integrated models (K_DRUM, SURIAN).

Cooperation between local governments and K-water for preventing flood disasters

K-water is playing a leading role in protecting the lives and properties of citizens by providing advanced water management prevention technologies to local governments. Local government may have difficulties in preventing floods because of the lack of ICT professional workforce and sufficient technologies. For example, K-water successfully established flood disaster management systems for the city of Namwon in 2011, and Muju-gun and the city of Gunsan in 2013, and contributed to the flood damage prevention during the previous monsoon seasons. In 2013, it launched developing of a flood disaster monitoring system (Smart TM) for local governments as a 'Star Brand' project, which means a key fostering technology, and this project was selected as an exemplary works of a state-owned enterprise by the Ministry of Strategy and Finance.

Local government flood disaster management system developed by K-water

Local government	Project cost [Completion year]	Business content
City of Namwon	KRW 900 million (2011)	<ul style="list-style-type: none">Establish flood monitoring standards of important streamsImprove hydrologic observation facilities in the countryside
Muju-gun	KRW 500 million (2013)	<ul style="list-style-type: none">Remote monitoring of drainage pump stations and rainfall sitesEstablish Disaster Status Control Center and integrate traffic control with videos
City of Gunsan	KRW 2 billion (2013)	<ul style="list-style-type: none">Connect hydrologic information with related organizations



- Minimization of the loss of human lives and property damage
- Realization of trusted local government
- Realization of Government 3.0
- Reduction of disaster restoration cost

Precautionary management of water quality in drinking water sources against climate change

Global warming may change weather patterns, thereby causing large scale typhoons and regionally concentrated. These extraordinary changes in weather patterns are contributing to water pollution problems such as long-term turbid water and frequent occurrence of algal bloom. Through scientific and precautionary water quality management of dam reservoirs and basins, K-water is overcoming the limits in ex post facto responding, and is making efforts to secure drinking water sources that are essential for our lives.

Enhancing water quality management for upstream catchment of pollution

As an initiative to reduce pollution loads into dam reservoirs from upstream catchment, K-water is participating in national businesses to control the upstream polluting sources such as the construction of an ecological wetland at So-ok Brook in the upstream of Daechung Dam Reservoir. Also, K-water is constructing a wastewater treatment facility on the upstream of dam and operating 115 facilities (in 7 districts), thereby, reducing non-point pollutant loads such as domestic sewage and livestock wastewater. The efforts by K-water make a foundation for the integrated management of water quality over the entire river basin that connect upstream regions, dam reservoir, and downstream regions.

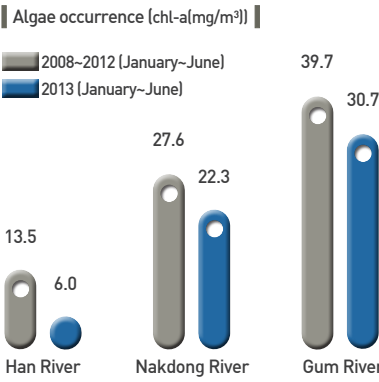
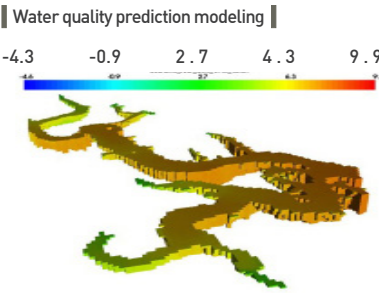
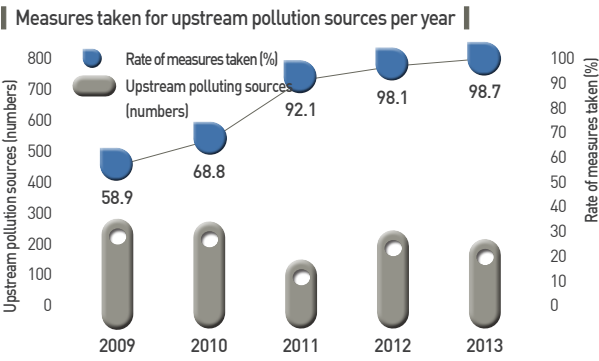
Advanced water quality management in dam reservoirs

Water quality management requires reliable and accurate scientific models capable of predicting future water quality. Because many variables such as local flowrates, temperatures, topography, etc. involve into water quality, K-water developed an advanced three-dimensional prediction model integrating the diverse variables that affect the water quality. Since the construction of a pilot model in 2009, a total of 11 dams have been analyzed using this supercomputer-based water quality prediction model (SURIAN), which integrates models of upstream runoff-dam reservoirs-streams by 2013.

* SURIAN [Supercom based River Analysis Network]: Frontier of understanding the principle of water

Developing algal bloom control technologies

Generally, in summer, algal bloom occurs in eutrophic reservoirs and streams, causing water quality pollution and waterworks system interruptions. In order to efficiently control algal blooms, K-water is operating algal bloom prevention facilities such as anti-algal bloom fences, water circulation system (submersible aerator), selective water intake facilities. As well, various research activities have been conducted along with the effect analysis of anti-algal bloom facilities' operation and the creation of algal bloom response guidelines in order to increase the effectiveness of anti-algal bloom facilities operation. Also, through the collaboration with related institutions, we are making efforts to prevent algal bloom fundamentally by reducing polluting sources or pollutant influx in upstream catchment. Moreover, government-wide joint research is being undertaken to improve the accuracy of algal bloom prediction and to develop customized control technologies according the stage classification of algal bloom. In addition, K-water is taking efforts to reduce the influx of pollutants to drinking water sources by extending voluntary pollutant control agreements with local governments (4 agreements in 2012 → 32 agreements in 2013) and performing the integrated operation of dams and weirs. K-water's efforts to counter algal bloom reduced 25% of algae concentration (based on Chlorophyll-a concentration) in the dry season from January to June in 2013 compared to that of the previous year.



Smart Water Services providing “Healthy Tap Water”

K-water is building public trust through supplying “Healthy Tap Water” that has balanced and healthy mineral components which are both safe and clean.

Paradigm shift in tap water service

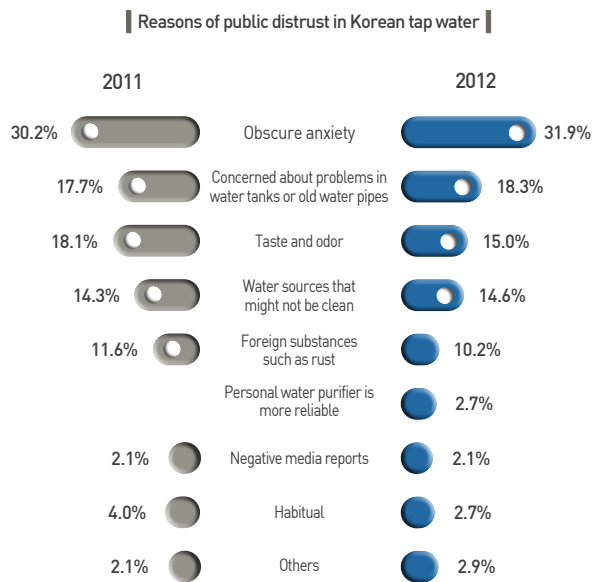
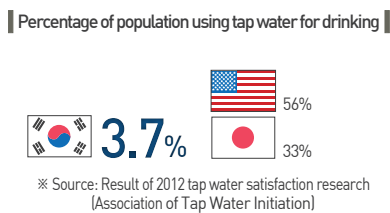
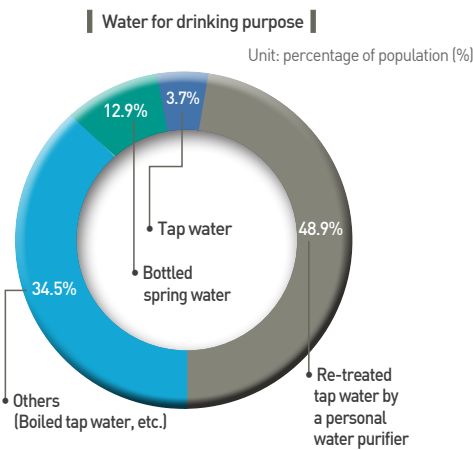
As Korean average income and living standards continue to improve, the general public has put more importance on their health, resulting in increased desire for drinking water with better taste and quality. Developed countries and some domestic local governments are making efforts to provide tasty and healthy tap water by reflecting the needs of consumers regarding drinking water. For example, Japan has developed and applied mineral-related indicators such as OI (tasty water index), KI (healthy water index), etc. Although K-water has made much effort to improve the quality of tap water through the introduction of advanced water treatment systems, and multi-item quality inspections, the percentage of population using tap water for drinking, 5% is still low compared to that of developed countries such as USA (56%), Canada (47%), Japan (33%), etc. The tap water satisfaction investigation report published in 2012 by the Association of Tap Water Initiation found that people think the quality of tap water is not satisfactory for drinking because of obscure anxiety (31.9%), taste and odor (15.0%), and etc. Considering the fact that the total expense spent in the purchase of water purifier, bottled mineral water, and other water options in Korea amounts to KRW 2.25 trillion every year according to the survey result in 2010 by the Ministry of Environment, improving public recognition on the quality of tap water as well as improving tap water quality are required. Therefore, K-water seeks to actualize the Smart Water Services to earn public trust and satisfaction by supplying not only clean and safe, but also healthy tap water that contains balanced minerals through stringent management on the whole production and transport processes.

Initiation of a pilot project to provide ‘Healthy Tap Water’ for the human body

As the first step of its smart services in the production and transport of tap water, K-water is initiating a pilot project of “Smart Water City.” The project focuses on real-time monitoring and providing water quality information of tap water in the whole production and transport cycle using information and communication technologies (ICT). K-water, thereby, seeks to produce and transport healthy tap water that contains balanced minerals, addressing obscure anxieties about drinking tap water.



“Smart Water City” pilot project initiation agreement with the city of Paju



Main contents of the pilot project

1. Improve supply stability

K-water improves the stability by strengthening real-time monitoring on water quantity and quality in water-intake process and by establishing an emergency Macro/Micro Water Loop so that a tap water supply is seamless even in case of accidents.

2. Produce tap water that is healthy for the human body

K-water is conducting cooperative research with medical institutes in order to produce ‘Healthy Tap Water’ containing adequate amounts of minerals. Also, K-water plans to improve purifying process to minimize taste and odor that deter people from drinking tap water.

3. Strengthen water quality management in all processes throughout the supply of tap water

We initiate real-time water quality monitoring on all supply processes, and establishing of the re-chlorination (re-disinfection) and automatic drainage facilities in pipelines and at distributing reservoirs, as well as flushing of pipelines, which ensure the quality of tap water during the transport.

4. Enhance reliability of tap water quality at taps in buildings

We are implementing water quality investigations in pipelines and water tanks of buildings regularly as well as flushing, and providing real-time information of tap water quality at taps of buildings to customers via SNS and smartphone apps.

- Strengthen water quantity and quality monitoring
- Organize pipeline networks (double track system)
- Produce tap water with a suitable amount of minerals
- Minimize disinfection by-products by chlorination (DBPs), taste, and odor

- Water quantity/quality monitoring and control (‘Water-NET’ system)
- Automatic blockage and drainage when the turbidity exceeds to a guideline level
- Maintain required residual chlorine concentration (re-chlorination in distributing reservoirs/pipelines)
- Clear up gridlock
- Real-time transmission of water quality monitoring data
- Remove foreign substances by pipeline flushing
- Investigate water quality in pipelines and water tanks of buildings
- Investigate internal pipeline conditions

- Tap water safety checking policy
- Conduct water quality inspections through home visits and automation
- Water quality display boards
- Tap water drinking fountains
- Water Care Potal Site
- Smartphone apps, SNS, etc.

Future Plans

Through the performance analysis of pilot projects implemented in 2014, we will develop and expand the Smart Water Services providing “Healthy Tap Water” in the mid- and long run.

2014 Implement “Smart Water City” pilot projects and R&D

- Performance analysis and research on measures for its extended application (improve tap water quality and increase the population percentage of drinking tap water, etc.)

2015~2016 Promote extended application of “Smart Water City” business Establish “Healthy Tap Water” service model

Focus Issue 3 Society Prospering Together

K-water seeks ways to develop together with our society through community sharing activities and the supporting of growths of partnering companies.



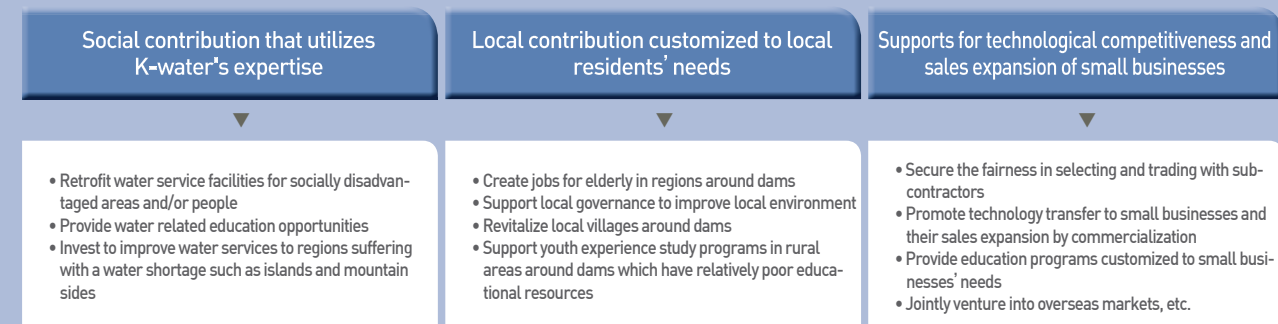
DMA (Disclosures on Management Approaches)

1. Importance of a Society Prospering Together

Developing bilateral, constructive and cooperative relationships with stakeholders such as local communities, partnering companies, customers, etc., is a key that enables a sustainable growth of a company. The stakeholders of K-water have interests in contribution to local communities, social contribution activities, mutual growth, and impartiality in selecting and dealings with subcontractors.

2. Approaches of K-water toward a Society Prospering Together

K-water seeks to create shared values for stakeholders and communities, proceeding with its businesses. First, K-water initiated social outreach activities, taking advantages of its business expertise. It designs and implements local contribution programs customized to local residents' needs that can bring desirable changes to the lives of local residents. Next, we endeavor to construct cooperative networks in our supply chain, which bring a mutual growth to both our subcontractors and us. For this, as well as securing the fairness in trading with subcontractors, we supports small and medium-size enterprises in our supply chain for their enhancement of technological competitiveness and expansion of businesses



3. Performance management for a Society Prospering Together

Enhanced communication with stakeholders | Performances in 2013 | Goals for the year 2014 | Goals for the year 2023

Customer satisfaction rate of public corporations (grade)



Social contribution activity index (points)

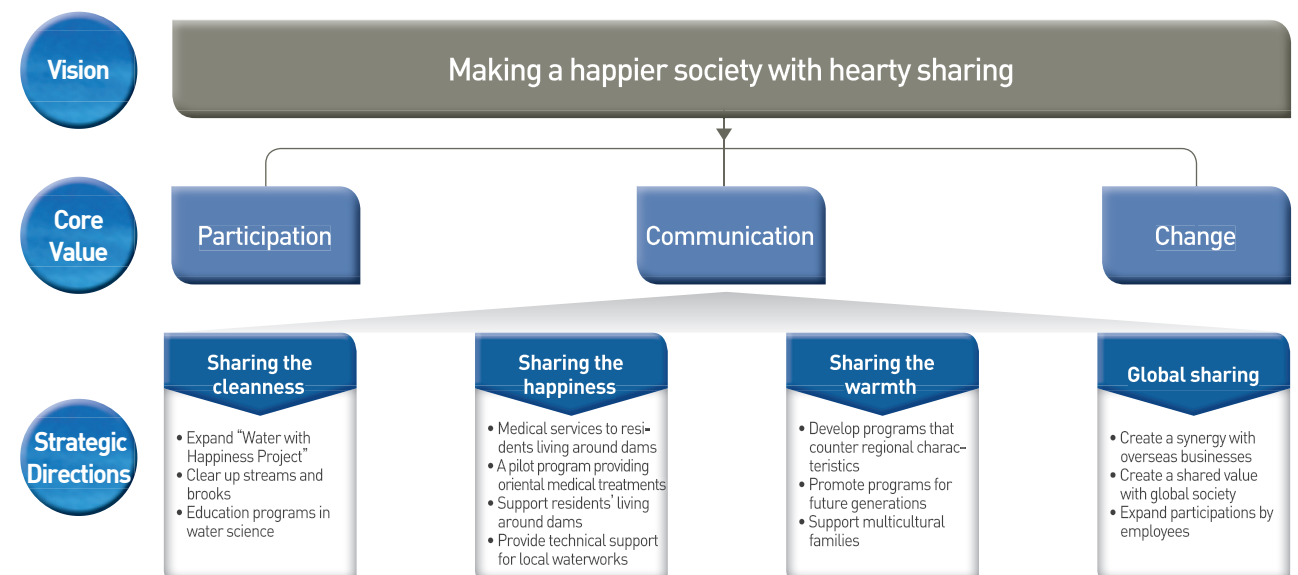


Making a Happier Society with Hearty Sharing

K-water will come forward to outreach activities for local communities and society, which take advantage of its business expertise and are customized to the communities' needs.

Social outreach that utilizes K-water's business expertise

K-water has established and implemented a social contribution strategic plan with its own visions towards social contribution activities, three core values, and four strategic directions to create shared values for the society. K-water is making efforts to become a trusted company that leads to the development of the nation and local communities by providing practical benefits to beneficiaries through differentiated social contribution program in which its business expertise is applied.



Sharing the cleanness

K-water is implementing “Water with Happiness Project,” which is the representative social contribution program that improves the quality of lives of socially disadvantaged people by retrofitting their water service facilities. As shown in the table below, we also endeavor to enhance social welfare by the activities such as protecting of the ecosystem in streams, clearing up of streams, and providing of free-of-charge drinking water for elementary and middle schools and water quality inspection for socially disadvantaged people, providing desalination services to regions with water shortages, so on. In addition, we are sharing our water related technologies and know-how through education programs with the society.

Water with Happiness Project	Cultivating of clean streams	Clean water service	Water education
Retrofit water service facilities	Ecology protection measures such as the discharging of fry	Free drinking water for elementary and middle schools	Water related education opportunities
Relocate water sources	Maintenance business of downstream rivers	Free-of-charge water quality inspection for disadvantaged groups	
Retrofit pipelines, and improve water pressure in pipelines	Construct clean underground water environment	Desalination services to regions with a water shortage, and drinking water supply in emergency	Water education for developing countries

Sharing the happiness

K-water is conducting customized social contribution activities that reflect the needs of local residents based on their life cycles. We are also maximizing values of dams by creating eco-friendly dams so as to become tourist destinations. In addition, K-water is committed to the improving of the lives of local residents and increasing of public awareness on the preciousness of water by supporting or hosting water related cultural events as shown in the table below.

Filial duty sharing service	Cultivating of dams as tourism destinations	Boosting of local residents’ income	Supporting of water related cultural events
Operate Filial Duty sharing service centers	Create eco-friendly dams	Job sharing projects	Host and support cultural events related to water
Provide housing and medical services	Operate Water Culture Centers	Build eco-friendly agricultural complex and support market activities	Provide “Water-Tour”, a tour program to dams and waterworks
Provide medical services	Construct eco-friendly rest area		Host “Water-Love” contests of picture, essay, or etc.

Filial duty sharing service

K-water provides continual welfare services in order to stay connected to people’s lives. Establishing Filial Duty Sharing Service Centers in rural regions around dams is one of K-water’s welfare services, which are elderly care centers with care-helpers and physical therapists residing on-site that provide physical therapy, free meals, assistance to elders who suffer from mobility problems, and caring services for those who are sick (by the end of 2013, 8 centers in total were built including one at Daechung Dam). Also, K-water has conducted “K-water Love Sharing Medical Service” since 2009 in cooperation with The Medical Association for the public to provide free medical service for residents living nearby to dams with poor medical infra. This service was offered to 4,500 people in sixteen regions in 2013, contributing to the improvement of local medical welfare. In 2014, oriental medical service was added to the list of K-water’s Filial duty sharing services.

Cultivating of dams as tourism destinations

K-water operates Water Culture Centers nearby to multi-purpose dams to provide leisure and recreational space for residents. As well, we cultivate eco-friendly leisure space for all members of the society by forest nurturing in dam basins and planting rape blossoms, cosmos, and etc. in flood-control sites at up - and downstream river-sides. Our efforts are contributing to increasing tourism and revitalizing the economies of local communities.

Boosting of local residents’ income

K-water is initiating job sharing projects to provide employment for both the youth and elderly in regions around dams. In 2013, K-water gave priorities to 499 local self-supporting laborers and hired them as care-helpers to improve welfare for senior citizens and as house renovators to improve residential conditions. Also, K-water has promoted eco-friendly agricultural complexes in the upstream of dams which has a restriction in farming of agricultural products by the national water source protection policy. With this, it aims to both protect water quality and revitalize the local economy.

Supporting of water related cultural events

K-water is supporting local cultural events such as “Clean Water Music Festival” to enrich the residents’ living around dams. In 2011, we fostered and supported severely disabled athletes in water-related sports by employing them as rowers and synchronized swimmers. K-water also comes forward to increase public acknowledgement on the values of water by hosting cultural events such as “Water-Tour” and “Water-Love” contests.

Sharing the warmth

K-water supports socially disadvantaged groups such as low-income families and youths for their health and emotional revitalization.

Youth mentoring program, “Watering Your Dream”

The concept of “Watering Your Dreams” refers to the relationship between mentors and mentees. While the mentees, who are youths in rural areas nearby to dams, are like seeds that require watering(supporting), the mentors, K-water employees, are watering (supporting) the mentees to reach their full potential. This mentoring program provides the multi-lateral mentoring among youths ↔ college students ↔ K-water employees, targeting the local youths in socially disadvantaged regions in order to cultivate their leadership of sharing.

Support for multicultural families

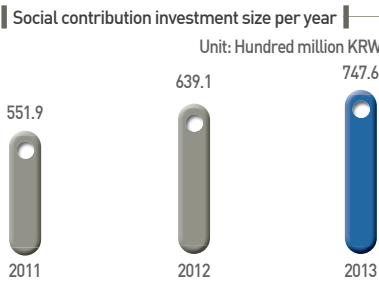
K-water is supporting homeland visitation, home schooling to learn Korean language, and wedding ceremony for multicultural families in order to facilitate their stable settlement and social and economic independence.

Community service group, “Water Love Sharing Team”

In 2013, 4,348 employees, accounting for 99% of all employees, joined 106 volunteer service clubs and carried out a total of 52,000 hours of volunteer services (12 hours per person). To support these services, employees have donated a portion of their monthly wage to the “Water Love Sharing Fund”, and the expenses for volunteer services of the community service team are supported from matching grants provided by the company.

Global sharing

Every year since 2006, K-water has made a good use of its professionalism through volunteer activities to develop drinking water sources and living support to local residents in the regions like Cambodia, Mongolia, Vietnam that have suffered from a water shortage. In 2013, we conducted four volunteer services in Manoharpervillage, Kathmandu, Nepal, and in Sungkon village in the state of Savannakhet, Laos. As well as the installation of waterworks facilities (tube wells, water tanks, pipelines, purifying facilities, etc.) that could serve about 26,000 residents in villages suffering with poor water quality, K-water conducted customized volunteer services for local regions such as building of river embankments, repairing of public buildings, etc.



Social contribution investment amount for 2013 KRW 74.8 billion (about 2% of total sales)

Being acknowledged of its effort to resolve global water problems that are affecting people around the world, K-water was awarded “Happiness Sharing Enterprise Prize” in the field of global sharing by the Ministry of Health and Welfare for two consecutive years since 2012.

*Detailed information about social contribution activities of K-water can be found in K-water’s website (<http://www.kwater.or.kr>).



Mutual Growth

K-water seeks shared growth that makes it possible to develop together with partnering companies within the corporate supply chain.

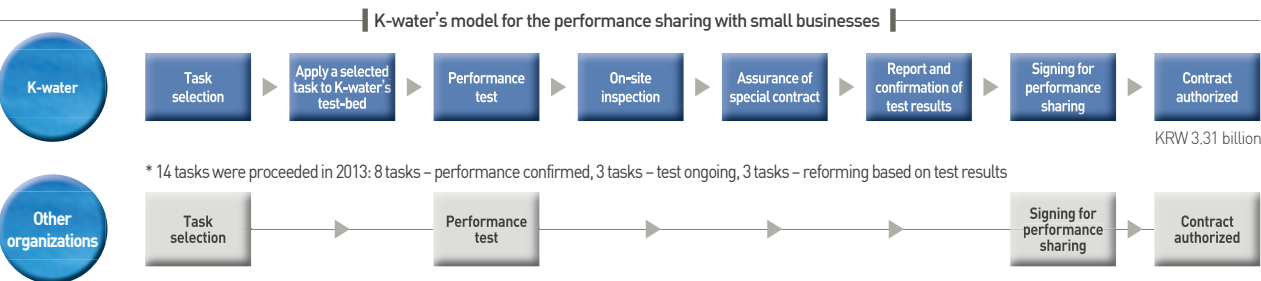
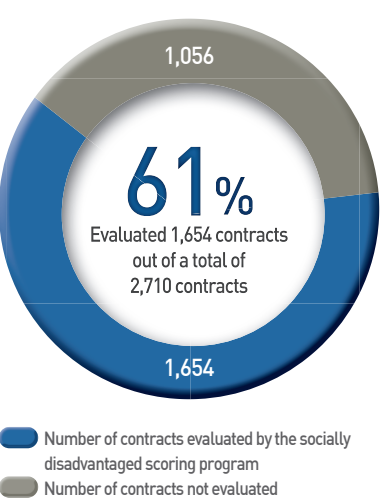
K-water's partnering companies are classified as material supplying companies, construction companies, and facilities inspection & maintenance companies. Inspection and maintenance works on K-water's facilities are mainly outsourced, and in 2013, 119 people from four external companies have carried out the inspection and maintenance tasks in 16 water resource facilities of K-water, while the inspection and maintenance of Sihwa tidal power plant was carried out independently.

Fair and healthy mutual growth which protects socially disadvantaged groups

K-water is expanding social cooperation networks through a scoring program that protects and benefits the socially disadvantaged (such as small businesses, local companies, companies run by females, and socially contributive companies) when selecting contractors. For construction contracts, K-water set forth to subcontract to local businesses for the contracts which amount less than KRW 26.2 billion, whereas the National Contract Law requires it for the contracts of less than KRW 8.7 billion. Along with this, K-water gives extra points for subcontract with small businesses, and applies a mitigated evaluation standard for newly created companies. We advantage especially local companies that locate in construction areas by allowing them exclusive participation in bidding to contracts of less than KRW 8.7 billion in order to achieve social equity. The amount of contracts with local companies in 2013 takes about 11.5% of total contract amount (KRW 1.0 trillion).

In order to put our commitment towards a mutual growth into practice, we created performance evaluations on the socially disadvantaged scoring program and mutual growth index. As well, we are taking an administrative measure to ensure that construction contract companies are paying social insurance fees (health insurance and national pension) for construction laborers and have prepared an institutional strategy called 'distinction of labor expenses' in order to prevent overdue wages for equipment/materials-suppliers and day workers. For service contracts, we prepared a separate grade table for the evaluation of contract's financial conditions that is used for small businesses, and increased extra points for a joint-venture with small businesses. In addition, we are prioritizing the products manufactured from female-owned businesses and socially contributive businesses for small scale contracts, while this policy applies for general construction to the contracts of less than KRW 200 billion, for professional construction to those of less than KRW 100 billion, for other constructions to those of less than KRW 80 million for other constructions, and for service/products to those of less than KRW 50 million. On the other hand, as overseas businesses run by K-water are small amount investment businesses such as Official Development Aid (ODA) and engineering services (investigation, design, and construction supervision), it does not operate protection measures for the socially disadvantaged in regards to overseas businesses yet. We will consider the implementation of protection measures for the socially disadvantaged with the expanding of overseas investment businesses in the future.

Performance of the protection policy for the socially disadvantaged



Establishment of growth ladder to nurture small businesses in water industry

K-water has established its unique performance sharing model called 'One-stop' which supports from technology development to the pioneering of sales channels according to its mid- and long-term build-up strategies for small businesses in its supply chain. First, it is providing on-site performance test-bed to small businesses in order to test their new technologies on-site, considering the fact that acquiring a test-bed is one of difficulties that small businesses face. Moreover, K-water opens a market to small businesses by special contracts for their product or technology of which performance is proven in the test-bed that K-water provided. K-water has especially established and operated the nation's first performance test-bed for new technologies in the field of hydropower in order to support the development of domestic technologies, and thereby, has performed a leading role in enhancing technological competitiveness of small businesses. For example, K-water led the official performance certification of an industrial-purpose valve developed by a small business, using its world's fifth best calibration ability accredited in the field of fluid and liquid measurement. Also, K-water is expanding the budget to support small businesses for R&D through raising a private-public joint investment fund in addition to signing the MOU (Memorandum Of Understanding) for the establishment of a loan program for small businesses called 'Water+Loan' with major financial companies. Moreover, it promotes the technology transfer to small businesses as well as providing education programs customized to small businesses' needs. Being acknowledged of these efforts, K-water achieved the highest grade in the evaluation on the small businesses support performance of state-owned enterprises in 2013, which was held by the Ministry of Trade, Industry, and Energy. K-water will continue to support small businesses for their self-sufficiency and market competitiveness so that it fulfills the social responsibility for mutual growth as a state-owned enterprise.

Cooperation with construction contract agencies

K-water has obligated the use of standard contract to prevent unfair trading, and has installed and operated 'unfair subcontracts report centers' in the main headquarter and 8 regional division headquarters. It has also introduced and enhanced the oversight program on contracts to prevent them from the overdue paying to subcontracts agencies, who are mostly small businesses. Along with these, K-water is making efforts to improve unfair practices and policies in its way of working through consistent communication with construction contract agencies.

Support for voluntary environmental management system of partnering companies

As K-water understands that the establishment of environmental management and clean production system of its partnering firms can contribute to the competitiveness of K-water, it endeavors to establish eco-friendly partnership with small businesses by providing various environmental management programs such as education, technological support for environment management, ISO 14001 certification expenses, etc., and by receiving eco-friendly products and services. K-water's support program for each partnering business to establish a customized environmental management system leads it to positive outcomes such as establishment of law-abiding process, securement of risk management ability, establishment of environmental management infrastructure, improvement of customer services, establishment of clean production and consumption system, etc. These achievements, thereby, will result in various benefits such as productivity improvement, increase in profit through increased customer satisfaction, and reduction of production cost by reducing environmental cost. K-water has supported 17 companies through this program until 2013, and in 2014, is currently supporting the expense for the maintenance of ISO 14001 certification as well as environmental management educations to 8 partnering companies. As it has been doing so for, K-water will continue to make the efforts to improve environmental integrity in the corporate supply network.



Opening ceremony for the Performance Test-bed Center for new hydropower technologies



Performance test-bed for an industrial-purpose valve developed by a small business



Signing ceremony for the Private-Public Joint Investment Fund



Focus Issue 4

Creating a Happy Workplace

K-water seeks to make a happy workplace creating harmony between work and life, providing opportunities for mutual growth of individuals and the company, and conducting fair evaluations of all employees.



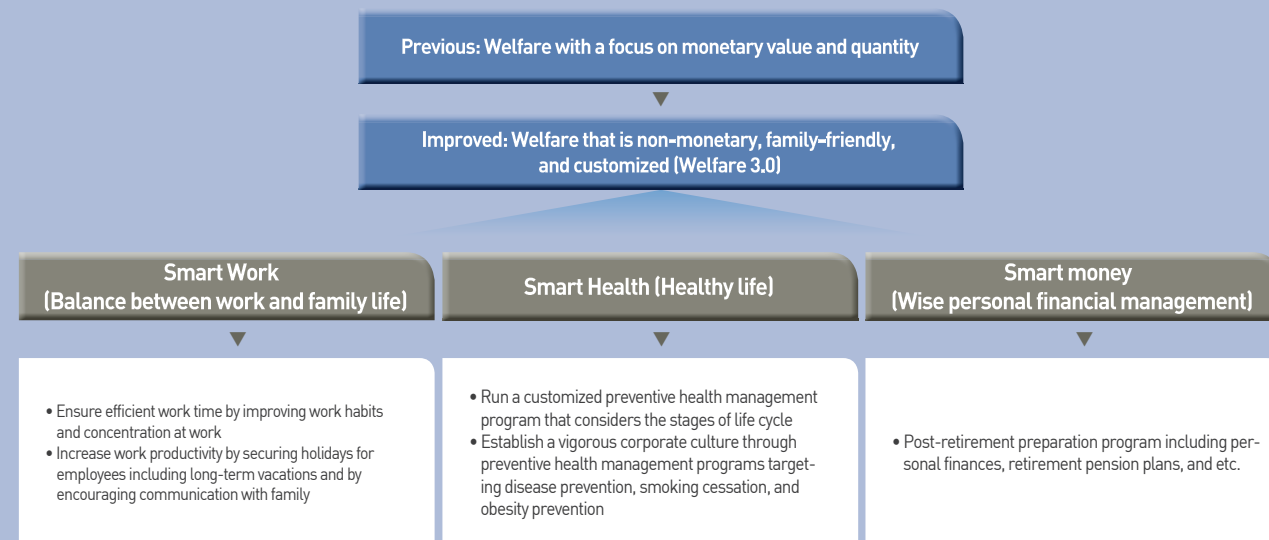
DMA (Disclosures on Management Approach)

1. The importance of Creating a Happy Workplace

The productivity of a company consists in its employees' reinforcement and demonstration of their abilities. K-water seeks to recognize the members of the organization as partners for sustainable growth and to create a happy workplace where individual members can develop and exhibit their potential abilities ethically, passionately, and creatively. The interested groups of K-water also showed interests in fair HRM (Human Resources Management) policy, employee benefits (work-life balance), and world class HR (Human Resources) cultivation.

2. Approaches of K-water toward the Creating of a Happy Workplace

In order to accomplish its new management strategy, 'SMART Management', K-water set a goal in 2013 to upgrade its managerial efficiency to a global level by focusing on 5 specific sections, which are safety, technology, ability, responsibility, and teamwork. In the aspect of teamwork, by introducing a new concept of welfare called 'Welfare 3.0', which pursues customized welfare to employees' needs, K-water is making efforts to build an organizational culture with balance between work and life as well as mutual growth of both individuals and the company.



3. Performance management for the Creating of a Happy Workplace

Cultivating of a creative, productive, and happy workplace

Level of creativity and innovation (σ)



Performances in 2013 Goals for the year 2014 Goals for the year 2023

Index for fostering human resources (%)



Workplace where Fair Competition takes place and Rewards are given for Performance

Rewards and Human Resources Management centering on performance and capabilities

The monthly wage of a new college graduate employees in 2013 is 221% of the legal minimum wage, and all employees go through regular performance evaluations. The executive directors are evaluated by performance, and other employees are also evaluated by internal management performance evaluations which reflect collectively business/regional-division-unit evaluation, department-unit evaluation, and team evaluation, which determine their wage and promotion. Evaluation criteria consist of department core indicators and company-wide common indicators according to four perspectives (customers, finance, process, and learning growth) of the Balanced Score Card. Differential rates of pay from these performances lead to motivation for the improving of employees' capabilities and contribute to establishing of organizational culture which esteems ability and performance. Also, we are conducting the policy of intersecting employment between administrative and technical jobs in order to provide opportunities for capability development through various business experiences, and are maximizing concentration at work through rewards for task achievements, exemplary employees, outstanding knowledge, and suggestions.

Respect for human rights and diversity

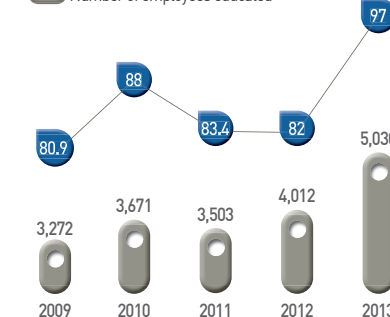
K-water is conducting policies such as the expansion of employment, gender equality, and motherhood protection program in order to protect the rights of minorities such as disabled people, women, and non-regular workers in the workplace. The wages of men and women are equal if the position and length of service are equal, and as well, we have eliminated discriminatory factors on women in the workplace. Since the introduction of gender equality policies in 2004, we have actively managed women in the workforce by focusing on addressing of grievances for female employees, strengthening motherhood protection, and etc. For human rights education, we are currently conducting company-wide sexual harassment prevention training and plan to implement an education for human rights protection in the future. Based on Article 17 of Framework Act on Women's Development and Article 27.2 of its enforcement regulation, we are reporting results of sexual harassment prevention education at least once a year to the Ministry of Gender Equality and Family. As well, a sexual harassment prevention monitoring officer has been designated for each department in order to create a healthy and bright workplace with gender equality by preventing sexual harassment.

Open employment

K-water carries out the most transparent open recruitment program out of all state-owned enterprises in the nation. Anyone can apply for a position (except specialized job positions) regardless of academic ability, major, grade, gender, experience, and certificates if one has the minimum standardized foreign language test score at the time of employment. Also, we have increased the portion of career aptitude test to recruit employees based on work skills, not just based on their knowledge in college major. In order to fulfill our social responsibilities as a public enterprise, we are actively conducting socially balanced recruitment by expanding employment of talented individuals from regions outside Seoul metropolitan region with the goal for the hiring of people from provincial regions of the country, which increases the employment rate of individuals from outside Seoul metropolitan region up to 40%, and also supporting the social advancement of women through the recruitment of female workforces with the goal for gender-equal recruitment, which increases the employment rate of female workers

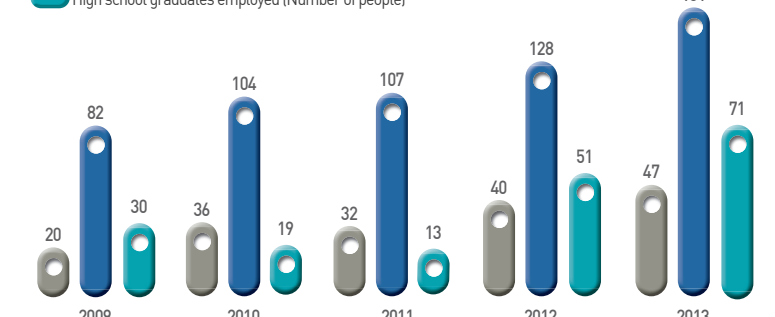
Sexual harassment prevention education status per year

Rate of employees educated (%)
Number of employees educated



Employment status

Female (Number of people)
Employed people from outside Seoul metropolitan region (Number of people)
High school graduates employed (Number of people)



Fun Workplace with the Balance of Work and Life

Balance between work and life

We are consistently expanding the 'Work Smart' environment so that employees will secure more leisure time through creative and efficient work. We are supporting the employees to work regardless of time and places by installing and running 13 Smart Work Centers in regional division headquarters and overseas places of business and by providing a tool for remote work such as VDI (Virtual Desktop Infrastructure) and VPN (Virtual Private Network) that are based on the cloud computing platform. As for policies, we are making efforts to facilitate flexible employment by introduction of short-time labor, expansion of telecommuting, and etc., and are running various family-friendly policies such as parent-coaching education, expansion of maternity leave, infant inspection leave, etc. Also, we are creating an organizational culture that can balance work and family through improvement of working practices including meeting, reporting, and dining together, which, thereby, decreases overtime work.

Operation of a welfare program that reflects the needs of employees

K-water's places of business are spread throughout the nation and basically operate in the framework of job rotation. In order to solve housing problems that employees experience because of this, K-water provides boarding houses and leased company housing for families, and provides loans to partially cover the cost of purchasing a house. Also, we are running family-friendly welfare policies such as supply of recreational facilities, childbirth grant, operation of workplace daycare center, etc., and has been certified as a family-friendly corporation by the Ministry of Gender Equality and Family. In the meantime, we support retiring employees by preparing them for their second lives through professional education about personal finances, real estate, and, etc., by conducting 'Evergreen' program for effective retirement preparation. Retirement pensions are accumulated by pension allowances according to the Labor Standards Act in order to ensure the payment of pension that considers the tenure of office and the average wage of three months before retirement. We introduced a pension policy for employees in managerial positions in 2012 and is negotiating with the labor union to introduce it with other employees. Although we provide pension with equal standard for voluntary retirement or displaced retirement, we do not provide extra employment introduction or reemployment education. Employee welfare benefits are equal for regular and non-regular employment.

Efforts to improve the health of employees

K-water pursues its vision of a great workplace (GWP) by healthy employees. The 2013 medical checkup classified 63.4% of employees as healthy and 36.6% as having some issues, which registered an increase of 0.3 percentage points, but the increasing trend has abated since 2009. Also, the prevalence rate has slightly decreased from 7.1% in 2012 to 7.0% in 2013. This can be seen as a result of consistent health management efforts such as smoking cessation, obesity clinic, sudden cardiac death prevention program, and chronic illness management. In 2014, we plan to expand preventive health management to emotional health diagnosis and thin obesity employee exercise care, and to improve the quality of the checkups with individually customized health checkups plans, etc.

Policy for the improving of organizational culture

Policy	Contents
Support for flexible work	<ul style="list-style-type: none">• Expansion of Smart Work Centers, and remote working on a sandwich day• Running of short-time employment and diverse types of flexible employment
Improvement of work practices	<ul style="list-style-type: none">• Running of 'Family Day (no overtime work day)' initiative (every Wednesday)• Running of overtime work reduction initiatives: Shut-down after 21:00 on week days (lights off), Weekend PC-off (electricity off)
Childbirth encouragement policy	<ul style="list-style-type: none">• Maternity leave notice system (which enables the securement of alternative workforce and budget)• Running of on-site daycare center for employees, and expanding of its maximum number by conversion of work facilities to caring facilities
Balance between work and family life	<ul style="list-style-type: none">• Education to improve family life such as couple coaching and father class• Expansion of supports for the access to cultural performances and recreational facilities

Customized employees welfare programs

Classification	Program	Contents
Health	Medical checkup	<ul style="list-style-type: none">• Run customized medical checkup plans• Provide discounts through arrangements with dentists and ophthalmologists near the workplace
	Group insurance	<ul style="list-style-type: none">• Cover fatal accident or death compensation, hospitalization, medical expense, cancer diagnosis expense, etc.
Leisure	Recreational facilities	<ul style="list-style-type: none">• Operate two recreational centers• Use recreational facilities at a discounted price by corporate membership
	Leisure club	<ul style="list-style-type: none">• Initiate voluntary club activities and leisure activities of employees
Stable residence and living	Company housing	<ul style="list-style-type: none">• Run boarding houses for single employees• Provide housing support for employees with families
	Housing /living-expense support	<ul style="list-style-type: none">• Lend housing loan expense to support residence of employees• Lend 'Living Stabilization Expense' in emergencies that need money
	Education for children	<ul style="list-style-type: none">• Operate day care centers in the workplace• Tuition support for high school children
	Expenditure for congratulations and condolences	<ul style="list-style-type: none">• Support expense for congratulations and condolences (fund), childbirth grant, support expense for disabled children, etc.• Support expense for flood and fire damage, etc.

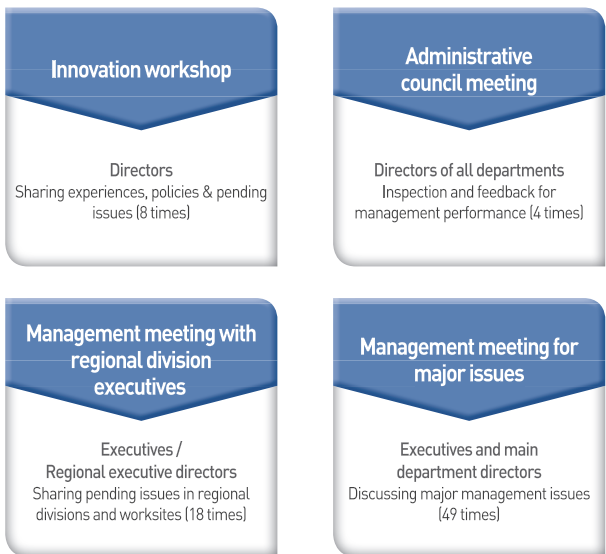
Employees communication

The CEO and executives are regularly communicating online by using CEO SNS, video news (Force View), video meeting, and real-time broadcasting. After the appointment of new CEO in 2013, especially, open forums have been hosted by the CEO to communicate with employees and share management principles, and since 2014, 'Talk-Talk Square' (free message board) on the CEO's bulletin board of K-water Intra-net has been open and facilitated bilateral communication between the management and the employees. Through the two-way communication window between the top management and all of the employees in the organization, we are settling a sincere communication culture by searching for developmental solutions and proposing opinions freely about important decisions. Also, we are always running grievances addressing window on HR-BANK (K-water human resources management integration system) to handle the grievances of employees. In 2013, we have addressed 53 grievances through online and face-to-face counseling. Unsettled grievances are continuously being considered and reviewed to be addressed later.

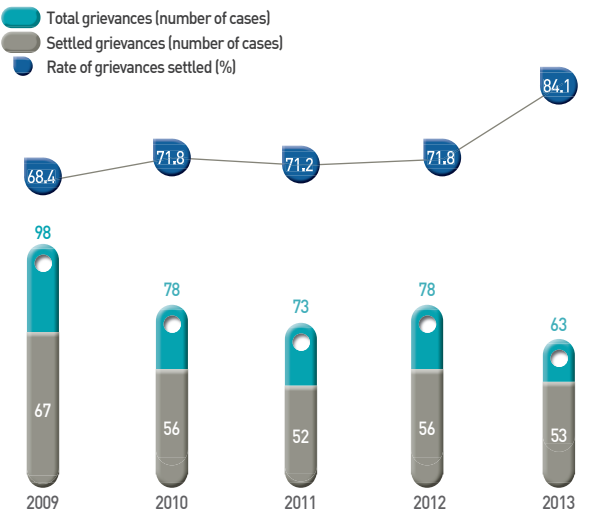
Bottom-up communication channel



Top-down communication channel



Grievance settlement performance



* 13 out of 22 unsettled grievances in 2012 were settled in 2013

Workplace that enables Learning and Development

Global talent fostering roadmap

K-water is initiating strategic human resources management that focuses on talents of employees and performance of the corporate in order to achieve its vision and strategies, and is thus securing global competitiveness of its human resources.

STEP 1

Operation of HR (Human Resources) focusing on performance (~2011)

- Organization and distribution of workforce for successful completion of national projects
- Improvement of flexibility through occupation integration
- Establishment of K-water capability model
- Establishment of CRP (K-water HR fostering system)
- Strengthening of support for national project through flexible HR management
- HR management based on ability and performance

STEP 2

Advancement of HR management (~2012)

- HR fostering according to business portfolio
- HR allocation that reflects the characteristics of business
- Establishment of a fostering system targeting quality HR
- Establishment of a capability development model
- Steady supply of new recruits including high school graduates, etc.
- Fair HR management based on performance

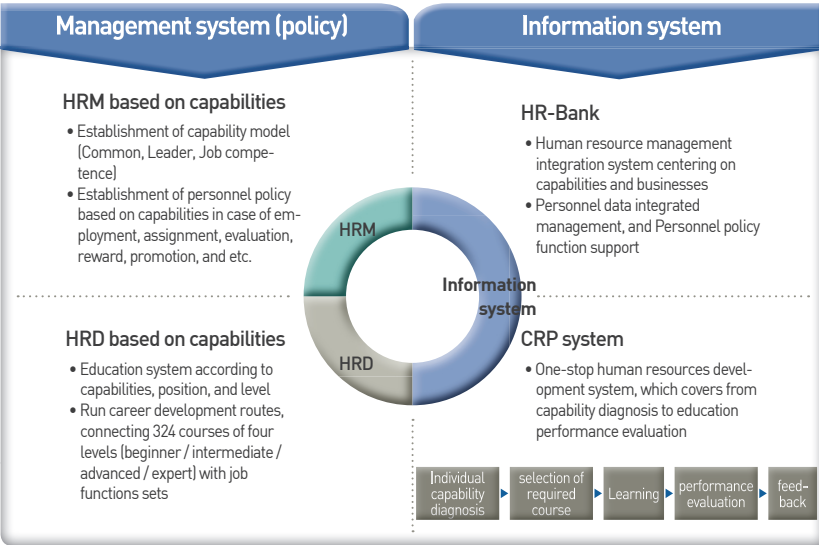
STEP 3

Achievement of global competitiveness (2013~)

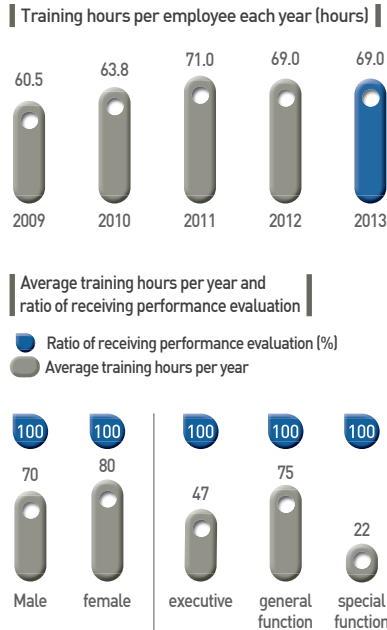
- HR composition optimized for new strategy execution
- HR management based on HR allocation principal that reflects the characteristics of business
- Bolstering of businesses for new growth and global capability
- Realization of respected company and GWP (Great Work Place)
- Management oriented from global standard and HR management according to the characteristics of business
- Establishment of performance-oriented HR management

Human resources management based on capabilities

K-water is managing human resources for the employees to grow required capabilities by establishing a capability development model in regard with three types of capabilities: common ability, leader ability, and job competence. The capability development model aims at the improvement of the current capability level to achieve the capabilities that are necessary for performance creation in actual workplaces. It manages HR data in an integrated manner using HR-Bank, and has systemized all functions of HRM (Human Resources Management) and HRD (Human Resources Development) in order to fundamentally prevent errors.

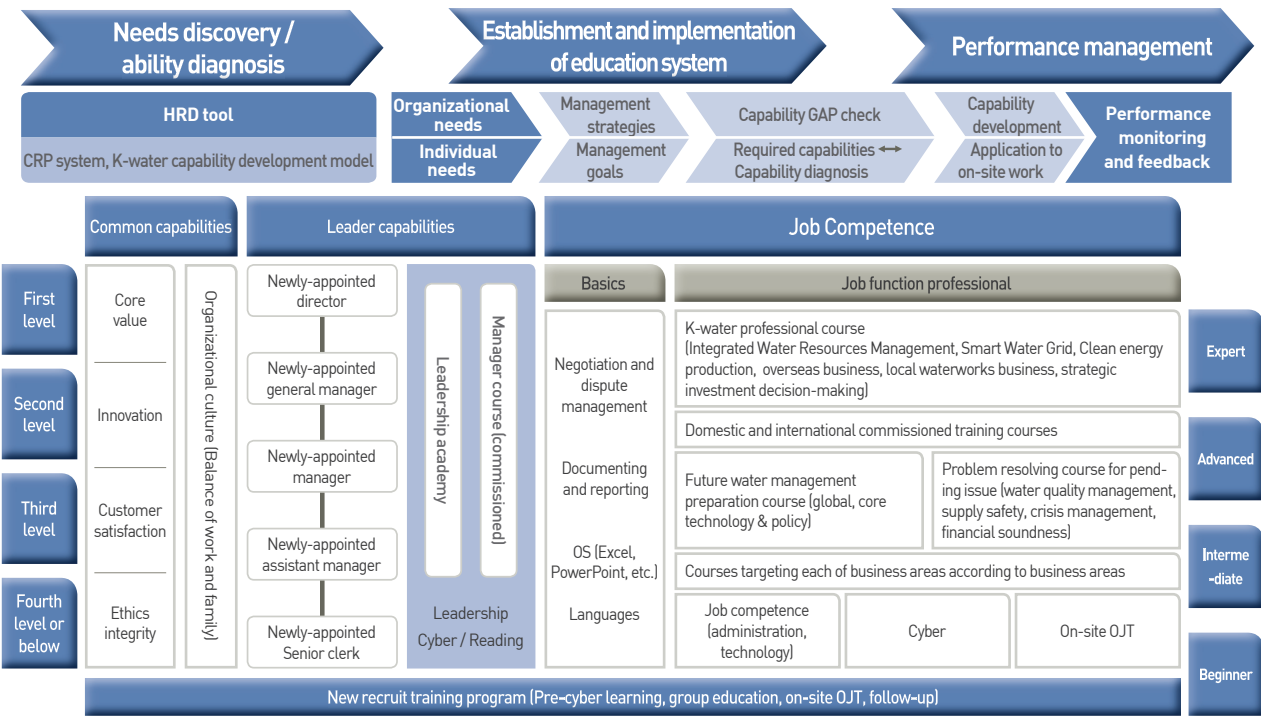


Training time per person **69** hours Number of Trainees: **17,435** people



Career development plan for employees

K-water Academy has constructed and operated a CRP system which supports its employees to develop their career in the company since 2003, and has sufficiently reflected the needs of the company for balanced work experience of its employees. As a measure of this, K-water abolished occupational limits in selection of training courses offered by K-water Academy in order to extend learning choice of its employees in 2010 and has extended employees' opportunity to participate in training courses by adopting a modular process. By introducing a learning credit system in 2011 where OJT (On-the-Job Training) and learning club research time are counted as learning time, we are making efforts to settle learning atmosphere of the corporation. In 2014, we are especially focusing on fostering of human resources that will lead future water management businesses. This fostering program aims at nurturing talented human resources that facilitate the integrated approaches to businesses, preparing for business convergence of the future.



Nurturing K-water core professional human resources

K-water launched its water specialist training course in 2008 in order to achieve global competitiveness by nurturing quality human resources specialized for the needs of future water businesses. By the end of 2013, we have fostered 448 professionals from 43 training courses. Moreover, in 2014, K-water selected 75 employees for intensive training of over 200 hours per year of which level is equivalent to a master's degree course, and is training the selected employees in order to advance in core areas of the future water management businesses: Integrated Water Resources Management, Smart Water Grid, clean energy production, overseas projects, local waterworks, and strategic investment.

Strategic fostering of leaders

In 2011, K-water was the first public corporation to introduce the Developing Center (DC) technique to its HRD, and has since systematically fostered leaders through its unique leader-nurturing program, 'Leadership Academy,' which enables the development of insufficient capabilities based on the diagnosis by the subordinates. Also, we have been running 'Leadership Workshop' since 2012 for second-level or higher officers. This course consists of various learning activities (role-playing, topic debate, etc.) and conversation with the management board, and is conducted quarterly with the purpose of recognizing the role of leaders in core businesses of K-water as well as enhancing the capacity of leaders to communicate with and build a consensus with the subordinates.



Economic, Environmental and Social Performances for 2013

붓물을 이루다 Form a river

As small streams come together to form a river, we are pulling together our best efforts towards shared value creation in economics, environment, and society to make K-water the most advanced and reliable water service enterprise that wins love and trust of people in the society.



Economic, Environmental and Social Performances for 2013

Economic Performance	66
Environmental Performance	69
Social Performance	77

Economic Performance

Creative innovation

Overview

K-water's innovation activities consist of CoP and collaboration activities. CoP activities are intra-departmental, innovative activities, and the collaboration activities occur inter-departmentally or jointly with outside parties. In order to encourage innovation activities, the management team is running an executive innovation office to support innovation task performers while providing them with various services such as budgeting, training, and manpower. Also, the team holds an annual competition for creative innovation performed by the employees in order to establish innovation as a part of its organizational culture and spread its performance. Bonus points on employees performance assessment, rewards, etc. are given to outstanding performers of innovative tasks who are selected through the competition.

What is CoP (creativity practice club)?

CoP is a kind of a get-together session of employees who create results by sharing knowledge about common issues over a period of time through discussions and research, which ultimately improve work processes and create positive results.

K-water's unique creative, innovative activity system, "K-sigma"

K-water has established its own techniques called JOA+ and 6 Sigma, as well as a research club. JoA+ is used to solve qualitative and informal problems and 6 Sigma to solve quantitative problems. The research club is a voluntary research activity for gaining and creating new knowledge as well as improving work-related competence. While training facilitateors per CoP in order to increase the effectiveness of techniques, we have established the corporation's own CoP brand called K-sigma to incorporate innovation into employees.

In particular, by including the 'Knowledge Mileage' which measures the performances of CoP, knowledge and suggestion activities to KPI, K-water directly linked the creative, innovative activities to its management strategies, and endows yearly goals and systematically manage them. Meanwhile, the performances achieved through CoP activities under the K-sigma brand are shared by all employees through knowledge management (KM) activities and organizational culture improvement activities. Through these activities, a virtuous circle of knowledge sharing and innovation is established.

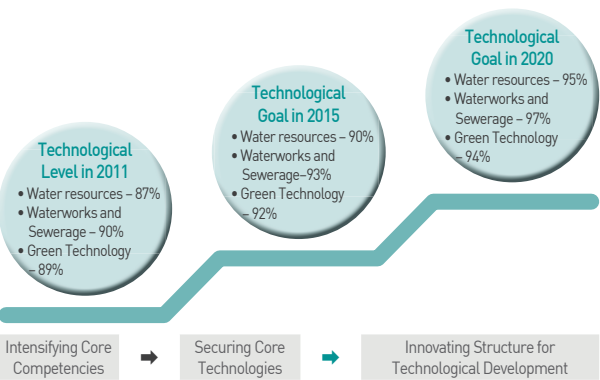
Performances

The average number of annual proposals and knowledge submission is about 3,500, resulting in a steady financial achievement of more than KRW 20 billion annually through meaningful innovation activities. In order to expand the sharing of its creative innovation achievements with more people, K-water annually holds the company-wide presentation of creative innovation achievements; it also publishes a panel for outstanding creative innovation cases to spread such achievements. K-water has been recognized externally as a world-class innovation company by receiving the presidential award of Korea's Knowledge Award, Asian MAKE, and Global MAKE (2013) - which are reputed to be the best knowledge management awards in the world. For Asian MAKE, K-water has been awarded for 6 consecutive years (2008-2013).



R&D, the key to sustainable growth Promotion strategy

* Rate (%) which sets the level of developed countries at 100.

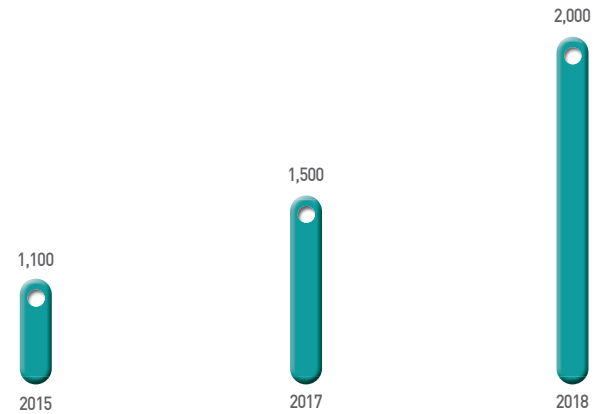


After conducting the technology evaluation and analyzing the results in 2011, K-water set technological goals for 2020 that consider its management conditions. It classified water resources, waterworks and sewerage, and green technology into the technology take-off period (2012~2015) and the technology advancement period (2016~2020) by field. K-water then set a plan to secure developed country-level technological competitiveness by investing

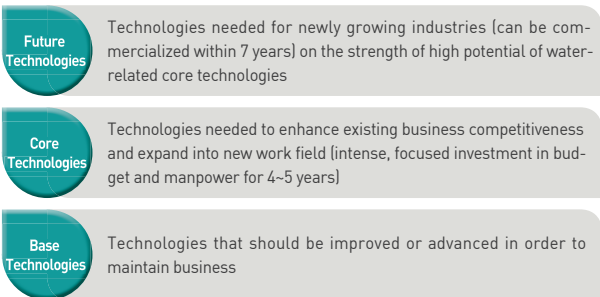
a total of KRW 200 billion by 2020. Also, K-water defined the technology types that could represent the features of technological strategies, reviewed implementation and resource allocation plans per technology type, and reflected them in 'Core Tech 2020: New K-water's Technological Strategies'.

Investment Cost Incurred Each Year (Accumulated)

Unit: KRW hundred million



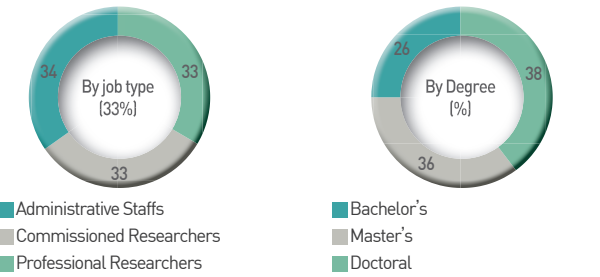
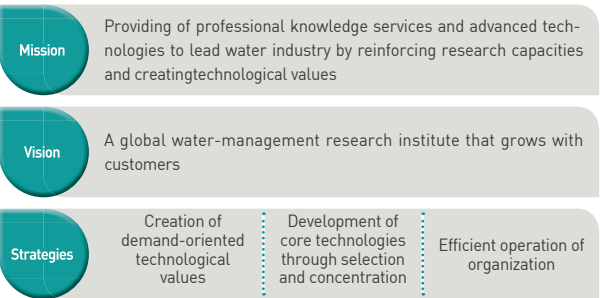
Technology Type



R&D development capabilities [R&D manpower as of May 2014]

K-water has 228 professional researchers with a master's or a doctoral degree (including 77 commissioned researchers) that develop its core technologies. They conduct commercialization researches on low-carbon-emission environmental technology and renewable energy for climate changes with emphasis on the fields of water resources environment, infrastructure, waterworks and sewerage, green technology, policy & economy, and tap water quality analysis.

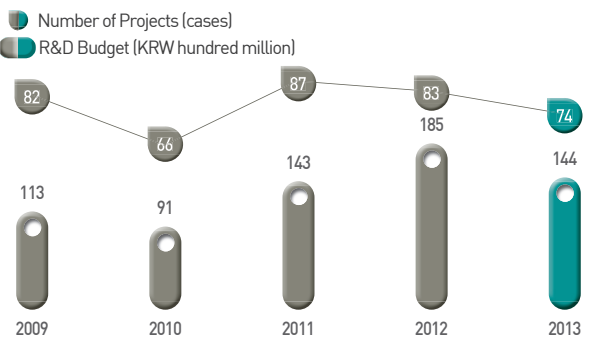
K-water Research Institute Mission and Vision



R&D achievements

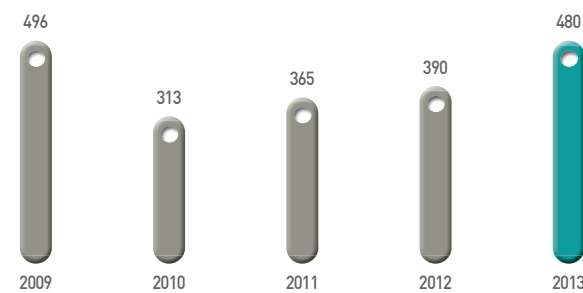
K-water performs about 80 research projects by investing more than 2.2% of annual sales to R&D budget. On average of more than 400 research papers have been published annually through the projects, and the number of applications for intellectual property rights including patents continues to increase every year.

Research Projects & R&D Budget



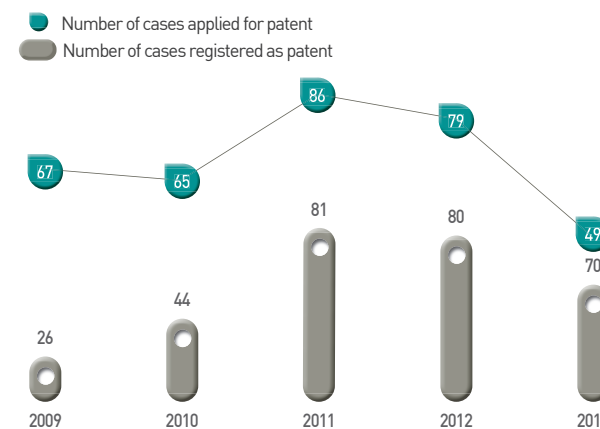
Environmental Performance

Current status of Research Paper Publication (Unit : Number of Cases)



Internationally-certified Water-Quality Analysis Research Center

Current Status of Patent Applications & Registrations



Nationally-certified Flow-meter Calibration Center



Test plant within the Waterworks and Sewerage Research & Education Center



Asia's biggest centrifuge model tester

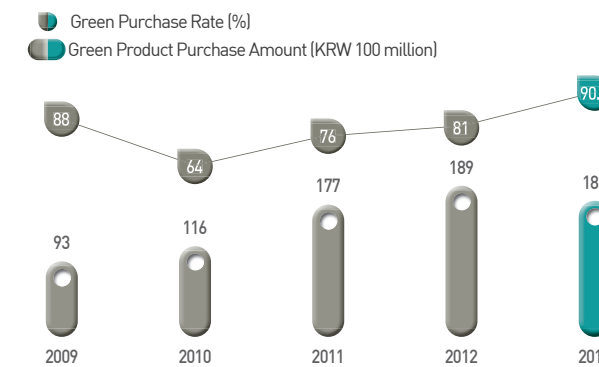
R&D Infrastructure

K-water operates Korea's first internationally-certified national hydrograph calibration center in the water gauge field and a flow-meter calibration system with Korea's largest diameter (800mm), as well as a world-class Waterworks & Sewerage Research & Education Center. In addition, it possesses a professional quality-test certification agency and a safety inspection agency that undertakes on-site investigations and safety examinations for repair of facilities, ports, bridges, and tunnels. With a goal to supply clean and safe tap water, the Water-Quality Analysis Research Center, a global top analysis institution, has analyzed and monitored 250 items by annually expanding the tap water quality standards since 2002.

Reduced environmental impact during the entire production process

Resources saving and circulation

To promote resources saving and circulation in the whole production process production to consumption, K-water encourages 'Green Purchasing', a purchase of green products (recycled or environmental-friendly manufactured products). K-water built an automation system to monitor the sales of green products in real-time such as state-certificated Eco-Labeled products and Good Good-Recycling-Labeled products, and is managing and promoting the green purchase by inter-operating with K-water's Environment Performance Evaluation (EPE) System. K-water's green purchases totaled KRW 18 billion in 2013, 90.6% of the entire purchase cost. K-water will make efforts to increase continuously the green purchase rate.



Efforts to reduce water intake impacts

The total amount of tap-water K-water supplied in 2013 was 3,709 million m³. While residents in the downstream of the Nakdong River take most of the water for living from the surface water in the Nakdong River, the downstream region of the Nakdong River is vulnerable to water pollution because of industrial and residential developments and slow flowrate of the regions. K-water is thus working on the Nakdong River Filter Water Project (2011-2017) to supply filtered, clean water to Busan and Yangsan in the downstream of Nakdong River, which are both traditionally vulnerable to water pollution (phenol, benzene, etc.). However, in Changnyeong-gun, where a water intake system by this project will be built, there is a concern that its underground water pool can be affected by this project. Thus, our company has been striving to promote shared business interests with the local area by conducting an 'Underground Water Impact Study' with a research team of experts recommended by both residents and academia.

Water reuse and recycling

K-water has been re-collecting the water used for filter backwash in the treatment process of tap water and industrial purified water, and recycling them. The amount of recycling water in 2013 was 34,616 million m³, recycling 84% of the total water use of 40,995 million m³. Water recycling contributes to environmental protection by reducing water intake, and in addition, the monitoring of changes in recycled water amount enables us to sense tap water backwashing rate.

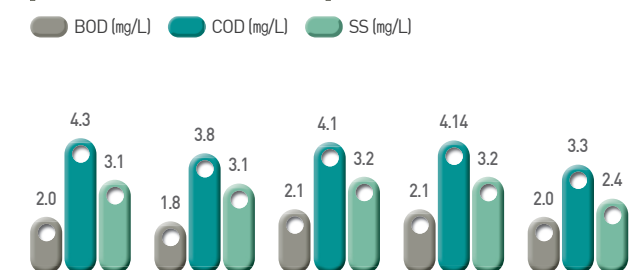


Discharged water quality

Waterworks

Since the amount and quality of discharged water from water purification plants can bring important effects on the water quality of rivers and the ecological environment, K-water applies management standards that are stricter than the legal requirements. In particular, to minimize the effects on the ecological environment within discharged areas and preserve the water quality in rivers, Kwater is continuously monitoring the quality of discharged water by a water quality remote inspection system. By selecting the quality of discharged water as a green business goal and a core index of Environmental Performance Evaluation, K-water has been doing its best to improve the quality of discharged water since 2004. In 2013, the average quality of discharged water from water purification plants was BOD 2.0mg/L, COD 3.3mg/L, SS 2.4mg/L, which was only 10%, 8%, and 12% respectively of the discharge tax levy standard: BOD 20mg/L, COD 40mg/L, and SS 20mg/L.

Waterworks discharged water quality

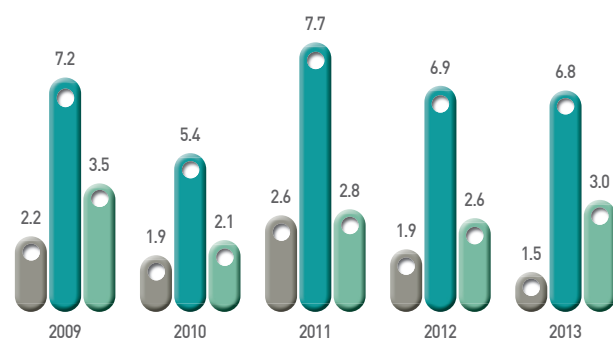


Sewage treatment facilities

In 2013, among 22 sewage treatment plants with capacities over 500m³, the average water quality of discharged water from 5 plants in I~II areas where stricter discharged water requirements by the government are held was BOD 1.3 mg/L, COD 5.8mg/L, and SS 2.7mg/L, which were 13%, 29%, and 27% respectively of the discharge water quality standards for public sewage treatment facilities: BOD 5mg/L, COD 20mg/L, and SS 10mg/L. For 17 plants in III~IV areas with less stringent discharged water quality requirements, they were BOD 1.7mg/L, COD 7.9mg/L, and SS 3.2mg/L, which were 17%, 20%, and 32% respectively of the discharge water quality standards: BOD 10mg/L, COD 40mg/L, and SS 10mg/L. Dr. Waste Water (Dr. WW), an internally developed core sewage treatment program, has stood at the forefront of improving the discharged water quality.

Sewage treatment facilities

Legend: BOD (mg/L) COD (mg/L) SS (mg/L)

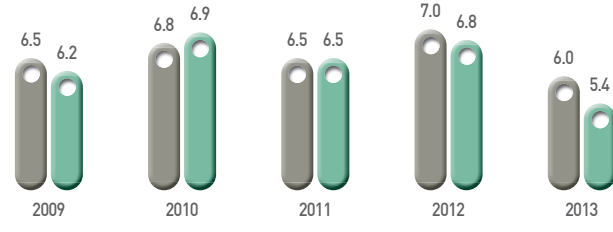


Wastewater treatment facilities

The average water quality of discharged water from the wastewater treatment facilities of K-water is BOD 6.0mg/L and SS 5.4mg/L, which are within 30% and 27% respectively of the legal standards of BOD 20mg/L and SS 20mg/L.

Wastewater treatment facilities

Legend: BOD (mg/L) SS (mg/L)

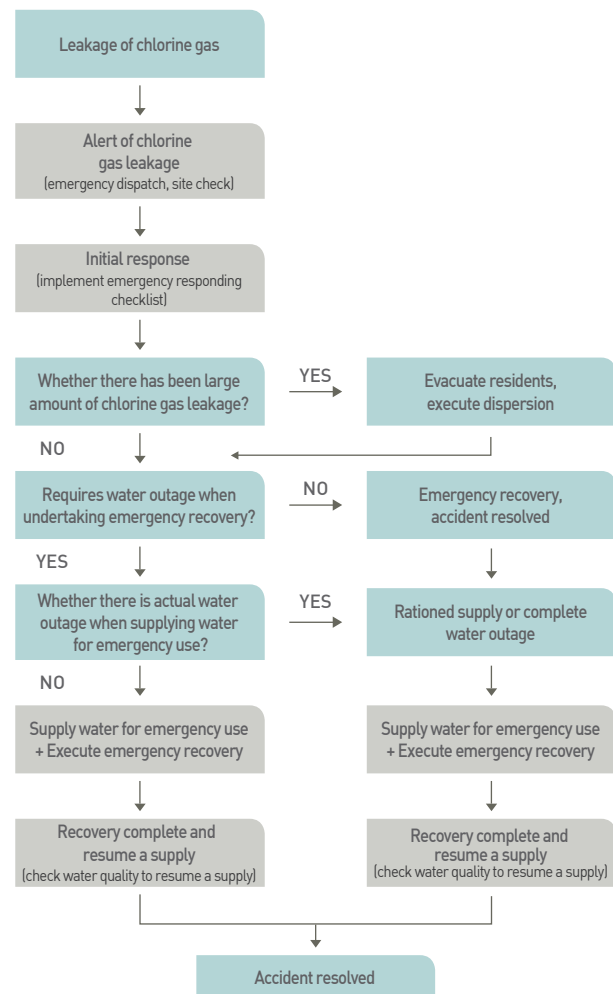


Hazardous material discharge management

Hazardous materials such as waste oil and chemical substances discharged from project sites can bring serious adverse influences to the surrounding environment, bio-diversity, and the health of local citizens. All hazardous substances from K-water's project sites are strictly treated according to related regulations, and there have been no accidents due to the leakage of hazardous substances so far. However, K-water is enhancing its abilities to take preemptive measures against potential accidents by establishing a manual and holding regular training activities to prepare for hazardous substance leakage accidents.

Response system to accidental leakage of chlorine gas

*Chlorine gas: it is often used for disinfection in waterworks, but hazardous in case of leakage

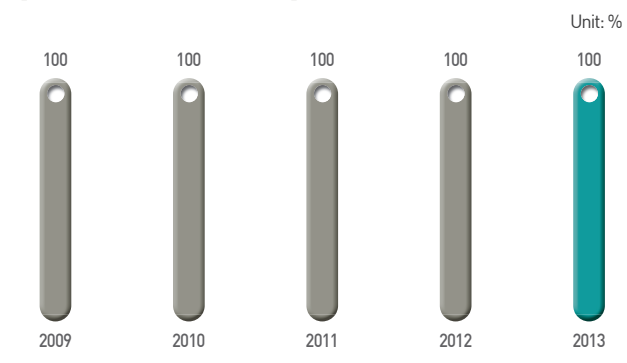


Recycling waste products

Waterworks sludge

In 2013, the amount of sludge produced from purifying 1m³ of water was approximately 54.2g. The total amount of sludge produced at waterworks in one year was 110,027 tons, 100% of this amount being recycled and reused as cement materials (83.8%), cover materials (12.1%), planting soil (0.9%), and potting soil (0.3%). Based on the London Dumping Convention (1996), banning the dumping of waste materials into the ocean, Korea amended the enforcement regulations in the Maritime Pollution Prevention Law (Ministry of Maritime Affairs & Fisheries Regulations No. 330 on February 21, 2006). As a result, the disposing of sludge from waterworks into the oceans has been banned as of 2007. Since 2006, K-water has been recycling all sludge generated from the waterworks, and no sludge has been exported.

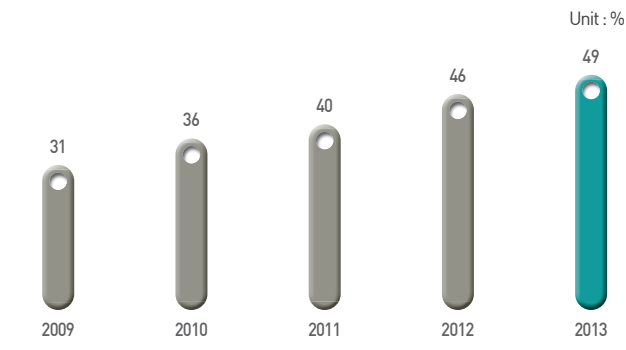
Waterworks sludge recycling rate



Sewage sludge

Sludge produced at sewage treatment plants operated by K-water was 39,565 tons in 2013. From the total amount, the amount of sludge recycled in 2013 was 19,191 tons, which was 131% higher than that of the previous year, and the recycling rate was 49%. Of the 19,191 tons of sludge, most was recycled for planting soil, fertilizer, earthworm breeding, etc. K-water will gradually increase the sludge recycling rate and actively recreate it into resources in strict compliance with the prohibition of ocean disposal.

Sewage sludge recycling rate



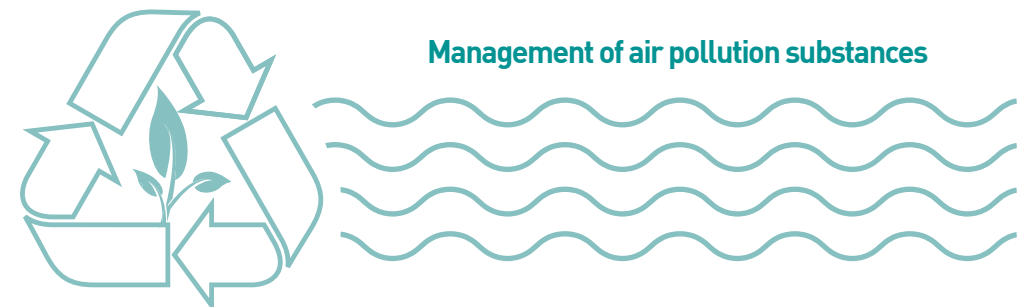
Construction waste materials

The total construction waste generated in 2013 was 496,260 tons. 96.8% of the total, 480,366 tons was reused as road pavement materials, materials for mounding and soil covering, recycled rocks and gravels, and wood chips. From now on, K-water will try its best to minimize the generation of construction waste and create a resource-recycling green society. It will do so by "initiating an eco-friendly design that can coexist with nature" in the construction business planning stage, and "realizing a productive construction site through the recycling of construction waste" in the construction stage.

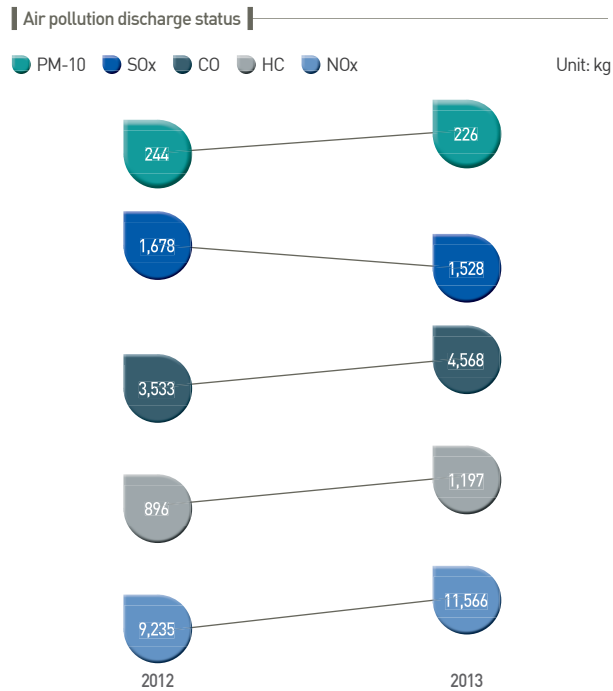
Current status of construction waste recycling

Classification	Total	Waste Concrete	Waste Ascon	Waste Tree and Plants	Waste Synthetic Resins	Combined Waste Materials and Others
Total Quantity Generated (tons)	496,260	255,578	121,827	69,669	1,314	47,873
Total Quantity Recycled (tons)	480,366	252,971	120,805	69,669	185	36,736
Recycling Rate (%)	96.8	98.9	99.2	100	14.1	76.7

Management of air pollution substances



All of K-water's project sites do not have a manufacturing process that directly emits air pollutants. However, air pollutants can be emitted while using fuel such as diesel to operate the project sites and facilities. Since the introduction of the green management system in 2011, each department in K-water has been working on various activities to minimize oil consumption, as the reduction performance of each department is reflected in its management performance evaluation.

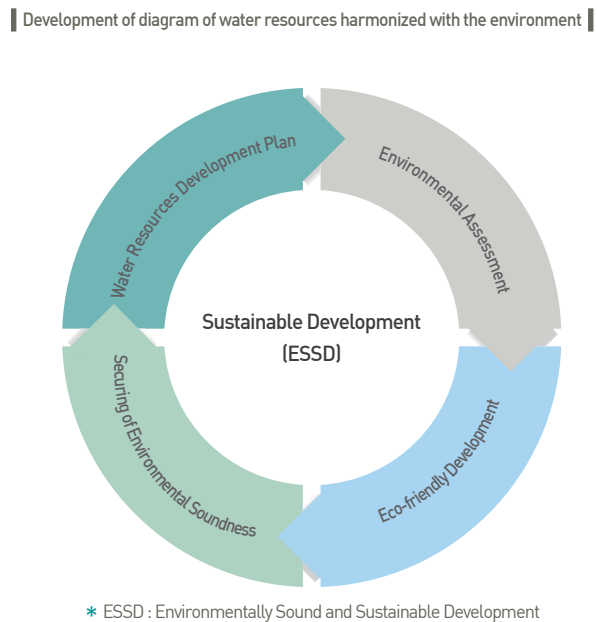


Compliance with environmental laws

K-water supplies products and services in compliance with environmental laws. It was once charged a by the Ministry of Environment for not appropriately reporting the changes in discharged substances from two purification plants (Wabu, Deokso). However, K-water completed a licensing renewal for all purification plants it manages through the inspections of entire discharged water qualities. K-water has never been fined for violating other environmental laws or regulations.

Development of eco-friendly water resources Construction of eco-friendly dam

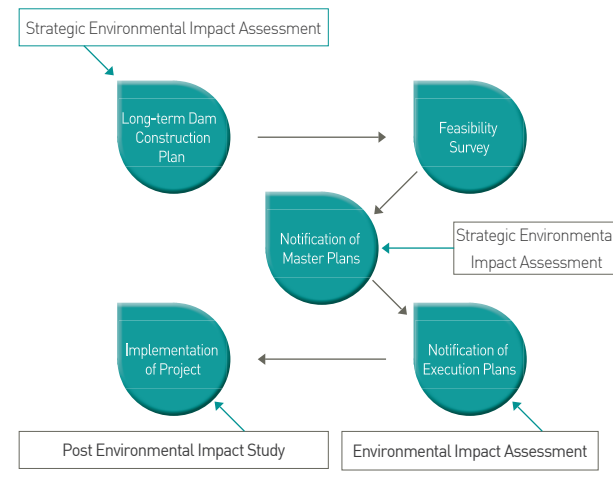
In order to construct an environment-friendly dam, K-water has implemented an eco-friendly techniques for the entire project cycle from initial planning, designing, constructing, to management Stages. By doing so, K-water is creating a balance of development and conservation by not only takings into account the preservation and restoration of the surrounding environment but also the area's unique social, cultural, and historical features.



Environment Assessments

In order to predict and minimize environmental impacts that can occur during the implementation of new water resources projects in advance, K-water conducts the Environment Assessment (EA) for each stage, such as the administrative planning, development planning, implementation planning, etc. In 2013, the company concluded the strategic environmental impact assessment and negotiation regarding: administrative plans for an local-proposed dam, housing relocation and construction projects at the Youngju Dam, water intake plans at the Seongduk Dam's Hanbam-weir, urban management plans for the housing relocation and changes in the development plans of stony mountain for acquiring locks for construction at Hantan River Dam, implementation plans for river maintenance business of Unmun Dam, etc.

Procedures of EA for water resources development projects



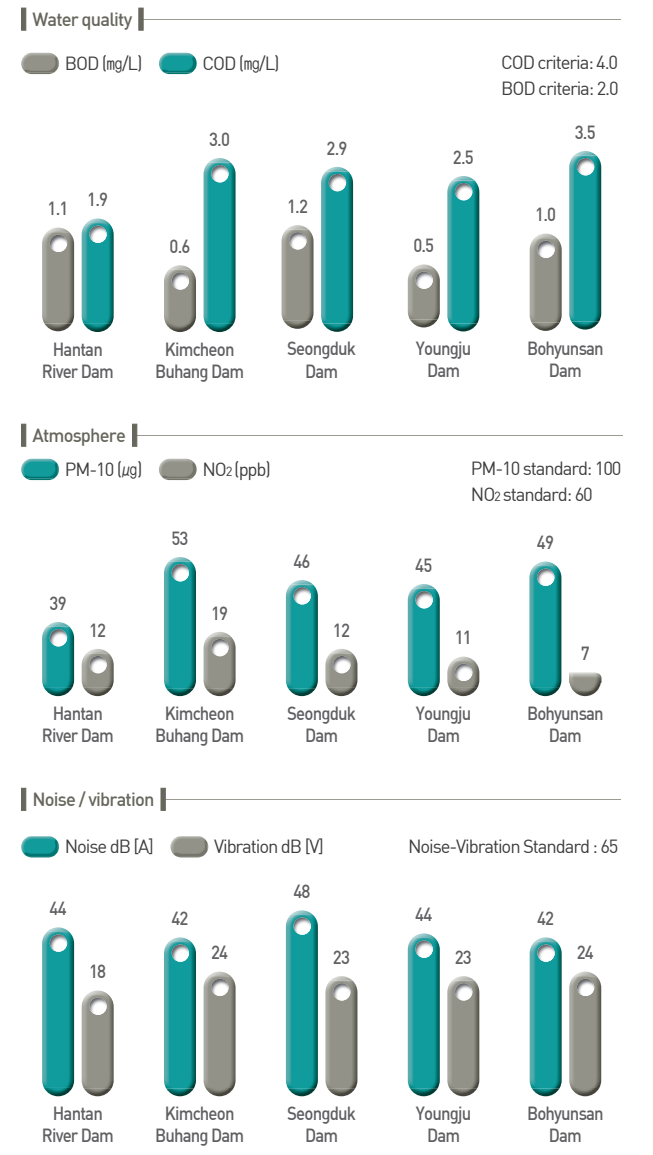
Environmental mitigation measures

In order to minimize various environmental impacts such as air pollution, water pollution, noise/vibrations, etc. that occur at construction sites, K-water is executing an environmental impact mitigation measures for construction business. The company requires installation of an auto-bike & vehicle washing facility, anti-dust fence to prevent scattered dust, sand basin to prevent silt runoff from construction sites to streams from incurring turbid water in streams, and sound-proof panels to minimize noise and vibration from construction equipment. Moreover, it is building ecology preservation facilities such as animal pathways and alternative habitats in order to relieve disconnection between animals and their natural habitats.



Post environmental impact study

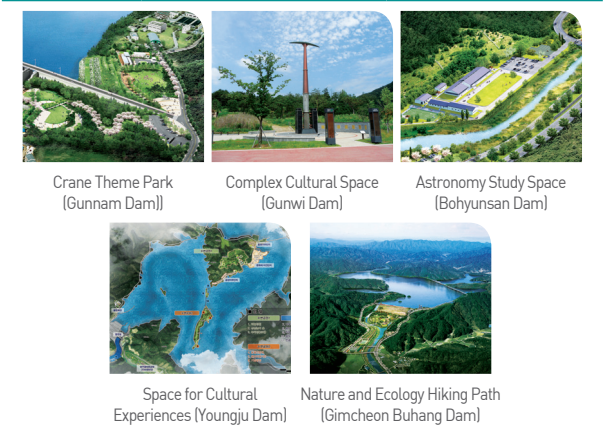
Study of post-environmental impacts by construction is an environmental monitoring system which continuously monitors and evaluates environmental effects, and arranges mitigation measures to reduce such impacts in case of unexpected occurrence in order to prevent environmental damage. In 2013, K-water conducted a post environmental impact study for water resource development projects, and the result was that all project execution procedures satisfied the environmental standards.



Constructing waterfront ecological and cultural space

Dam facilities and its surrounding spaces are recreated as local tourist sites and economy-promoting spaces by reflecting each area's unique ecology, culture and history. These efforts are contributing to expansion of opportunities for local residents to enjoy leisure and improvement of the quality of life for all citizens.

Category	Design Concept	Construction Facility
Gunnam Dam	Crane's love and peace	Crane Theme Park
Gunwi Dam	'Samgukyuusa [삼국유사]' storytelling	Complex Cultural Space
Bohyunsan Dam	Shooting star along Bohyun Mountain	Family Camping Site and Wildflower Garden Park
Youngju Dam	Naeseongchun sand and 'Seonbi [선비]' culture	Space for Cultural Experiences in collaboration with 'Sosu Seowon'
Kimcheon Buhang Dam	Reflect local legend ['Halmibawee']	Nature and Ecology Hiking Path



Selected as the outstanding work site in the 2nd construction environment management evaluation by the ministry of environment in 2013

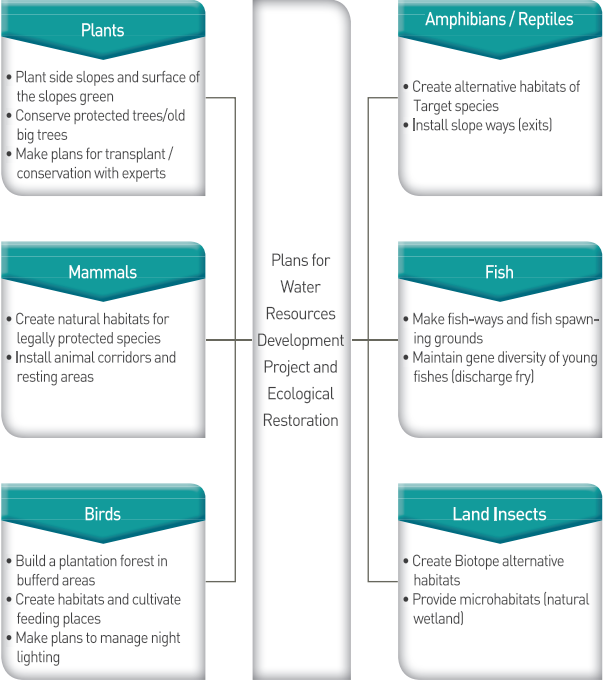
K-water's Gunwi multi-purpose dam received the second place award and was recognized as a role model for new concept-based eco-friendly construction site in an eco-friendly construction business competition for 1,500 development project sites throughout the country.

Being acknowledged of introduction of eco-bridge, first at home and abroad, realization of successful ecological restoration, and advancement of dam water quality management



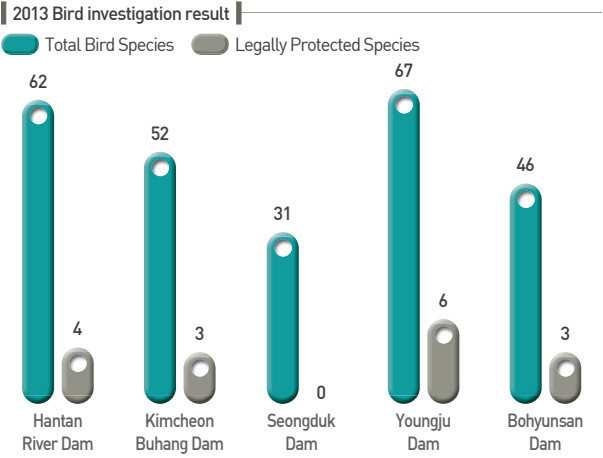
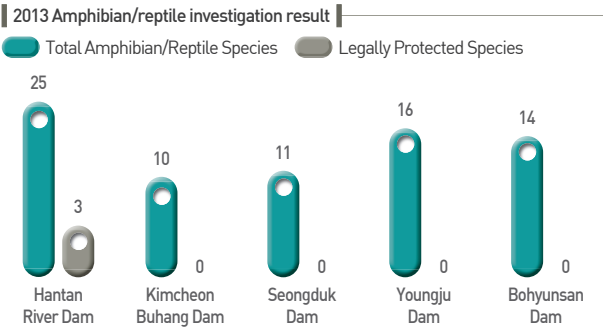
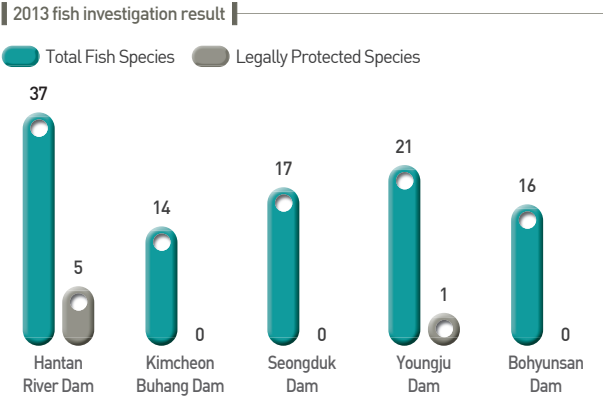
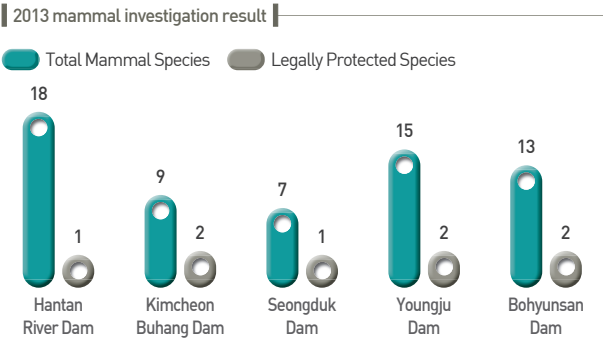
Protection for bio-diversity Ecology restoration projects

K-water is undertaking various ecology-restoration projects in order to minimize negative effects on natural environment due to the execution of water resources development projects and to preserve the habitats of animals & plants.



Ecological environment study

K-water regularly monitors the current status of animal and plant habitats and ecological environment in order to inspect changes in the ecological environment before and after the implementation of water resources development projects. According to the research on ecological conditions of dam-areas, various living creatures such as 7 to 18 species of mammals, 14 to 37 species of fish, 10 to 26 species of amphibians and reptiles, and 31 to 67 species of birds were found to be inhabiting the areas.



Also, K-water conducts investigations once a decade on environmental impacts on major dams that are operating after construction in order to determine species' current habitat status. It utilizes the investigation information as basic data for establishing its ecological restoration plans.

Ecological restoration and building of ecological network

K-water has installed various ecological restoration facilities to protect habitats for major species such as mammals, fish, amphibians and reptiles, and birds near dams. It focuses on installing ecological passages and alternative habitats for legally protected species such as otters to prevent ecological collapse, and encourage ecological recovery. Furthermore, K-water has also been developing fish-ways and fish-spawning areas to protect fish resources in accordance with geographical characteristics. Particularly, the company built in 2013 a total of 3 fish-ways in Kimcheon Buhang Multi-purpose dam and secured ecological connection of upper and lower water areas for fish species such as dark chub and minnows.



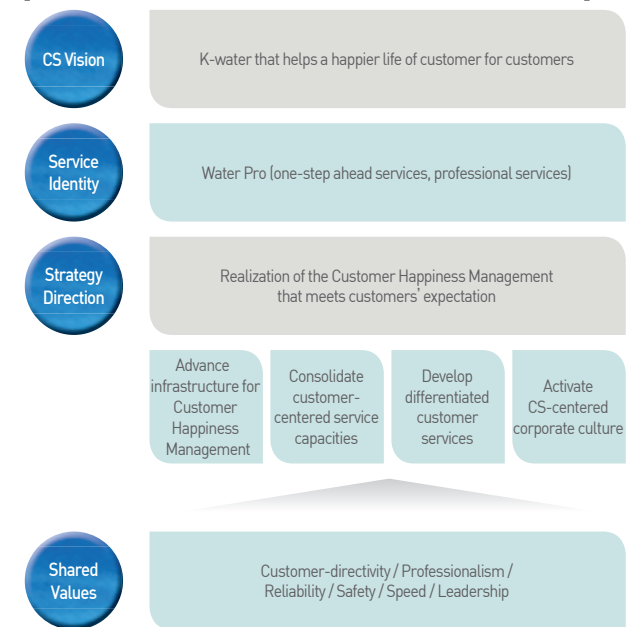
Social Performance

Customer

Customer Happiness management beyond customer satisfaction

K-water has set forth the vision of its customer service, 'Making Customer's Life Happier and the customer service values of 'Comfort, Security, Trust, One Step Aheaded Service' based on an enterprise-wide participation and consensus in order to differentiate customer services and secure competitiveness. Under the vision, K-water set four strategic directions for customer happy management: enhancing infrastructure for the Customer Happiness Management, consolidating customer-centered service capacities, developing differentiated base for customer management, and activating CS (Customer Satisfaction)-centered culture. K-water is then pushing 10 strategic tasks and 40 practical tasks such as the customer-oriented process innovation.

K-water Customer Happiness Management strategic implementation system



Branding of customer services

For the first time among SOC state-owned enterprises, K-water branded the Service Identity (SI)'to efficiently deliver the characteristics of K-water's unique customer happy management and highlight its differentiations from competitors. Water- Pro reflects the company's strong will to provide proactive and professional services to its customers; the brand is being actively used in front-line employee's uniforms, business cards, banners, and vari-

ous activities for customer satisfaction.

Standardized service quality management and enhancement of customer satisfaction competencies

K-water has established the 'Service Quality Index (SQI),' an advanced service evaluation system, to minimize customer dissatisfaction. K-water manages intensively 6 core indices including the satisfaction level on water-gauge reading service, the rate of services completed by the deadline, addressing of dissatisfied VOC (Voice of customers). At the same time, it systematically manages customer satisfaction and service quality by sharing SQI status on real time and receiving feedback with comparisons per employee and project site.

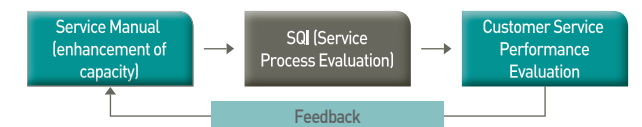
Meanwhile, K-water provides higher customer satisfaction training to 667 employees in 27 offices annually for improving customer service quality and enhancing all employees' customer service competencies. Moreover, K-water has strengthened the reward system for employee activities to motivate its employees for higher customer satisfaction performances and published a "Customer Happiness Best Casebook" after collecting exemplary customer service cases through a contest. Also, it continually develops its customer service capabilities through various ways such as the monitoring of phone etiquette as well as the disseminating examples of customers' compliments.

Service quality enhancement process



Service Quality Index (SQI ; Service Quality Index) :

A quantitative measurement index to comprehensively manage K-water's customer service quality



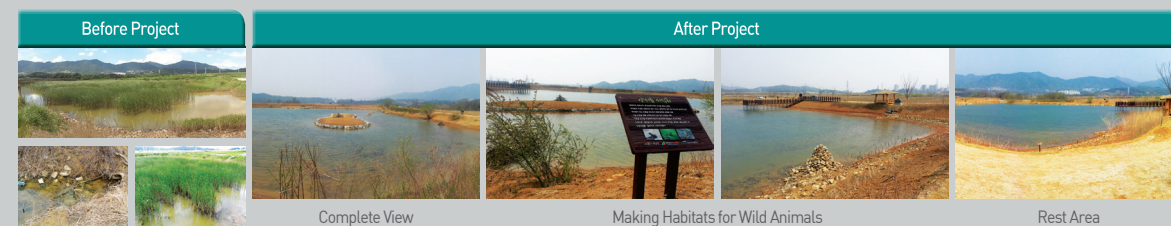
Legally protected species inhabiting in major dams

Category	Legally Protected Species	Investigation Year
Soyang River Dam	Siniperca scherzeri (golden freshwater mandarin fish) & 3 other Fish Species, Paeonia obovata Maxim (Obovata) & 2 other Plant Species, Short-tailed Viper Snake & 3 other amphibians & mammals, leopard cat & 7 mammal	2012
Hoeng-seong Dam	Otter, Leopard Cat, Eurasian Buzzard, Striated Bittern, Long-Billed Ring Plover, Osprey, Hen Harrier	2011
Chungju Dam	Crassirhizoma & 4 other Plant Species, Shorttailed Viper Snake & 1 other amphibian & reptilian, Siberian Flying Squirrel & 2 other mammals	2004
Andong Dam	Korean Rat Snake, Siberian Flying Squirrel & 4 other mammals, Common Kestrel & 2 other Bird Species	2013
Imha Dam	Reeve's Turtle, Leopard Cat & 3 other mammals, Mandarin Duck & 4 other Bird Species	2013
Hapcheon Dam	Sparrow Hawk (Accipiter Nisus), Mandarin Duck, Leopard Cat & 2 other mammals	2005
Nam River Dam	KAnax nigrofasciatus nigrofasciatus & 2 other Insect Species, Pseudobagrus brevicaudus & 1 other Fish Species, Otter, Common Kestrel & 1 other Bird Species	2002
Miryang Dam	Milk vetch root & 4 other plants, Otter & 3 other mammal, Cinereous vulture & 5 other birds	2009
Juam Dam	Reeve's Turtle & 5 other amphibians & reptilians, Yellow-throated Marten & 3 other mammals	2004
Daecheong Dam	Mandarin Duck & 10 other Bird Species, Otter & 1 other mamma	2005
Yongdam Dam	Otter, Cobitis koreensis pumilus, Korean Rat Snake, Narrow-mouth Frog & 1 other amphibia, Common Buzzard & 4 other Bird Species	2011
Seonjin River Dam	Acheilognathus somjinensis, Fareastern Brook Lamprey, Microphysogobio koreensis (3 Fish Species); Otter, Leopard Cat (2 Mammals); Lilium distichum (Kochang Lily) (Total 10 Plant Species	2010
Buan Dam	Otter, Cobitis koreensis pumilus, Korean Rat Snake, Narrow-mouth Frog & 1 other amphibian, Common Buzzard & 4 other Bird Species	2006
Boryeong Dam	Otter & 1 other mammal, Chinese Sparrow Hawk & 4 other Bird Species	2006
Unmun Dam	Otter, Leopard Cat, Mandarin Duck, Northern Goshawk, Golden Eagle, Pied harrier, Cinnib Jestrek	2010

Installation plan for ecological restoration (Unit : Places)

Successful execution of ecological network development project for Dwi-Tteul Bank in Jecheon

In 2013, K-water promoted an ecology network development project in the Dwi-Tteul Bank area of Jecheon, Chungbuk Province, where water pollution and disturbance of ecosystem created concerns due to the excess spread of vegetation, fishing, and illegal garbage dumping. Through the project, an endangered plant species, Soon-cha, was restored, wild animal habitats were created, and an ecology network was created and is to be used as an ecosystem education site for local residents.



Efforts for reinforcing customers' health and safety

K-water is increasing tap water safety by introducing the Water Safety Plan (WSP) set by the World Health Organization for all the waterworks. WSP is an internationally-certified technique to cleanly and safely manage all procedures of generating and supplying tap water. In accordance with K-water's introduction of WSP, South Korea was officially registered as the 36th WSP adopted country by the World Health Organization.

Moreover, in order to verify water sources and tap water safety, the company monitors and tests 250 water quality items, far exceeding the 84 items required by the national law for reviewing water quality. K-water also manages tap water quality by monitoring it on a real-time basis by installing an automatic water quality measurement device.

Since 2003, K-water has been operating an internal water quality rating system in order to produce high quality tap water. For all multi-regional purification plants, K-water applies its internal standards that are stricter than legal standards to review 13 items such as turbidity, residual chlorine, taste, smell, and disinfection by products.

There were no cases of violation in 2013 while managing the number of inconsistent water quality cases in accordance with the internal service implementation standard.

Guarantee of customer rights

As a public enterprise that implements social overhead capital (SOC) investment by constructing dams, waterworks, and complexes, K-water inadvertently faces disputes with local residents during proceeding with the projects. Most of them are related to property and land compensation issues, and a total of 34 lawsuits (22 land compensation cases) occurred in 2013. However, K-water strives to protect the rights of local citizens who must leave their residences and resolve such cases expediently. As part of support measures for local citizens forced to emigrate from their residences due to the dam construction, Kwater provides benefits to local citizens through various support projects for local residents.

Protection of customer's personal information

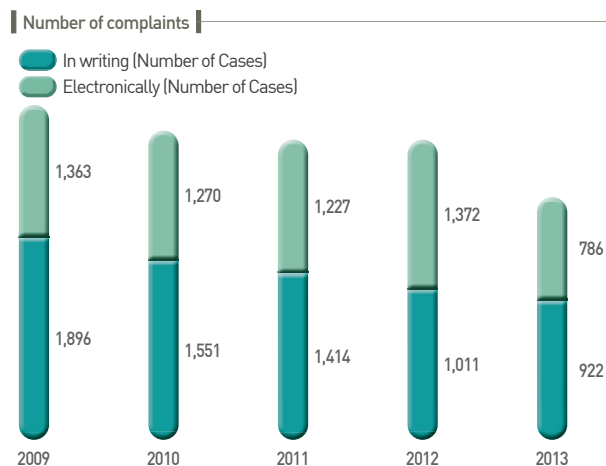
As seen from the massive leakage of customers' personal financial data from South Korean credit card firms, information security is emerging as a very important issue in business activities. K-water develops and operates high-tech infrastructures and regularly holds training on enhancing information security to protect personal information as well as establishing a personal information protection standard. Moreover, K-water operates a firewall system to block information leakage in addition to a solution to

inspect the personal information data spill.

Customers' personal information is protected by establishing customer data base security policies such as access restrictions, authorization controls, and post audits. There has been no personal information-related complaint by any customers so far.

Enhanced user convenience of VOC System

K-water strives to provide answers to customers in a timely manner by operating a complaint filing window that is open and accessible at all times on K-water's homepage (VOC bulletin board). In 2013, K-water induced speedy and reliable customer services by applying internally standards that are more consolidated than the legal one for handing customer issues. K-water uses the complaints received as important resources to discover management improvement assignments by sharing them throughout the company.

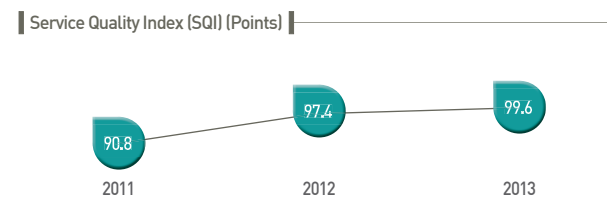
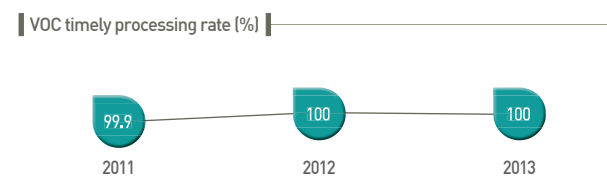
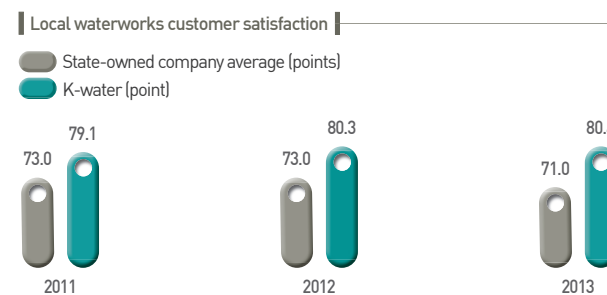


Compliance with laws on marketing communication and supply of products and services

All marketing influences customers' decision-making, so K-water strives to provide them with accurate information. All sales activities including advertisements, promotions, sponsorships, and marketing communication must comply with related regulations and company-wide work principles. Also, an internal standard is applied to all advertisements such as sales of land to ensure impartiality in selection of advertisement companies. In terms of advertising, K-water follows the review regulations and laws of the Korea Advertising Review Board. There has been no violation against marketing laws or fines charged for breaking products and services-related laws.

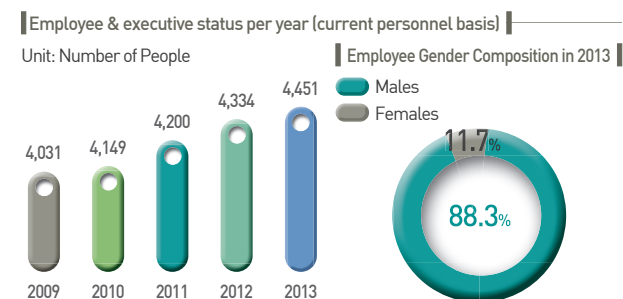
Reached the highest level in the customer services performance index

With the efforts for the customer happiness, K-water received the highest rating in the Survey of Customer Satisfaction level by State-owned companies conducted by the Ministry of Strategy and Finance for 7 consecutive years. K-water leads the Customer Happiness Management in the public enterprise field by achieving the highest level in major customer services performance indices by handling 100% of VOCs in a timely manner and receiving 99.6 points in Service Quality Index.



Employee Employment conditions

The total number of employees at K-water is 4,451 (based on full time positions) including seven executive members as of December 31, 2013. This also includes those on maternity leave, military service, and workers of entrusted businesses that are excluded from ALIO official notice. In order to strengthen global competitiveness, departments with similar functions were integrated or rearranged and a corporate hierarchy was simplified in order to increase the efficiency of human resources operation. A total of 252 new employees (205 males, 47 females) were publicly recruited in 2013 to improve organizational activities for performing new growth engine industry in 2013.



Employee & executive status in 2013 (current personnel basis)

Category	Total	Executives	General Positions	Specialized Positions
Number of People	4,451	7	4,067	377
Ratio per Age Group (%)				
20s	10.4%	-	11.4%	-
30~40s	62.7%	-	64.3%	47.6%
50s or older	26.9%	100%	24.3%	52.4%

New employment and minority status in 2013 (number of people)

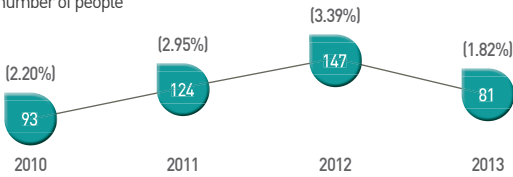
Category	2009	2010	2011	2012	2013	Current members
Total	158	212	173	222	252	-
Females	20	36	32	40	47	521
Disabled People	4	2	19	2	4	145
Science and Technology	119	164	128	136	134	3,115
Regional Talents from Non-metropolitan Areas	82	104	107	128	161	3,041
High School Graduates	30	19	13	51	71	575

Employee Turnover Rate

Efforts to improve the efficiency of state-owned enterprise management were taken from 2009 to 2012. The employee turnover rate had been increasing every year compared to 2008 before starting the efficiency efforts. In 2013, however, the number of employees switching jobs reduced by 66 compared to 2012 due to the extension of retirement age, which decreased the number of retirees.

Employee turnover by year

The figures in the brackets indicate the turnover rate over the entire workforce (%)
Unit: number of people



Employee turnover rate per gender / employment type

Category	Total	General Positions	Specialized Positions
Total	81	49	32
Male	68	38	30
Female	13	11	2

Employment of the disabled and local people

K-water has introduced and operates a policy that gives additional points to disabled people when hiring employees. While testing, additional 3~5% points of the full score are given to applicants with disabilities, depending on their level. The employment rate of the disabled reached 3.3% (178 people) in 2013, which exceeded the legal employment rate of 3.0%. This was possible thanks to the implementation of the 'Special Employment of Handicapped People Policy', and short-term employment contract priorities for the disabled in order to promote social equalities in employment. Furthermore, K-water hires local people for the positions such as local water-gauge meter reading personnel, waterworks operators, and youth internship and contributes to the local community. Since the initiating of local waterworks commissioned operating in 2004, K-water has hired 502 local waterworks-related personnel as of 2013. In addition, K-water has helped relieve youth unemployment problems by hiring a total of 1,268 youth interns from 2009 to 2013.

Female leadership

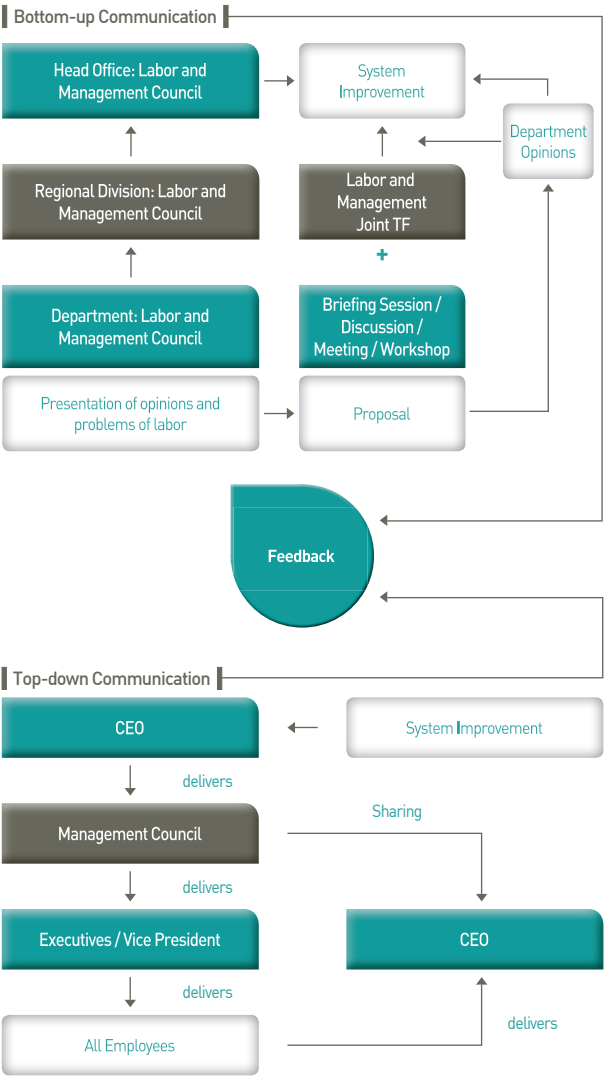
Since the first female director [professional position] was selected in 2010, a woman became a director in regular position in 2012 for the first time,

and the number of female managers is steadily increasing. As of December 2012, the number of female employees is 521, making 11.7% of the total employees, and the number of female managers, including female departmental directors, has continuously increased to reach a total of 48 women by 2013. The male to female ratio of K-water executives is 88.3% (3,930) vs 11.2% (521), with males still significantly outnumbering females. However, since the female employee target system was implemented in 2004, the female labor force is increasing every year.

Labor-Management relationship

In accordance with the Article 35 of the Labor Union & Labor Related Conciliation Law, the rights to collective bargaining and to negotiate collective agreements are guaranteed for all employees. Based on Article 21 of the Collective Agreement (Responsibility to Notify), any changes made to labor conditions or the Articles of Incorporation should be notified to both the management and employee without delay. Employees of third or lower level can join the labor union that was established in 1987. It is a Union Shop system in which all full-time employees automatically become union members upon entering the company, and 83% of the total workforce or 3,662 employees were union members as of March 2014. On average, the ratio of personnel affected by the result of collective agreement in subcontracting firms that inspect and repair power generation sector was about 59.4%. The labor-management attempts to improve communication by operating a task force and building a top-down/bottom-up communication system in which the labor union participates. Also, K-water reinforces mutual trust and information sharing between the labor and management and also forms company-wide consensus. K-water's labor-management cooperation body has been established since 2006 by performing practical tasks that fulfill employees' needs, thereby reaching management goals and increase work efficiency. In particular, in 2012 it ran a joint 'Water-Love' Fund committee and secured more funds for social contribution through increased committee participation of employees, expanding K-water's social outreach practices. These collaborative activities of the management and labor is fulfilling the corporate social responsibility and suggesting a new vision of labor movement. Also, it improved labor conditions for temporary staff to protect social minorities and promote organizational harmony. In 2013, for the first time as a state-owned company, the labor-management established a loan system for temporary staff equivalent to that of full-time staff. To create a sustainable work environment, K-water endeavors to reduce unnecessary overtime work and promote efficient work processes, while reinforcing disciplinary actions on sexual harassment to protect women's rights. In addition, K-water has declared an 'One Heart' partnership of the

Number of Labor Disputes of the Labor- Union in 2013 : 0
Membership Rate of the Labor Union in 2013 : 83% (March 2014)



labor-management, including the sound establishment of a productive labor-management culture. Such efforts by the labor-management have become a driving force to maintain the signing of agreement for 26 consecutive years without disputes.

Reinforced cooperation between the labor and management for K-water's next great leap

K-water received a merit presidential citation for being selected as having the most outstanding labor-management relationship as a state owned institution in 2013. This was possible due to the mutual efforts by both the management and labor such as the declaration of labor-management mutual growth in 2012 and the declaration of 'One Heart' partnership in 2013. These all have become the foothold for K-water's next great leap.



Safety & health

Addressing by labor-management council

K-water discusses workplace safety and health improvement plans jointly between labor and management. The Labor-Management Joint Safety & Health Committee was replaced by a Joint Labor-Management Council, which is comprised of 8 members, each from labor and management.

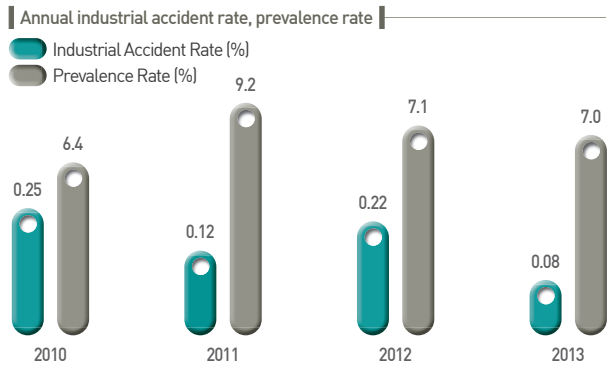
Improve maternity protection system	Improve childcare support system
Enhanced medical check-up for workers in harmful environment	Improve operation of medical facilities in the head office

Injury, occupational disease, job-related injury rate, prevalence rate

The company reinforces various industrial safety education and safety management at construction sites to prevent safety accidents. It also runs a system to prevent safety accidents during sports events to help employees recover quickly from accidents and return stably to work. The company gives an additional 70% of monthly wage to an employee that becomes disabled since joining as well as three days of paid leave and encouragement gifts to registered disabled employees around Disabled People's Day. Furthermore, convenient facilities for the handicapped have been installed, including designated parking zones, elevators, restrooms, stairways, and pathways. The company has implemented health check-up, a non-smoking program, obesity clinic and SCD (sudden cardiac death) prevention programs, which have been met with good results.

Injury and occupational diseases in 2013		
Injury	Injury Rate	Occupational Disease
10 people	0.2% of the total employees	None

※ Calculated on the basis of regular and fixed-term employees



Policies and education to ensure health and safety of all employees in the field of power generation and subcontractors

According to article 7 of the management regulations for hydropower plant being operated by K-water, power plant employees always keep their surroundings clean, and maintain related manuals, safety equipment and tools in order to prepare for emergencies. Also, article 8 (Device Controlling and Safety Management) states that power plant workers must follow safety rules when handling devices; it also ensures safe worksites by reminding workers of working methods, vulnerable factors in safety management, as well as warnings. K-water is striving for all employees' and subcontractors' health and safety by giving regular safety training to all employees (100%) and outsourced workers.

Childcare and women's Health support

K-water has designated areas to enable breast feeding and female employee lounges to provide maternity assistance for female employees as well as an in-company childcare center. All employees who want a parental leave (100%) have been allowed for the leave and all of them, both males and females, have been re-instating to their work after the leave. This is done in order to help relieve the childcare burden and create a balance between work and family life. In addition, K-water is also operating various parental protection programs such as the notification system of childcare leave, the substitute employee support system, the optional shortened work hour, and the providing of equipment for pumps breast-feeding employees, etc. The reinstatement rate of both females and males after the parental leave has been 100%.

- Operation of In-Company Childcare Center
- Operation of Family Day Every Wednesday
- Leave for Accompanying of Spouse Policy
 - Conditions for Leave: When spouse is working, training, or being on leave overseas for over 1 year
 - Leave of Absence Duration: Up to three years
- Improved Parental Leave Policy
 - For employees with children under 8 years old (For children in school, those under 2nd grade in elementary school)
- Childbirth Assistance Policy
 - Financial support for Childbirth Assistance, Work Relocation Exceptions for Pregnant Employees
 - Breast Feeding Spaces, Parking lots designated for pregnant women
 - Increased Miscarriage / Stillbirth Leave Days: Provide sufficient time to recover physically / mentally

Parental Leave Status per Year						
Category		Total	2010	2011	2012	2013
Male	Number of employees applied for leave	17	2	3	6	6
	Personnel on leave (Number of people)	17	2	3	6	6
	Re-instatement Rate (%)	100	100	100	100	100
	Maintenance Rate (%)	82.4	100	66.7	66.7	100
Female	Number of employees applied for leave	78	6	21	20	31
	Personnel on leave (Number of people)	78	6	21	20	31
	Re-instatement Rate (%)	100	100	100	100	100
	Maintenance Rate (%)	88.5	83.3	81.0	85.0	96.8

※ Maintenance Rate (%): Rate of people staying in the company for at lease over 12 months after re-instatement



Appendix

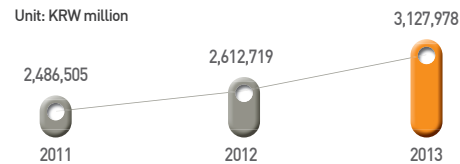


Appendix	
Sustainable Management Performance Data for 2013	84
GRI G4 Index	92
Third Party's Assurance Statement	94
ISO 26000	96
Code of Ethics Preamble, Green Management Policy, Customer Charter Statement, Mission Statement for Innovation Vision	98
UN Global Compact	100
Glossary	101
Voice of Readers	103

Sustainable Management Performance Data for 2013

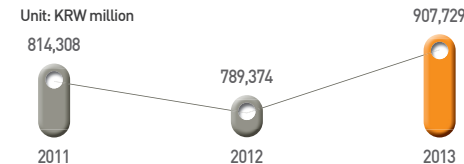
Creative Management

1. Sales (Excluding private investment revenue)



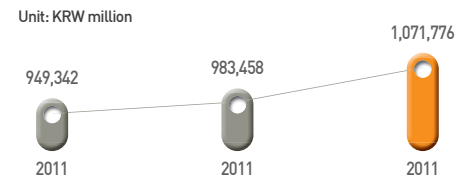
- 2013 sales (excluding private investment sales) increased 9.5% compared to the previous year through active extension of effort such as increased sales price of tap water and dam reservoir water, increased revenue in local waterworks and overseas businesses, and strategic marketing.

2. Water resource business revenue



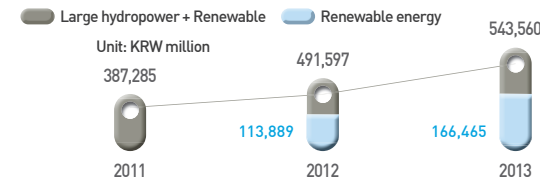
- Increased by 15% compared to the previous year through increase of dam dam reservoir water sales through active marketing, offsetting the decrease in the unit price by increasing the amount of power generation, and the effort to actualize dam commissioned maintenance cost.

3. Waterworks business revenue



- 2013 waterworks business revenue increased by 7.8% compared to the previous year through sales extension and consistent efforts for customer satisfaction, and achieved a goal of over KRW 1 trillion for the first time.

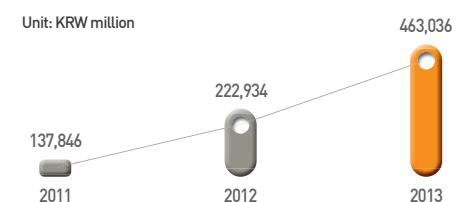
4. Clean energy business revenue



- 2013 clean energy business revenue increased by 10.6% from the previous year. Despite the increase in the power supply, power sales decreased slightly by 0.2% because of the decrease in the unit price. Sales of renewable energy (small hydropower, solar energy, wind energy) increased by 46.25% through full operations of the four-river small hydro power and the trade extension of REC.

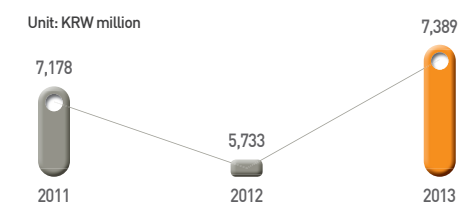
* 2011 revenue is combined because hydropower and renewable energy was not distinguished.

5. Complex development business revenue



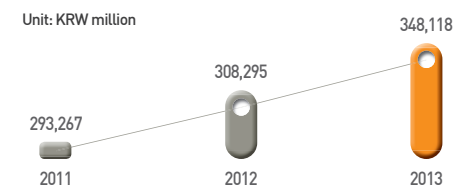
- 2013 revenue exceeded KRW 463 billion which is an increase of 108% from the previous year through early payment extension of cash flow and the allowance for pre-use of territory.

6. Overseas business revenue



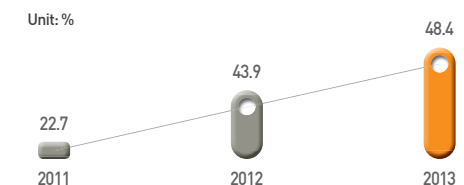
- Overseas business revenue increased by 29% compared to the previous year through ODA business and extension of technology export projects (Equatorial Guinea, etc.).

7. Net Profit



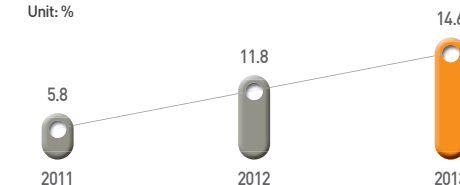
- Increased tap water sales and power generation in 2013 resulted in the achieving of the highest net profit ever.

8. Added value rate



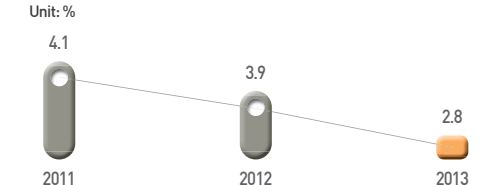
- Main business revenue extension through tap water price increase, new local waterworks operation, etc., and efforts to reduce production cost have improved the added value.

9. Revenue operating profit rate



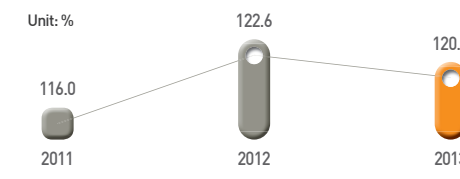
- 2013 revenue operating profit rate increased by 2.8% compared to the previous year through the increase in revenue resulting from the increase in dam reservoir water and tap water sales profit as well as the effort for cost reduction.

10. Employee wage raise rate



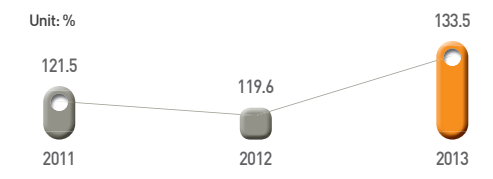
- Based on cooperative labor-management relationship, we have changed and improved compensation / welfare systems to meet the expected standard of the public (complied to governmental guidelines).

11. Debt ratio



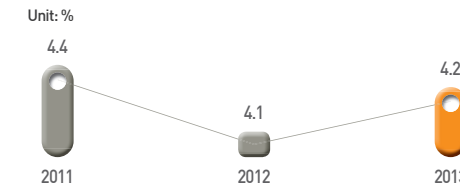
- By improving financial soundness through self-effort such as revenue expansion and production cost reduction, debt ratio decreased (2.0%) for the first time upon carrying out national major projects.

12. Efficiency of investment on facilities



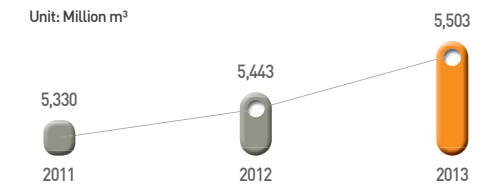
- Efforts for minimizing new investments in tangible asset and making good use of budgets in order to actively fulfill governmental policy increased the efficiency of investment on facilities in 2013. (Increase of 13.9% from the previous year).

13. Construction cost reduction rate



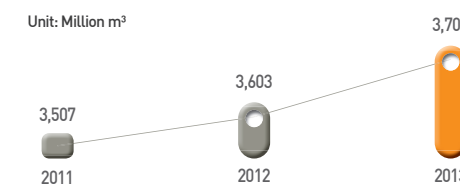
- KRW 41.6 billion (Overall construction cost KRW 987.5 billion, reduction rate 4.2%) was reduced through design evaluation, internal evaluation, and performance-based construction cost policy.

14. Amount of dam reservoir water supply



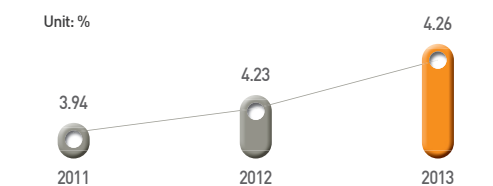
- Dam reservoir supply amount in 2013 increased by 1.1% compared to that of the previous year through converting local K-water multi-regional waterworks, strengthening marketing, and expanding the base of mid- to long-term sales.

15. Amount of multi-regional waterworks supply



- 2013 tap water production amount increased by 3.0% compared to that of the previous year through converting local waterworks into that of multi-regional, identifying new sources of demand, etc.

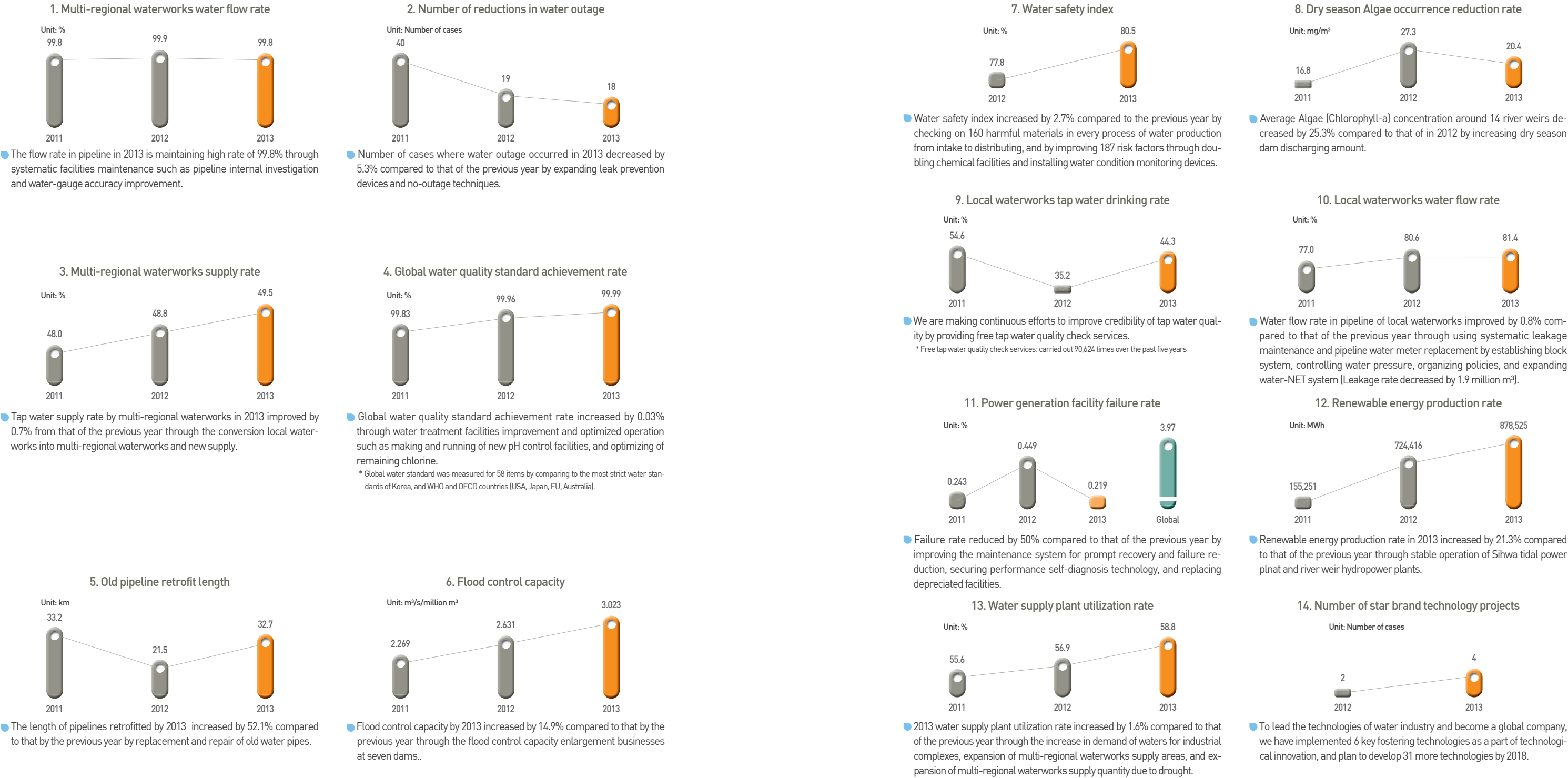
16. Local waterworks service population share



- Local waterworks service population share in 2013 increased by 0.03% compared to that of the previous year through new consignments in the Bonghwa County, etc.

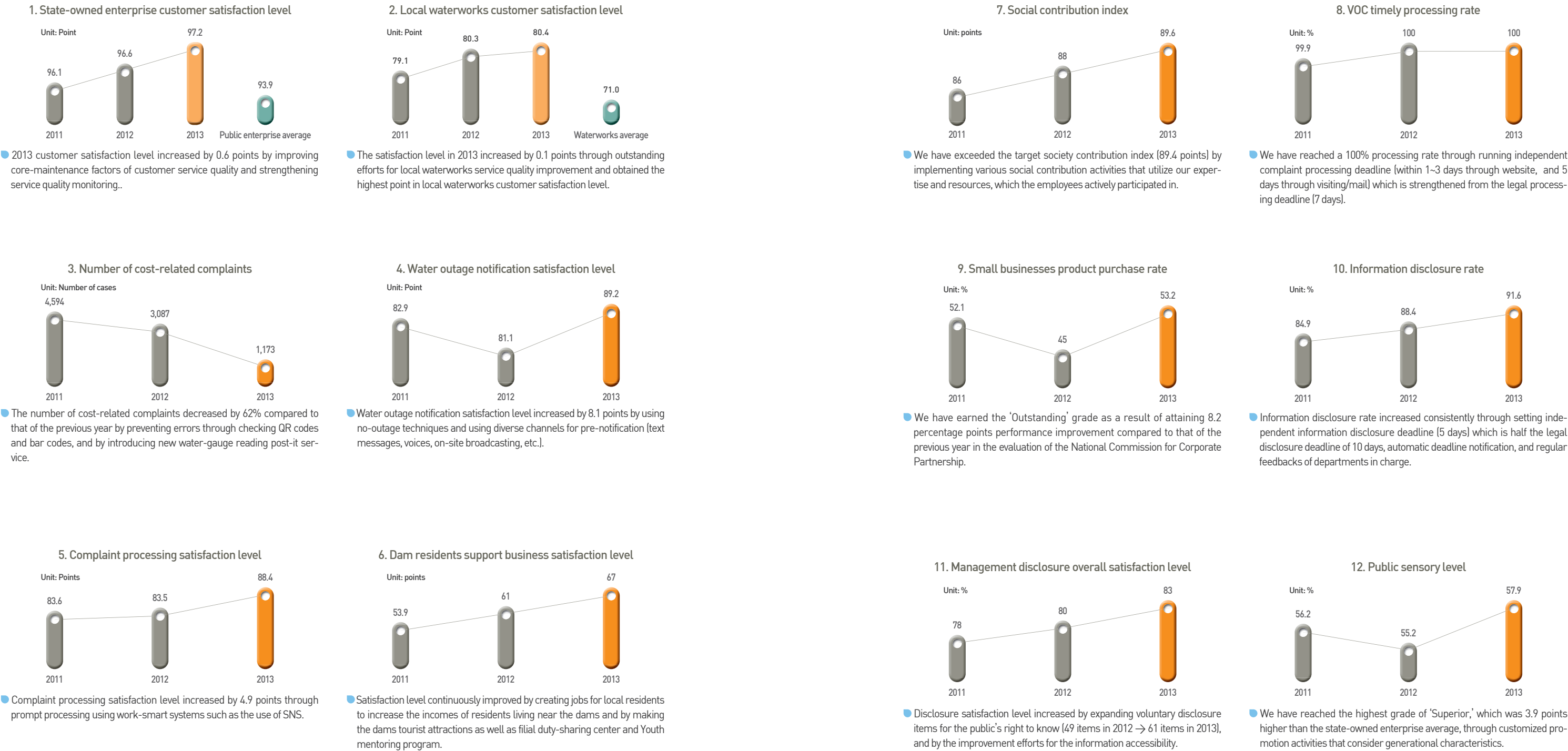
Sustainable Management Performance Data for 2013

Smart Water Service



Sustainable Management Performance Data for 2013

Society Prospering Together



Sustainable Management Performance Data for 2013

Creating a Happy Workplace



GRI G4 Index

Aspect	Name of index	Contents of index	Page	Note	External verification
1. General standard disclosure					
Strategy and analysis	G4-1	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	12		94-95
	G4-3	Name of organization	8-9		94-95
Organizational profile	G4-4	Main brand, product and service	8-9		94-95
	G4-5	Location of head company	8-9		94-95
	G4-6	Number and names of countries where the organization runs primary businesses or that are especially related to sustainable topics of the organization	8-9		94-95
	G4-7	Form of ownership and legal form of the organization	8-9, 16		94-95
	G4-8	Market domain (Includes geographical segmentation, service section, customer types, beneficiary, etc.)	8-9, 20-21		94-95
	G4-9	Scale of the reporting organization	8-9		94-95
	G4-10	Employment status	59, 79-80		94-95
	G4-11	Ratio of laborers covered by collective agreement	80-81	Includes supplementary disclosure indices for Electric Utilities	94-95
	G4-12	Explanation about the supply chain of the organization	56		94-95
	G4-13	Important changes about the size, structure ownership, and supply chain of the organization during the reported period	2		94-95
	G4-14	Approaches or principles for prevention in advance	98-100		94-95
	G4-15	Charters, principles, and other initiatives of external economy, environment, and society that the organization has joined or supports	98-100		94-95
	G4-16	Status of association membership (industrial association, etc.) or current membership among local or international sponsoring organizations	2		94-95
	EU1	Installed capacity, broken down by primary energy source and by regulatory regime	43		94-95
	EU2	Net energy output broken down by primary energy source and regulatory regime	43		94-95
	EU3	Numbers of residential, industrial, institutional and commercial customer accounts	-	Electricity is supplied nationwide by Korea Electric Power through national grid.	94-95
	EU4	Length of above and underground transmission and distribution lines by regulatory regime	-		94-95
Identified material aspects and boundaries	EU5	Allocation of CO ₂ emissions allowances or equivalent, broken down by carbon trading framework	43		94-95
	G4-17	List of organizations for connection and excluded organizations	2, 8		94-95
	G4-18	Content of report and the process of deciding the boundary and application principles	22		94-95
	G4-19	All material aspects identified in the process of determining the content of the report	23		94-95
	G4-20	Internal aspect boundary of organization for each material aspect	23		94-95
	G4-21	External aspect boundary of organization for each material aspect	23		94-95
Stakeholder engagement	G4-22	The effects of amendments on information provided in previous report and the reason for amendment	2		94-95
	G4-23	Significant changes on range and aspect boundary that occurred after the previous report	2		94-95
	G4-24	List of stakeholders related to the organization	20		94-95
	G4-25	The standard of identifying and selecting stakeholders related to the organization	20		94-95
	G4-26	Participation methods of stakeholders per type, per frequency of each stakeholder, etc.	20		94-95
	G4-27	Core topic, interest, responses of the organization, etc., that were suggested from the participation of stakeholders	23		94-95
Report profile	G4-28	Reporting period of the provided information (fiscal year or every other year)	2		94-95
	G4-29	Publishing date of the most recent report (if it exists)	2		94-95
	G4-30	Reporting period (Annually, every other year, etc.)	2		94-95
	G4-31	Contacts for questions regarding the report or its content	105		94-95
	G4-32	'Agreement' method chosen by GRI Index and the organization	20-23, 92-95		94-95
	G4-33	External verification of report	94-95		94-95
Governance	G4-34	Governance structure of organization including the committee of supreme governance organization. Committee that is responsible for making decisions on economic, environmental, and social effects	16, 18-19		94-95
Ethics and Integrity	G4-56	Models of behavior such as the value, principle, and the standard of the organization as well as code of conduct and code of ethics	99		94-95

Aspect	Name of index	Contents of index	Page	Note	External verification
2. Special standard disclosure					
Category: Economy					
Economic performance	G4-DMA	Disclosure of management approaches	34, 39		94-95
	G4-EC1	Creation and distribution of economic values	35-38		94-95
	G4-EC2	Financial effects, opportunities, or threats to organization due to climate change	42-44		94-95
Indirect economic impacts	G4-DMA	Disclosure of management approaches	52		94-95
	G4-EC7	Providing investment and service for public benefit	35, 53-55		94-95
	G4-EC8	Indirect economic impact	35, 53-57		94-95
Procurement practices	G4-DMA	Disclosure of management approaches	52		94-95
	G4-EC9	Ratio of expenditure paid out to local suppliers in main place of business	56		94-95
Category: Environment					
Energy	G4-DMA	Disclosure of management approaches	39		94-95
	G4-EN3	Consumption of energy in the organization	26, 46		94-95
	G4-EN5	Degree of intensity for energy	46		94-95
	G4-EN6	Reduction of energy consumption	26, 46-47		94-95
Water	G4-DMA	Disclosure of management approaches	39		94-95
	G4-EN10	Total amount and ratio of reused and recycled water	32, 69		94-95
Emissions	G4-DMA	Disclosure of management approaches	39		94-95
	G4-EN15	Direct emission of Greenhouse Gas (GHG) (SCOPE 1)	46		94-95
	G4-EN16	Indirect emission of Greenhouse Gas (GHG) (SCOPE 2)	46		94-95
	G4-EN18	Degree of intensity for Greenhouse Gas (GHG) emission	46		94-95
	G4-EN19	Reduction of Greenhouse Gas (GHG) emission	45-46		94-95
Category: Labor customs and labor rights					
Employment	G4-DMA	Disclosure of management approaches	58		94-95
	G4-LA2	Benefit packages just for full-time laborers	60-61		94-95
	EU18	Ratio of subcontractor employees that received safety education	82		94-95
Training and Education	G4-DMA	Disclosure of management approaches	58		94-95
	G4-LA9	Average training hours for each employee per year according to type and gender	62-63		94-95
	G4-LA10	Development of technology that supports consistent employment opportunities and career management and programs for lifelong education	62-63		94-95
	G4-LA11	Ratio of employees that received regular reviews on performance and career development (per gender and type)	62-63		94-95
Equal remuneration for women and men	G4-DMA	Disclosure of management approaches	58		94-95
	G4-LA13	Average wage ratio of employees per type	59		94-95
Labor practices grievance mechanisms	G4-DMA	Disclosure of management approaches	58		94-95
	G4-LA16	Number of complaints by labor customs and number of settled complaints through complaint settling mechanism	61		94-95
Category: Society					
Local communities	G4-DMA	Disclosure of management approaches	52		94-95
	G4-S01	Ratio of businesses that participate in local community, evaluate influence, and perform development programs	53-55, 72-74		94-95
Category: Product responsibility					
Customer health and safety	G4-DMA	Disclosure of management approaches	39		94-95
	G4-PR1	Ratio of main products and services that were evaluated of their safety influences for improvement	50-51, 78	Providing information about tap water quality	94-95
Product and Service labeling	G4-DMA	Disclosure of management approaches	39		94-95
	G4-PR3	Information on products and services of the organization and the information types of products and services that are required in the process of labeling, and the ratio of main products and services that need to have the pertinent information requirements	21, 50-51	Providing information about tap water quality	94-95

Third Party's Assurance Statement

To the Readers of K-water Sustainability Report 2014:

Foreword

Korea Management Association Registration and Assessments (KMAR) has been requested by K-water to verify the contents of its Sustainability Report 2014 (the Report). K-water is responsible for the collection and presentation of information included in the Report. Our responsibility is to carry out assurance engagement on specific data and information in the assurance scope stipulated below.

Scope and standard

K-water describes its efforts and achievements of the sustainability activities in the Report. KMAR performed a type 2, moderate level of assurance using AA1000AS (2008) as an assurance standard. That is, the assurance team assessed whether inclusivity, materiality, and responsiveness were observed, and verified the followings to assess the reliability of the data and information specified in the Report where professional judgement of the practitioner of KMAR's assurance team was exercised as materiality criteria.

Assurance of the economic section:

Reviews whether the financial data and information have been extracted appropriately from K-water's 2013 financial statements and public notification data

Assurance of the environmental and social section:

Reviews whether the environmental and social data and information included in the Report are presented appropriately

"Appropriately presented" means that the original data and information are reported appropriately in the Report with consistency and reliability. The data and information related to the boundary outside of K-water such as suppliers, contractors, etc. are not covered by our assurance engagement. The team checked whether the Report has been prepared in accordance with the requirements of the 'Core Option' of GRI G4 which cover the followings.

• G4 Reporting Principles

• General Standard Disclosures

• Specific Standard Disclosures

- Generic DMA of each of following material aspects

- Economic Performance: EC1, EC2

- Procurement Practices: EC9

- Energy: EN3, EN5, EN6

- Employment: LA2, EU18

- Equal Remuneration for Women and Men: LA13

- Local Communities: SO1

- Product and Service Labeling: PR3

- Indirect Economic Impacts: EC7, EC8

- Water: EN10

- Emissions: EN15, EN16, EN18, EN19

- Training and Education: LA9, LA10, LA11

- Labor Practices Grievance Mechanisms: LA16

- Customer Health and Safety: PR1

Our approach

In order to verify the contents of the Report within an agreed scope of assurance in accordance with the assurance standard, KMAR's assurance team visited K-water's headquarter and Chungju Office, and carried out an assurance engagement as follows:

• Reviewed data management systems and reporting processes

• Assessed internal documents and materials

• Interviewed people in charge of disclosed activities and performances

• Interviewed people in charge of preparing the Report

Our conclusion

Based on the results we have obtained from material reviews and interviews, we had several discussions with K-water on the revision of the Report. We reviewed the Report's final version in order to confirm that our recommendations for improvement and our revisions have been reflected. When reviewing the results of the assurance, the assurance team could not find any inappropriate contents in the Report to the compliance with the principles stipulated below. Nothing has come to our attention that causes us to believe that the data and information are not presented appropriately.

Inclusivity

Inclusivity is the participation of stakeholders in developing and achieving an accountable and strategic response to sustainability.

- K-water is developing and maintaining stakeholder communication channels in various forms and levels in order to make a commitment to be responsible for the stakeholders. The assurance team could not find any critical stakeholder group left out during this procedure.

Materiality

Materiality is determining the relevance and significance of an issue to an organization and its stakeholders. A material issue is an issue that will influence the decisions, actions, and performance of an organization or its stakeholders.

- K-water is determining the materiality of issues found out through stakeholder communication channels through its own materiality evaluation process, and the assurance team could not find any critical issues left out in this process.

Responsiveness

Responsiveness is an organization's response to stakeholder issues that affect its sustainability performance and is realized through decisions, actions, and performance, as well as communication with stakeholders.

- The assurance team could not find any evidence that K-water's counter measures to critical stakeholder issues were inappropriately recorded in the Report.

We could not find any evidence the Report was not prepared in accordance with the 'Core Option' of GRI G4.

Recommendation for improvement

We hope K-water's publication of the Report is actively used as a communication tool with stakeholders and recommend the following for improvements.

• K-water should improve the process for preparing the Report, especially in the step of planning.

• K-water should consider making the Report more balanced.

Our independence

With the exception of providing third party assurance services, KMAR is not involved in any other K-water business operations that are aimed at making profit in order to avoid any conflicts of interest and to maintain independence.

27 June 2014



AA1000
Licensed Assurance Provider
000-129

K. H. Park
CEO Ki Ho Park

ISO 26000

ISO26000 is an international standard guideline on seven core topics about social responsibility based on basic principles using the method of integrating social responsibility throughout the organization with the recognition of social responsibility, identification, and participation of stakeholders. The following are reported contents of K-water about seven core topics of social responsibility.

Core topics	Issues	Page
Governance	Decision making process and structure	12, 16-19
Human rights	Duties with special attention	56, 59, 100
	Threats to human rights	28-30, 100
	Avoidance to public participation	56, 82, 100
	Grievance settlement	59, 61, 78, 100
	Discrimination and disadvantaged group	52-55, 80, 100
	Civil political rights	100
	Economic, social, and cultural rights	100
	Basic principles and rights in workplaces	80-81, 100
Labor custom	Employment and employment relationship	59, 79-80, 90, 100
	Working condition and social protection	58-60, 82, 90
	Social conversation	61, 80-81, 90-91, 98, 100
	Health and safety in workplace	58, 60, 81-82
	Human development and education in workplace	58-59, 62-63, 91
Environment	Pollution prevention	26-27, 69-72, 98-100
	Use of sustainable resources	26-27, 39-42, 87, 69, 98-100
	Mitigation and adaptation to climate change	26-27, 43-49, 87, 98-100
	Protection and restoration of natural environment	26-27, 72-76, 98-100
Fair operation custom	Corruption prevention	24-25, 98
	Responsible political participation	100
	Fair competition	57, 98
	Activation of social responsibility in value chain	56, 82
	Respect for property rights	78, 98
Consumer issues	Fair marketing, real and fair information and fair contract custom	21, 78, 99
	Health and safety protection of customers	50-51, 87, 99
	Sustainable consumption	50-51
	Customer service, support, complaint and dispute solution	77, 88-89, 99
	Customer information protection and privacy	78
	Access to mandatory services	54-55, 86-87
	Customer citizen education and recognition	50-51
Participation and development of community	Community Participation	52-59, 98
	Education and culture	52-59, 98
	Development of employment and function	56-57, 79-80, 98
	Development and access to technology	56-57, 98
	Creation of wealth and profit	35, 54, 84-85, 98
	Health	52-55, 98
	Social investment	52-55, 98

Publishing the 2014 Sustainability Report

As we were publishing the report, we tried to contain the voices of internal and external stakeholders of the company, and the contents of the report were verified by a third-party organization.



The main purpose of K-water in publishing the report is to provide credible information by the company to stakeholders and to be a trusted company by these stakeholders. We have identified the interests of internal employees of the company using surveys and those of external stakeholders using consultation or interviews, and used these to indentify the material issues for K-water's sustainable management. K-water tried its best to make a concrete report on material issues in accordance with G4 guidelines set by GRI (Global Reporting Initiatives).

The scope of the performance index report

This report contains the current sustainable management and business performances of 28 local business sites and overseas businesses in 18 countries. Since the accounting period of seven subsidiary, affiliated companies is the same as that of K-water, they do not affect the possibility of periodic and organizational comparison. Moreover, either equity method or cost-value method is used depending on the percentage of shares owned.

Performance data reporting standard

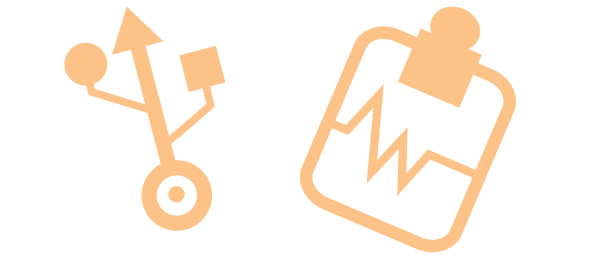
K-water has made every effort to fulfill the reporting principals stated in GRI G4 guideline. The performance data of economic, environmental, and social sections were produced according to the index description attached to the G4 guideline. The environment section usually referred to the data of Environmental Performance Evaluation (EPE) system developed as a computer system in 2006 and the data of Carbon inventory system developed in 2010, and the financial section applied the data from the audited financial statements and the statements of accounts. Materials of social and other sections were directly received from relevant departments. Each performance indicator was presented with the time-series data for 3~5 years, and its absolute values along with the ratios was presented for reader's understanding.

Efforts for consistent improvement

It has been ten years since we first published the report in 2005. We have made our best effort to identify the expectations and the interests of stakeholders so far, and we endeavors to listen to the opinions of stakeholders and to produce a useful report that communicates the sustainable management of K-water with its stakeholders in accordance with GRI G4 guideline.

G4 Guideline application level

This 2014 Sustainability Report of K-water was drafted to meet the requirements for "Core" level application of GRI G4 guideline. Through the verification of the Korea Management Association Registration and Assessment, this report was verified to be written in compliance with the requirements for "Core" option of the G4 guideline.



Code of Ethics Preamble, Green Management Policy

Code of Ethics

K-water is a business of the people that contributes to the quality of life of citizens and the development of the country by developing, managing, and preserving water resources of Korea to be sustainable in environmental, economic, and social aspects and by providing the best products and services. With this confidence and pride in this '21st century period of water,' we promise the following to become a global professional water business.

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

First, We recognize that the Earth is a precious heritage for our offspring and is a healthy and clean shelter of life and practice eco-friendly management.

First, we provide the best products and services to customers and actualizes consumer-oriented policy through customer satisfaction and management of new value creation.

First, as a part of the local community, we respect the tradition and the culture of the community and enriches the lives of local residents by contributing to the development of the local community.

First, we comply with ethical/legal values, respect market order of free competition, and seeks realization of fair competition.

First, we respect each personality of all people without discrimination, and respect characters and creativity.

First, with the recognition that labor and management is one, we develop partnering relationship based on trust and harmony and seeks for prosperity of community.

* Please refer to the ethics management section in the website for details about principle of ethics and principle 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 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 trusts and love of citizens by developing and managing water resources in eco-friendly ways.

First, we secure a healthy consumption culture of saving and re-using resources and energy, and seriously considers at all times so that we will not destroy environment because of in attention.

First, we reflect the opinions of the citizens as best we can in making plans that relate to 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.

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

First, we provide continuous environmental education. So that our activities will become code of ethics and make our best efforts for search development of conserving and improving the environment.

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

Customer Charter Statement, Mission Statement for Innovation Vision

Customer Charter Statement

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

We will provide water and territory of best quality that customers can trust in a stable manner.

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 advices and suggestions of customers, regularly accept opinions, and use them for 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 for 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.

Mission Statement for Innovation Vision

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.

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

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

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

The principles of Global Compact are based on 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 standards, the environment and anti-corruption:



- Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and
- Principle 2: Make sure that they are not complicit in human rights abuses.



- 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; and
- Principle 6: The elimination of discrimination in respect of employment and occupation.



- Principle 7: Businesses should support a precautionary approach to environmental challenges;
- Principle 8: Undertake initiatives to promote greater environmental responsibility; and
- Principle 9: Encourage the development and diffusion of environmentally friendly technologies.



- 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

K-water CEO Choi, Gye Woon *Choi gye woon*

Glossary

- **Non-point pollutant source** A pollutant source with unspecified emission route unlike point pollutant sources of people or livestock which have point polluted sources. The pollution load rate is calculated by the land use pattern in the basin (rice paddy, field, forest, etc.) and the pollutants are run off into water systems during heavy rainfall
- **Renewable energy** Concept that includes eight renewable energies of solar heat, sunlight, bioenergy, wind power, waterpower, geothermal heat, ocean, and wastes
- **SWG (Smart Water Grid)** Next-generation intelligent water maintenance technology that combines previous water grid with innovative ICT in order to increase stability, safety, and efficiency of water services
- **Sludge** Sediments and precipitates formed in the process of sewage treatment or water treatment
- **Prevalence rate** The ratio of population who have a particular disease at a specified point in time and in region over the total population at a specified point in time and in region
- **Carbon Labeling** State-run labeling policy for the product or service that minimize the carbon dioxides emissions (or greenhouse gas emissions converted to the carbon dioxide emission) produced in all production or service processes
- **IWRM (Integrated Water Resources Management)** An integrated method of water resources management that takes not just water quantity but water quality, environmental-, social-, and cultural factors of region into account in order to maximize social and economic welfare through water
- **Environmental Assessment** Predicting, analyzing, and evaluating the environmental impacts of indirect social capitals such as roads, harbors, railroads, airports, and industrial complexes as well as other reclamation projects
- **BOD (Biochemical Oxygen Demand)** Amount of oxygen required to decompose water pollutants biologically. Higher level of BOD refers to more polluted water
- **CDM (Clean Development Mechanism)** Policy where advanced countries with the duty of greenhouse gas reduction invest capitals in developing countries and make the greenhouse gas emission to be acknowledged as their own reduction performance (From 2005, Unilateral CDM businesses driven solely by the developing countries are allowed)
- **COD (Chemical Oxygen Demand)** Amount of oxygen consumed in the process of decomposing water pollutants. Higher level of COD refers to more polluted water
- **CRM (Customer Relation Management)** Strategy of maximizing acquirement of new customers, maintenance of current customers, and lifelong values of customers by providing products and services that the customers desire
- **CS (Customer Satisfaction)** Customer satisfaction about the product and service
- **CSR (Corporate Social Responsibility)** Social responsibility of corporations
- **EPE (Environmental Performance Evaluation)** Program that measures, analyzes, and evaluates environmental management performance of corporations through environmental performance index
- **GRI (Global Reporting Initiative)** An organization established in 1997 by the support of UNEP in order to develop the guideline for sustainability reports
- **ISO 9001** International quality management system standard set by ISO
- **ISO 14001** International system standard of environmental maintenance set by ISO
- **ISO 26000** As the international standard to define social responsibility, includes voluntary compliance principles focusing on 7 social responsibility principles of organizational governance, human rights, labor practices, environment, fair operating practice, consumer issues, and community involvement and development
- **JOA* (Join, Open, Advance)** Unique innovative technique of K-water for problem solving. Modified and developed from the work-out method of GE to fit the environment of K-water
- **K-sigma (K-water/Knowledge Sigma)** Unique innovative technique of K-water that combine 6 Sigma which emphasizes production cost reduction, process improvement, the activity of eliminating unnecessary work processes, and encouraging research developments
- **KRM (K-water Risk Management)** Company-wide risk management activities of K-water which predict potential dangers of management (financial, non-financial) in company-wide perspective, achieve management goals through efficient danger/crisis management and increase the public safety
- **KSI 7001** National standard regulated by the Korean government that sets system requirements that organizations should acquire for consistent improvement of green management performance
- **SS (Suspended Solid)** Particles that are over 0.1μm of diameter which float on water and cause water turbidity
- **UNFCCC (United Nations Framework Convention on Climate Change)** An international convention to regulate artificial release of the greenhouse gas in order to prevent global warming. The official name is United Nations Framework Convention on Climate Change
- **VOC (Voice of Customers)** Expectations and requests of customers about the products and services provided by the company



Voices of Readers

We would like to extend our gratitude to our stakeholders for reading the '2014 Sustainability Report' and for your interests in sustainable management of K-water. Each opinion and suggestion that you send will be utilized as precious materials for developing sustainable management of K-water. We will cherish the opinions and suggestions received and reflect them in the next report.

Management Services Innovation Team, Management Services Dept. of K-water Fax: 042)629-2399 / Email: sustainability@kwater.or.kr

Glue here

Sender

Name

Phone number

E-mail

Address

$$\square\square\square - \square\square\square$$

Recipient

Management Services Dept. of K-water
200 Sintanjin-ro, Daedeok-gu, Daejeon

$$\boxed{3} \boxed{0} \boxed{6} - \boxed{7} \boxed{1} \boxed{1}$$


Water for the happier world



About 2014 Sustainability Report

1. Where do you belong to?

- | | | | |
|---|---------------------------|-------------------------------------|-------------------|
| 1. Customer | 2. Investor/stockholder | 3. Government/officer | 4. Local resident |
| 5. Citizen/social organization such as NGOs | 6. Cooperative businesses | 7. Academic | |
| 8. Press | 9. K-water employee | 10. Others () | |

2. How did you come across the Sustainability Report of K-water?

- | | | |
|----------------------------------|------------------------------------|-----------------------|
| 1. K-water website | 2. Internet search | 3. Newspaper/magazine |
| 4. K-water employee introduction | 5. Others () | |

3. What was the most interesting section that you read?

- | | |
|-------------------|---|
| 1. Introduction | 2. Sustainable Management |
| 3. 4 Focus Issues | 4. Economic, environmental, and social performances of for 2013 |

4. What is the part that needs the most improvement?

- | | | |
|--|---------------------------|-------------------|
| 1. Introduction | 2. Sustainable Management | 3. 4 Focus Issues |
| 4. Economic, environmental, and social performances for 2013 | | |

5. Please write freely about any areas for improvement or your opinion about sustainable management activities of K-water or about the overall structure and content of the report.

We are waiting for precious opinions.

Every one of your opinions will play important roles in driving our sustainable management forward.
We will cherish your opinions and reflect them in the next report.

We would like to extend our gratitude for the efforts of all people who provided their support in publishing the report.

Management Services Dept.	Ko Younggong, Kim Sunyoung, Park Misook, Seo Seokgyu, Shin Gihye, Lee Hwasook, Jang Jaesik, Jeong Yejin, Cho Gyungdong
Business Planning & Coordination Dept.	Kwon Gidong, Kim Yeojung, Moon Booyoung , Park Gabsoon, Sim Gwahak, Lee Gunwoong, Jeong Yunhui, Cho Jaemin
Legal Affairs Dept.	Koo Indo, Lee Sangyoung
Audit & Inspection Dept.	Park Sincheol, Park Iljoon, Lee Gyeonggeun, Jeong Eunho
Administrative Services Dept.	Kang Seunghee, Kang Huiwan, kim Seonung, Kim Sunghoon, Kim Yuntae, Kim Yunha, Park Seokbeom, Ahn Yongmin, Lee Jongsik, Jang Myungsub, Jeong Wonsub, Ho yungi
Public Relations Dept.	Moon Bobae, Park Sanghoon
Accounting & Finance Dept.	Kim Yonggun, Kim Jisun, Ryu Jaehyeon, Hana Seo, Lee Seokwon, Chang Bogyu, Chang Yongbeom
Information Resources Services Dept.	Kim Sunghwan, Lee Taejoo
K-water Academy	Oh Hongsuk, Chang Jinhui
Water Resources Business Dept.	Kim Taehoon, Jeong Miyoung
Water Resources Operations Center	Koo Jaho, Choi Donggyu
Dam & Watershed Maintenance Dept.	Kim Kidon , Cho Sangheum
Water Resources Development Dept.	Na Jinyoung, Yoo Jiyeon
Electric Power Business Dept.	Kim Byeongho, Kim Jaeoh, Kim Hwayoung, Park Daeduk, Yoo Jeonghee, Jang Hyuyoung, Jung Hyeongbeom, Joo Inho, Choi Janggyu
Water Supply Management Dept.	Ko Gijun, Kim Kisung, Kim Soojin, Kim Hyangsoo, Min Jiin, Cho Yeongju, Hwang Byungeun
Water Supply Operations & Maintenance Dept.	Kang Gyeonggeun, Kim Byungsoo, Kim Jongpil, Kim Hyungsook, Song Youngil, Shin Hongseop, Yoon Miae, Lee Sangmin, Jeon Jooho
Water Supply Enhancement Dept.	Kim Jinsang, Kim Hwijin, Seok Gwansoo, Choi Minseon, Choi Jaebaek, Huh Moonhaeng
Urban Waterfront Dept.	Kim Jiung, Chang Suncheol
Waterfront Business Dept.	Byun Gangwon, Lee Wonjae
Construction Technology & Safety Dept.	Kim Taewon, Yoon Sangjae, Lee Yeongmok, Lee Taeyeon, Jeong Jonghyeon, Cho Joonseok
Overseas Planning Dept.	Kim Jongyoung, Lee Sunghyun
K-water Institute (KWI)	Kim Donghwan, Ryu Kyungsik, Lee Doojin
Gyeong-in Ara Waterway Business Dept.	Park Yeon tae

This report can be downloaded in PDF format from K-water’s website. Please contact the report officer if you want more detailed information about sustainable management activities and performances in the report.
Thank you for giving K-water’s sustainable management activities your attention.

Questions on the report
Management Services Innovation Team of K-water Management Services Dept.
200 Shintanjin-ro, Daedeok-gu, Daejeon 306-711, Republic of Korea
TEL. 82-42-629-2357 / Fax. 82-42-629-2399
E-mail : sustainability@kwater.or.kr
Web-site : www.kwater.or.kr

Production: K-water Management Services Dept.
Design/print: Hanaroadcom



™ This report was printed with soybean oil on eco-friendly papers certified by the FSC (Forest Stewardship Council).